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ROSS, MOYER MFG. CO.



CORNER SEVENTH AND SYCAMORE STREETS,
CINCINNATI, OHIO.

CHICAGO,

BOSTON,

22 and 24 W. Randolph Street.

South and Essex Streets.



WARNER BROS.,

PRINTERS AND BINDERS,
162 W. Fifth St., CINCINNATI, O.

ROSS, MOYER MFG. CO.,

—OWNERS AND MANUFACTURERS OF THE—

Ross Patent Boot and Shoe Machinery,

—AND—

ROSS' FLEXIBLE AUTOMATIC

EXPANDING BUFFING ROLL.

—ALSO DEALERS IN—

IMPROVED BOOT AND SHOE MACHINERY,

DUPLICATED PIECES AND PARTS,

SUPPLIES, ETC.

ROSS, MOYER MFG. CO.,

Corner Seventh and Sycamore Streets,

CINCINNATI, OHIO.

CHICAGO,

22 and 24 W. Randolph St.

BOSTON,

South and Essex Sts.

INTRODUCTION.

TO THE BOOT AND SHOE TRADE.

WE have illustrated in this Catalogue a collection of the most improved and useful machinery for the manufacture of Boots and Shoes, and trust it may assist you in making a selection of such machinery as is best suited for your work. We will answer promptly all inquiries as to prices, or further information not found in these pages.

With a sufficient capital and a practical experience of twenty-five years in this line of business, and having one of the largest and best equipped plants in this country for the manufacture of Boot and Shoe machinery, together with the most improved tools, expert workmen educated to this special line of business, and with our Boston and Chicago Branch Stores to look after our interests, we are satisfied our facilities for supplying the trade are not surpassed by any house in this country, and we feel confident that we can serve you satisfactorily.

In the construction of our special line of machinery, which is fast gaining in favor, we use only the very best of material and workmanship, and in design, finish, appearance and convenience it is second to none. In addition to this we aim to carry a full line of standard makes of Boot and Shoe machinery, together with duplicate pieces and parts for same.

We are in condition to give estimates on plants of any size, with a complete line of improved machinery, tools, dies, etc., including shafting, hangers, pulleys, belting, and everything required to completely equip and put same in operation.

SECOND HAND MACHINERY.

WE are constantly having second hand machinery of every description, which we thoroughly repair and put in as good order as new for all practical purposes, that we can sell at greatly reduced prices. We will also buy for cash or take in trade second hand machinery. (Correspondence solicited.)

Any business entrusted to us either by wire or mail will be executed with promptness and dispatch, and we would respectfully solicit a share of your patronage, believing we can make it mutually beneficial.

Thanking our patrons for past favors and soliciting a continuance of same, we are,

Very respectfully,

THE ROSS, MOYER MFG. CO.



NOTICE.

MONEY SAVED IS MONEY MADE.

SEE that your machinery is kept clean and you will find it will assist in keeping it in repair, as your operator, or the one in charge, in going over it will notice the needed repair in time, which, if attended to at once, will save many times what it would have cost if allowed to run until something more serious happened.



Also use a good quality of oil and see that the oil holes are kept clear, so that the oil can get where it is intended it should go, and not all over the frame of the machine; a few drops put in the right place is better than a can full distributed all over the machine and floor.

Attention to this matter will result in an increase both of quality and quantity of work, together with the extended life of your machinery, and the saving of power will yield you large returns for the trouble.



PRESERVE THIS CATALOGUE FOR REFERENCE.

When writing for information or prices refer to the page and number. Do not cut or tear out illustrations.



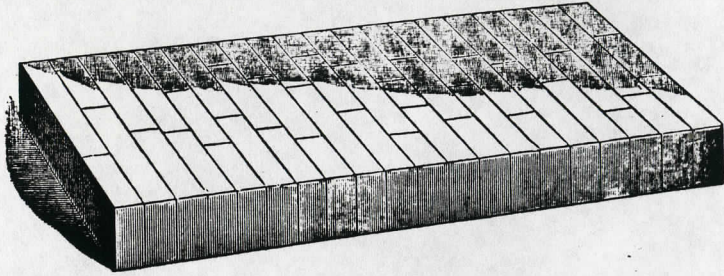


Fig. 0.

Pine Cutting Boards.

18x36x3.

20x40x3.

2. x40x3.

Special sizes made to order.

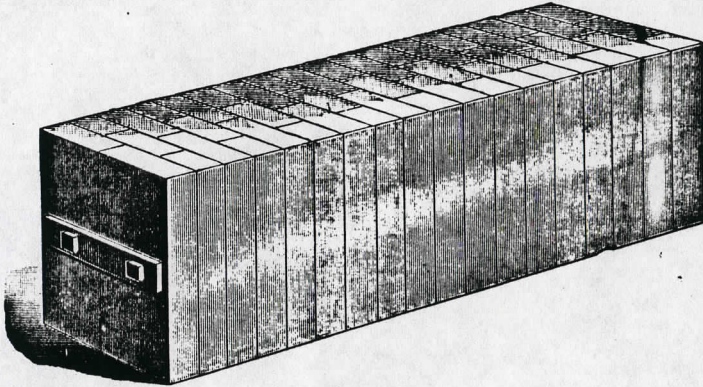


Fig. 1.

Maple Blocks.

Dinking Blocks, all sizes, for hand and machine use.

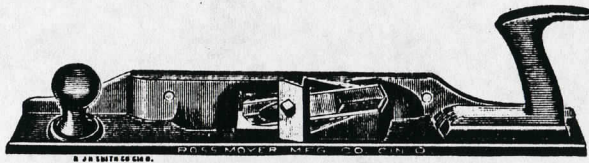


Fig. 2.

Block Plane.

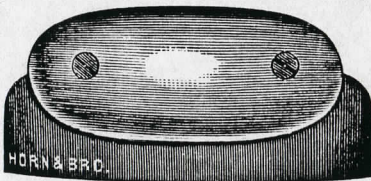


Fig. 3.

Board Buffer.—Cast Steel.



Fig. 4.

Buffer Steels or Sharpeners.

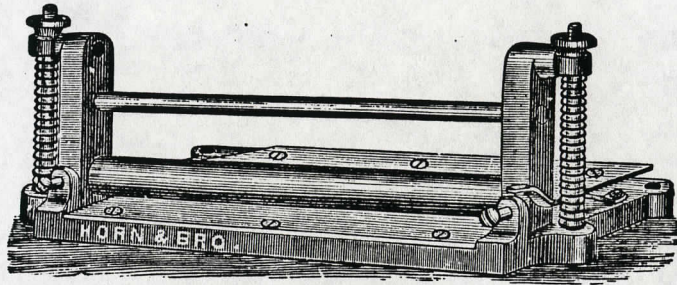


Fig. 5.

Splitting Machines.

Flat Bottom, with Trip Spring.

6, 8, 10 and 12 inch.

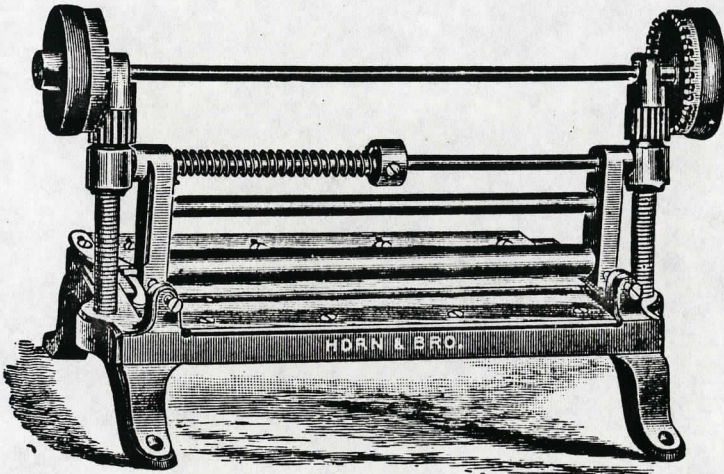


Fig. 6.

Improved Splitting Machines.—Chase Pattern.

With Double Rolls.

8, 10 and 12 inch.

PATTERN GRADING MACHINES.

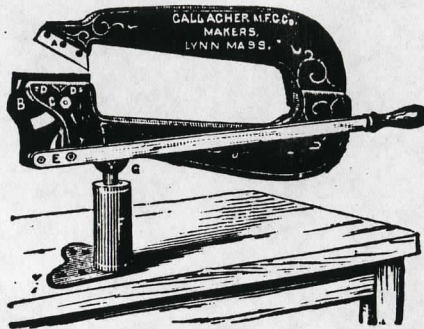


Fig. 7.
Pattern Shears.

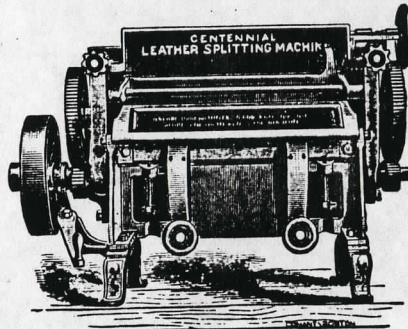


Fig. 8.
Centennial 18 inch (Upper Leather) Splitter.
Frict. Pulley, 10x2. Speed, 125.

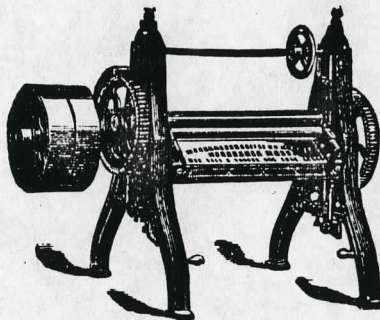


Fig. 9.
Stowe's Upper Leather Splitter.
T. & L. Pulley, 12x2. Speed, 125.

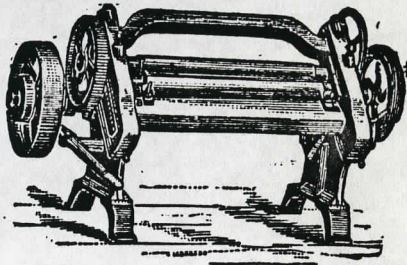


Fig. 10.
18 inch Common Sense Upper
Leather Splitter.
Friction Pulley 10x2. Speed, 125.

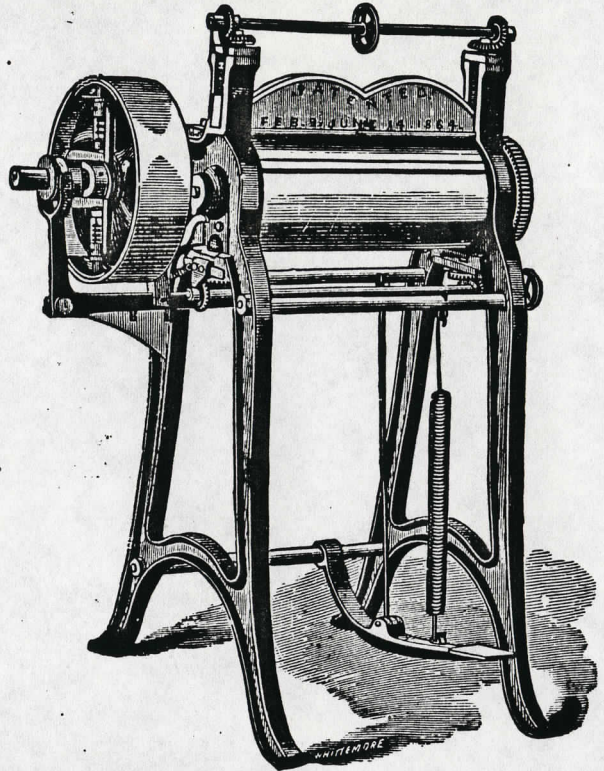


Fig. 11.
Cylinder Upper Leather
Splitter.
Pulley, 14x4.
Friction, Speed 100.

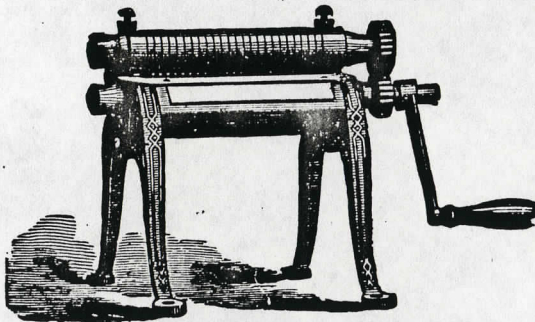


Fig. 12.
Welt Cutter.

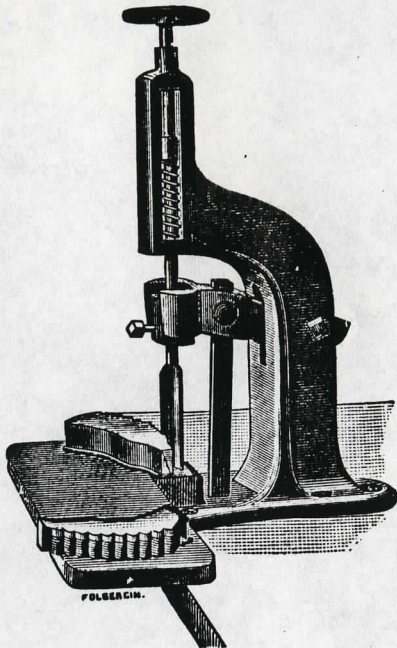


Fig. 13.

Scolloping Machine.

For Cutting Button Fly Scollops, Ladies' and Misses' Work.

With this machine one operator can cut as many Button Fly Scollops as four can by the old method.

From one to twenty pairs may be cut at once.

The saving in wages will pay the cost of the machine in one month. No awl holes are made in the Button Flies.

The Holder is universal and will take any size or pattern in ladies' or misses' work.

The Machine and Holder have been greatly improved during the past year.

It is simple in construction and operation; any boy can use it.

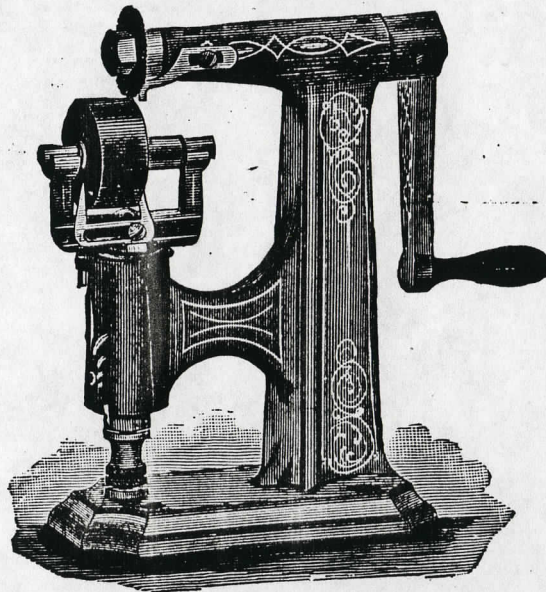


Fig. 14.

Pinking Machine.

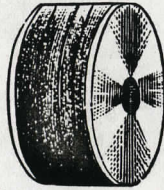


Fig. 15.

Pinking Roll.

Vulcanized Rubber and Raw Hide Pinking Rolls.

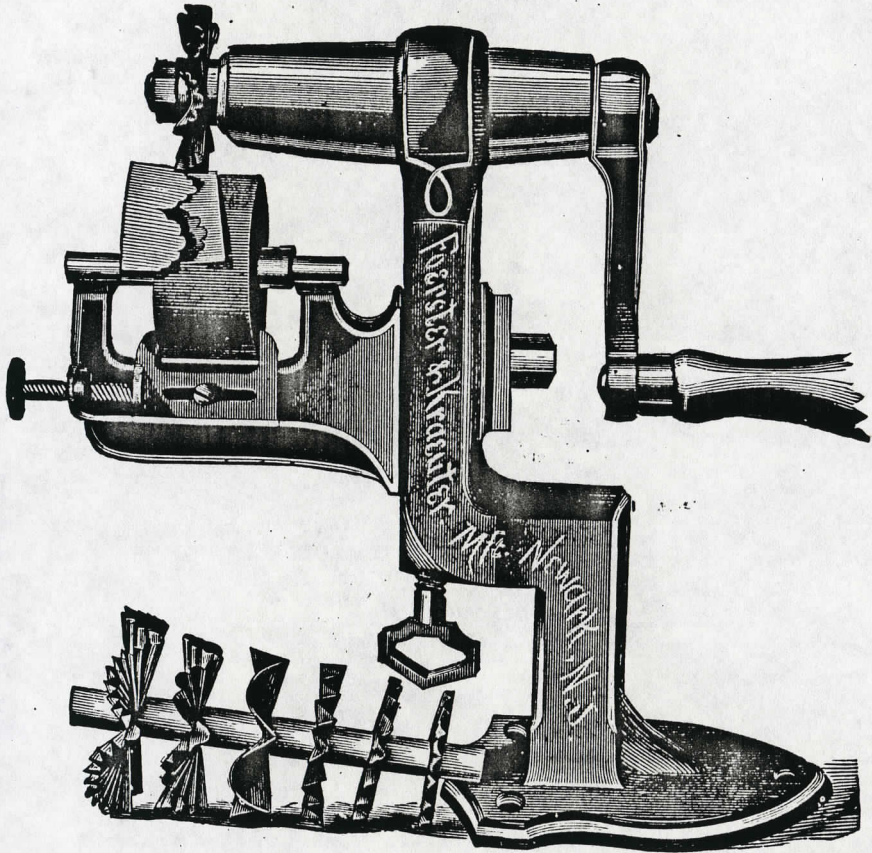


Fig. 16.

Pinking or Scolloping Machine.

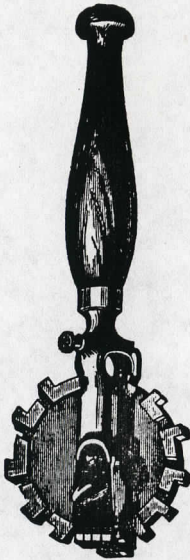


Fig. 17.
Lining Marker.

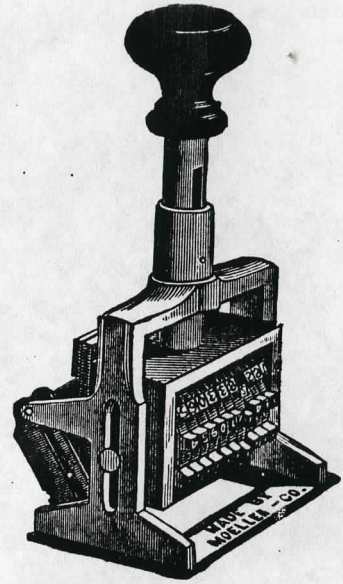


Fig. 18.
Lining Marker.

**INK FOR LINING MARKER,
BLUE, BLACK, RED.**

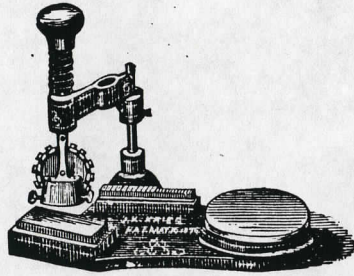


Fig. 19.
Lining Marker,
For Shoe Lining and other purposes.

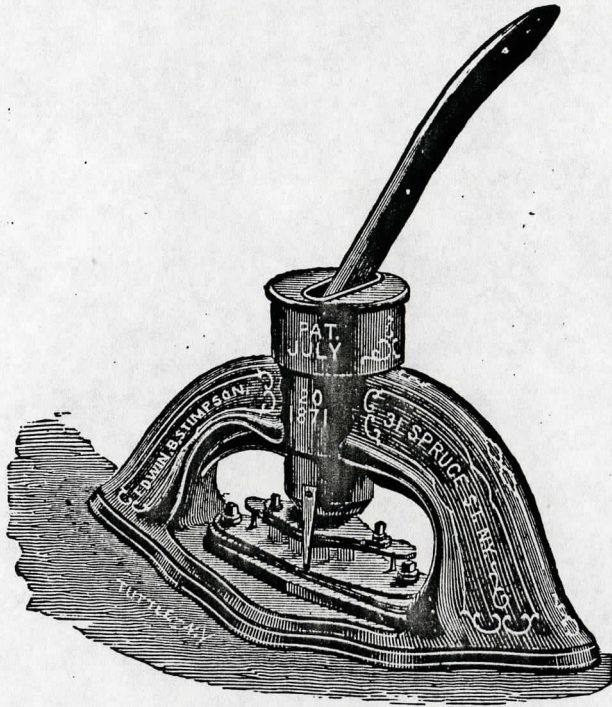


Fig. 20.

Toe Cap Punching Machine.

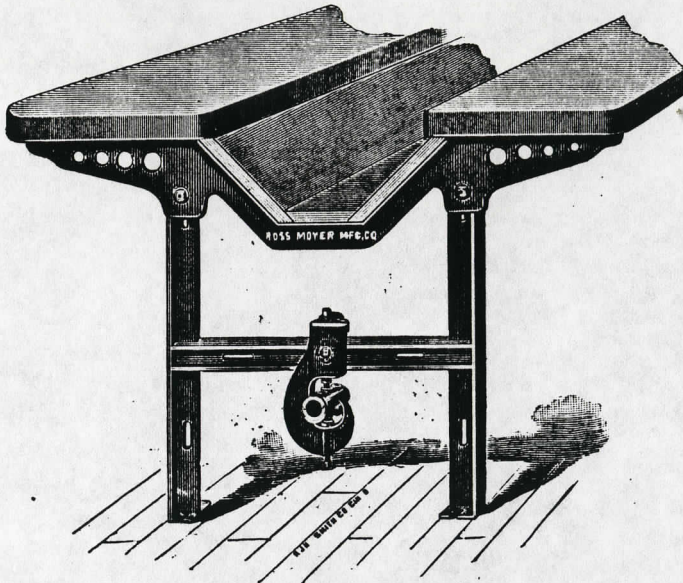


Fig. 21.
Double Trough Table.

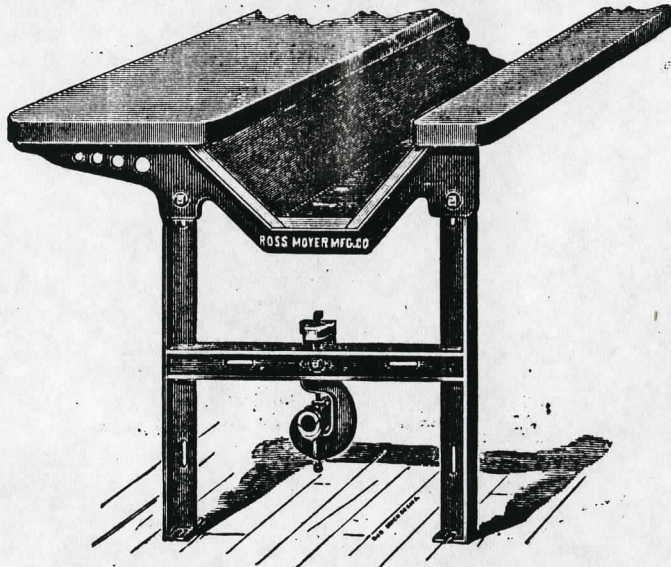


Fig. 22.
Single Trough Table.

These Stands are from new patterns, and when set up make a strong and ridged Table. The construction is simple being put together with bolts. The Shaft Hanger is adjustable in any direction so as to be readily lined. The Top Rail is so adjustable in height to compensate for unevenness in the floor.

We can furnish estimates for Single or Double Tables complete with Trough or Flat Tops when desired.

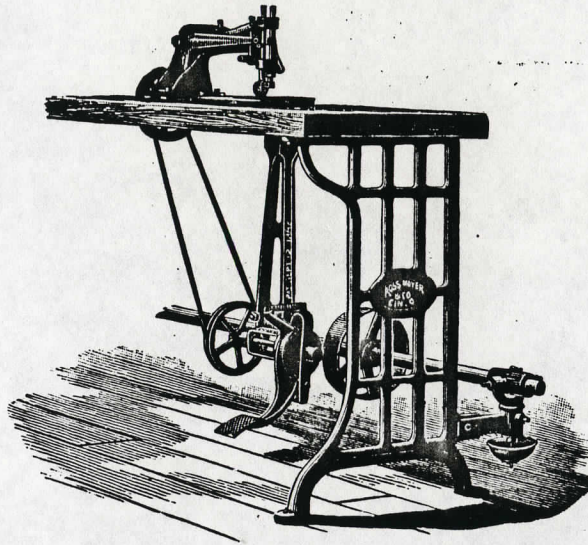


Fig. 23.

Ross Power Transmitter.

For Driving Sewing, and other light machines.

It is screwed to the under side of Table with two screws; has no floor connection to accumulate dirt, etc.

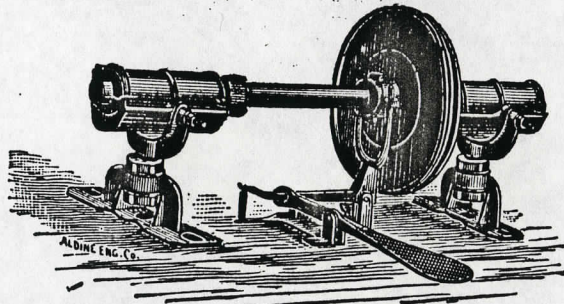


Fig. 24.

Floor Hanger and Sewing Machine Fixture.

6 inch. 8 inch. 10 inch. 12 inch.

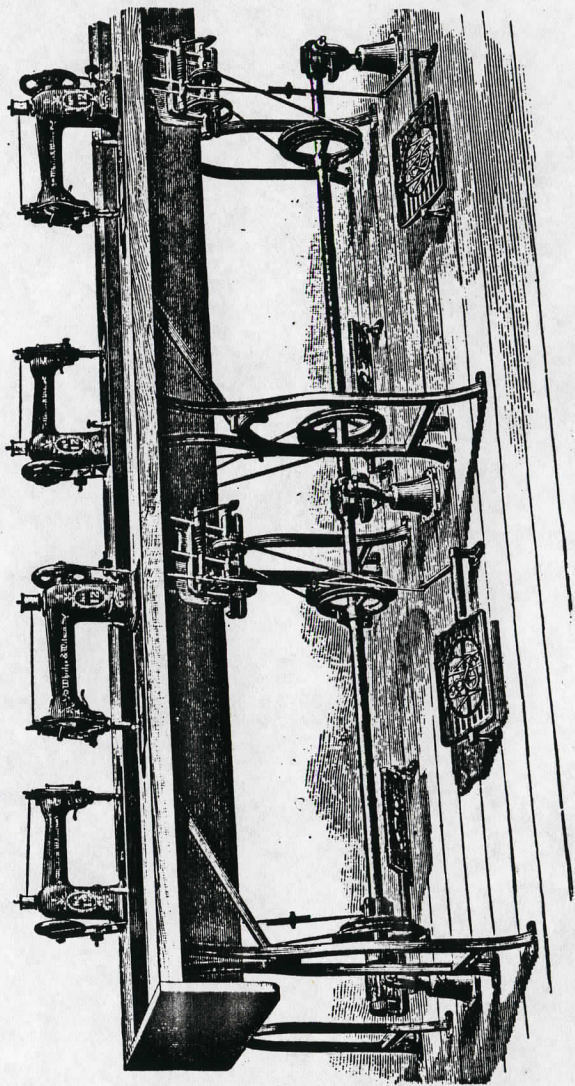


Fig. 25.
Wheeler & Wilson Power Transmitter.

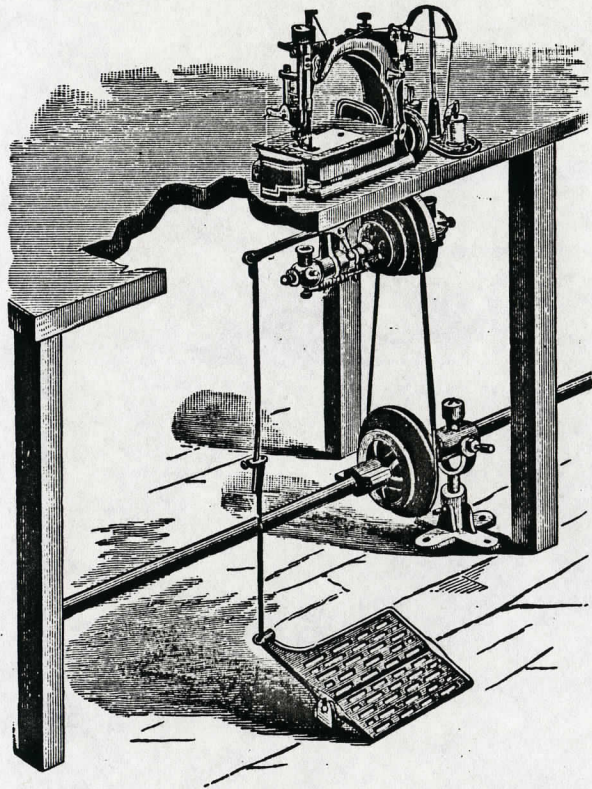


Fig. 26.

The Union Special Power Transmitter.

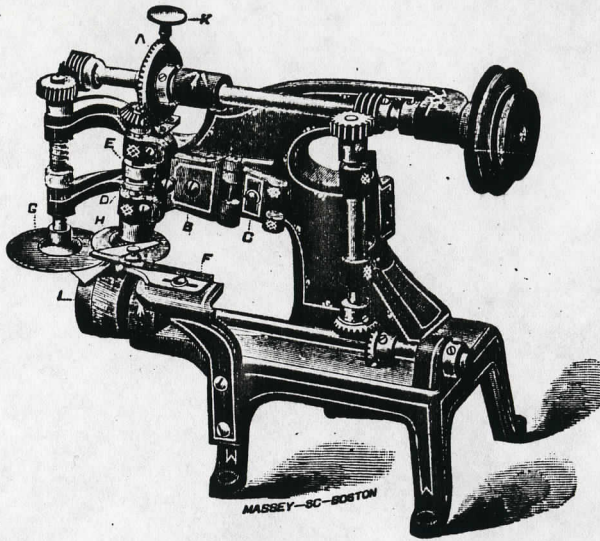


Fig. 27.

Amazeen Skiving Machine.

Driven with Sewing Machine Fixture.

Speed, 800 to 1000.

For Skiving the edges of Vamps, Quarters, Tops, Linings, etc., either in Calf, Split or Grain Leather; also Glove, Calf, Sheep Skin, Goat, French and American Kid, and all other kinds of Upper Leather used in the manufacture of Boots and Shoes.

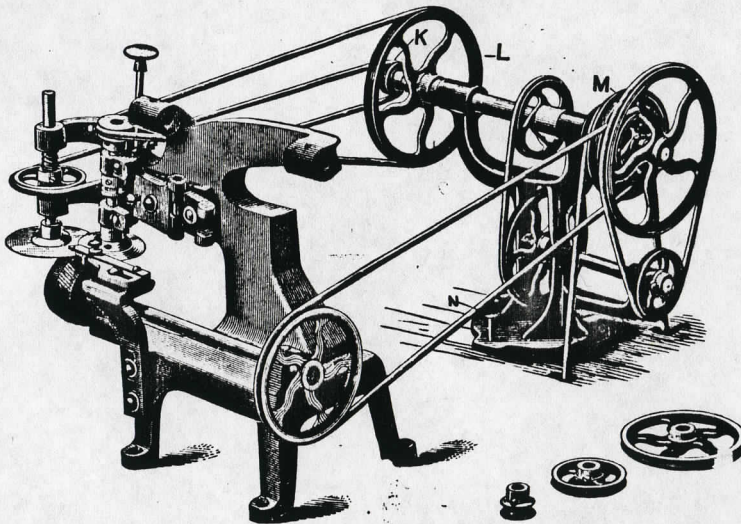
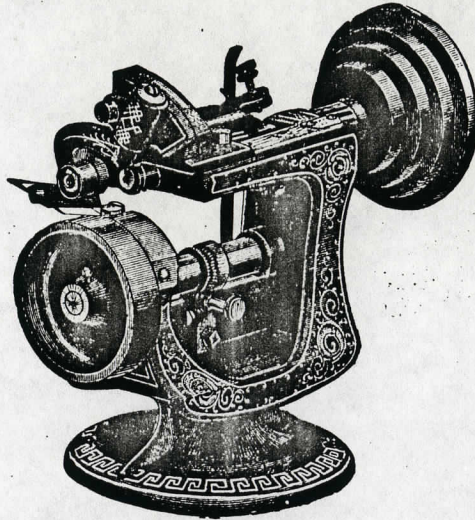


Fig. 28.

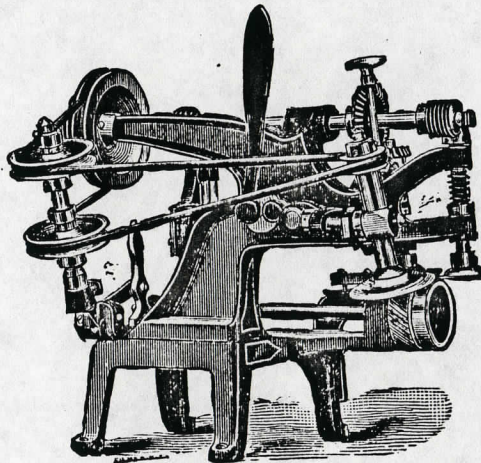
Whitcomb's Improved Attachment for Amazeen Skiving Machine.

Does away with every Worm and Gear on the Amazeen Machine, rendering the machine perfectly noiseless.

*Fig. 29.*

Carver Upper Leather Skiver.

Speed of Counter Shaft, 200. Pulleys, $7\frac{1}{2} \times 2$.

*Fig. 30.*

The Clark and Klingler.

Attachment for Sharpening and Grinding Knives of Amazeen Skiving Machine.

Saves knives, stock, time and annoyance, and is positive and instantaneous in its action.

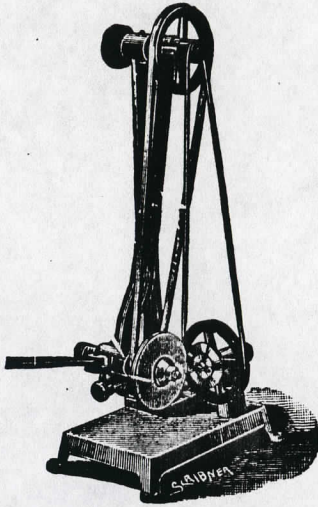


Fig. 31.
Amazeen Skiver Knife
Grinder.

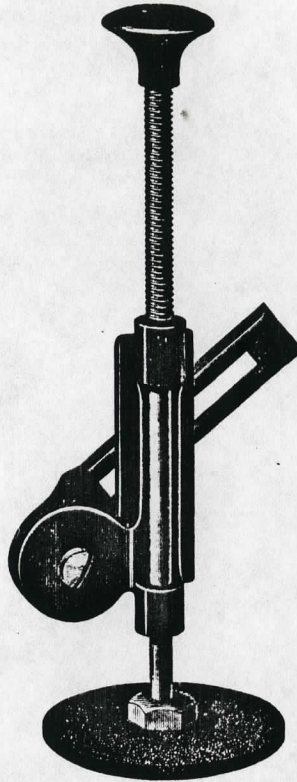


Fig. 32.
The Hiscox Amazeen
Knife Sharpener.

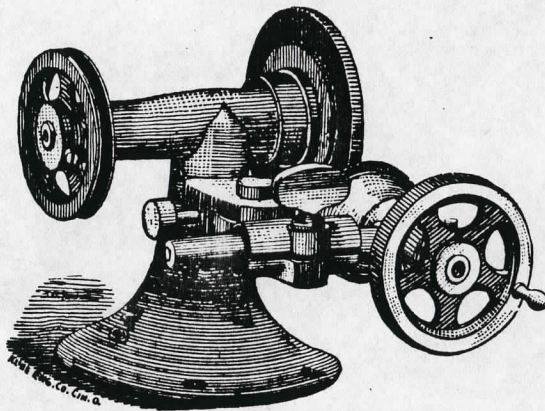


Fig. 33.
Amazeen Knife Grinding Machine.

This Grinding Machine can be adjusted to grind any size knife at any angle or bevel desired. The size of the Emery Wheel is $4x\frac{1}{4}x\frac{1}{2}$.

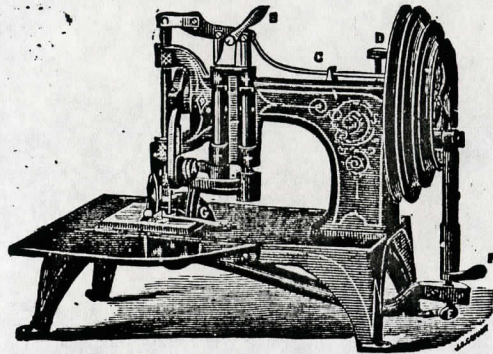


Fig. 34.

Luffin Vamp Folder, for Folding Vamps and Quarters.

Speed, 400. Cone Pulley, 6, 5 and 4 inches.

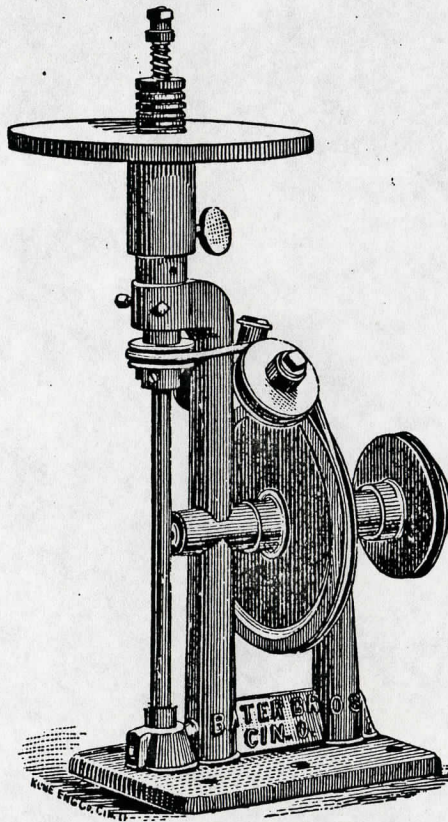


Fig. 35.

Vamp Polishing Machine.

This machine has no equal in polishing edges of Leather, and wherever in use it is spoken of very highly.

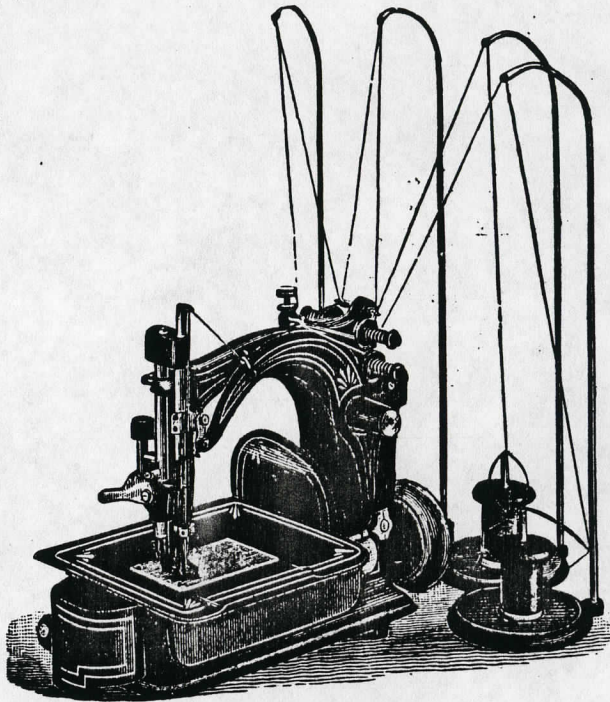


Fig. 36.

Union Special Two Line Staying Machine.

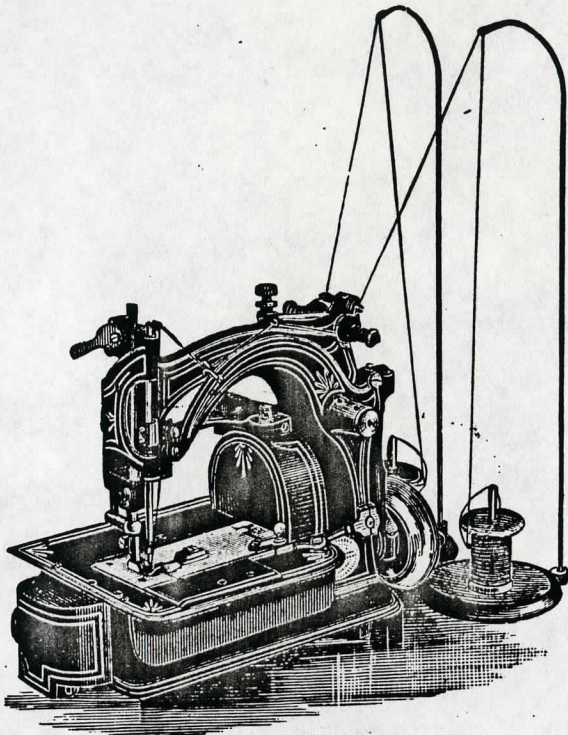
UNION SPECIAL SEWING MACHINES.

~~~~~  
Staying Machines.

Two Line Vamping Machines.

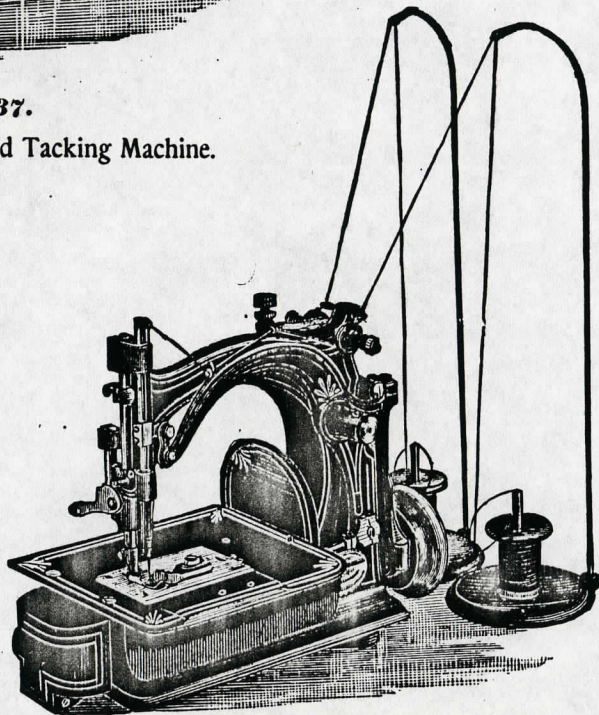
Twin Needle Lining Machines.

Closing and Seaming Machines.



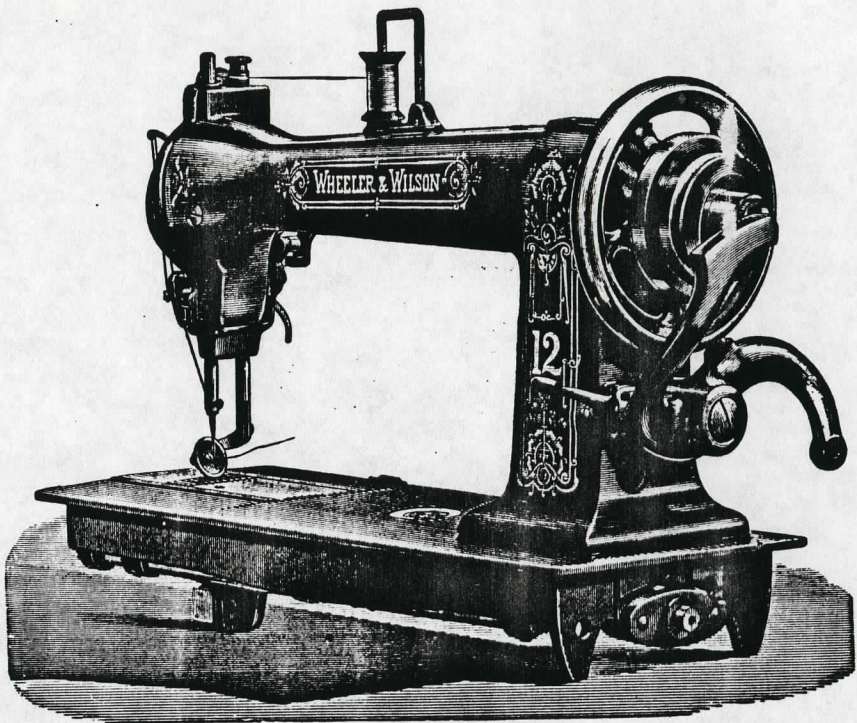
*Fig. 37.*

Union Spl. Overseaming and Tacking Machine.



*Fig. 38.*

Union Special Closing Machine.



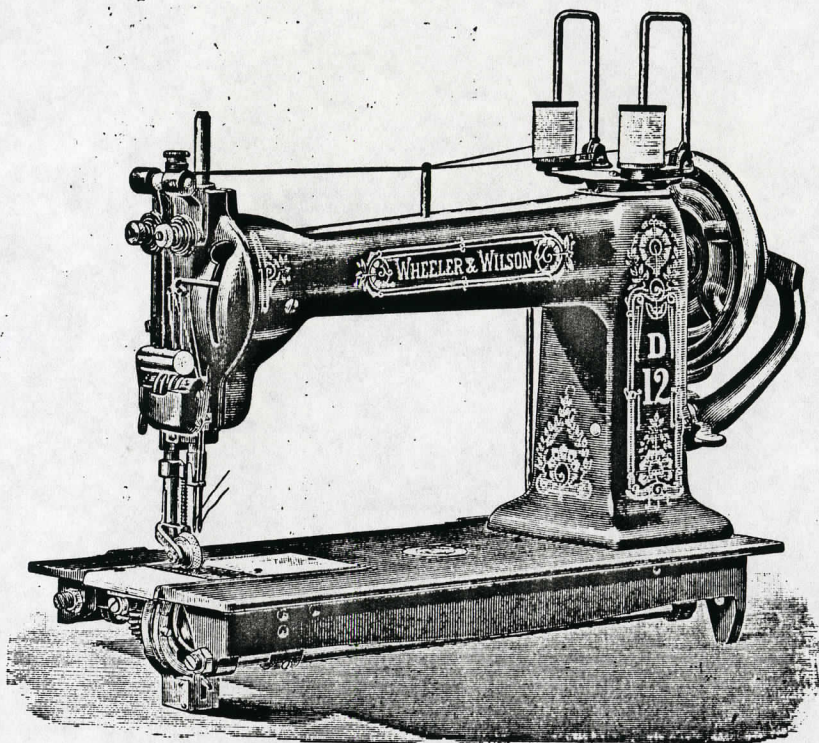
*Fig. 39.*

No. 12, or D. 12, with Head Transmitter.

**T**HE No. 12 Machine is equally adapted for all grades of manufacturing in cloth or leather. It has a very large bobbin, holding over 100 yards of No. 70 cotton. This machine handles with the utmost facility every quality of thread—cotton, silk or linen—on every kind of stitchable material.

It is the fastest lock-stitch machine in the world on practical work. It has a perfect tension and makes a faultless stitch. It uses a short needle. It has a positive feed. It is so constructed as to secure the highest degree of durability with the greatest facility of adjustment and least liability to get out of order. It is fitted with either the drop (four motion) feed or the wheel feed, as may be required, and is furnished to order with Seam Trimmer and other appliances for special work.

The No. 12 and the D. 12 Machines are alike, except in dimensions, the latter having more room under the arm, whereby it is better fitted for certain kinds of work, especially for tailoring and the manufacture of heavy clothing by power.

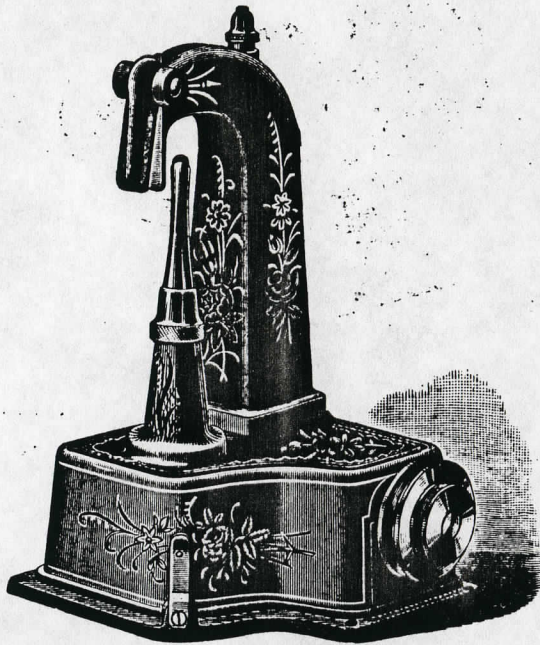


*Fig. 40.*

Wheeler & Wilson, No. 12.

**T**HE above cut represents our Twin Needle Machine for Vamping and Staying; different widths of vamp can be had by the use of different needle holders; can easily and quickly be taken off and on the machine. The machine makes a perfect lock stitch, and is giving perfect satisfaction. The A Vamp Machine is specially called to your attention.

We also invite your attention to our two needle zig zag machine for fancy stitching, and our three stitch zig zag machine, both of which are used extensively by shoe manufacturers.



*Fig. 41.*

**Watson's Combined Turning and Beading Machine.**

*Shoe Manufacturers' Attention is called to the merits of this machine.*

One-half to one cent a pair is saved over other methods.

It requires but small space on your stitching bench.

Its capacity of from 400 to 600 pairs a day, according to the quality of work desired.

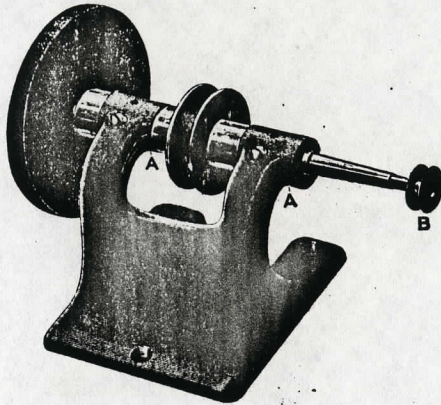
It is used on finest goods made, and accomplishes, even in the hands of inexperienced help, a better quality of work than by any other method.

The Turning-Iron turns out the scollop, and the upper is pressed or beaded at the same time by guiding the upper over the Turning-Iron and between the presser jaws.

No cement, paste or soap used.

The machine does the work; the operator guides the upper only. In fact, you secure in this machine a combination of Turning-Iron and Beader that will do double the work you are now doing without it. You can estimate the value of it on the output of your factory.

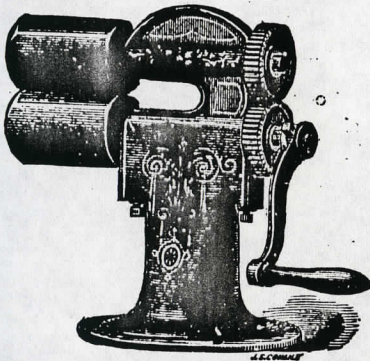
Speed, 800 to 1000.



**Fig. 42.**

**Combined Bobbin Winder and Grinding Attachment.**

Can be belted in any direction, and is so constructed that all wear can be taken up by screws at points "A" "A."



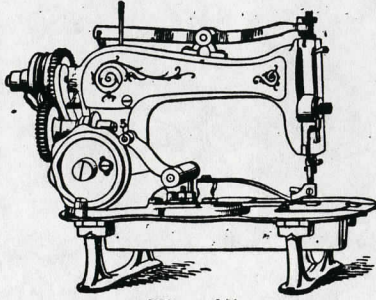
**Fig. 43.**

**Beaded Edge Roller.**



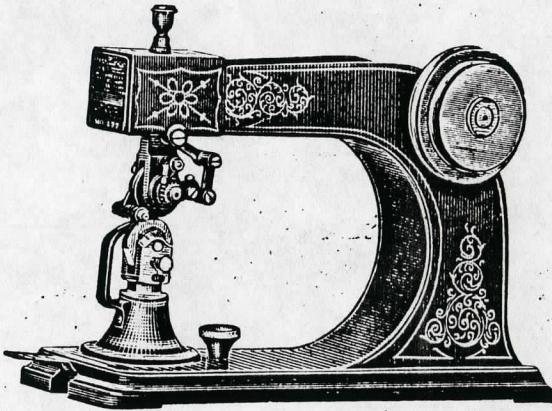
**Fig. 44.**

**Scollop Turning Iron.**



*Fig. 45.*

The Philadelphia Barring and Tacking Machine.



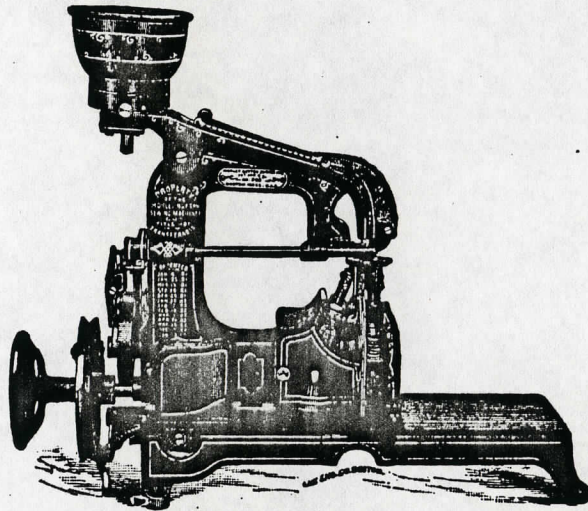
*Fig. 46.*

Wright Seam Pressing Machine.

# BUTTON SEWING MACHINES.

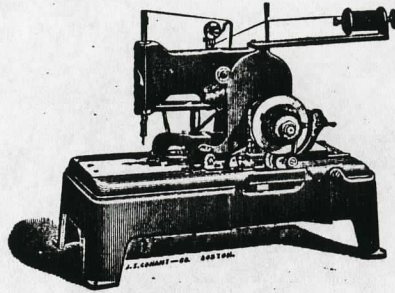
≠ STANDARD ≠  
Button Sewing Machine.

≠ NEW MATHISON ≠  
Button Sewing Machine.



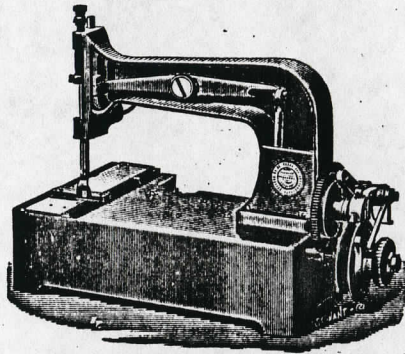
*Fig. 47.*

The Morley Button Sewing Machine.



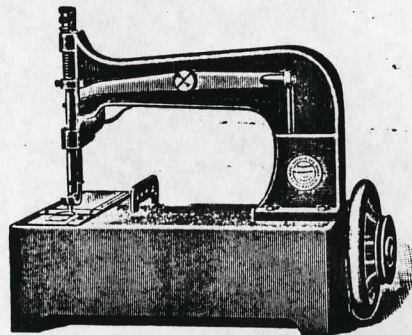
*Fig. 48.*

The Reece Button Hole Machine.



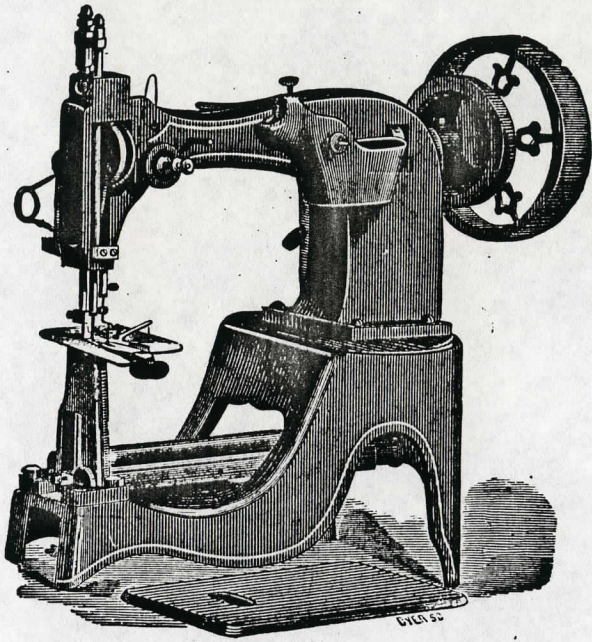
*Fig. 49.*

The Reece Button Hole Barring Machine.



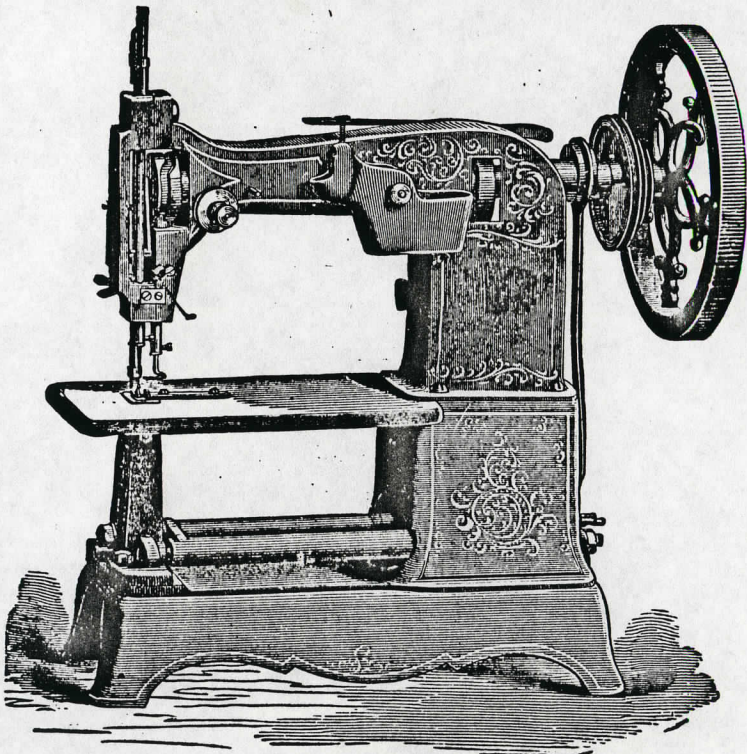
*Fig. 50.*

The Reece Button Hole Finishing Machine.



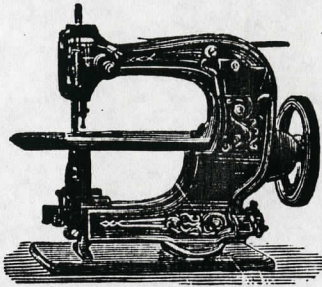
*Fig. 51.*

Union Wax Thread Machine. Size B.



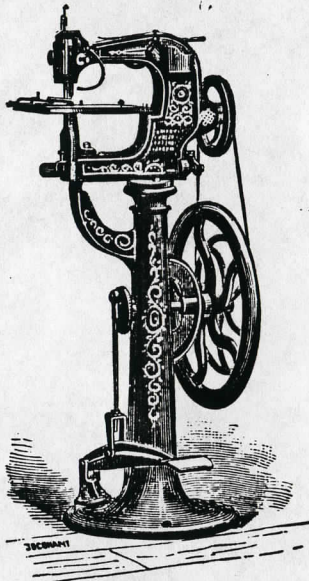
*Fig. 52.*

Union Wax Thread Machine. Size C.



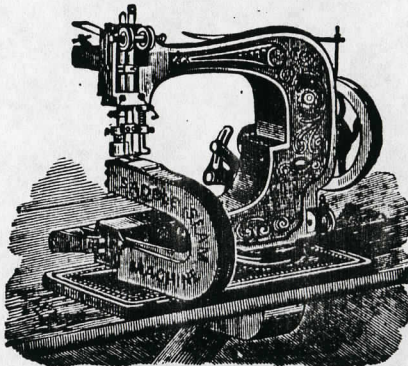
*Fig. 53.*

National Wax Thread Stitching and Siding Machine.



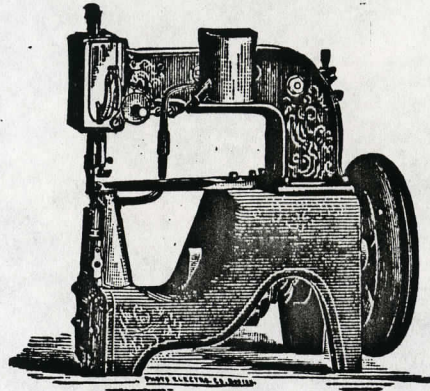
*Fig. 54.*

National Harness Machine.

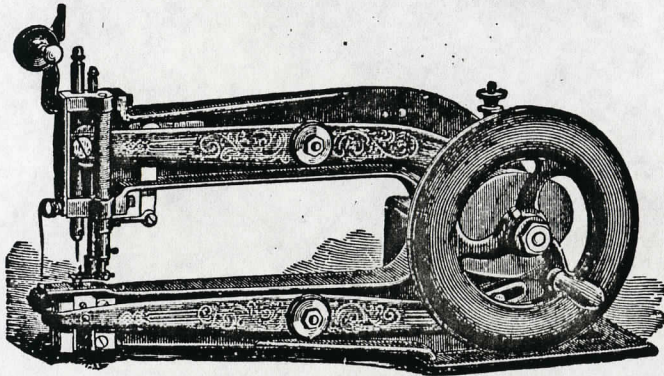


*Fig. 55.*

National Wax Thread with Saddle Seam Attachment.

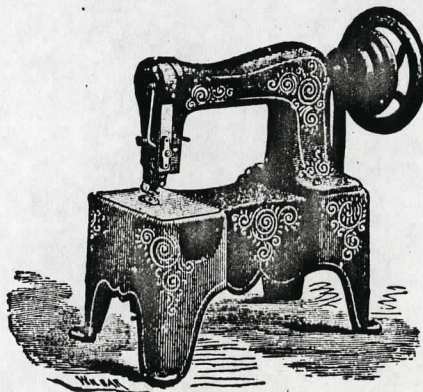
*Fig. 56.*

New England Wax Thread Machine. Three Sizes, A, B, C.

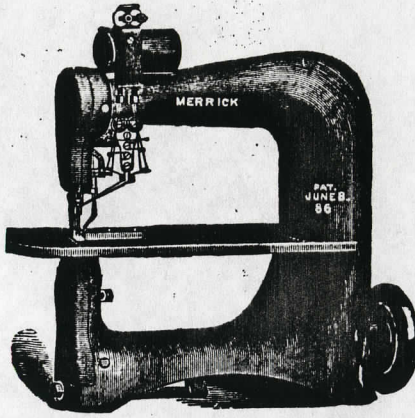
*Fig. 57.*

Alligator Wax Thread Machine.

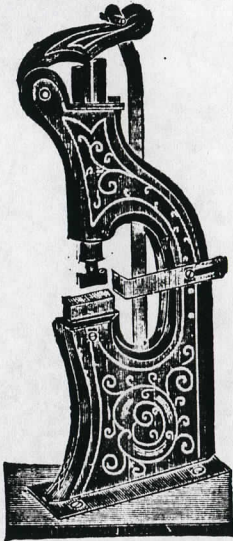
Two sizes, C. and D. Made with double or single rows.

*Fig. 58.*

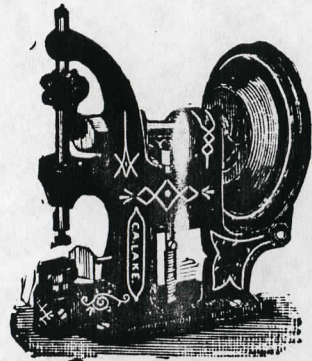
Nason Wax Thread for Stitching Counters.



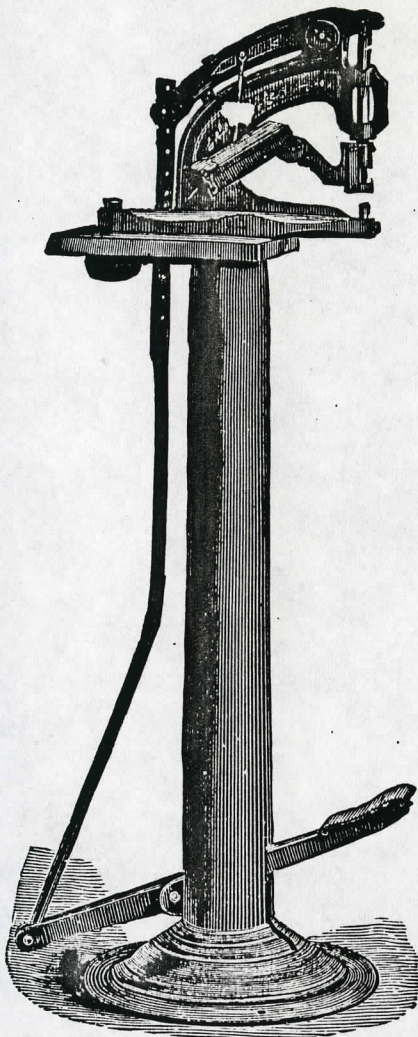
*Fig. 59.*  
Merrick Sewing Machine.



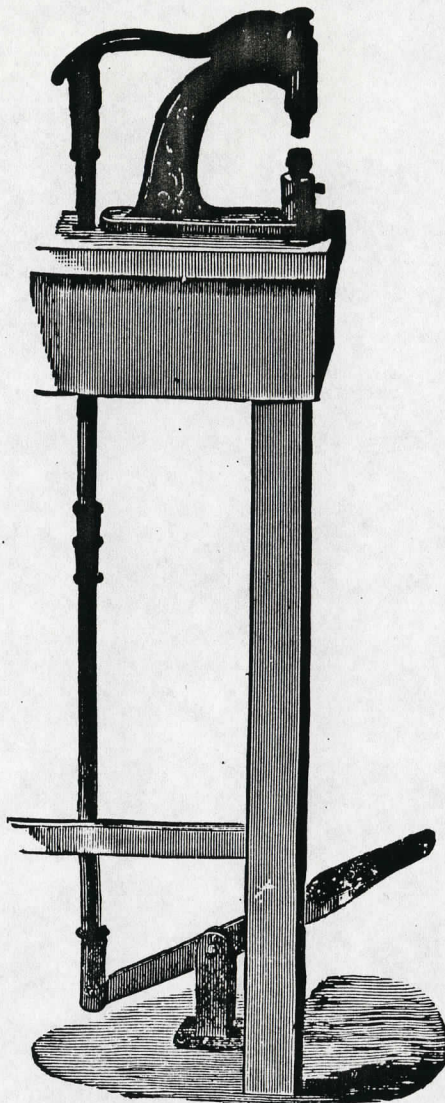
*Fig. 60.*  
Foot Power Button Hole Cutter.



*Fig. 61.*  
Power Button Hole Cutter.



*Fig. 62.*  
Hook Set Machine.



*Fig. 63.*  
Tubular Rivet Setting Machine.



*Fig. 64.*



*Fig. 65.*

Button Hole Cutters.

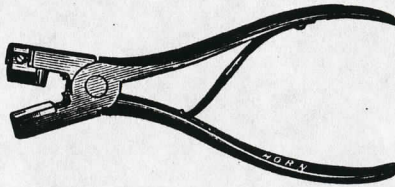


*Fig. 66.*



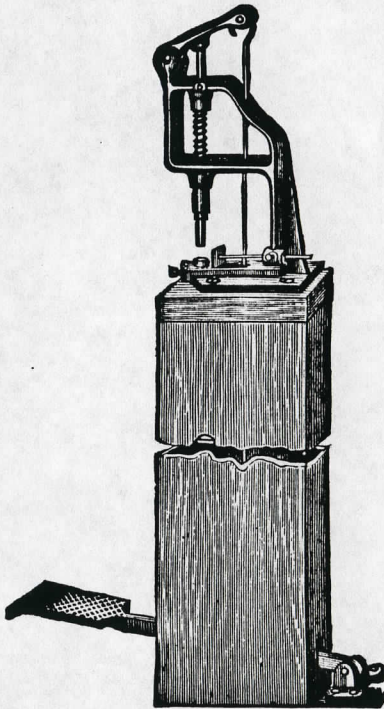
*Fig. 67.*

Eyelet Punch Tubes.



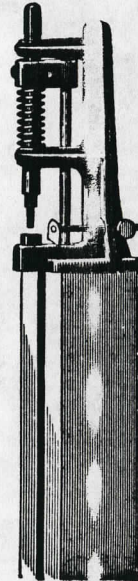
*Fig. 68.*

Hand Button Hole Cutter.



*Fig. 69.*

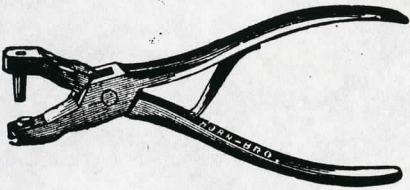
Common Button Hole Cutter and  
Foot Punch.



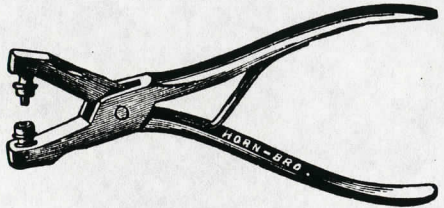
*Fig. 70.*

Common Foot  
Power Punch.

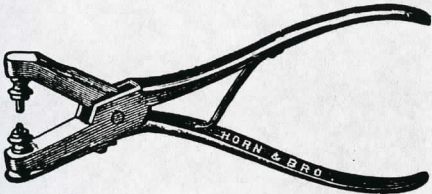
This uses the  
Screw Punch  
Tube.



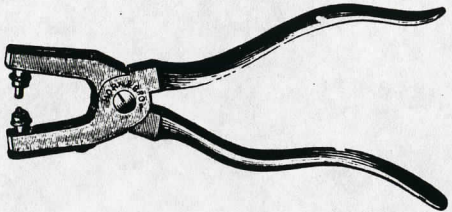
**Fig. 71.**  
Spring Punches,  
Nos. 1 to 12, Long Jaws for Tips,  
Nos. 000 to 0.



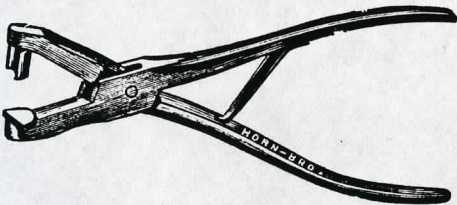
**Fig. 72.**  
Eyelet Sets,  
No. 1, small; No. 2 (B. Long); Nos.  
3 and 4, Large.



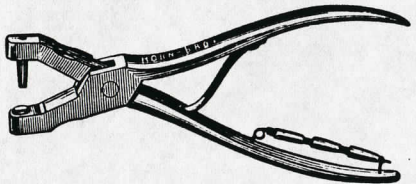
**Fig. 73.**  
Eyelet Sets, with Spring Nibs,  
Nos. 1 to 4.



**Fig. 74.**  
Eyelet Sets, with (Spring) Steel Nibs,  
Nos. 1 to 3.



**Fig. 75.**  
Spring Scollop Punches,  
Nos. 5 to 7. (No. 5 is  $\frac{5}{8}$ , etc.)



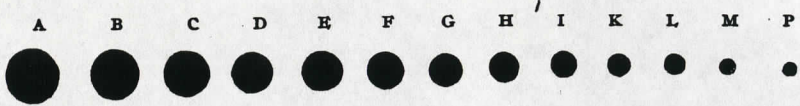
**Fig. 76.**  
Spring Punches,  
Nos. 1 to 3.



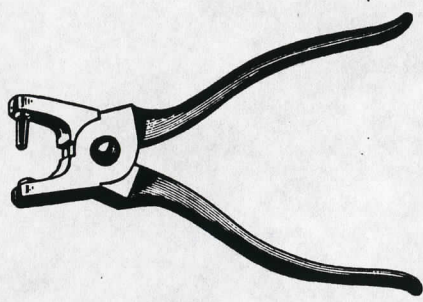
**Fig. 77.**  
Drive Scollop Punches,  
Plain,  $\frac{1}{2}$  to  $1\frac{1}{2}$ .



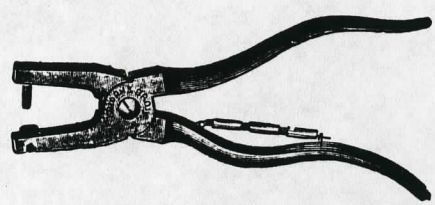
**Fig. 78.**  
Keystone Drive Punch,  
Nos. 3 to 12.



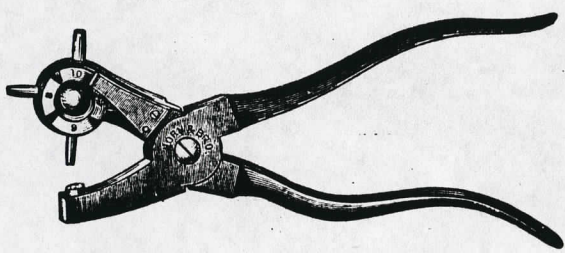
**Fig. 79.**  
Tubes for Punches.



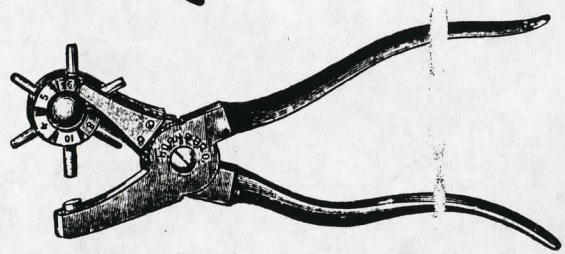
**Fig. 80.**  
Leather Punches.  
Sizes, 4, 6, 8 and 10 inches.



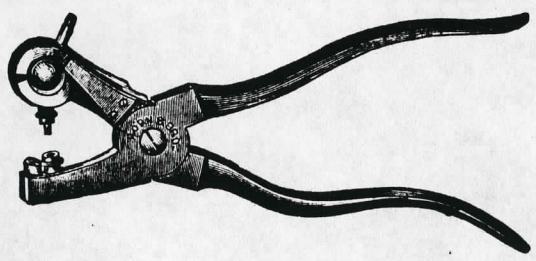
**Fig. 81.**  
Spring Punches.  
Nos. 1, 2 and 3.



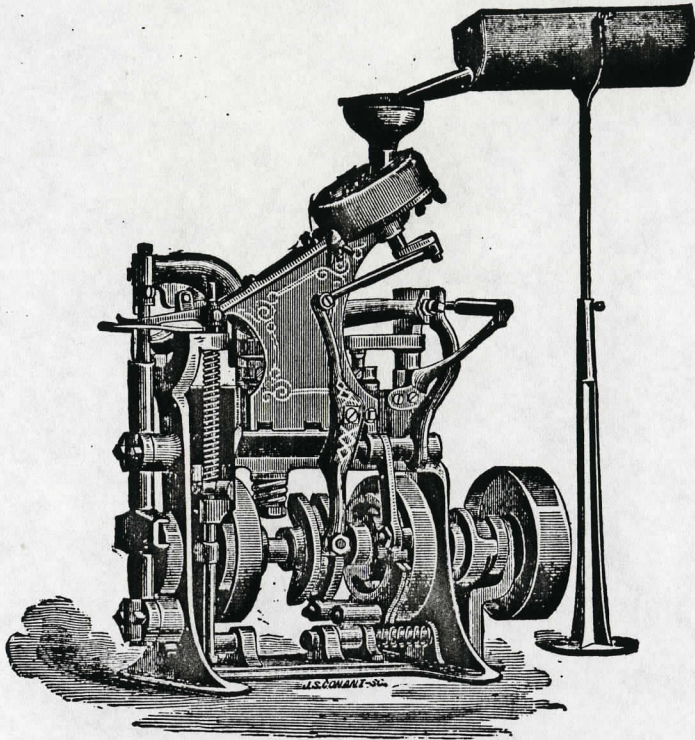
**Fig. 82.**  
Revolving Spring Punches.  
Nos. 4, 6, 8 and 9.



**Fig. 83.**  
Revolving Spring F inches.  
Six Tubes, Nos. 4 to 9.

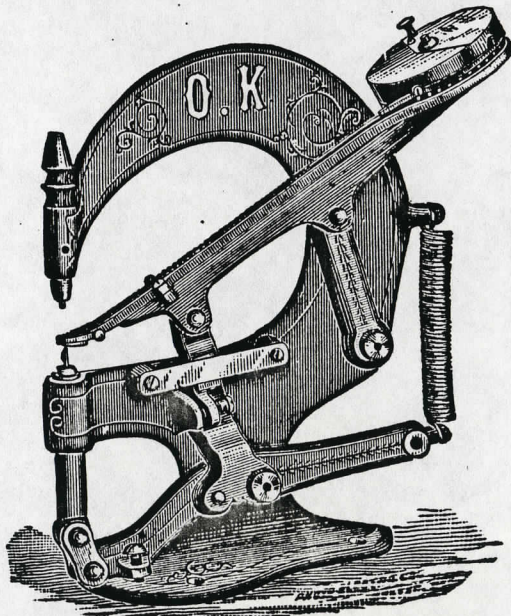


**Fig. 84.**  
Revolving Spring Punches and Eyelet Sets.



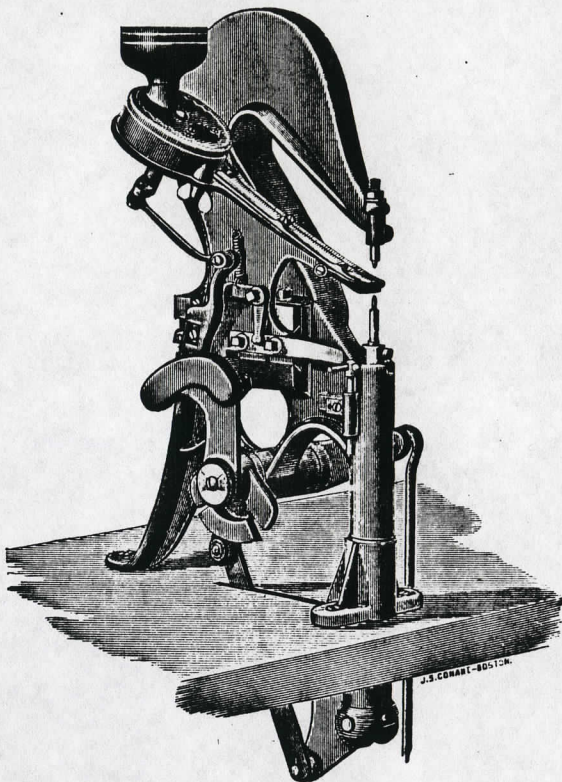
*Fig. 85.*

Self-Feeding, Power Punching and Eyeletting Machine.  
Speed, 200. Size of Pulley,  $5\frac{1}{2} \times 1\frac{1}{2}$ .



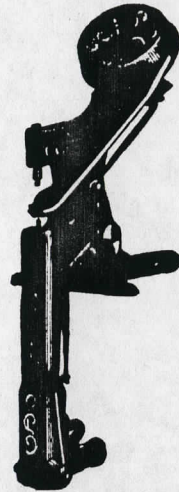
*Fig. 86.*

O. K. Self-Feeding Eyeletting Machine



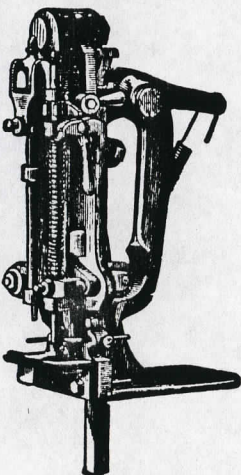
*Fig. 87.*

Hawkins' Self-Feeding Eyeletting Machine.



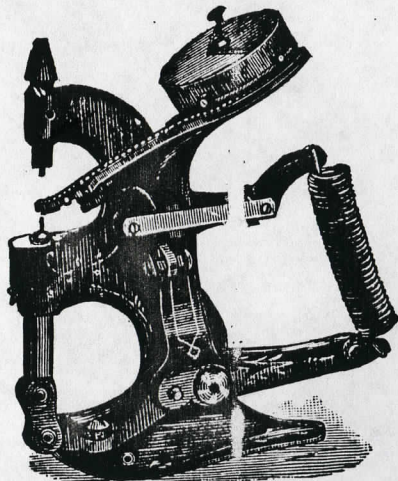
*Fig. 88.*

No. 2 Monitor Eyeletting Machine.



*Fig. 89.*

Wood's Foot Power Self-Feeding Punch.



*Fig. 90.*

Eureka Self-Feeding Eyeletting Machine.

# LEATHER, CLOTH AND PAPER CUTTING DIES

OF EVERY DESCRIPTION.

WE USE ONLY THE BEST  
of Material and Workmanship.



All new Work Warranted.

*Fig. 91.*  
Leather Cutting Dies.

—FOR—

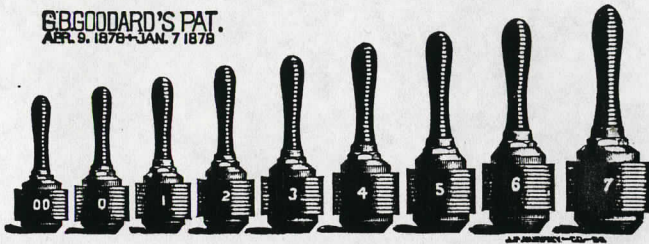
***Boots, Shoes, Envelopes, Suspenders, Labels,  
Lithograph, Harness Work, Etc.***

—ALSO—

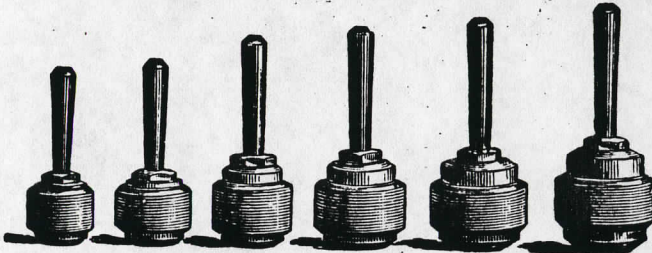
**LEATHER SPLITTING KNIVES.**

*Steel Stamps, Letters, Figures and Monograms.*

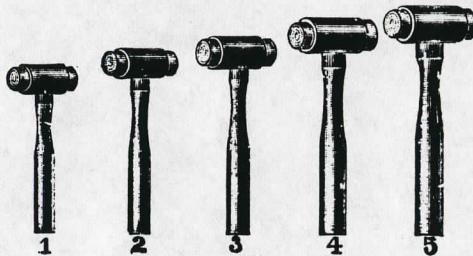
**G. B. GOODARD'S PAT.**  
 APR. 9. 1878 + JAN. 7 1879



**Fig. 92.**  
 Raw Hide Mallets.—With Patent Leather Handles.



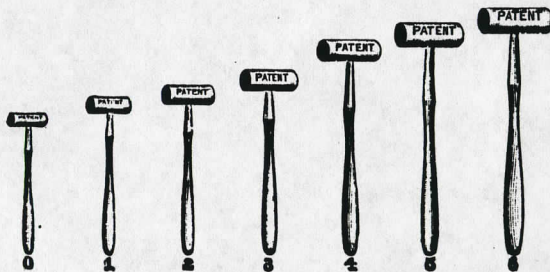
**Fig. 93.**  
 Raw Hide Mallets.—With Wooden Handles.



**Fig. 94.**  
 Patent Hide-Faced Hammers.

These Hammers are invaluable for any one who needs to strike a hard blow without bruising the material he is at work upon.

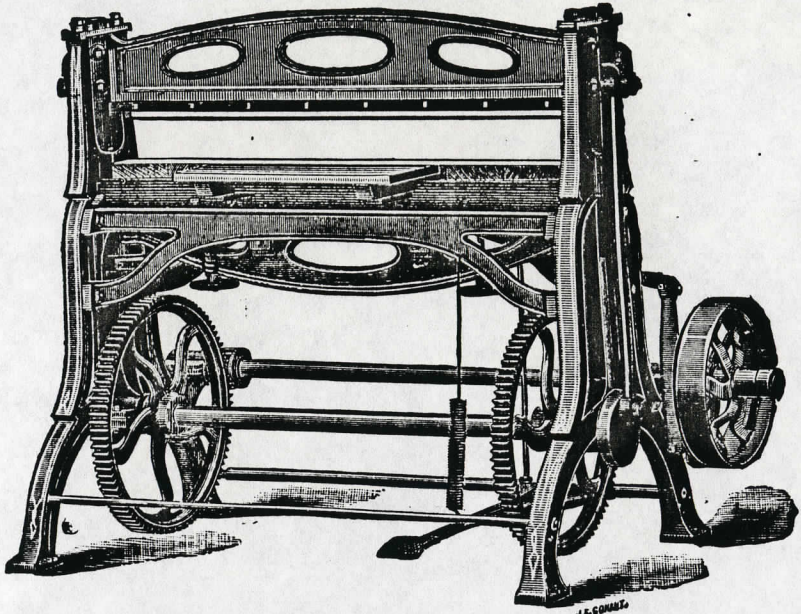
No. 1, 1 lb. No. 2, 1½ lbs. No. 3, 2 lbs. No. 4, 4 lbs. No. 5, 5½ lbs.



**Fig. 95.**

These are light mallets, made entirely of hide (except the handle), and suited to a variety of uses.

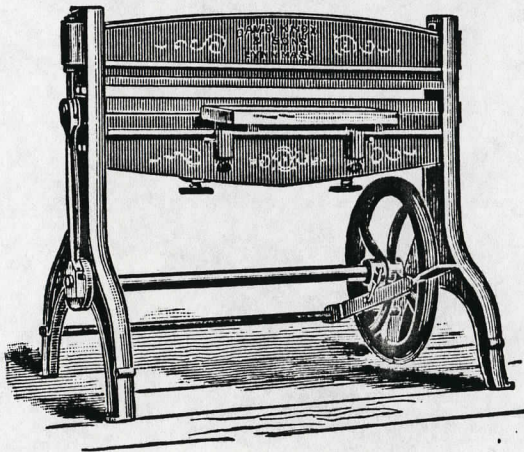
No. 0, 1½ oz. No. 1, 3½ oz. No. 2, 6 oz. No. 3, 7½ oz. No. 4, 10 oz. No. 5, 21 oz. No. 6, 23 oz.



*Fig. 96.*

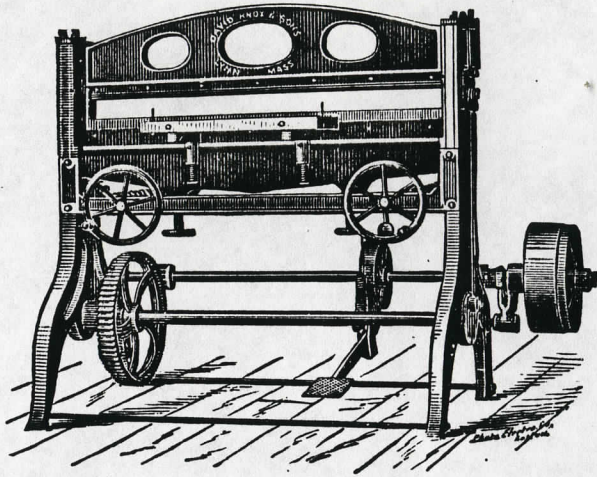
Hawkins' Power Stripper.

Size of Pulley, 16x3. Speed, 400.



*Fig. 97.*

Knox's Foot Power Stripper.

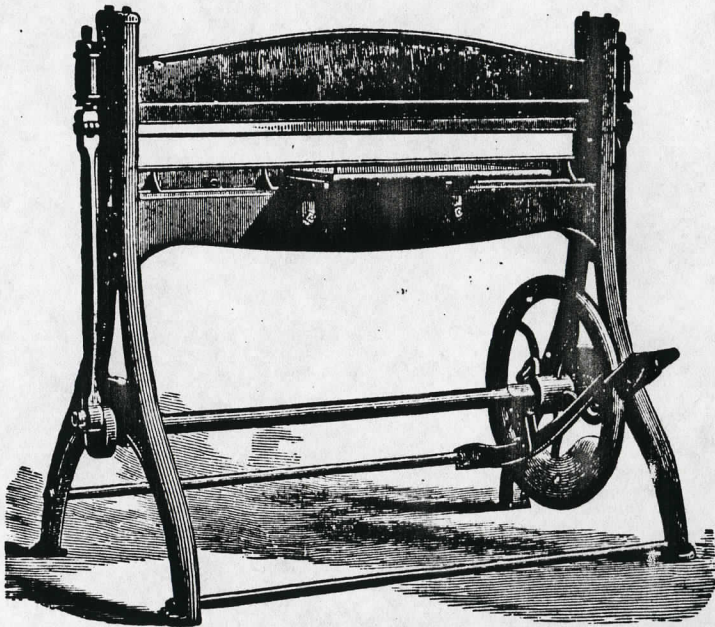


*Fig. 98.*

Knox's Power Stripper.

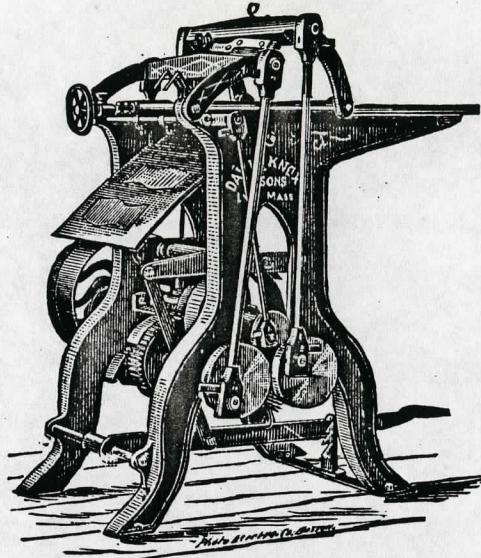
Size of Pulley, 15x3.

Speed, 560.



*Fig. 99.*

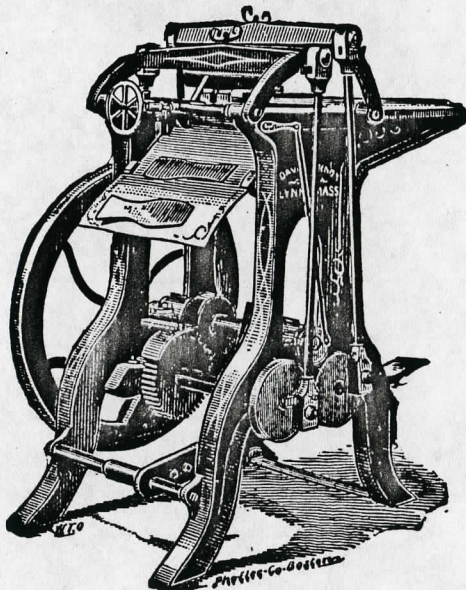
Foot Power Stripper.



*Fig. 100.*

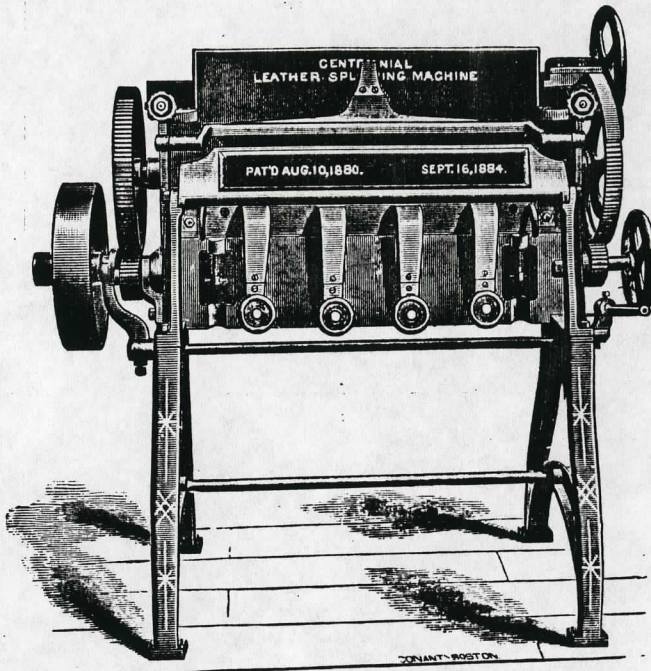
Power Blocking Machine.

Frict. Pulley, 15x4. Speed, 125.



*Fig. 101.*

Foot Power Blocking Machine.

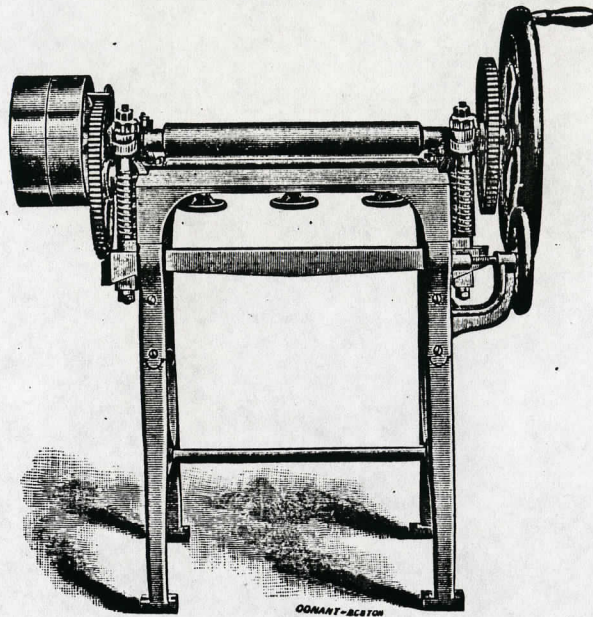


*Fig. 102.*

Centennial Improved Leather Splitting Machine.

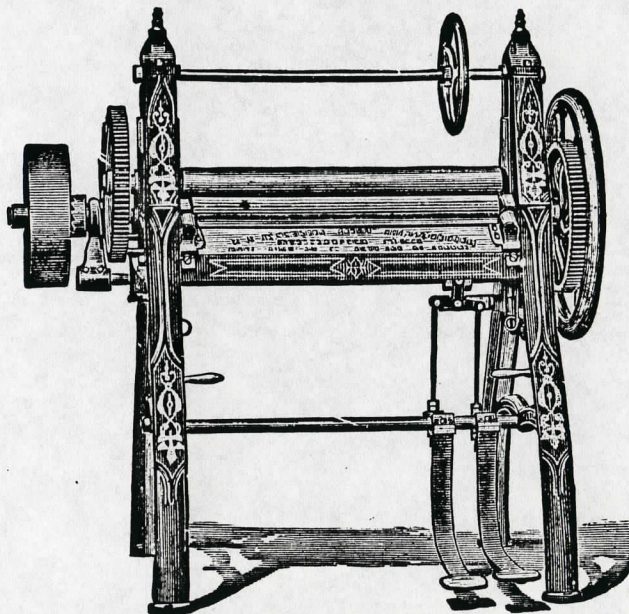
**T**HIS Machine is made in four sizes, viz: For 24 inch, 28 inch, 32 inch and 38 inch Knives. The Machine is constructed for splitting all kinds of Sole, Harness, Hose and Belt Leather. The large size will split whole half sides. In this machine the knife is placed upright, and the leather is fed downward to the knife. The rolls are mounted in arms and not in the old and inferior way of putting them in sliding bearings and boxes. In this new mounting the roll moves in a radius which does not throw the gears out as in the old way, but work in contact on the same line, whether the leather to be split is thick or thin, giving a perfectly smooth cut, and all gouging or unevenness in cutting is entirely overcome.

Clutch Pulley,  $15 \times 3\frac{1}{2}$ . Speed, 125.



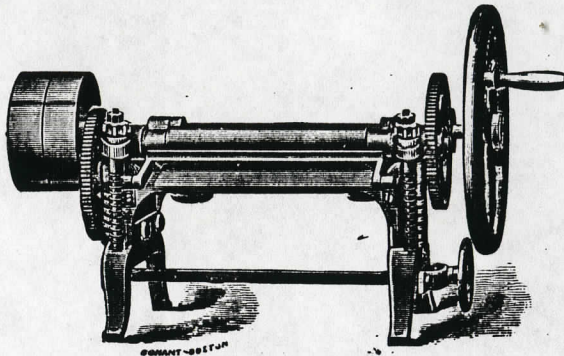
*Fig. 103.*  
Centennial, No. 2.

This machine is made in two sizes, on high legs, 20 and 24 inches.  
T. and L. Pulley, 10x2. Speed, 125.

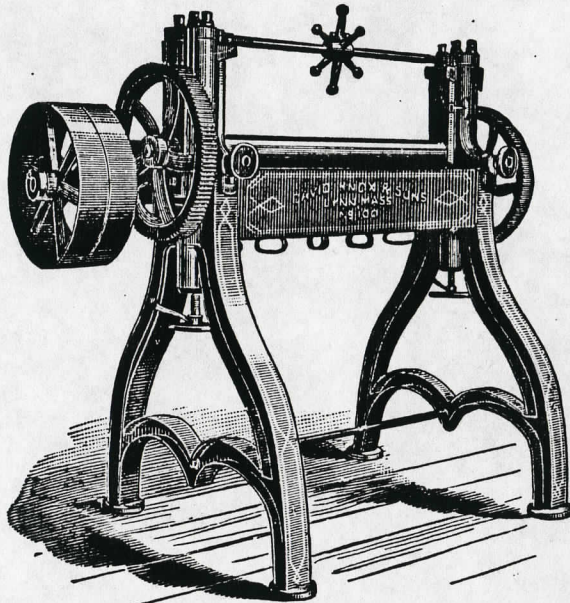


*Fig. 104.*  
Stowe Splitter.

Clutch Pulley, 14x4. Speed, 140.  
26, 32 and 38 inches.

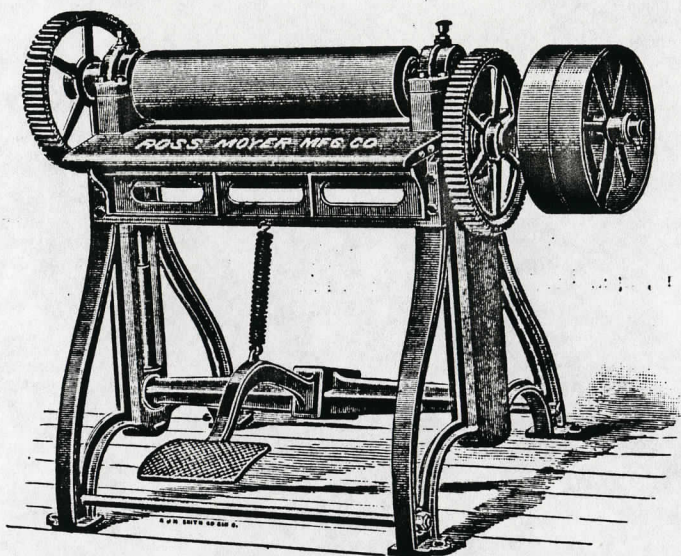
**Fig. 105.**Centennial, No. 2.—*Hand or Power.*

10, 14 and 18 inch. T. &amp; L. Pulley, 10x2. Speed, 125.

**Fig. 106.**

Knox Improved Splitting Machine.

18, 24, 30 and 36 inches. T. &amp; L. Pulley, 15x4. Speed, 125.

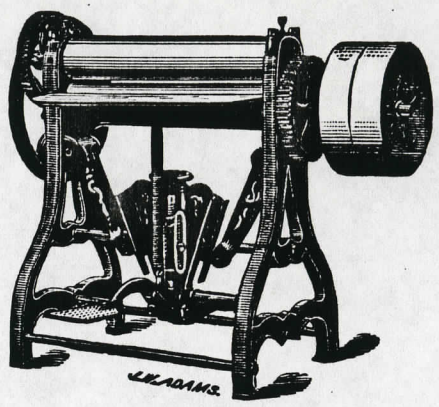


*Fig 107.*

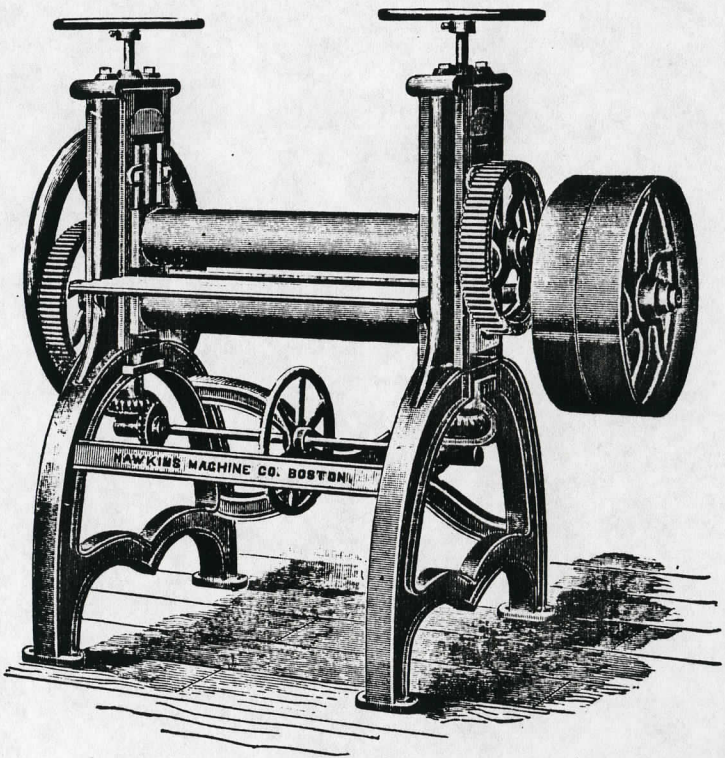
Ross Power Rolling Mill.

**T**HIS Mill is a heavy, powerful and substantial machine. Does away with the complication of Toggel Joints, usually found in these machines. The construction is simple and effective; is adjustable for any thickness of stock, and is under complete control of the operator. Rolls six inches in diameter, with heavy gearing, and a two and a half inch steel shaft through them. The material and workmanship throughout is the best.

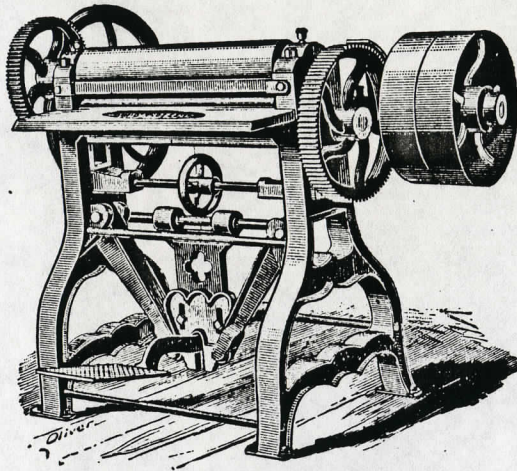
Tight and Loose Pulley, 16x4. Speed, 125.



**Fig. 108.**  
Emerson's Improved Rolling Machine.  
24 and 30 inches.  
T. and L. Pulley, 16x4. Speed, 125.



**Fig. 109.**  
Hawkins' Rolling Mill.

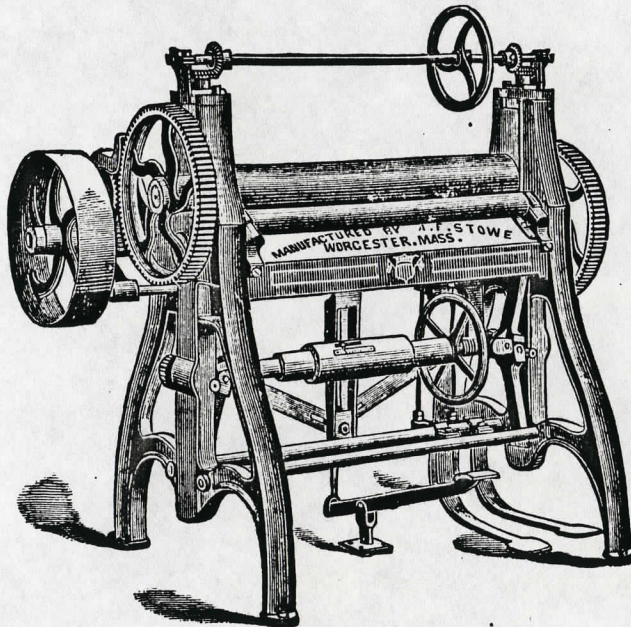


*Fig. 110.*

Knox's Rolling Machine.

Four sizes, 24, 26, 28 and 30 inches.

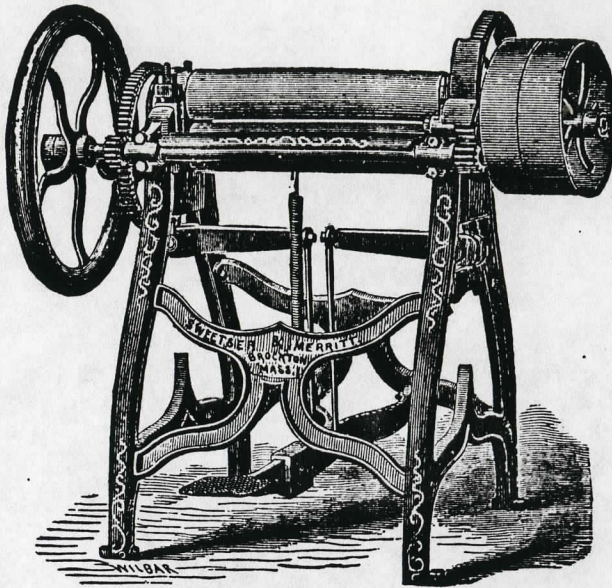
Pulley, 16x4. Speed, 150.



*Fig 111.*

Stowe Rolling Machine.

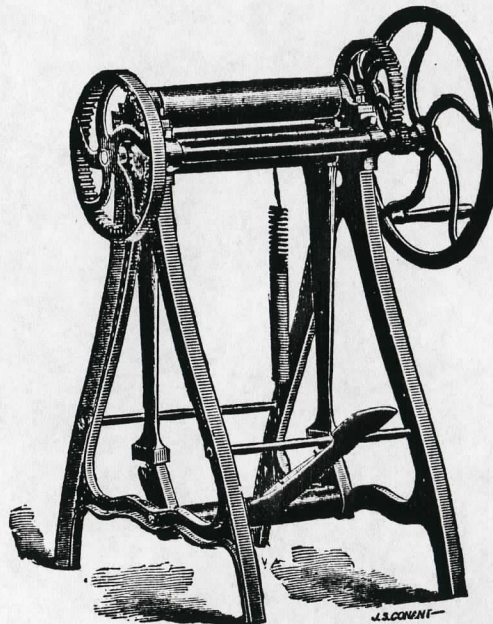
Clutch Pulley, 14x3½. Speed, 125.



*Fig. 112.*

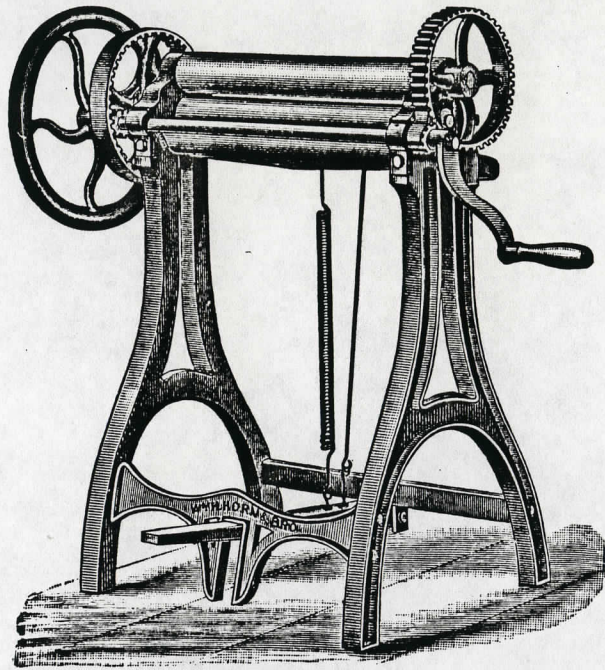
Steam Power Roller.

T. and L. Pulley, 12x3. Speed, 125.

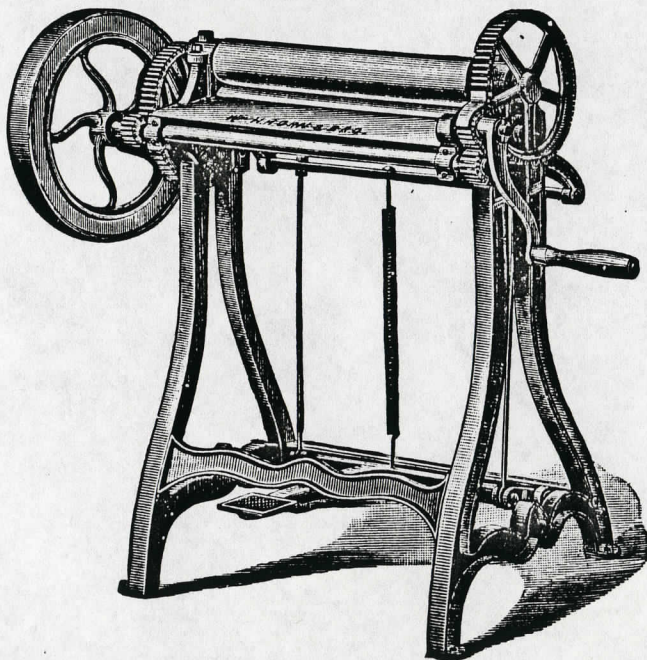


*Fig. 113.*

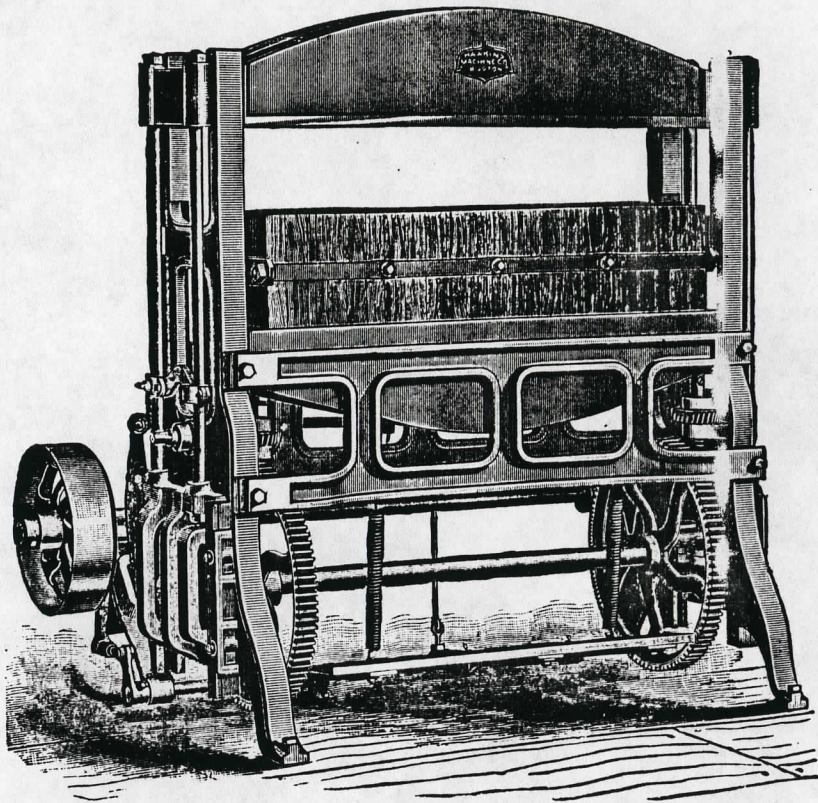
Hand Power Roller.



*Fig. 114.*  
Hand Power Rolling Mill.  
14 inch Roll.



*Fig. 115.*  
Hand Power Rolling Mill.  
15 inch Roll.

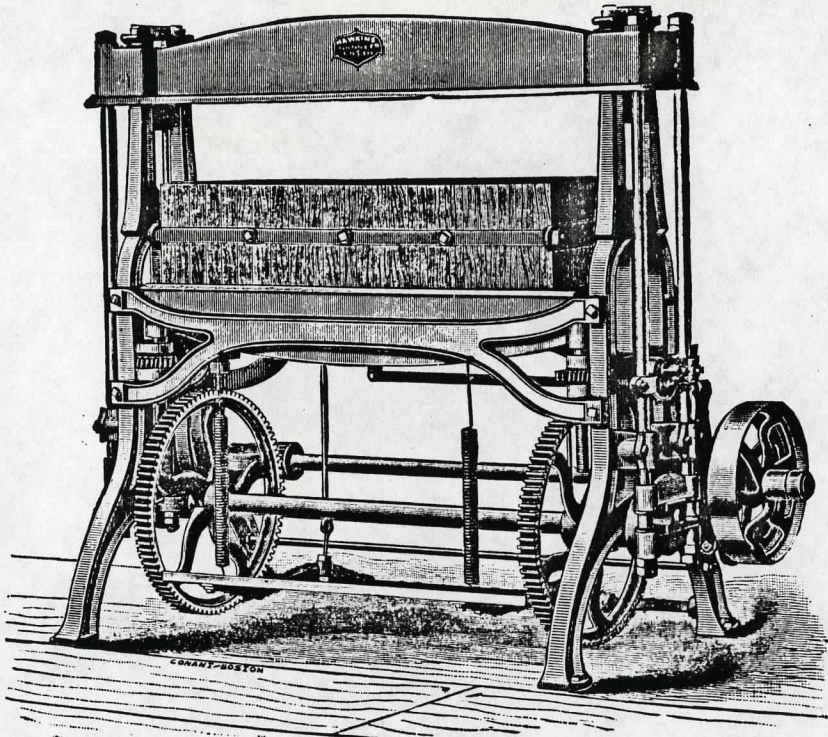


*Fig. 116.*

Hawkins' Leatherboard Cutter.

**F**OR cutting Leatherboard, Strawboard, Leather, Felt, Paper, Flannel, Cotton Cloth, or any other material where cutting die can be used. The block on this machine is forty-six inches long, fourteen inches wide, and can be extended in width to twenty-four inches if the work requires it.

Pulley, 16x4. Speed, 450.



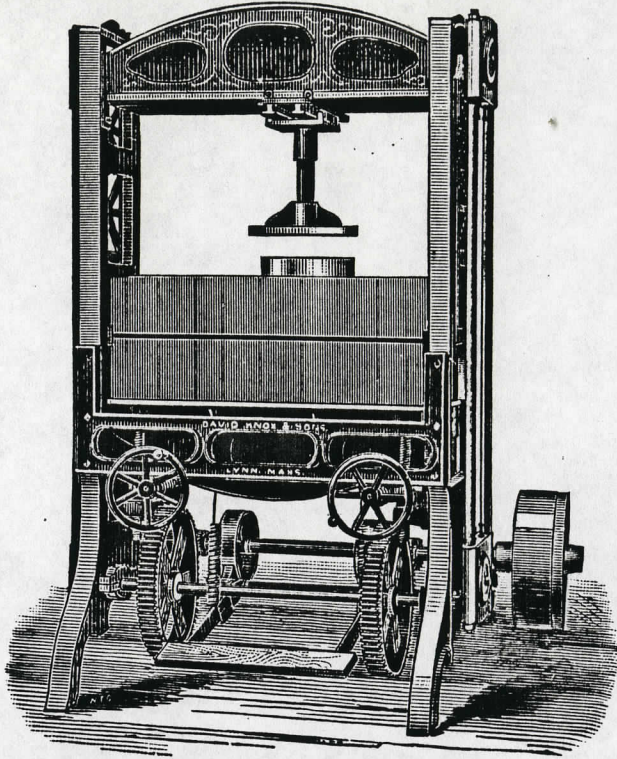
*Fig. 117.*

Hawkins' Sole Leather Cutter.

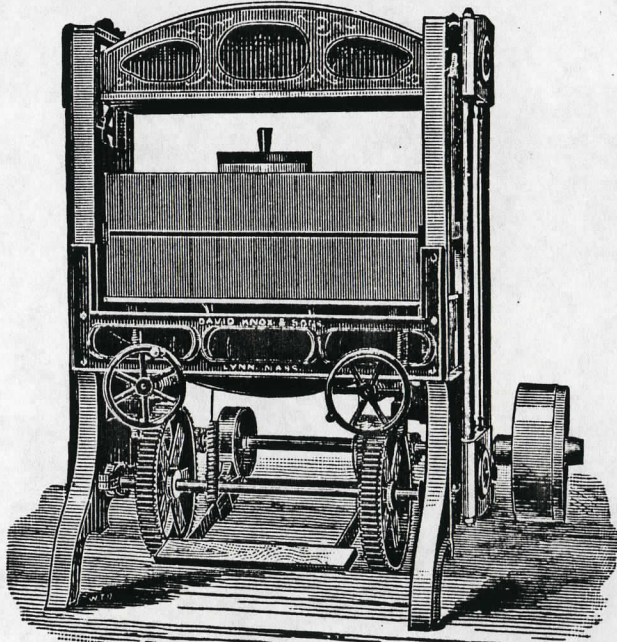
4, 5, 5½, 7, 7½ and 8½ feet.

Block, 14 inch wide.

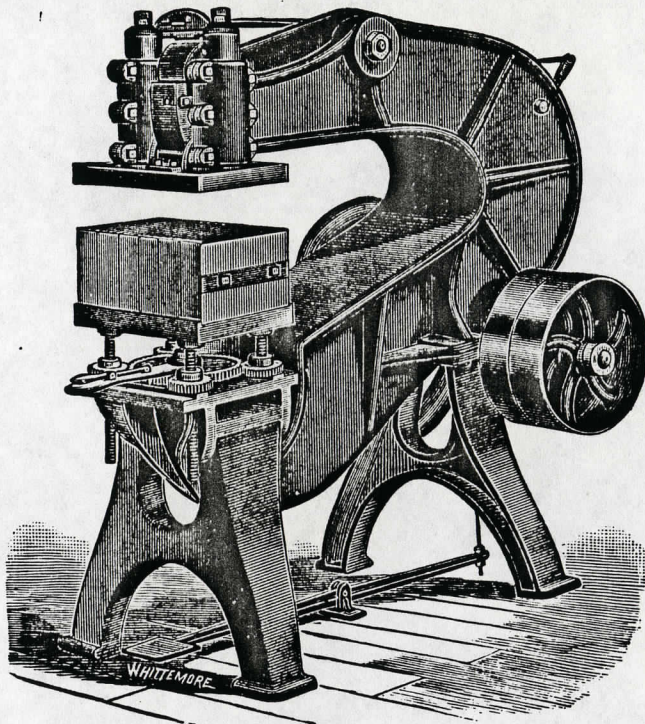
Pulley, 16x3. Speed, 475 to 500.



*Fig. 118.*—Knox's Improved Beam Dieing Machine.



*Fig. 119.*—Knox's Low Beam Dieing Machine.



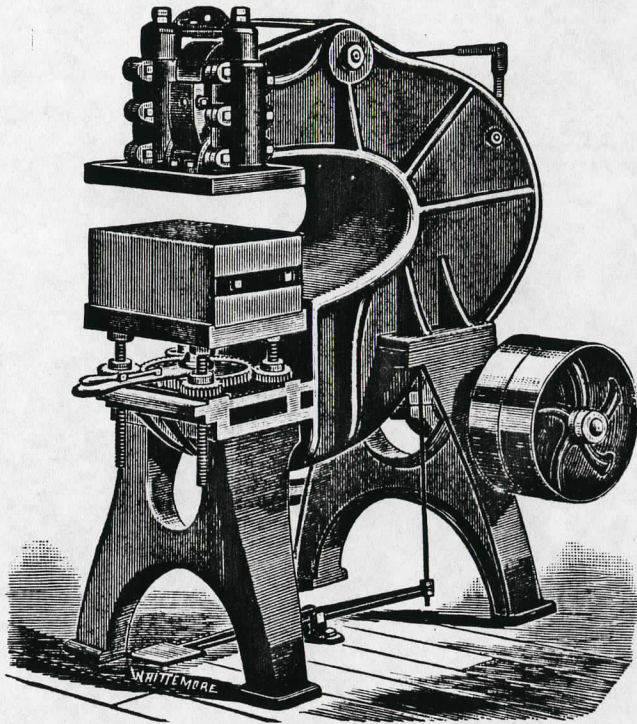
*Fig. 120.*

Pease Jumbo Dieing Machine.

This machine has 42 inch throat. Block is 15x18 inches. Weight, 3,400 pounds.

You can cut with dies, having handles on or off. Can cut out of the side or any piece of leather, making it a practical, simple and strong machine.

T. and L. Pulley, 18x4. Speed, 135.

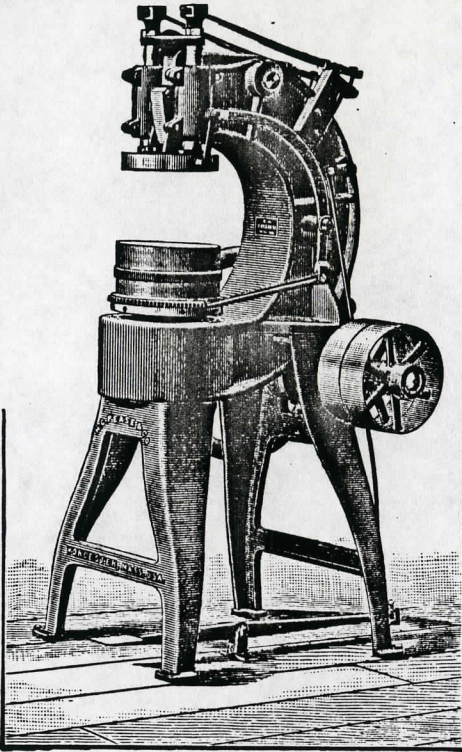


*Fig. 121.*

Pease Bolivar Dieing Machine.

Throat, 30 inches. Weight, 2,800 pounds.

T. & L. Pulley, 18x4. Speed, 135.

*Fig. 122.*

Pease Baby Dieing Machine.

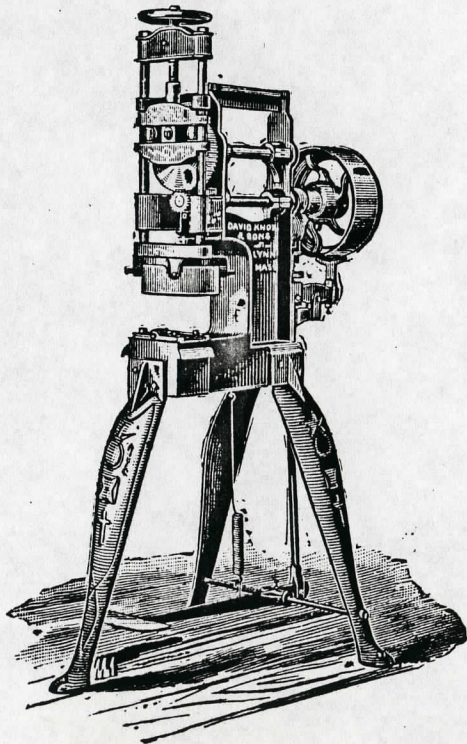
Throat, 20 inches. Weight, 1,600 lbs.

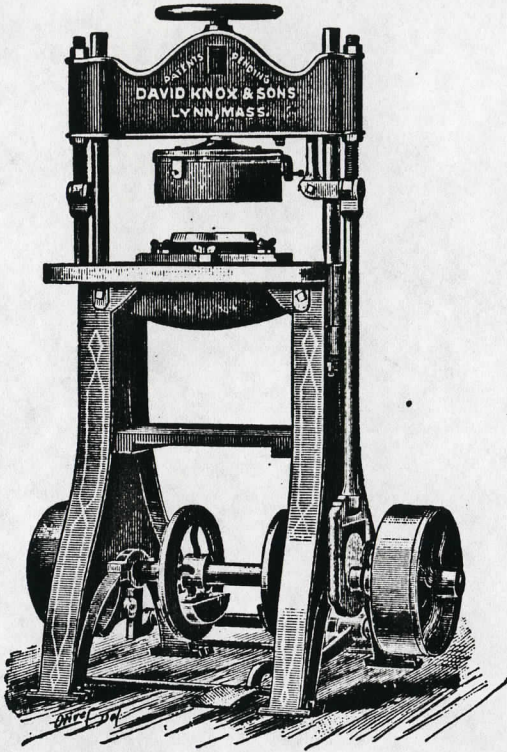
*Fig. 123.*

Heel Stock Dieing Machine.

This is a machine for dieing out heel stock by power. This will be found a great help in dieing out thick sheets of pasted stock, or heavy work of any kind. It is made with all the latest improvements.

Pulley, 16x4. Speed, 150.





*Fig. 124.*

Power Dieing-Out Machine.

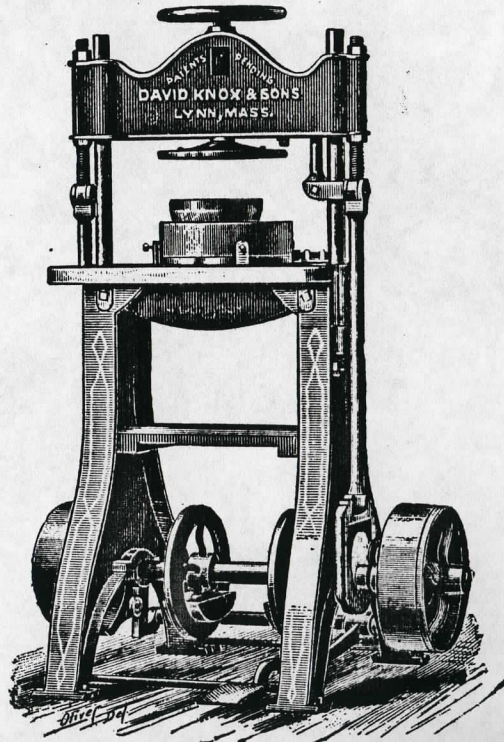
Pulley, 15x4. Speed, 550.

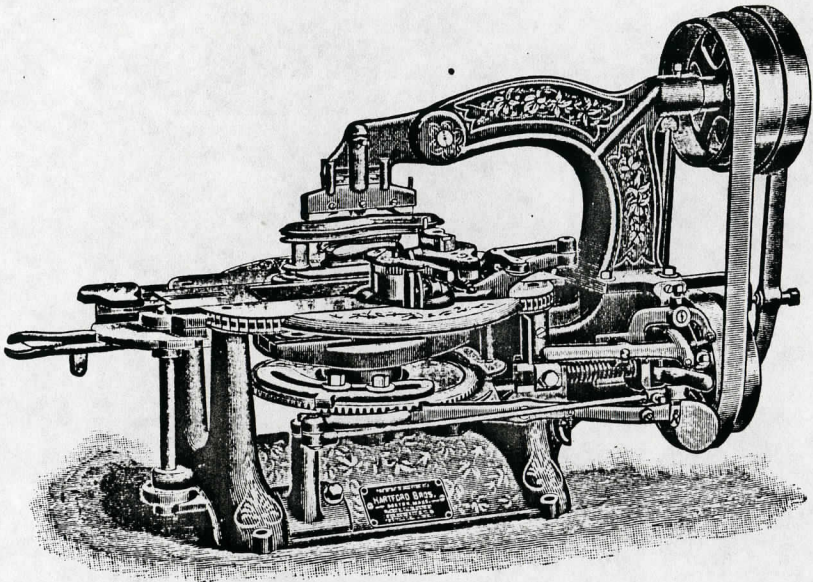
This shows the block on top.

*Fig. 125.*  
Power Dieing-Out Machine.

Pulley, 15x4. Speed, 550.

This shows the block on the  
bottom.





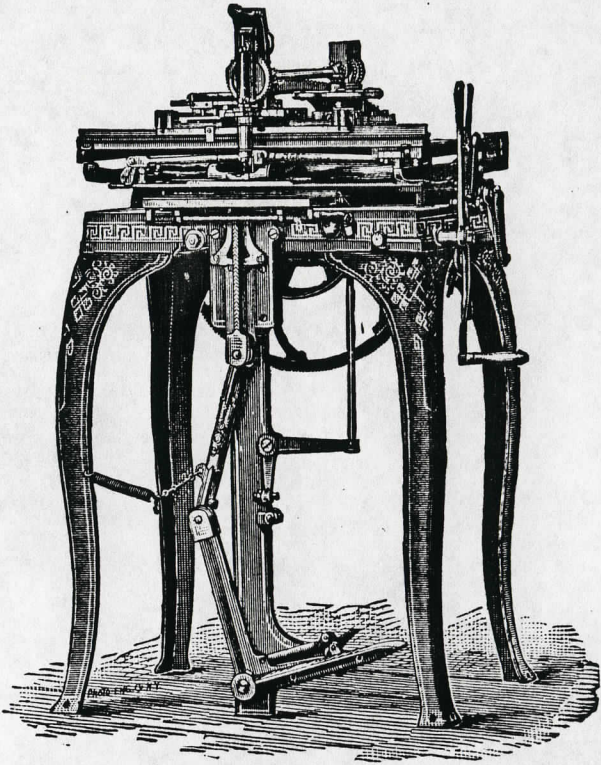
*Fig. 126.*

**New Style Hartford Rounding Machine.**

Runs by Sheet Iron Pattern, and cuts from Block or Strip Stock.

Capacity : Men's, Boys' and Youths', Women's, Misses' and Children's.

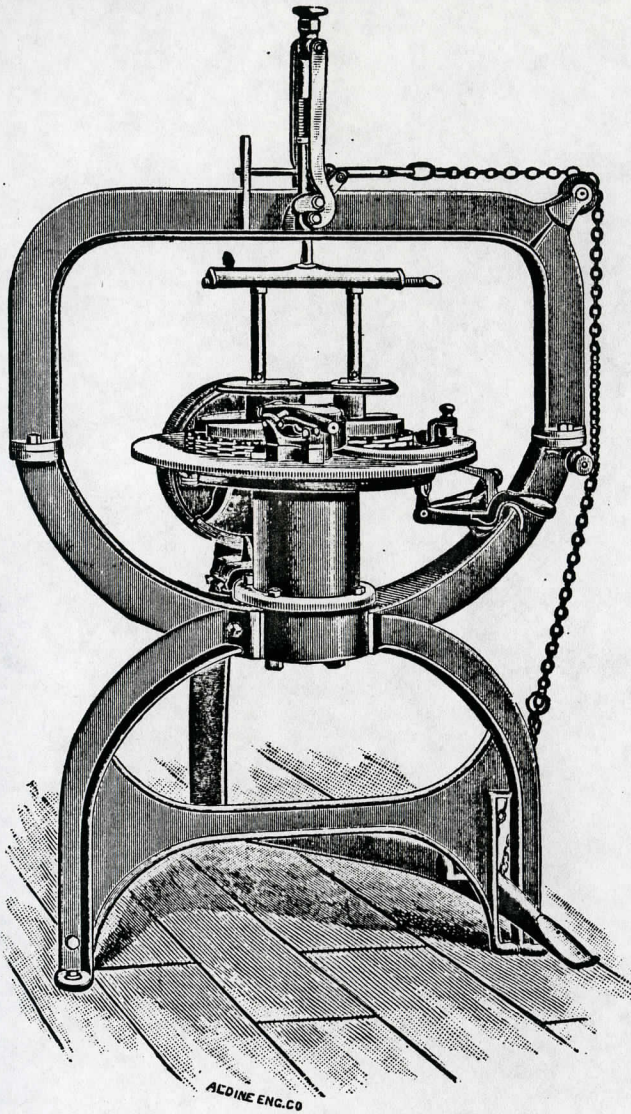
Pulley, 10x1½. Speed, 200.



*Fig. 127.*

**Breach Sole Cutting Machine.**

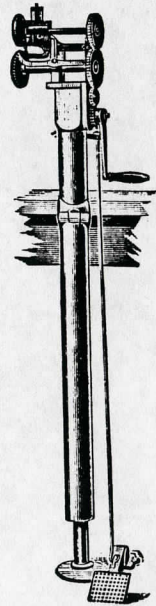
No dies required, and only one pattern from which all sizes of soles are cut.



*Fig. 128.*

Smith's Improved Sole Rounder.

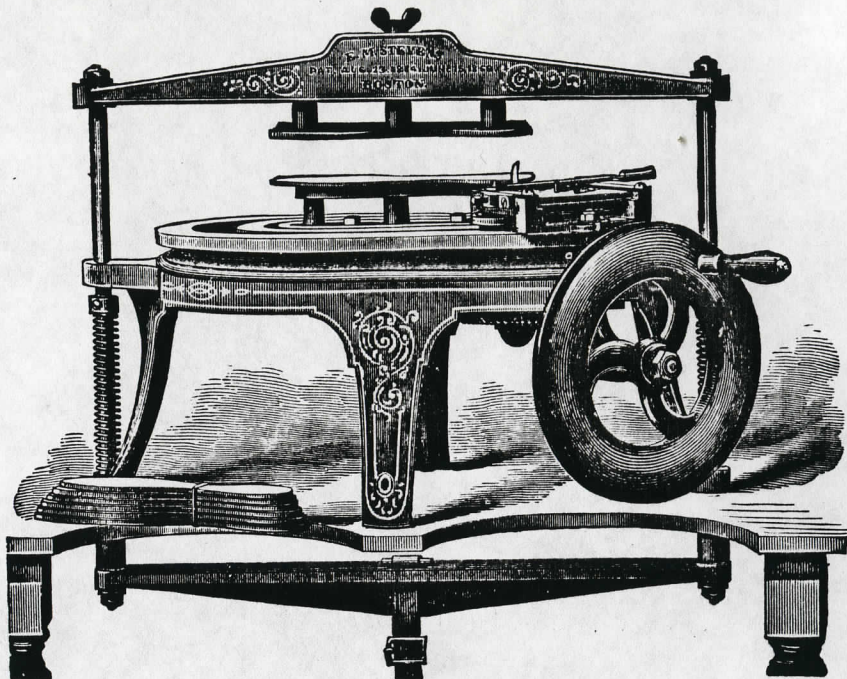
Frict. Pulley, 12x2¼. Speed, 250.



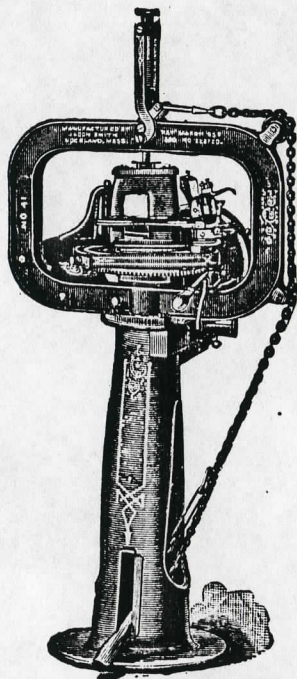
*Fig. 129.*

Stanbon's Sole Rounder.

A combined sole rounding, tap, trimming and channel lip turning machine.

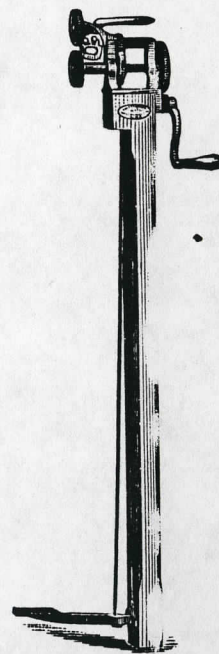


*Fig. 130.*—Sole Rounding Machine.  
Frict. Pulley,  $10 \times 1\frac{1}{2}$ . Speed, 200.



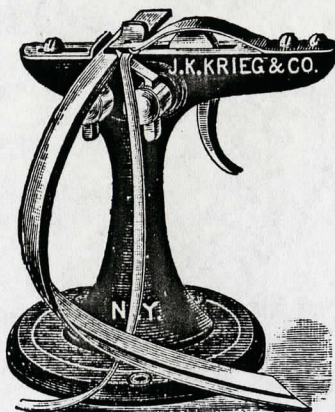
*Fig. 131.*

Smith's Sole Fitting and Channeling Machine.—Pulley,  $12 \times 2\frac{1}{4}$ . Speed, 250.



*Fig. 132.*

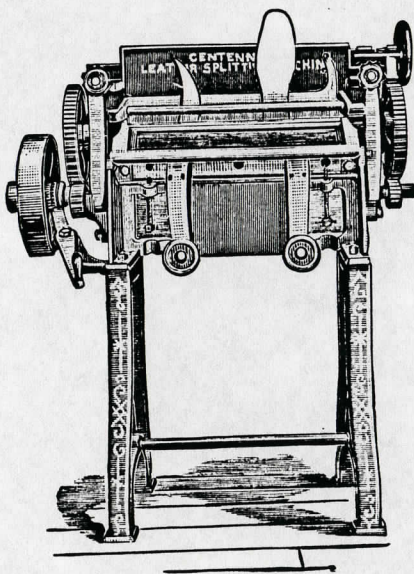
Tap Router.



*Fig. 133.*

**Welt Beveler and Groover.**

The welts are beveled and grooved in the operation of drawing them through the machine. By a simple and effective device the knives are easily and quickly adjusted. Will cut any width of bevel, thickness of edge and depth of groove.

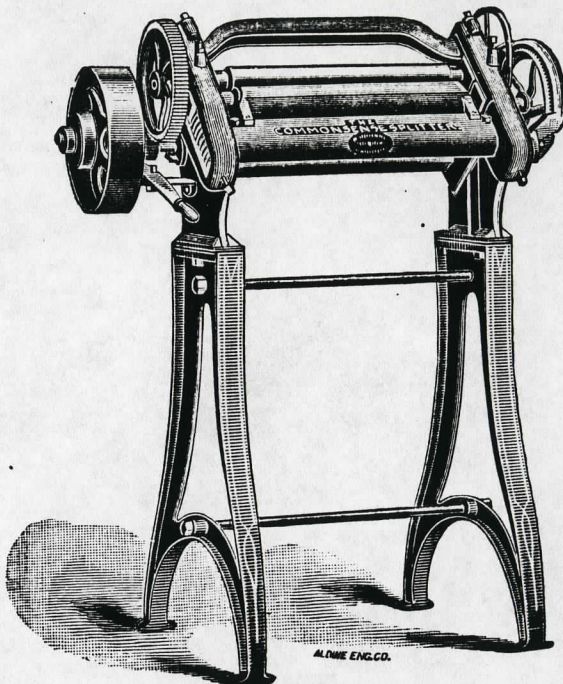


*Fig. 134.*

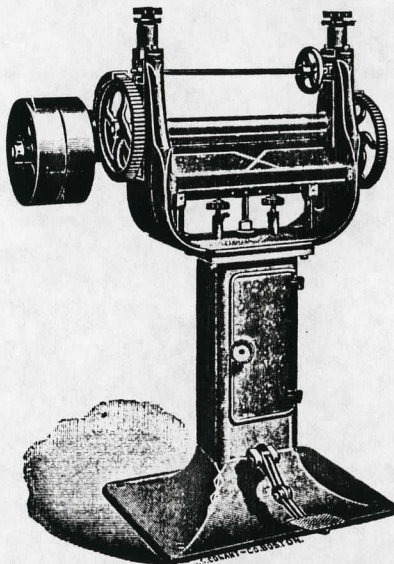
**Centennial Improved Leather Splitting Machine.**

It is used for skiving and evening soles and counters.

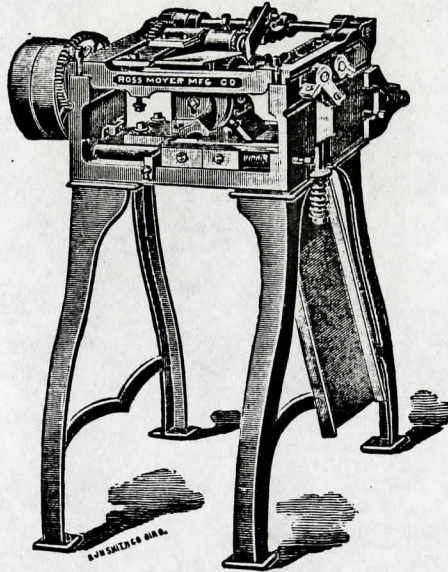
Pulley, 10x2. Speed, 150. .

*Fig. 135.***The Common Sense Splitter.**

Five sizes, 38 inch, 32 inch, 26 inch, 18 inch upper leather, 18 inch sole and tap evener.  
Clutch Pulley, 10x2. Speed, 140.

*Fig. 136.***Carver Sole Evener.**

For evening Soles, Counters, Taps, etc. We fit this machine for Upper Leather, with  
an Improved Clearing Attachment. Pulley, 12x2. Speed, 125.

*Fig. 137.*

Ross' Scrap Leather Splitting Machine.

PATENTED.

**A** MACHINE for utilizing pieces of sole leather, from the size of a post-age stamp to the larger scraps which fall from the cutting block, splitting them in such a manner as to leave on one edge a joint or hinge, by which the two halves of the scrap are held together, and opening them out like the covers of a book, exactly doubling the area, reducing the thickness one-half, and rendering useful that which before was worthless.

It trims the straight edge for the joint, splits, opens and rolls out flat, at one operation or handling.

From the scraps treated thus full heel lifts can be cut, and as the seams or joints lie in the different layers at various angles to each other, a heel built up of this material below the top piece is even more solid than one made from thick lifts. It can not check, and finishes up more smoothly and handsomely, while it is truly a solid sole leather heel.

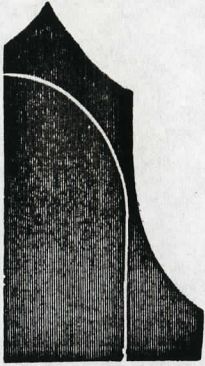
The machine, when properly handled, splits the pieces as fast as they can be fed to it, one at a time.

We guarantee the parts of the machine to be of first-class material and workmanship. It is of simple construction, has no complicated parts to get out of order, and requires no adjustment after once being set up, except as the knife may wear away.

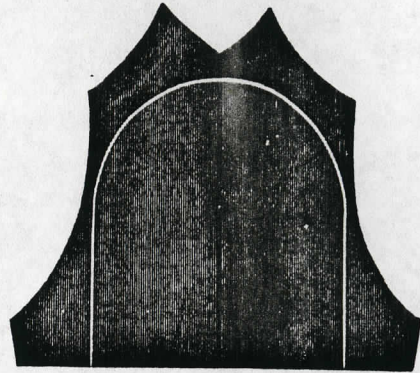
The knives can be taken out, sharpened and replaced without in any way disturbing the adjustments.

The parts liable to wear out can be duplicated at any machine shop, or can be had from the manufacturers.

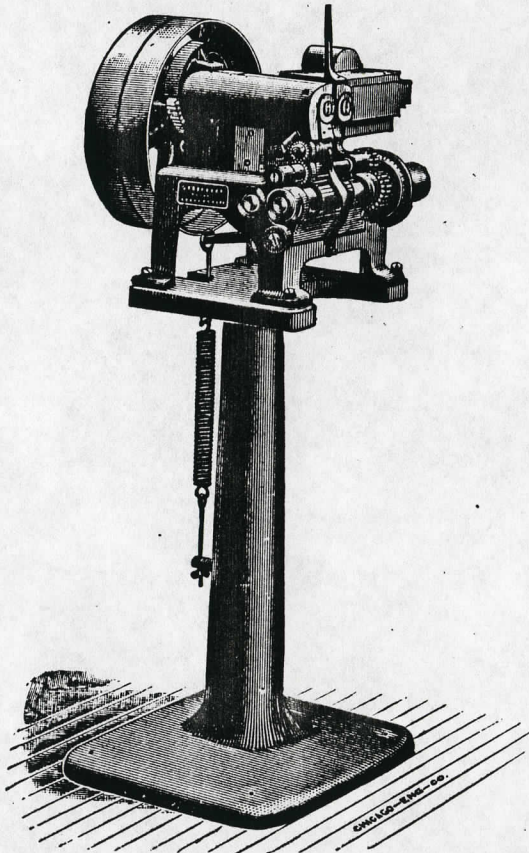
No factory can afford to be without one of these machines.



*Fig. 138.*  
Before Splitting.

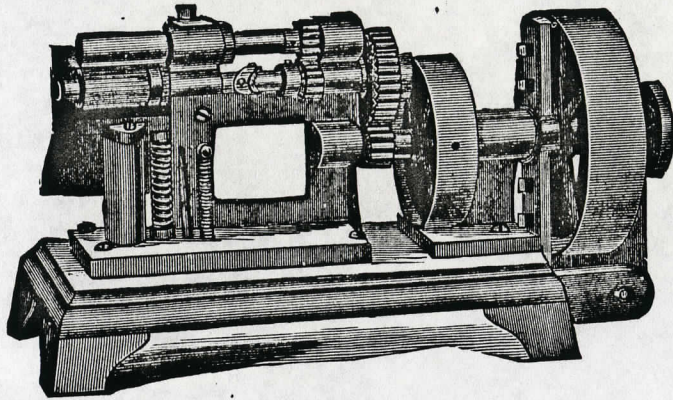


*Fig. 139.*  
After Splitting.



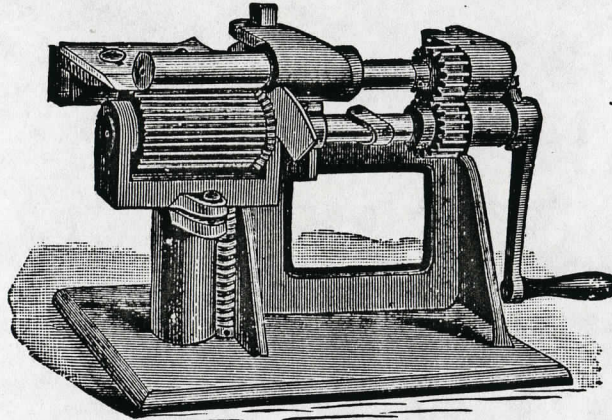
*Fig. 140.*  
Roberts' Scrap Splitting Machine.

PATENTED.

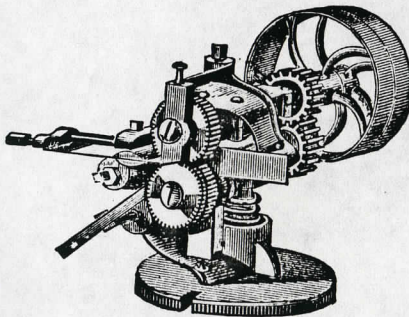
*Fig. 141.*

Dancel & Smith's Improved Counter Skiver.

Size of Pulley,  $8 \times 1 \frac{1}{4}$ . Speed, 200.

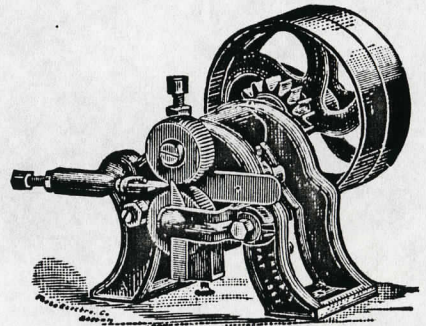
*Fig. 142.*

Hand Power Counter Skiver.

*Fig. 143.*

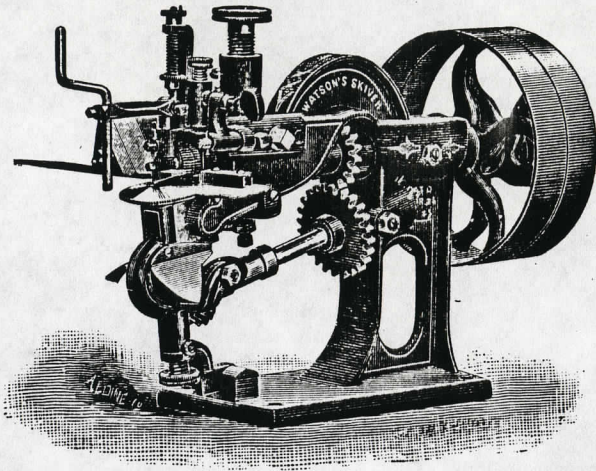
Tripp's Improved Skiver and Welt Splitter.

Size of Pulley,  $7 \frac{1}{2} \times 1 \frac{1}{2}$ . Speed, 200.

*Fig. 144.*

New Old-Style Tripp's Skiver.

For Counters and Splitting Welts.  
Size of Pulley,  $7 \frac{1}{2} \times 1 \frac{1}{2}$ . Speed, 200.



*Fig. 145.*

Watson's Skiver.

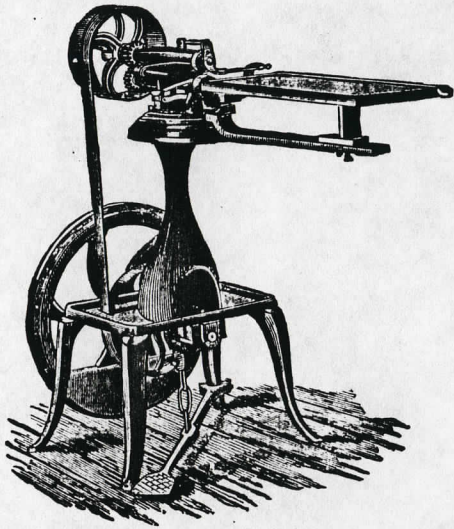
Pulley,  $8 \times 1\frac{1}{2}$ . Speed, 200.

*Fig. 146.*

Tripp's Counter Divider.

Can be used by foot or Steam Power.

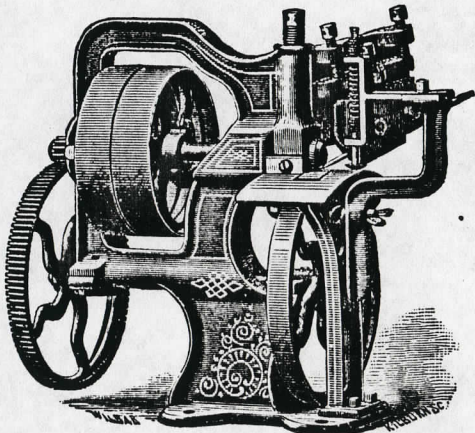
Pulley,  $10 \times 1\frac{1}{2}$ . Speed, 200.

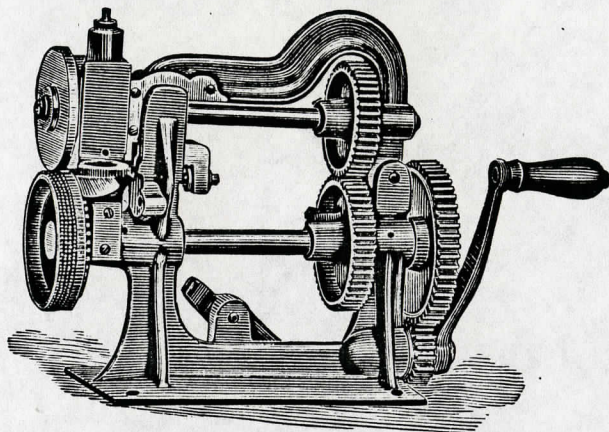


*Fig. 147.*

Davis' Leather Board Skiver.

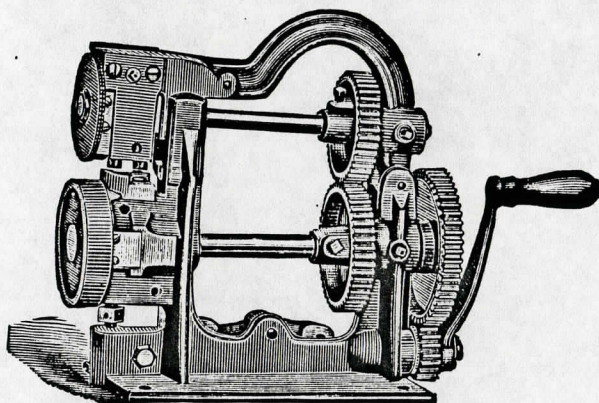
Pulley,  $7\frac{1}{2} \times 2$ . Speed, 200.





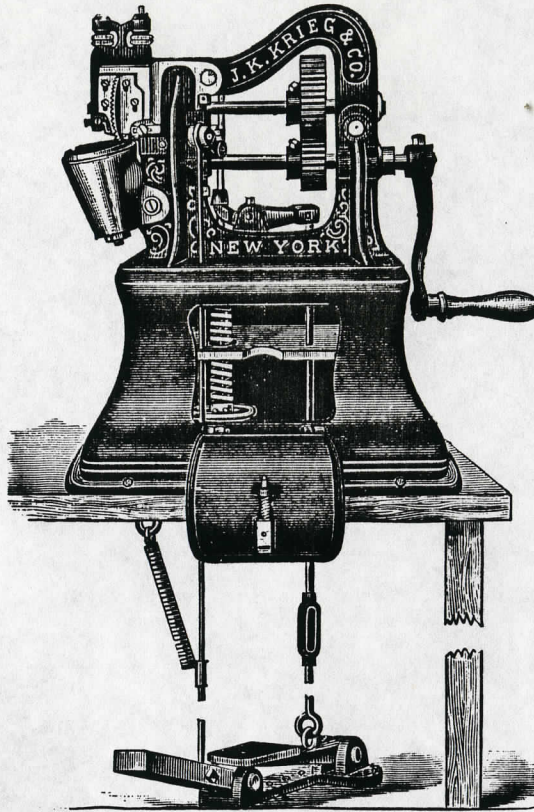
*Fig. 148.*

McKay Channeling Machine.



*Fig. 149.*

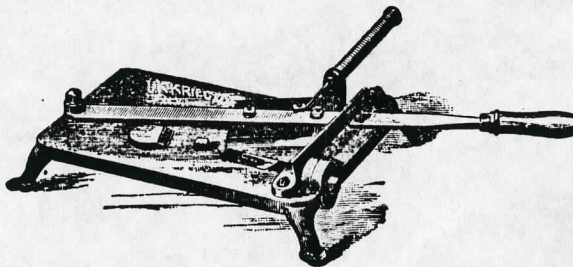
McKay Feather Edge Machine.



*Fig. 150.*

Improved Insole Channeller.

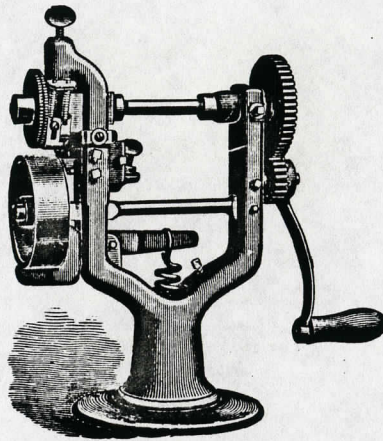
Adapted for Hand Sewed, Hand Welt, Goodyear Sewed Shoes.



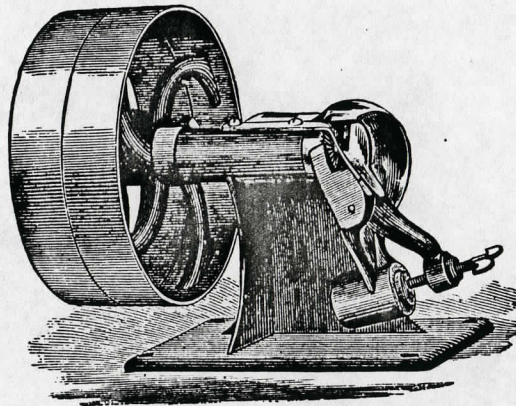
*Fig. 151.*

Spring Heel Chamfering or Beveling Machine.

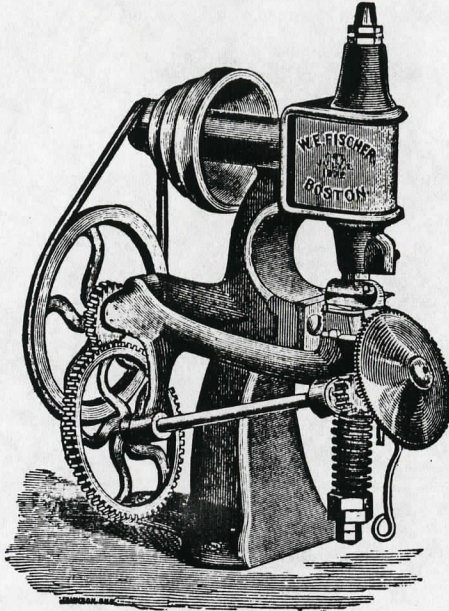
With this machine the front ends of spring heels are cut clean and of a uniform bevel; the length of bevel can be easily and quickly regulated. A boy can do more work than two men with a knife, and do it much better.



*Fig. 152.*  
Shank Beveler.



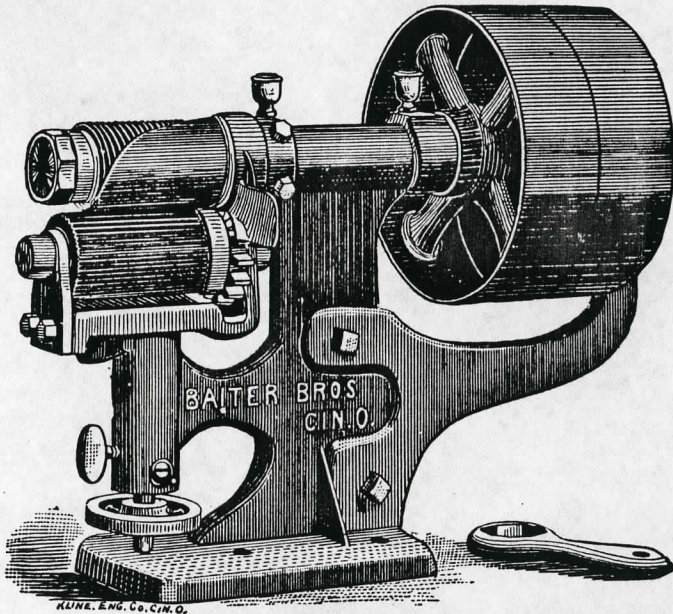
*Fig. 153.*  
Rand Turner.  
Pulley, 10x2. Speed, 100.



*Fig. 154.*  
Fischer Channel Flap Turner.

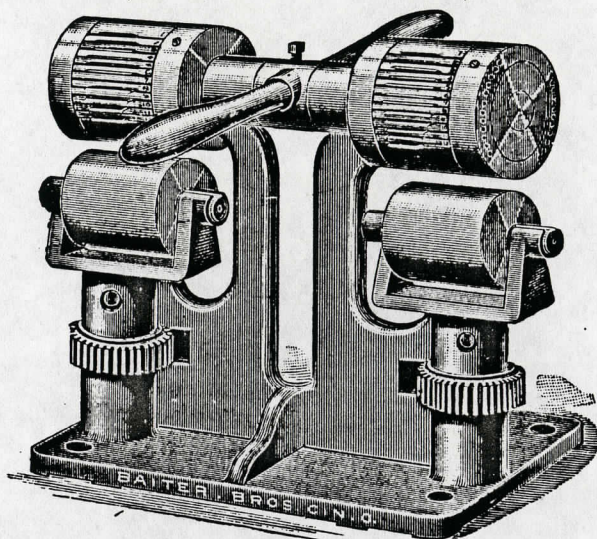


*Fig. 15.*  
Hand Channel Turner.



*Fig. 156.*  
Flexible Insole Machine.

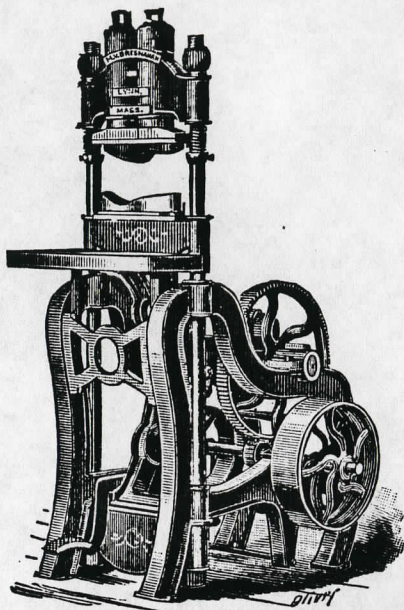
This machine is recognized as by far the best of its kind ever put on the market, combining as it does simplicity, strength and durability. The cuts, diamond shape or single cuts, make the insoles pliable, soft and comfortable to the feet.



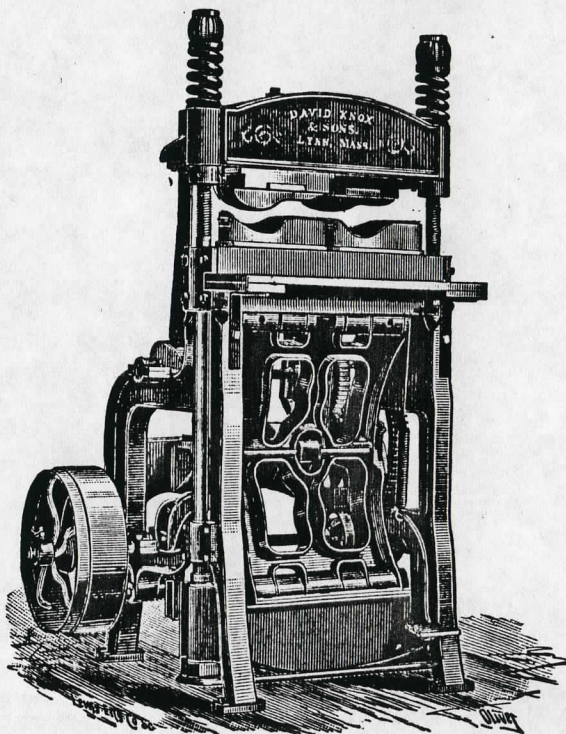
*Fig. 157.*

Goodyear Flexible Welt Insole Machine.

The above machine has been in use for the past year, and given entire satisfaction. It is a hand power machine and cuts insoles right and left with great rapidity ; it can be adjusted by turning the lower wheel which raises or lowers the roller upon which the insole is placed, thus giving a uniform cut deep or shallow.



*Fig. 158.*—Bresnahan Improved Sole Moulder.  
Pulley, 16 inches. Speed, 125.



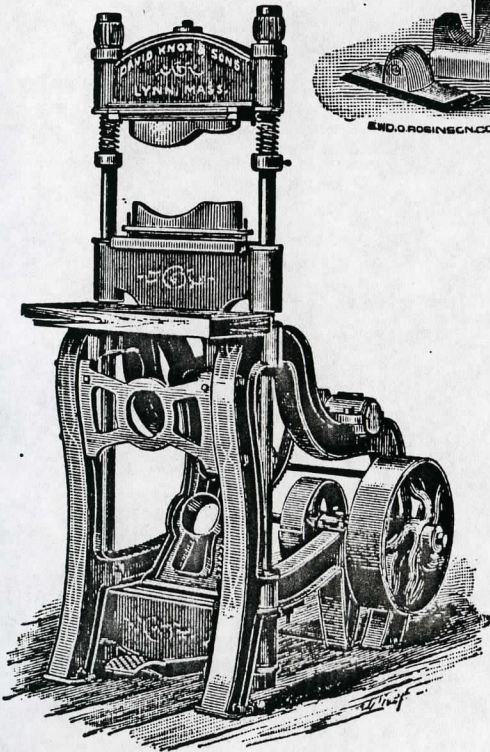
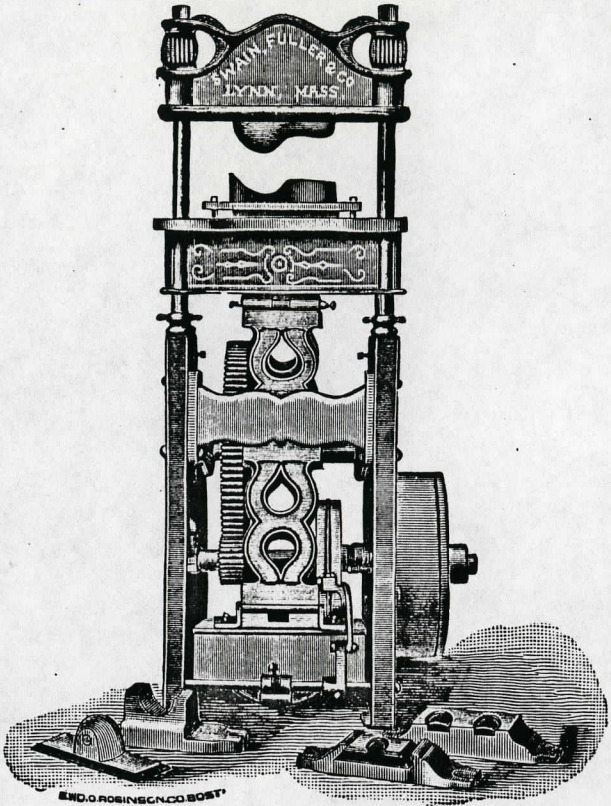
*Fig. 159.*—Knox Power Safety Twin Moulder.  
Size of Pulley, 18x4. Speed, 200 to 250.

**Fig. 160.**

American Power Moulder.

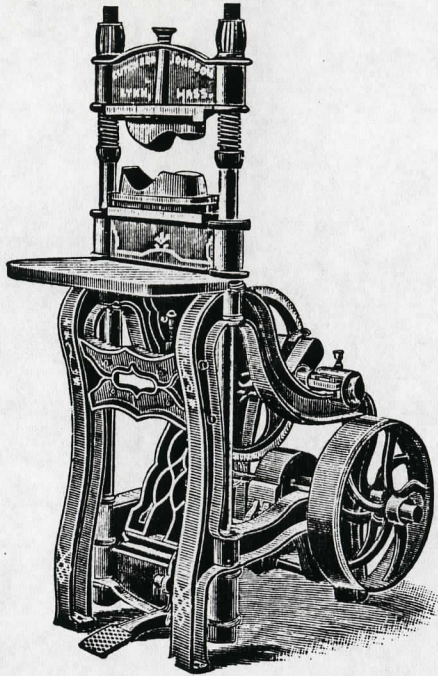
Also used for Moulding  
Counter and Pressing Heels.

Pulley, 18x3½. Speed, 100.

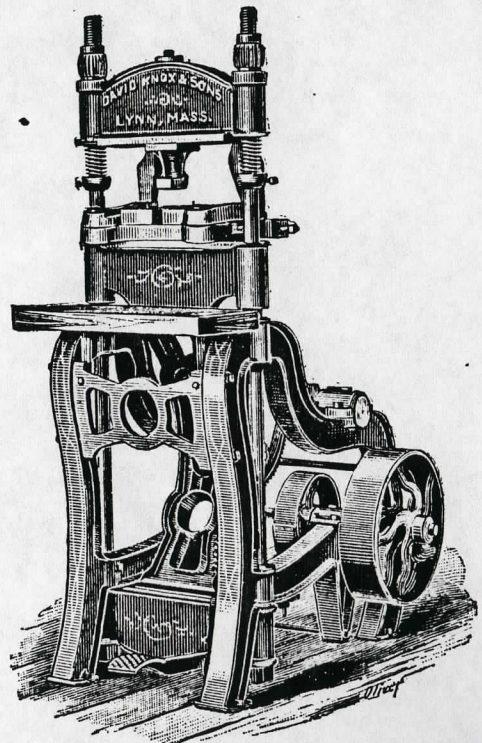
**Fig. 161.**

Knox's Power Sole Moulder.

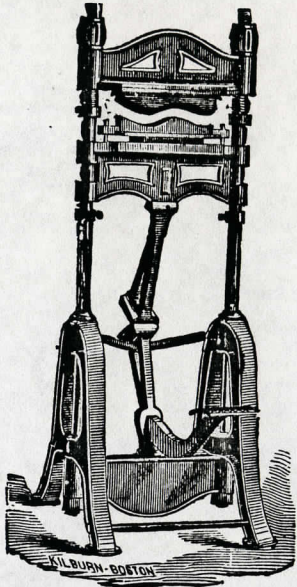
Pulley, 18x4. Speed, 250.



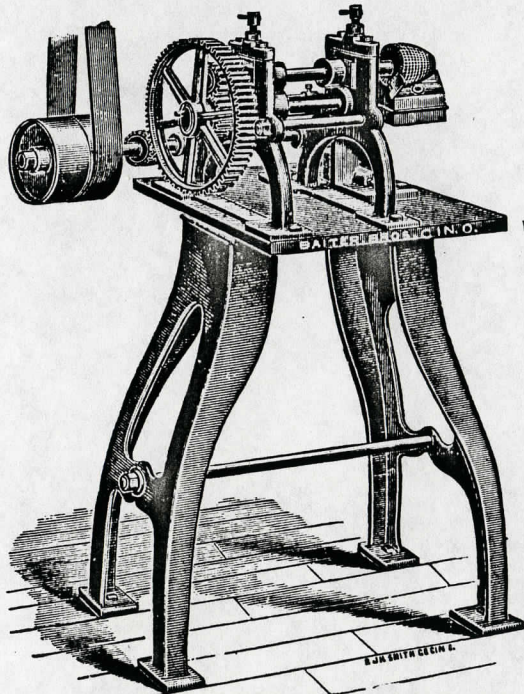
*Fig. 162.*  
Cutcheon & Johnson's Power  
Sole Moulder.  
Frict. Pulley, 18x4. Speed, 200.



*Fig. 163.*  
Knox's Heel Moulder.  
Frict. Pulley, 18x4. Speed, 200.

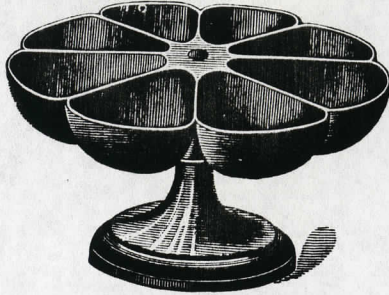
*Fig. 164.*

American Foot Power Mould.

*Fig. 165.*

Baiter Counter Moulding Machine.

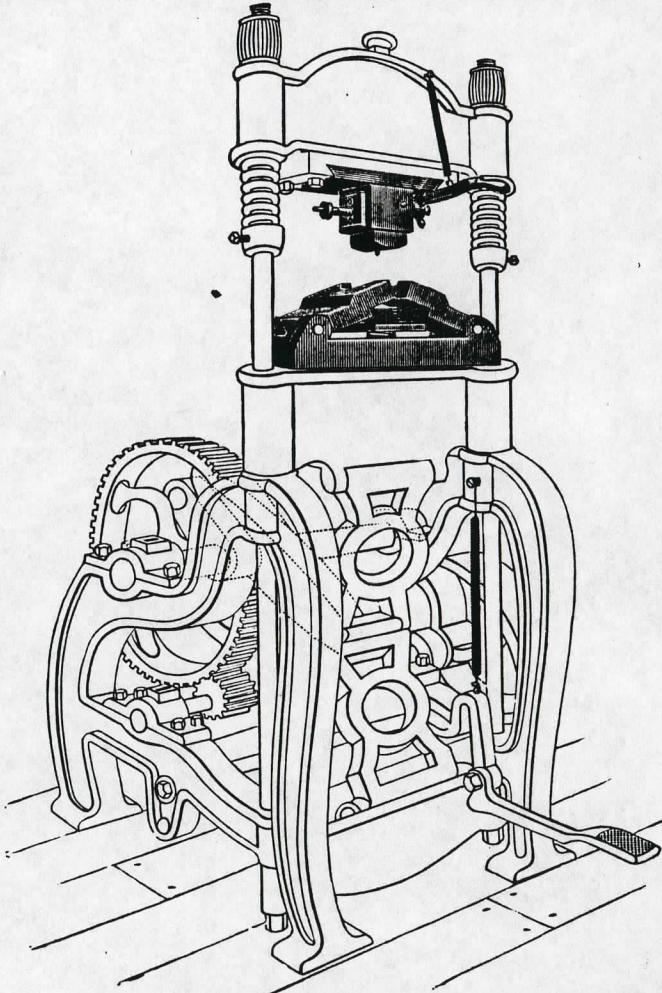
This is a very desirable machine ; will mould counters any size from infant's to men's.



*Fig. 166.*

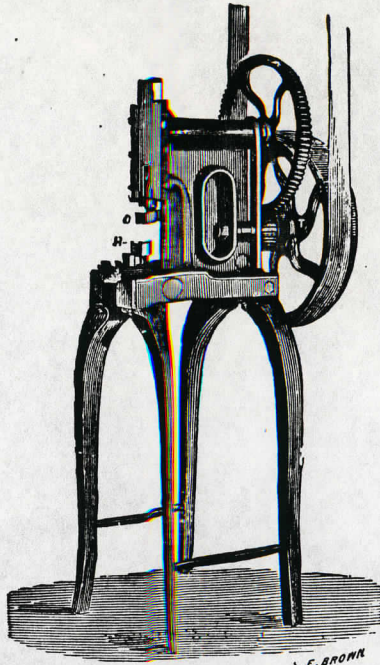
Revolving Nail Holder.

It is made of cast iron and is indestructible. By the saving in nails and time, it will pay for itself in a few months in any factory.



*Fig. 167.*—American Heel Moulder.

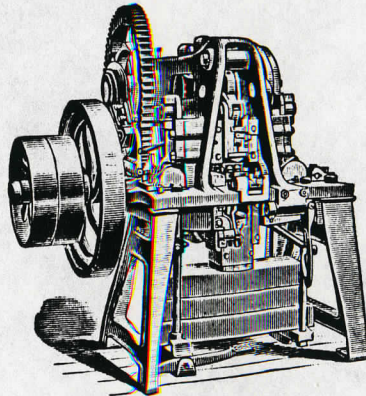
Pulley, 8x4. Speed, 200.



**Fig. 168.**

McKay Hel Picking Machine.

Pulley, 10x4. Speed, 150.

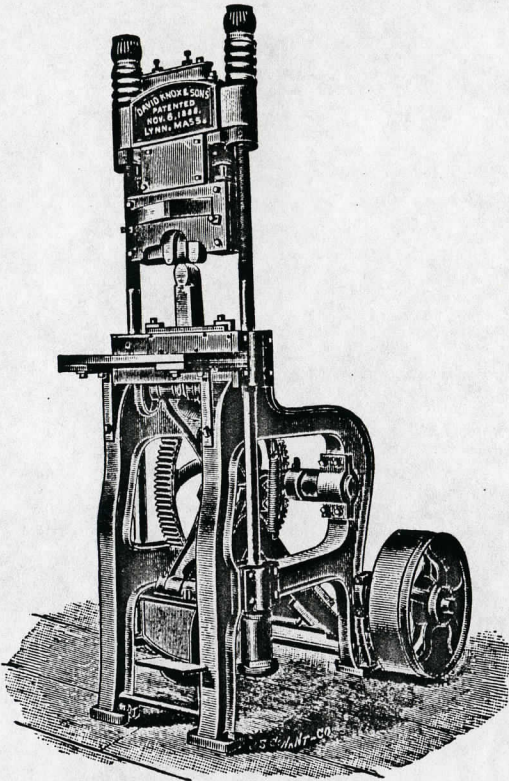


**Fig. 169.**

McKay Hel Compressor.

Capacity, 12,000 pairs per day. This machine, on most classes of work requiring a rand, makes an average saving of a cent per pair.

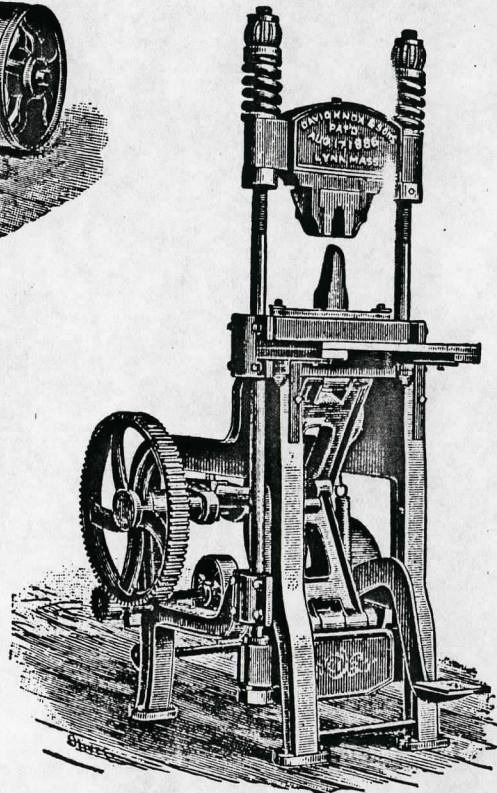
T. & L. Pulley, 8x4. Speed, 200.



*Fig. 170.*

**Knox's Improved Patent Counter Moulder.**

Makes a full moulded Counter.  
Will mould Grain, Leather Board or Pasted Counter.  
Capacity, 2,000 to 4,000 per day.



*Fig. 171.*

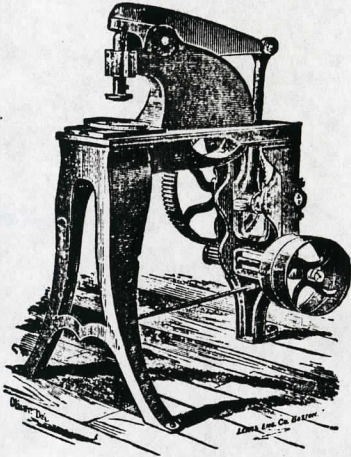
**Knox's Power Counter Moulder.**

Pulley, 18x4. Speed, 200.

## Vener Press.

The Vener Press is indispensable to manufacturers who veneer their soles.

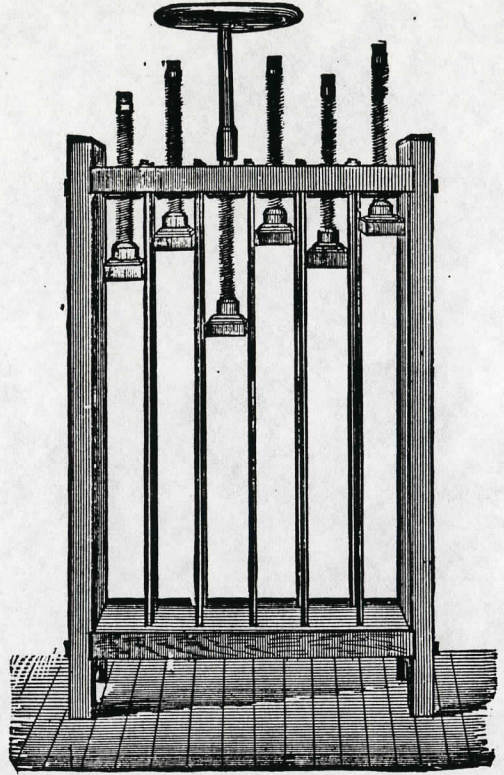
Sizes, 6, 8, 10 and 12 screws.



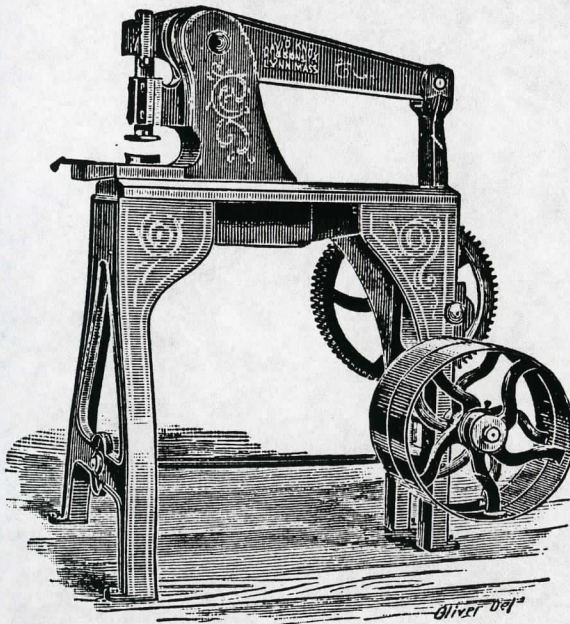
*Fig. 172.*

Improved Heel Press.

T. & L. Pulley, 12x4. Speed, 130.



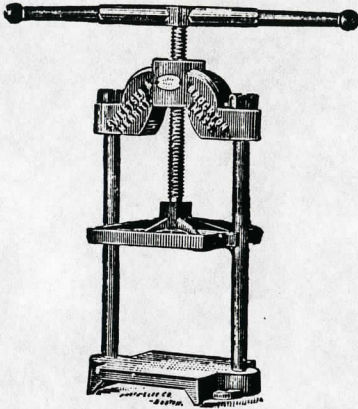
*Fig. 173.*



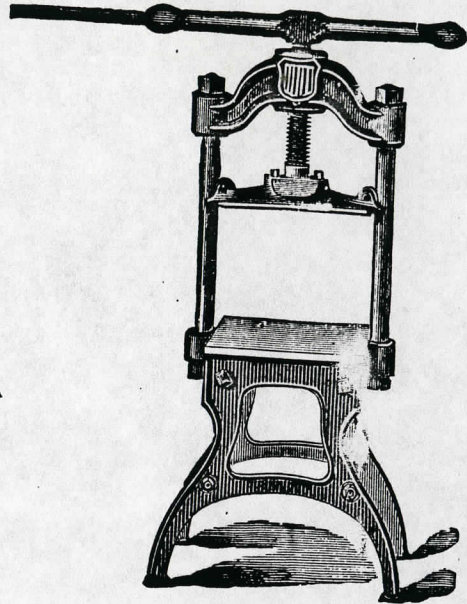
*Fig. 174.*

Knox's Heel Concaving Press.

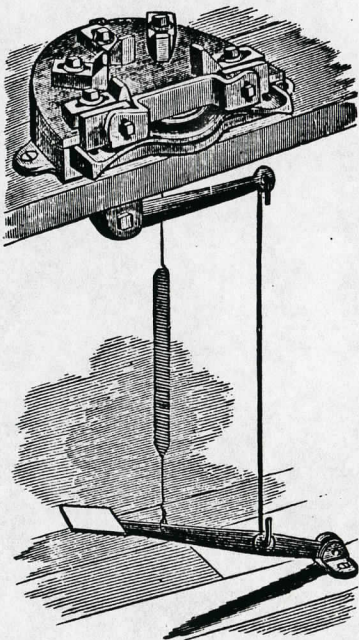
Pulley, 18x4 Speed, 210.



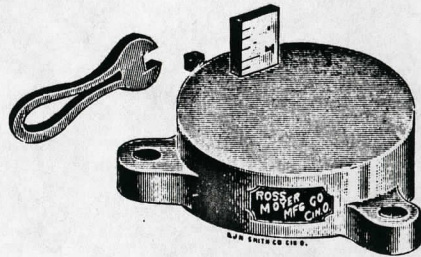
*Fig. 175.*  
Heel Press.



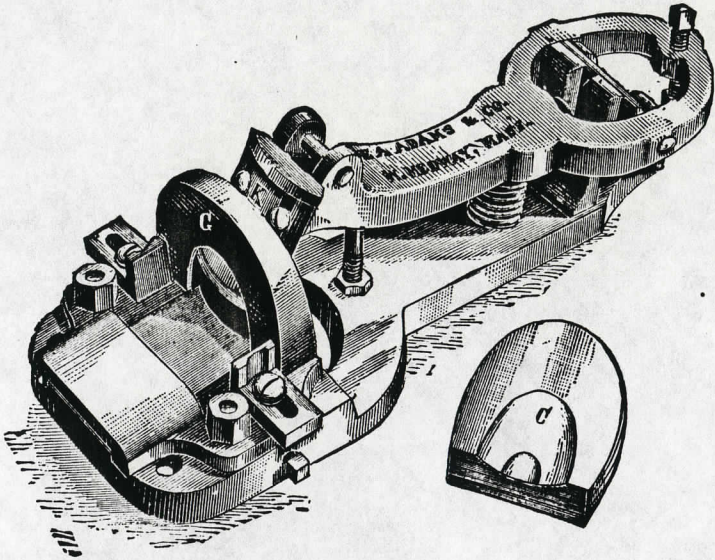
*Fig. 176.*  
Heel Press.



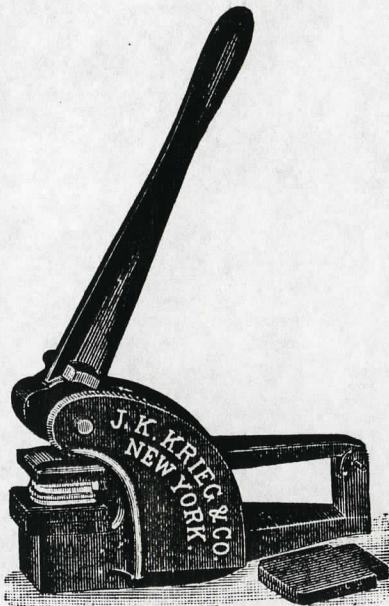
*Fig. 177.*  
Universal Heel Builder.



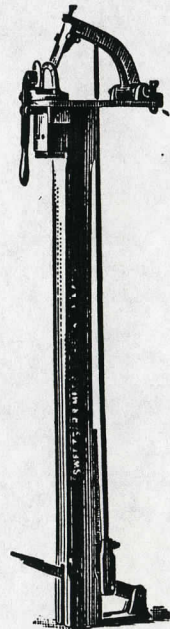
*Fig. 178.*  
Heel Building Block.



*Fig. 179.*  
Heel Gouger.



*Fig. 180.*  
Hand Heel Press.



*Fig. 181.*  
Heel Gouger.

≡ WAX, ≡

Black, Brown, Yellow,

—FOR—

**McKay Machines.**

≡ BOTTOM ≡ POLISHING ≡ WAX. ≡

BURNISHING INKS

—FOR—

**EDGES. HEELS. SHANKS.**

Hand or Machine.

KNIVES, CUTTERS, IRONS,

MACHINE OR HAND.

*Boot and Shoe Jacks.*

*Lasting Pinchers,*

*Tack Cans,*

*Hammers,*

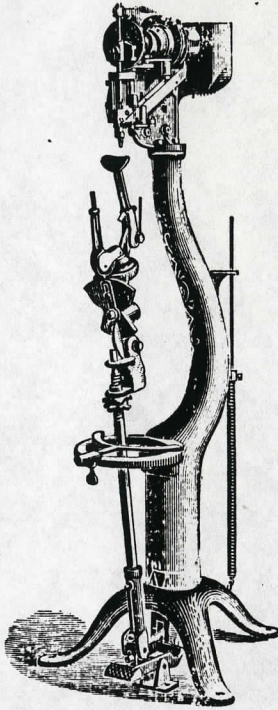
*Kit Lamps, Etc.*

**BOTTOM STAINS.**

Brushed or Burnished Colors for Boots and Shoes.

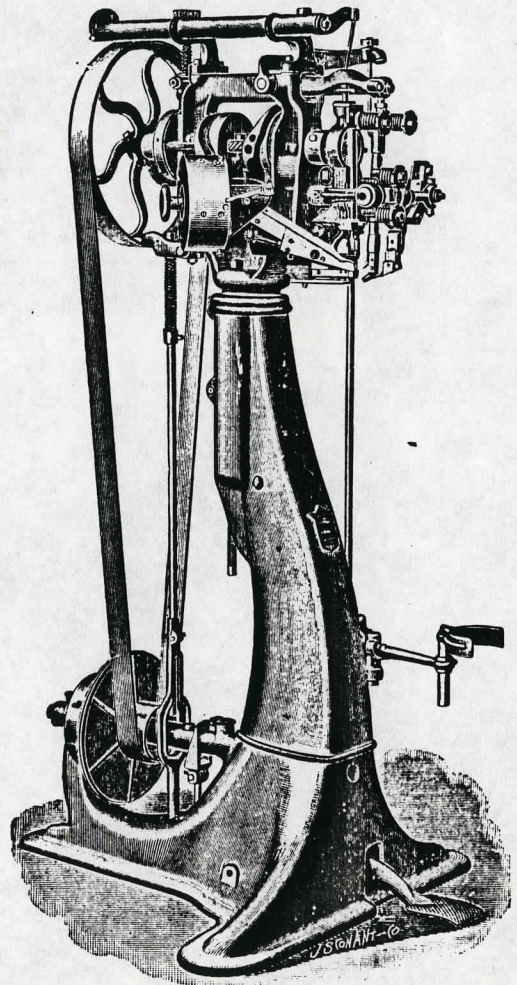
**CUTTING BOARD DRESSING,**

OIL PROOF.



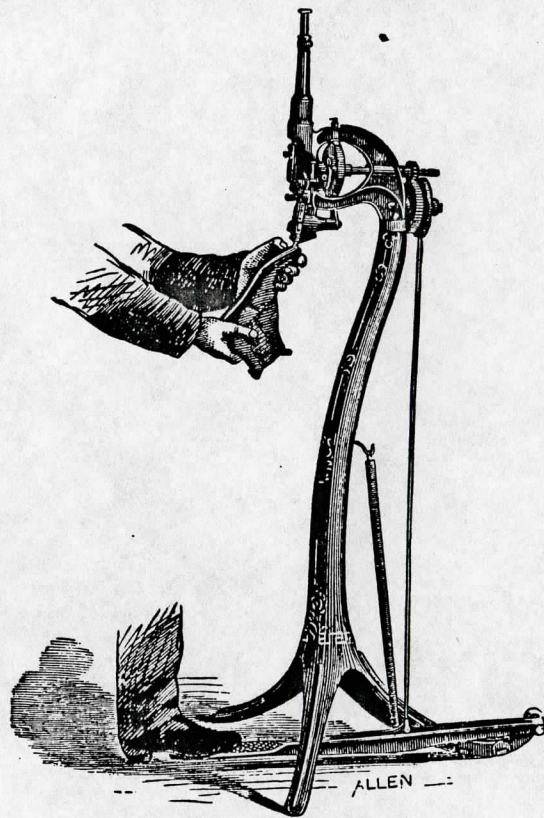
*Fig. 182.*

Boston Lasting Machine.



*Fig. 183.*

Consolidated Hand Method  
Lasting Machine.

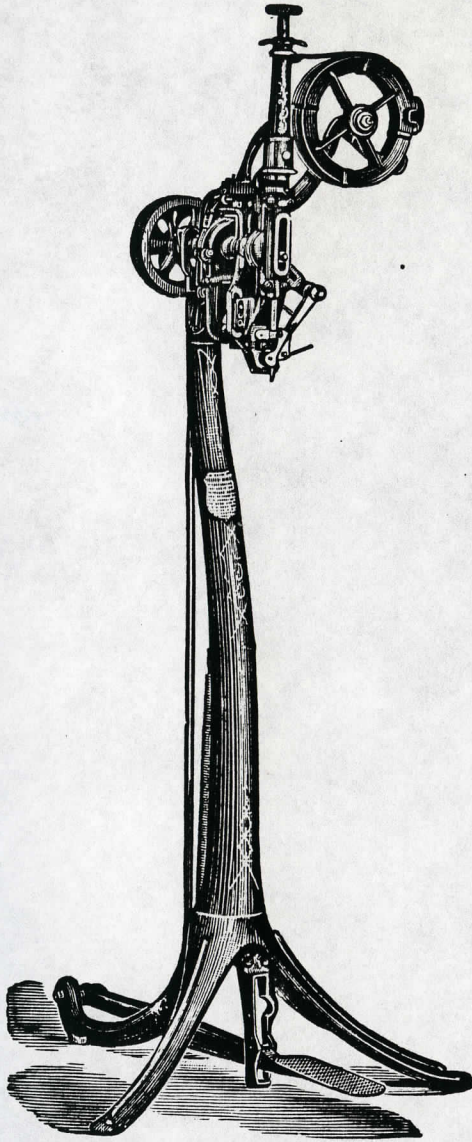


*Fig. 184.*

**McKay Cable Wire Tacker.**

For tacking on Soles, Slips and Rands.

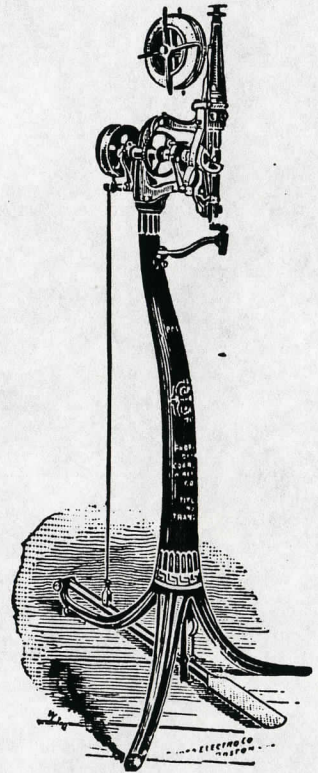
Pulley, 5x2. Speed, 300.



*Fig. 185.*

McKay String Nail Tacker.

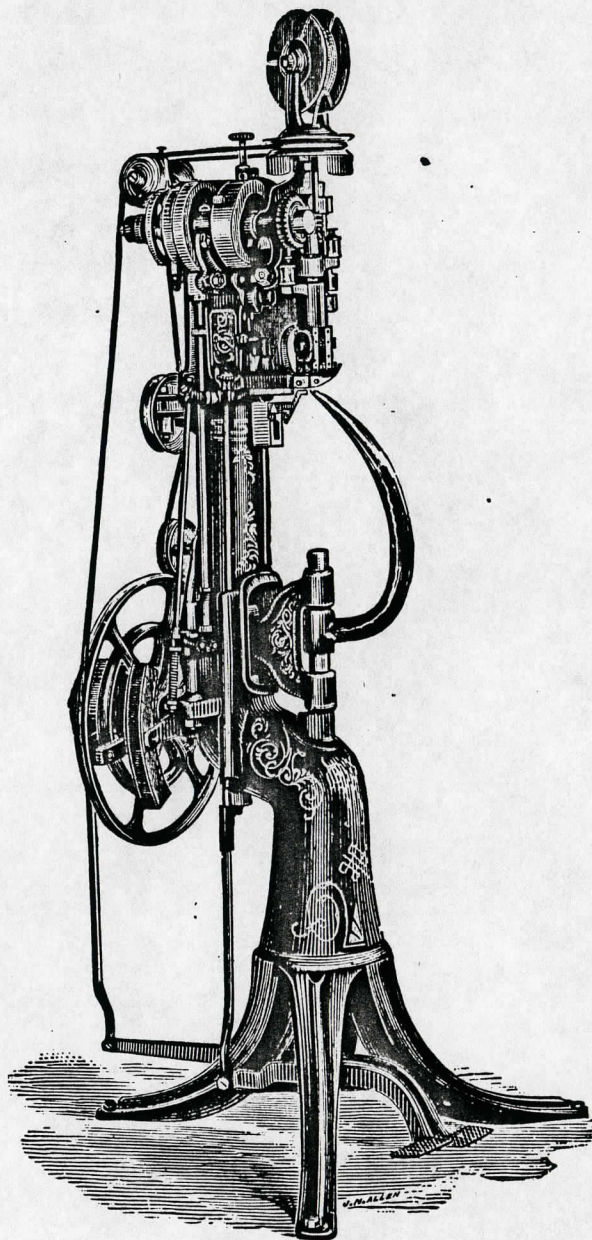
Pulley, 6x2. Speed, 300.



*Fig. 186.*

Corrugated Wire Tacker.  
For tacking on Soles, Slips  
and Rands.

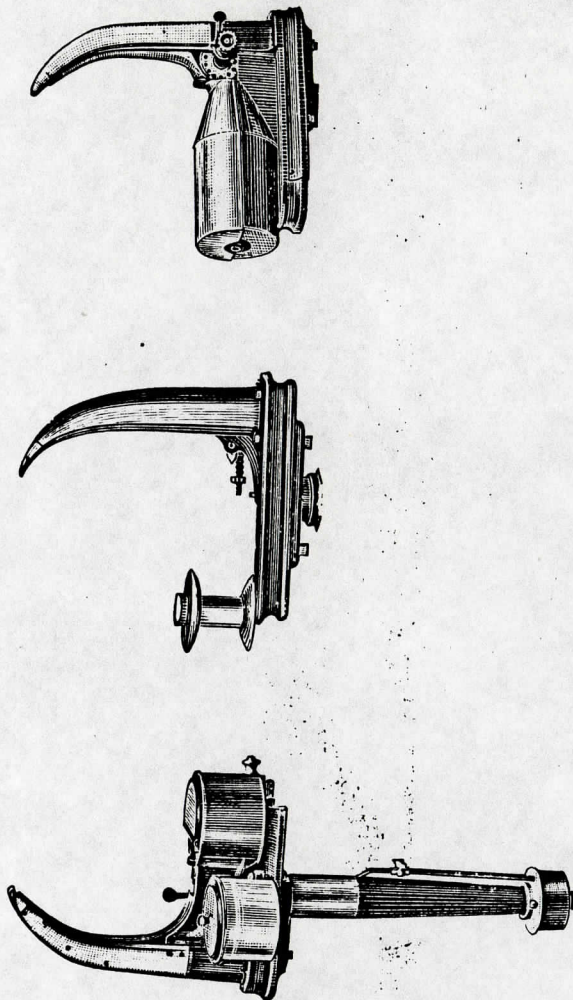
Pulley, 6x1½. Speed, 300.



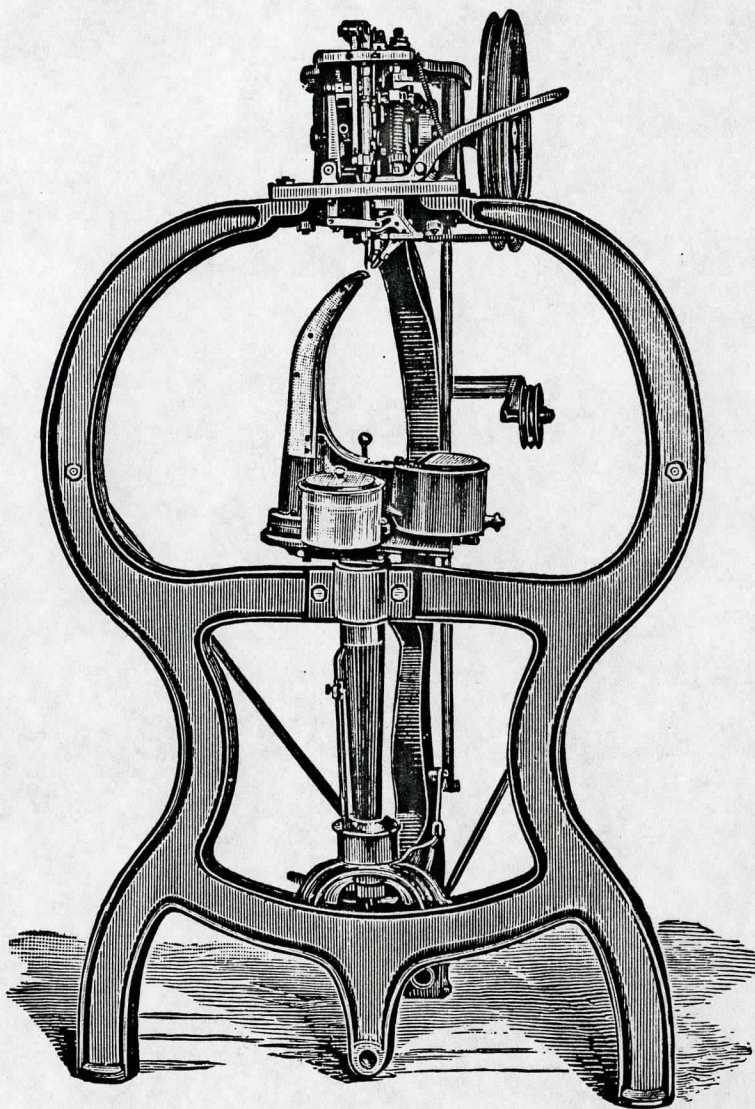
*Fig. 187.*

Standard Screw Wire Fastening Machine.

Pulley, 6x3. Speed, 800.



*Fig. 188.*  
*STANLEY HORN FOR THE MCKAY SEWING MACHINES.*



*Fig. 189.*

*The McKay Sewing Machine, with New Improved  
Stanley Horn and Waxer. .*

## THE MCKAY SEWING MACHINE

WITH NEW IMPROVED

### Stanley Horn and Waxed.

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The illustration on page 91 shows the McKay Sewing Machine, fitted with the latest improvement, the Stanley Horn and Waxed.

The admirable shape and curvature of this Horn enables it to easily enter any shoe, and for the sewing to be done without changing the shape of the shoe or wrinkling it. The passage of the thread through the hot wax in the wax pot, thoroughly saturates it, and any surplus wax is stripped back into the pot in a very neat and convenient manner, leaving a beautifully smooth and thoroughly waxed thread for sewing. The sewing is consequently perfect, and not so much thread and wax is wasted as when using the old Horn.

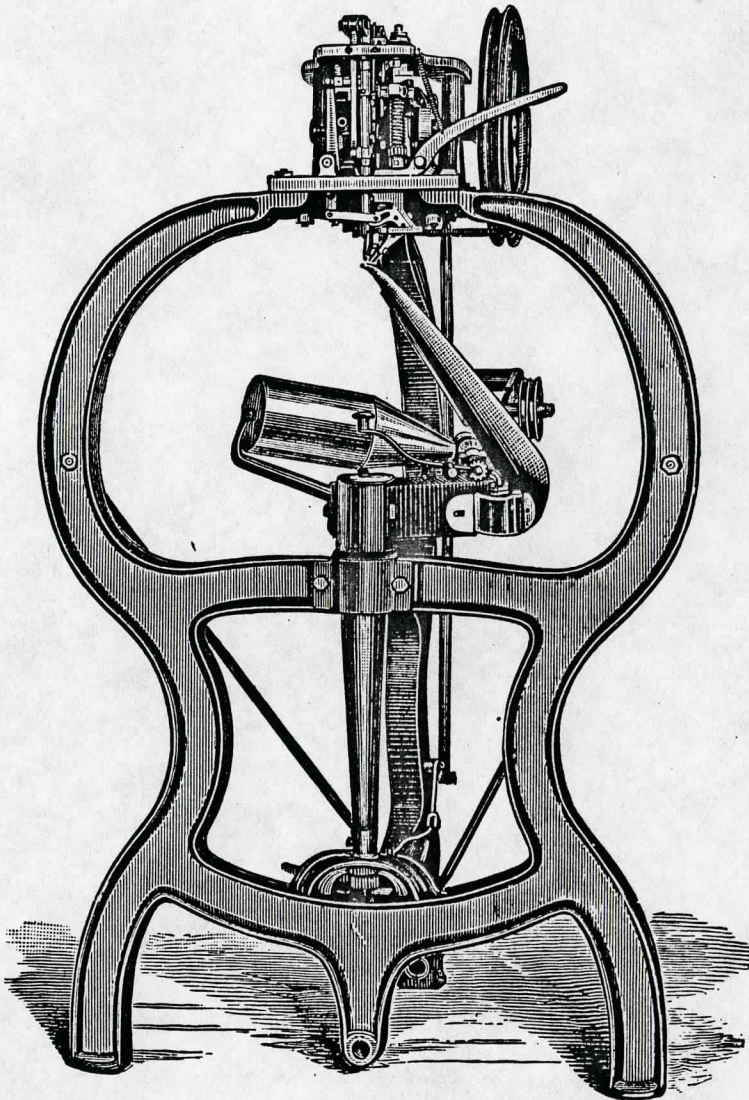
### AMONG ITS OTHER ADVANTAGES ARE

That it is solid and unyielding, and will not spring and bend and cause thereby the breakage common to the long Horns of all kinds.

It is short, and the operator stands comfortably and has perfect control in guiding the work.

It is neatly closed against dirt.

There is a quick and ready access to all its parts, and the adjustment of them is far superior to that of the parts in the old Horn.

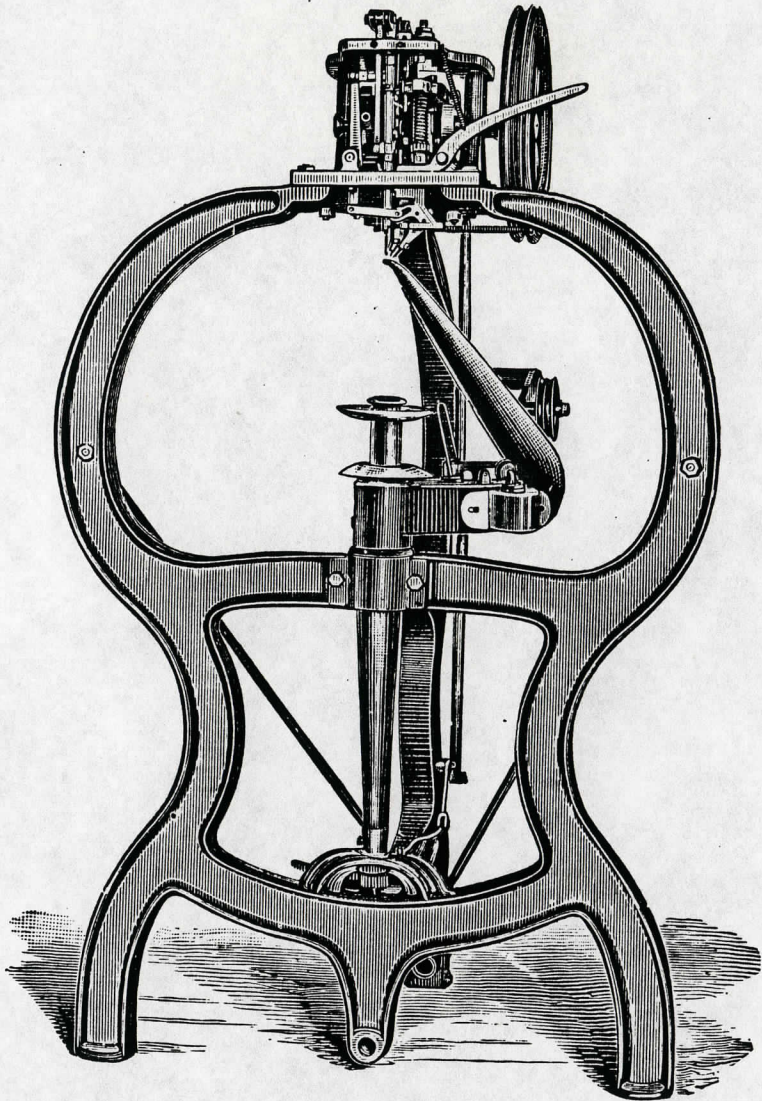


*Fig. 190.*

**McKay Sewing Machine.**

With Bobbin Attachment. Can be run by Foot or Steam Power.

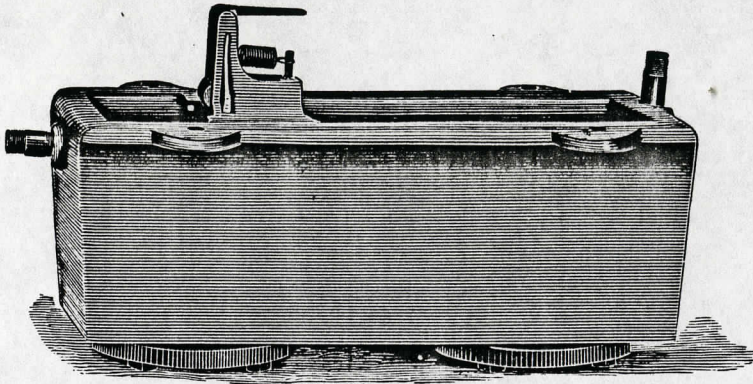
Pulley is 14 inch diameter, is grooved for  $\frac{3}{8}$  inch Round Belt. Speed, 350.



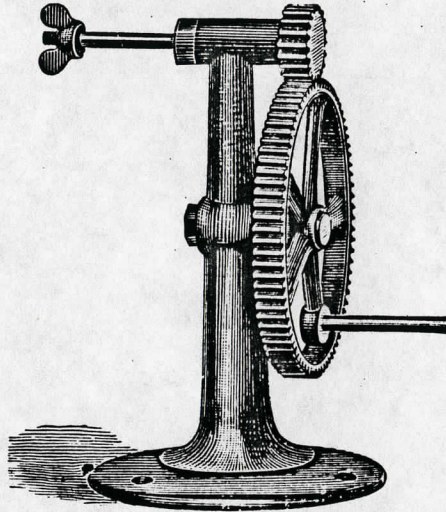
*Fig. 191.*

McKay Sewing Machine.

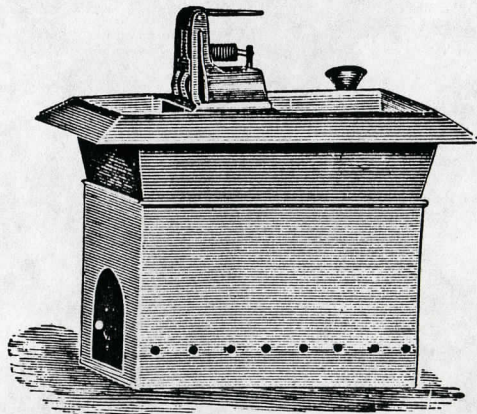
With Spool Attachment. Can be run by Foot or Steam Power.  
Pulley is 14 inch diameter, is grooved for  $\frac{3}{8}$  inch Round Belt. Speed, 350.



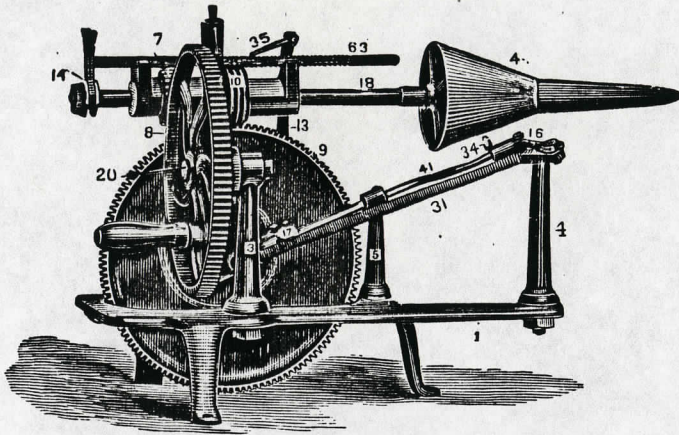
*Fig. 192.*  
McKay Steam Waxer.



*Fig. 193.*  
McKay Spooler.

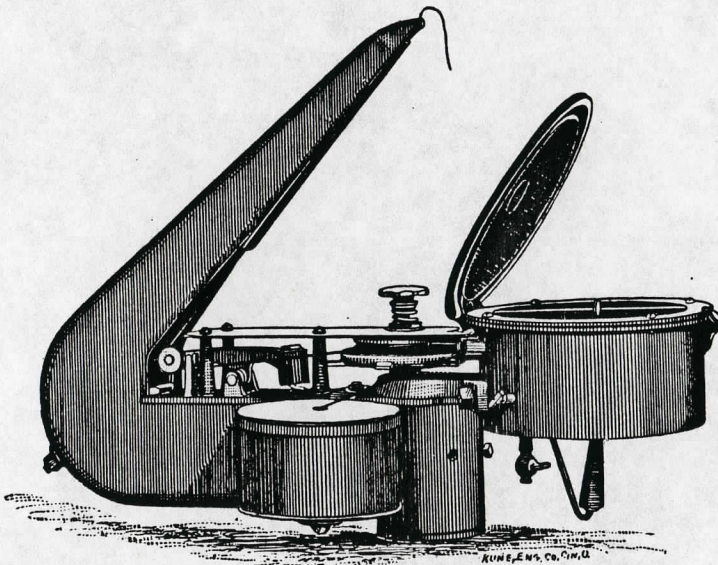


*Fig. 194.*  
McKay Lamp Waxer.



*Fig. 195.*

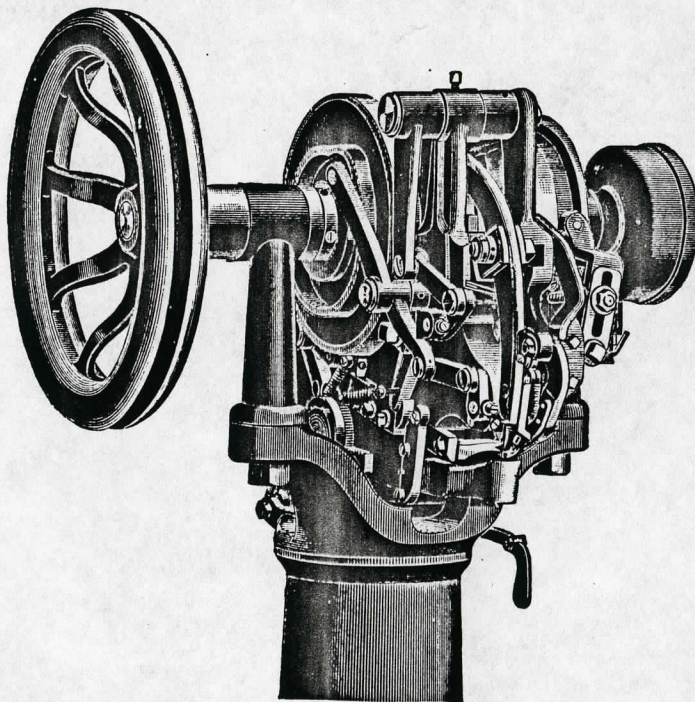
McKay Bobbin Winder.



*Fig. 196.*

Baiter's Patent Waxer.

For McKay's Sewing Machine.

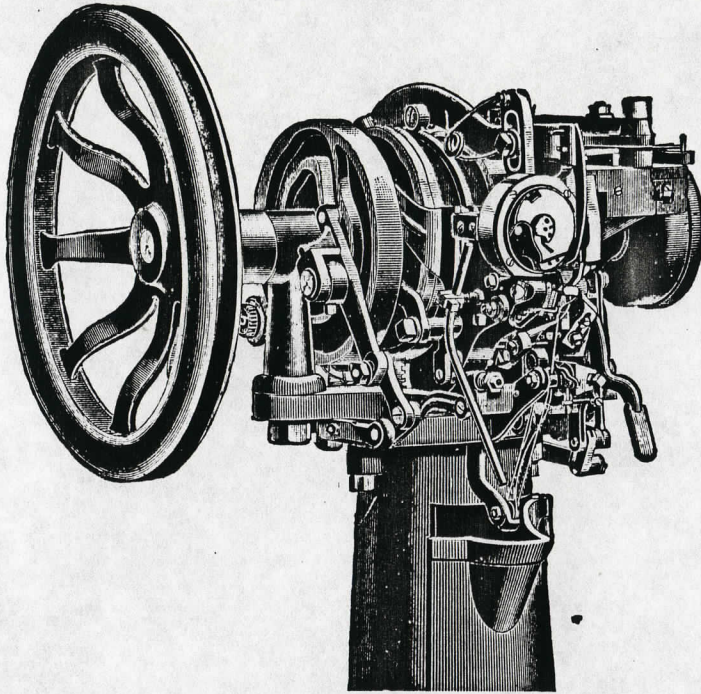


*Fig. 197.*

*The New Improved*

Goodyear Welt Sewer and Turned Shoe Machine.

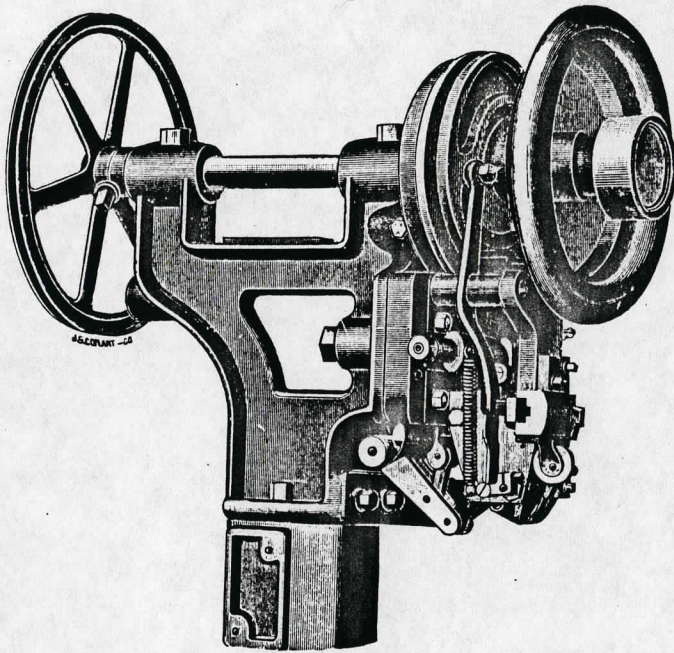
As an Inseamer or Welt Sewer the "Pull" of the tension is inward, crowding the stock toward the last. The Stitch is made from the Welt side and is set while the Needle is in the materials, so that the latter is not pulled apart. As a Turned Shoe Machine it sews Turned Shoes of every kind—Thick Soles, Thin Soles, Square Edge., Mock Welts, Beveled Edges, Bead Edges—securing a perfect solid seam.



*Fig. 198.*

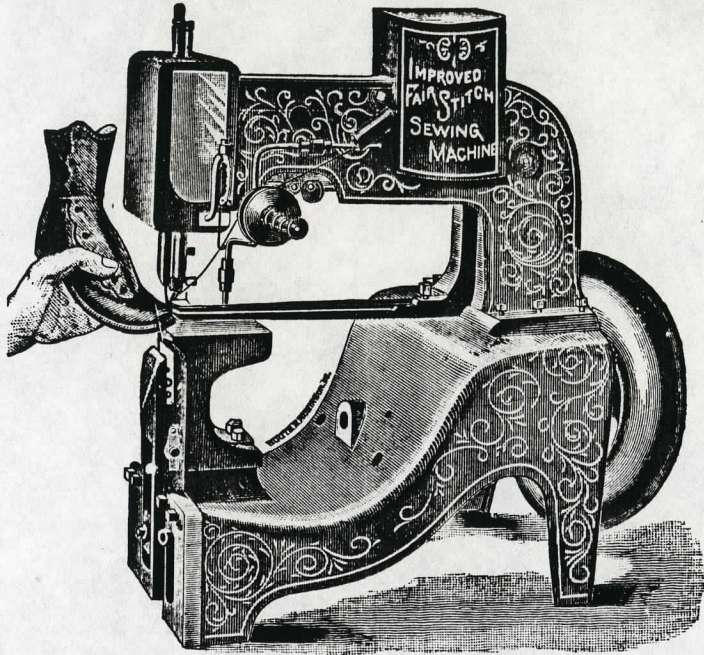
The New Goodyear Lock-Stitch Out-Sole Stitcher.

This Machine stitches in any style channel, or makes an "Aloft" seam, in either case showing so perfect a Fair-Stitch on the Welt, that experts fail to distinguish it from Hand-sewed work. Actual tests, systematically made and accurately noted, have demonstrated that the Goodyear seam made in this way is more durable than the average Hand-sewed seams made by team-work in the factory. Properly operated this Machine produces better shoes in case lots than can be made by any other system—not excepting hand sewing in team, and the shoe is made from start to finish while on the last.

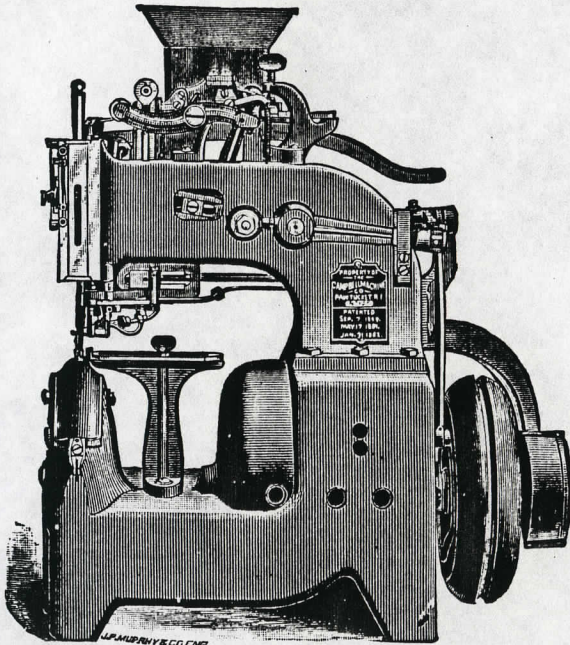


*Fig. 199.*

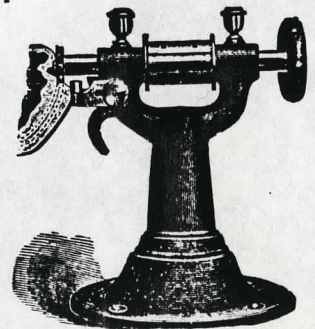
Eppler & Adams' Turn Shoe Machine.



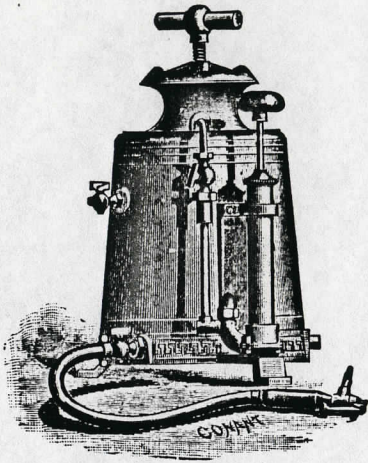
**Fig. 200.**  
New Improved Fair Stitch Machine.



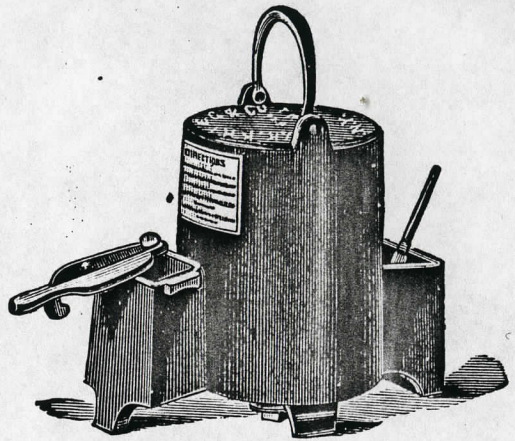
**Fig. 201.**  
Campbell Lock Stitch Machine.



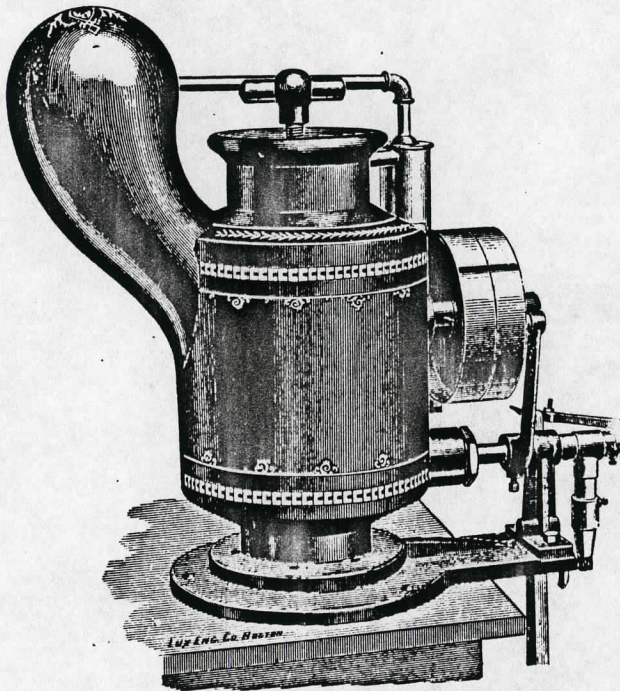
**Fig. 202.**  
Excelsior Fair Stitch Loop Cutting Machine.



*Fig. 203.*  
Union Cementer.



*Fig. 204.*  
Krieg Cement Can.



*Fig. 205.*  
Gordon Power Cementer.  
T. & L. Pulley, 6x1. Speed, 100.

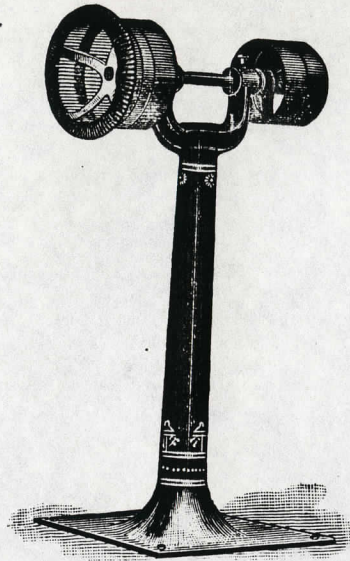


Fig. 206.—Gilmore Channel Layer.



Fig. 207.  
Gordon Channel Layer

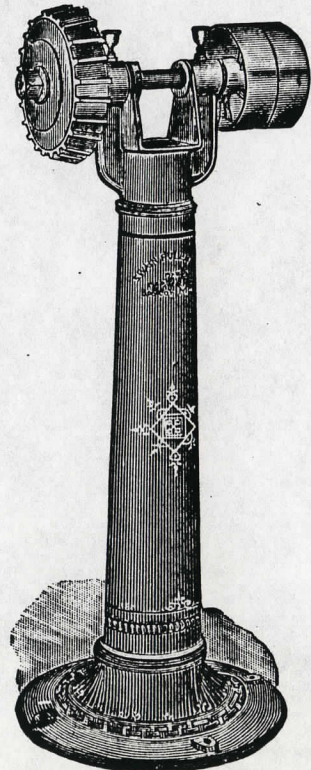
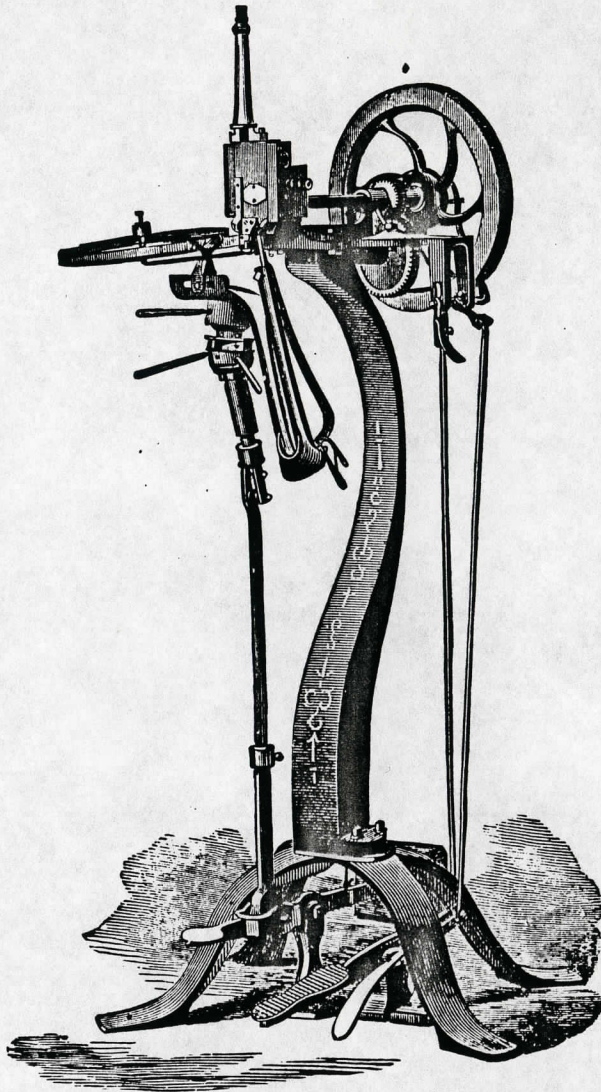


Fig. 208.  
Channel Layer

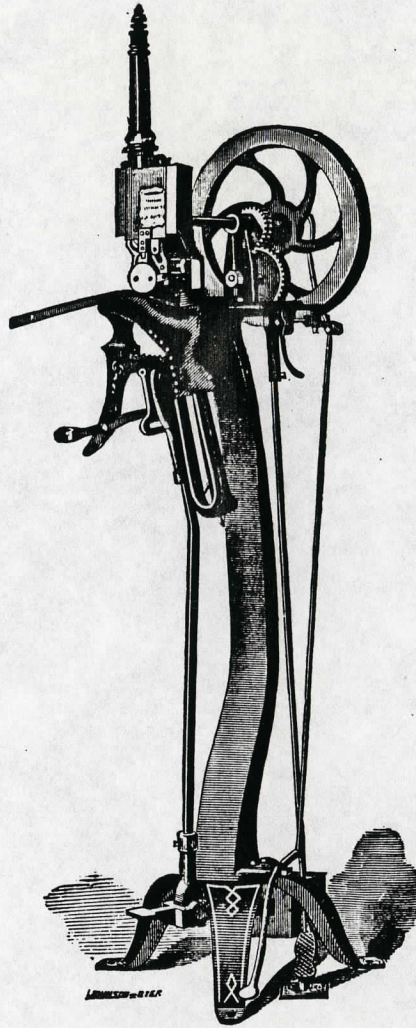


*Fig. 209.*

Varney Pegger.

Is quickly and easily adjusted to drive any size and any number of Pegs.

T. & L. Pulley,  $7 \times 1 \frac{1}{2}$ . Speed, 400.

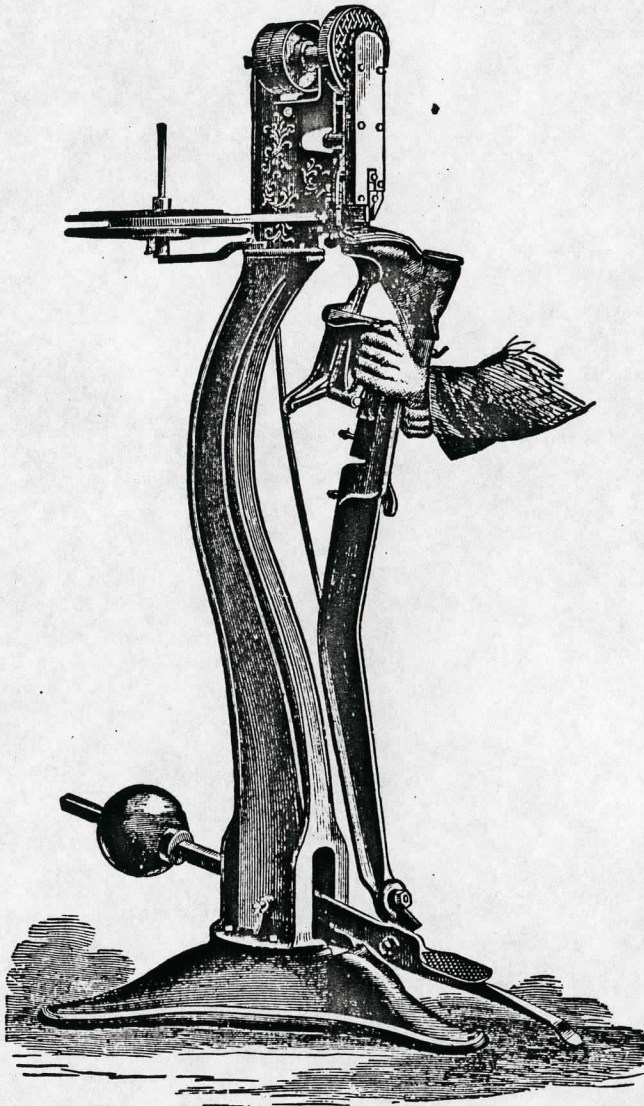


*Fig. 210.*

**Champion Pegging Machine.**

This Machine is adapted to all classes of work, especially High, Round and Crooked Shanks. Works by Foot or Power.

Pulley,  $7 \times 1 \frac{1}{2}$ . Speed, 500.



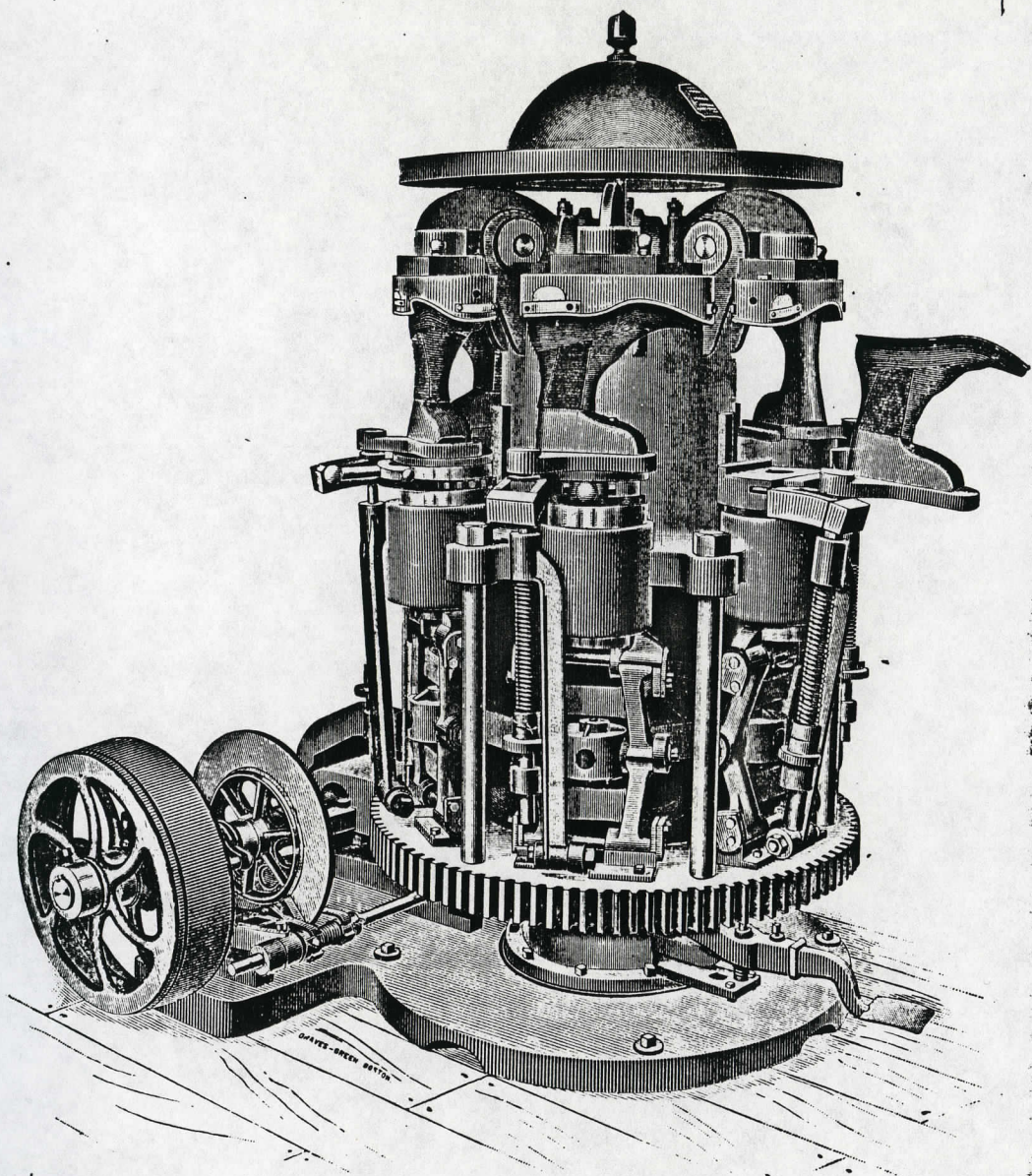
*Fig. 211.*

**New Era Pegging Maching.**

This is a Cam Machine and can be operated at high speed, and is run by power only.

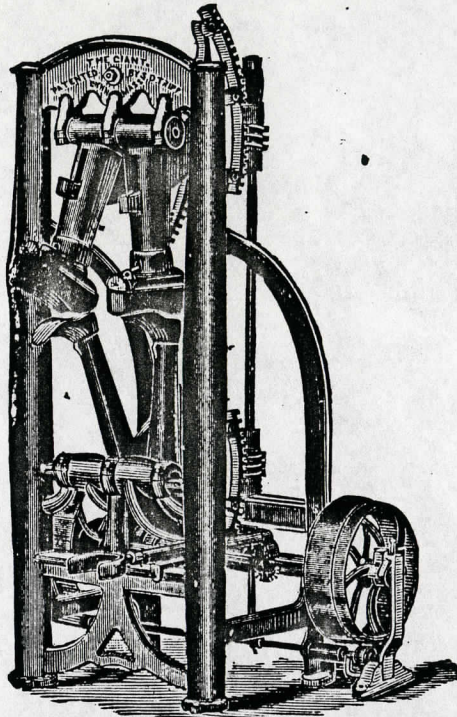
It is made to run 10, 12 and 14 wire.

Pulley, 6x1½. Speed, 800.



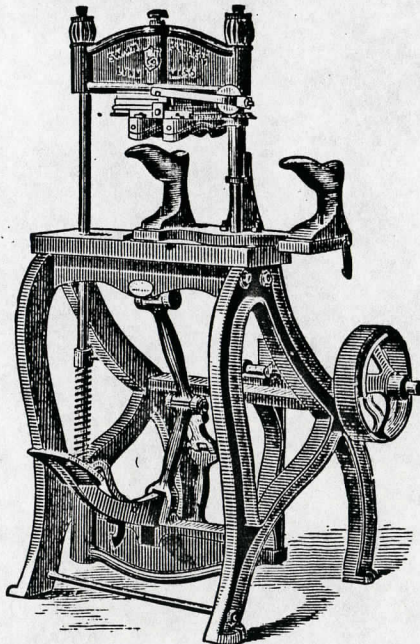
*Fig. 212.*

Swain & Fuller's Improved Beating-Out Machine.



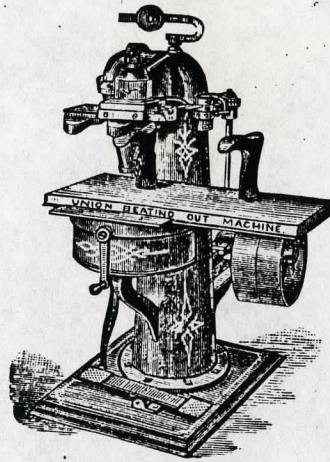
*Fig. 213.*—The Giant Beating-Out or Levelling Machine.

. Friction Pulley, 14x3. Speed, 450.



*Fig. 214.*

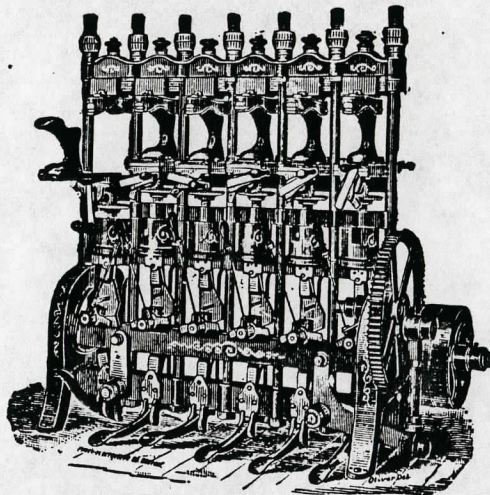
The American Beating-Out Machine.—Pulley, 12x3. Speed, 200.



*Fig 215.*

Union Beating-Out Machine.

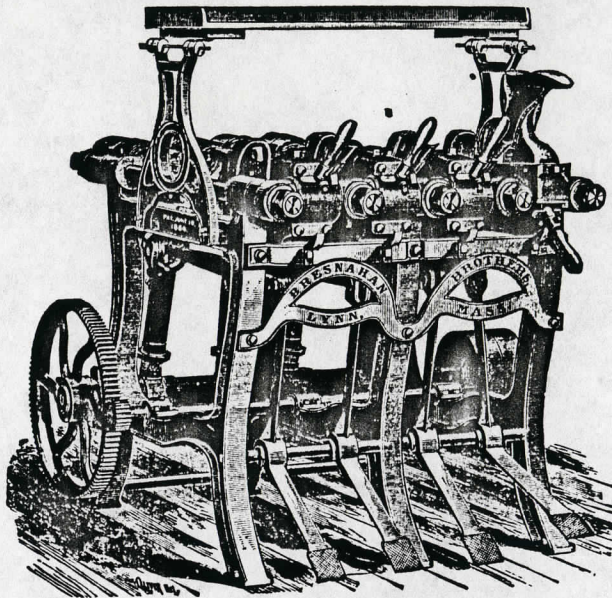
T. & L. Pulley, 16x4. Speed, 150.



*Fig. 216.*

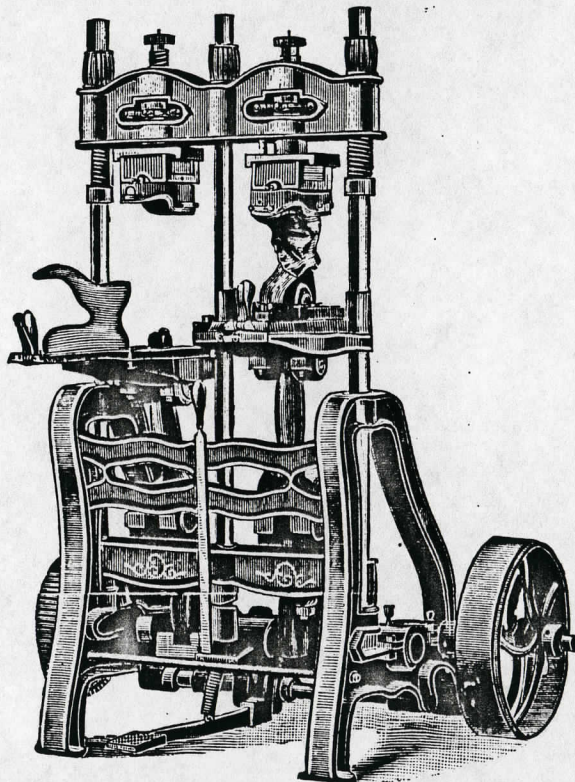
The New American Beating-Out Machine.

T. & L. Pulley, 14x3. Speed, 300.



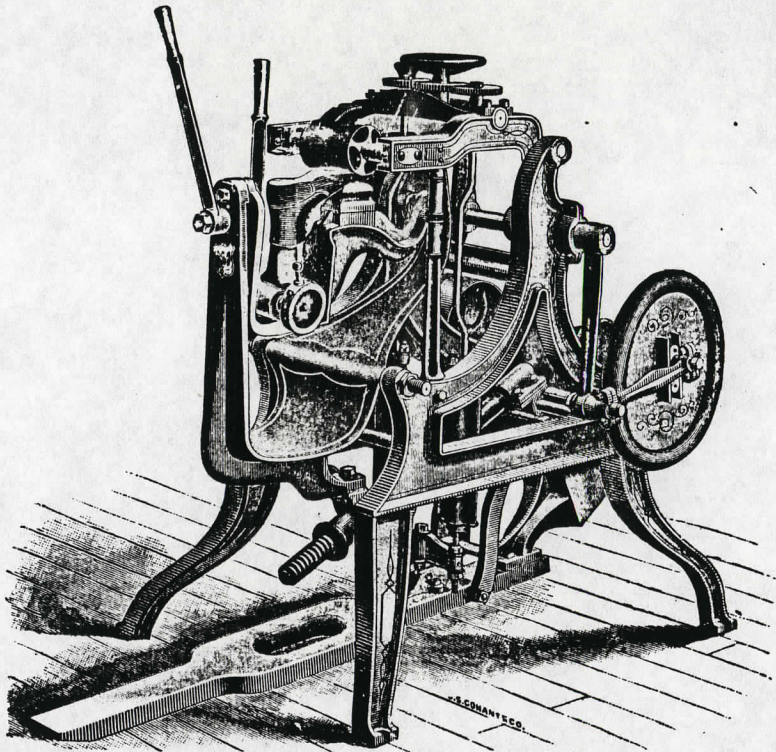
*Fig. 217.*—Bresnahan's Beating-Out Machine.

Pulley, 16x4. Speed, 200.



*Fig. 218.*—Cutcheon & Johnson's Beating-Out Machine.

Frict. Pulley, 18x4. Speed, 250.

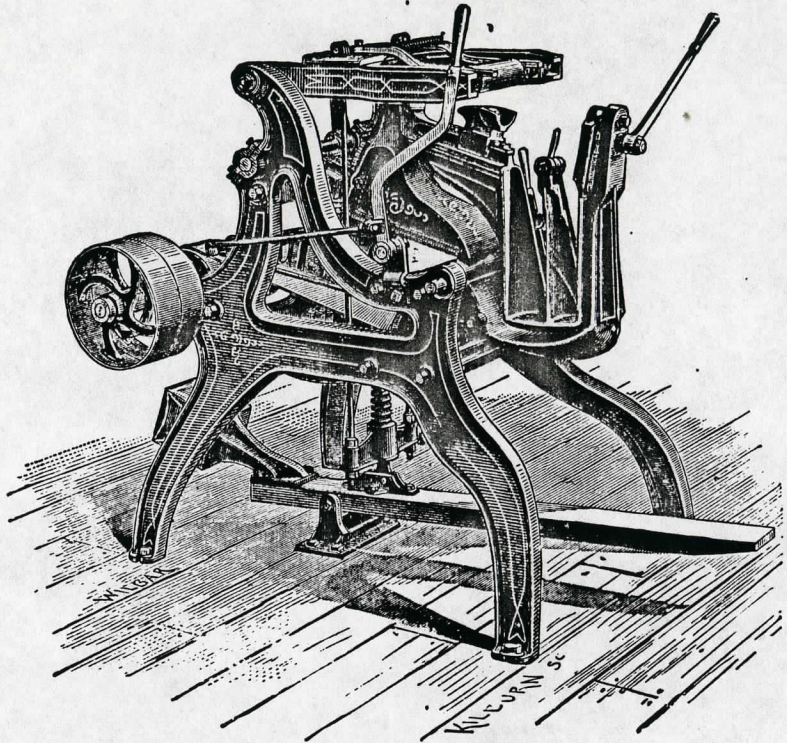


*Fig. 219.*

## ACME LEVELLER.

It will level the shoe or boot on the same last on which it was lasted, thus preserving its perfect shape and form, and doing away with the expence of followers or of iron lasts and forms. If preferred, wood followers or iron lasts can be used. It will make perfect toes, as the roll is allowed to pass entirely off the shoe and return onto it again while under pressure, without obstruction. That is, (the roll) runs off the shoe into space without injury to the lasts, and returns onto the shoe again; hence the operator can not injure the toe.

**It is the only practical machine in use on Goodyear Shoes.**

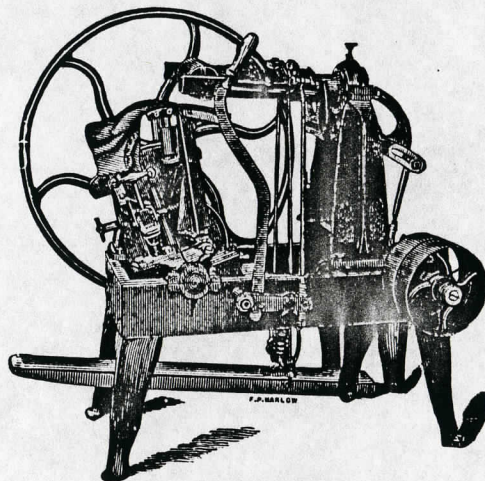


*Fig. 220.*

**Sole Levelling Machine.**

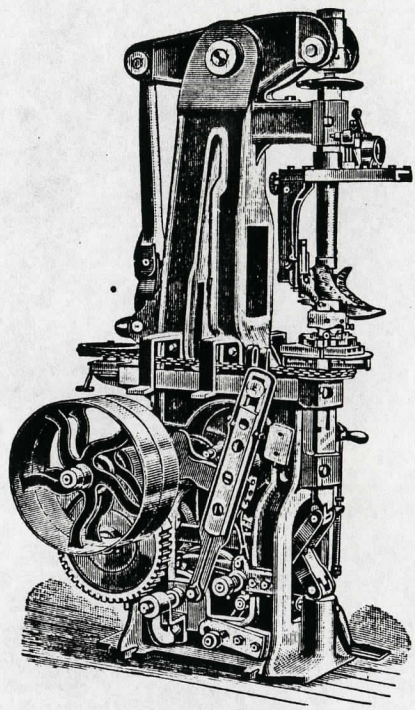
Is especially adapted for Goodyear Welt, Hand Sewed, Standard Screw and Peg Work.

T. & L. Pulley, 12x2½. Speed, 350.



*Fig. 221.*

**The Star Levelling Machine.**



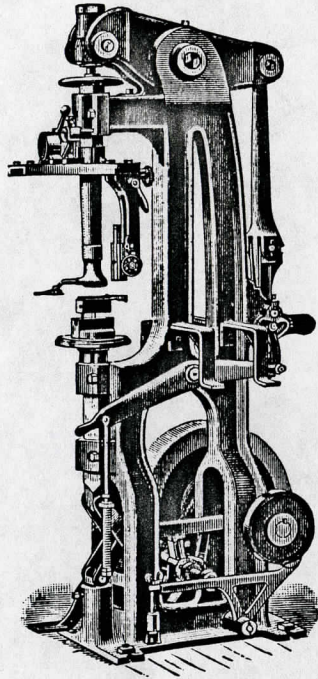
*Fig. 222.*

**McKay & Biglow's Rapid Attaching and Trimming Machine.**

Attaches 800 to 1,000 pairs per day.

T. & L. Pulley, 20x4.

Speed, 300.

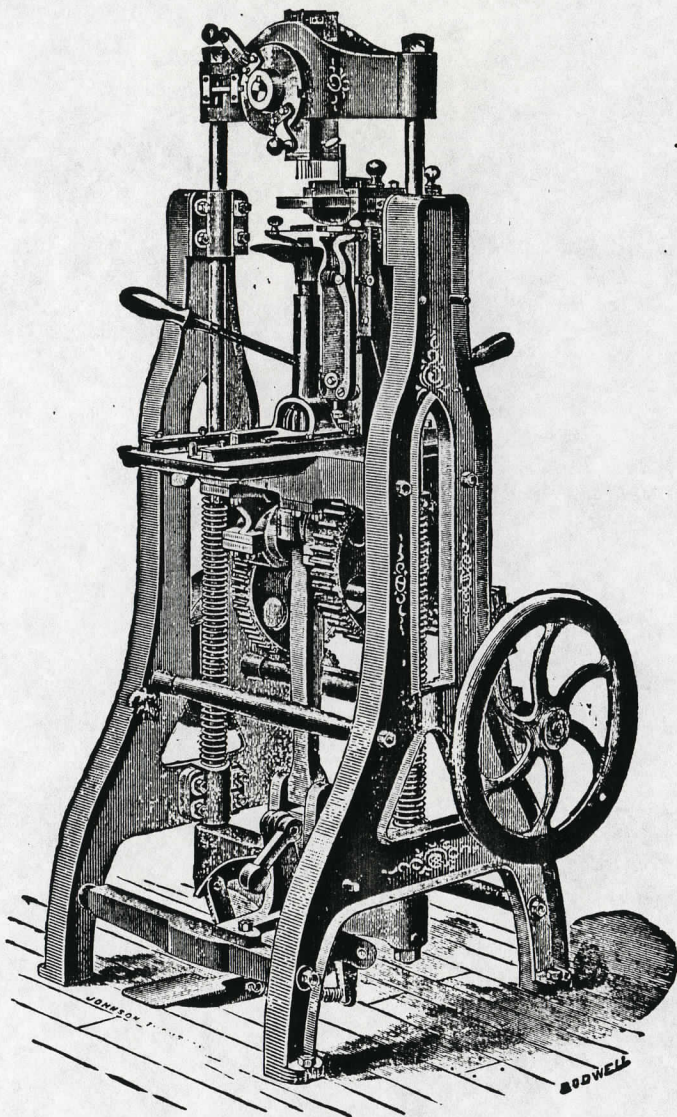


*Fig. 223.*

**McKay & Biglow's Rapid Nailer without Trimmer.**

Attaches 1200 to 1500 pairs daily.

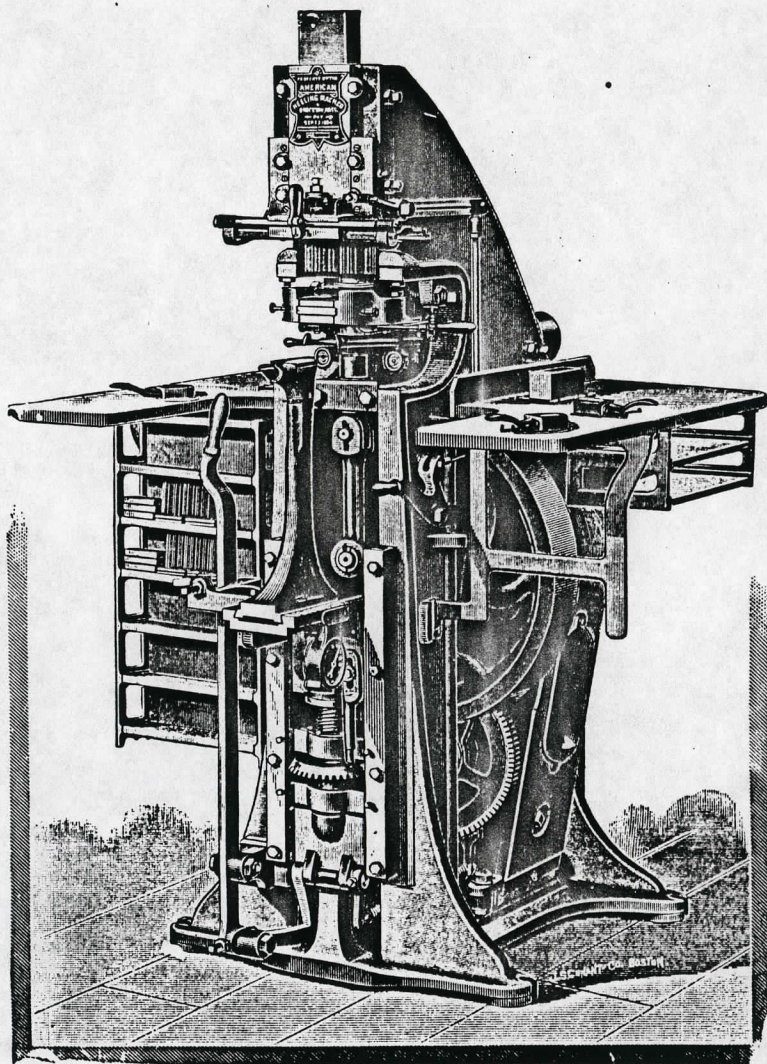
Frict. Pulley, 24x5. Speed, 120.



*Fig. 224.*

National Heeling Machine.

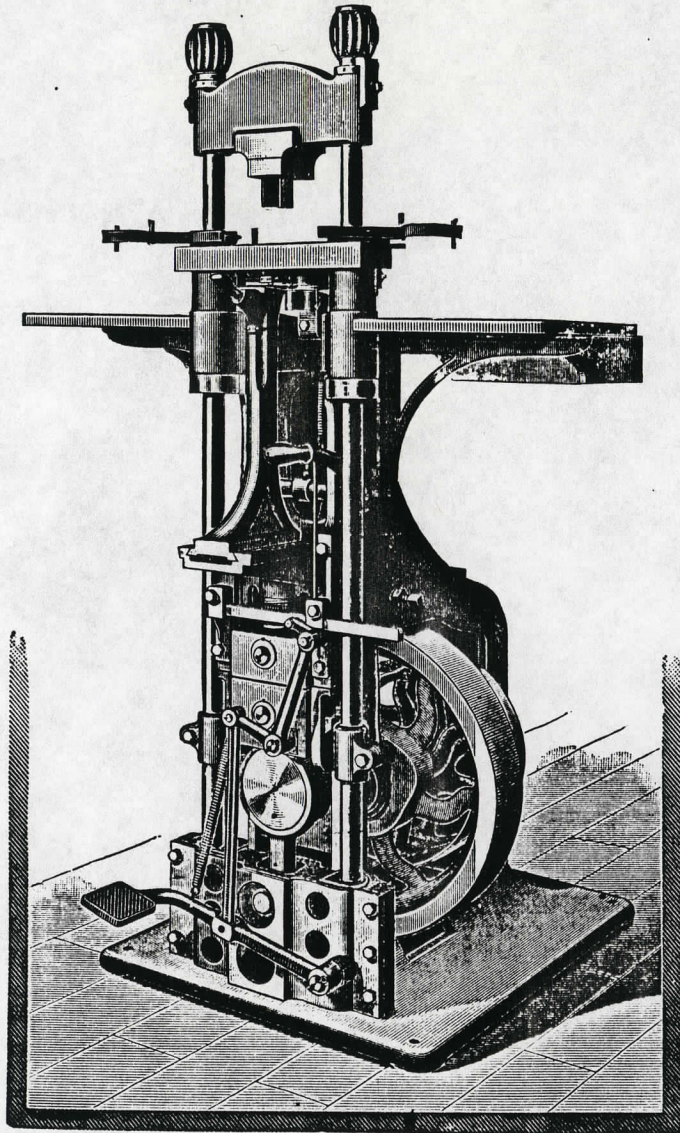
T. & L. Pulleys, 12x3. Speed, 450.



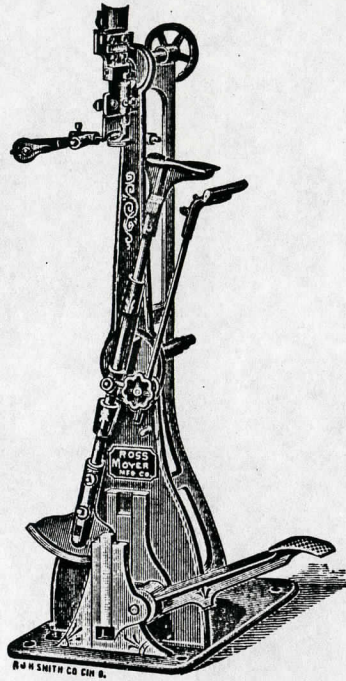
*Fig. 225,*

American Heel Attaching Machine.

Frict. Pulley, 24x4. Speed, 140.



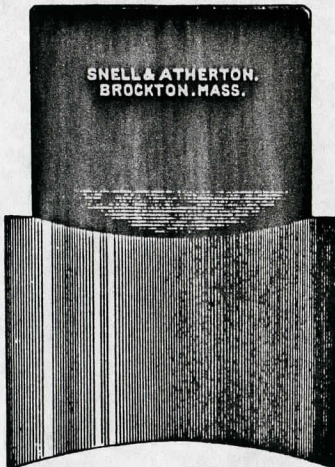
*Fig. 226.*  
Lightning Heeling Machine.

*Fig. 227.*

## Ross Heel Breaster.

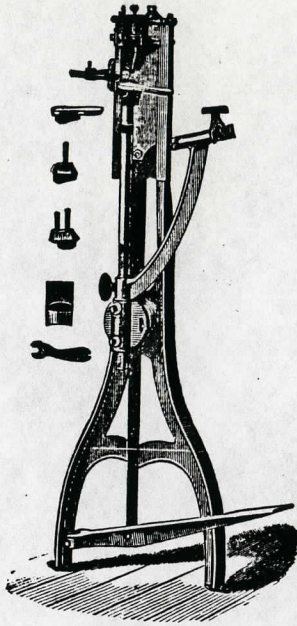
PATENTED.

In construction this machine differs from any ever used for the purpose. It is self-contained ; can be screwed to the floor in any position best suited to the operator. It has a revolving head ; carries two knives—straight and concave, either of which can be brought into use in a moment ; is adjustable in every respect ; will breast a child's shoe or a man's boot ; has no sliding head or springs to get out of order or break, and is the simplest, most convenient and powerful machine sold.

*Fig. 228.*

## Breasting Machine Knives.

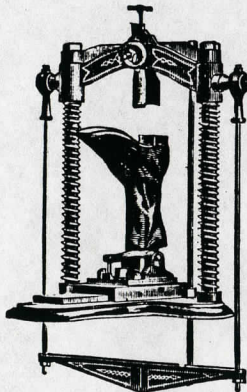
Straight and 8, 10, 12, 14 and 16 inch circle.



*Fig. 229.*

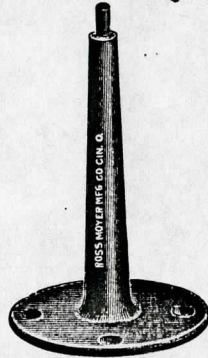
Washburn & Harden's Patent Heel Breaster.

Adapted to all kinds of work, from the longest boot to the smallest child's shoe. Fitted to breast with last in or out. There is also an attachment that is used to bevel Spring Heels.



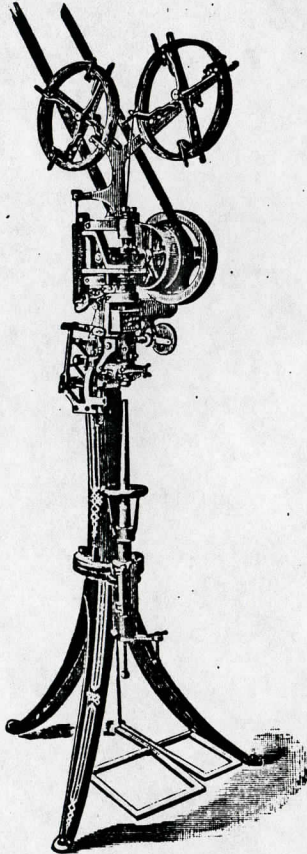
*Fig. 230.*

Furbush Heel Breaster.



*Fig. 231.*  
Last Stand.

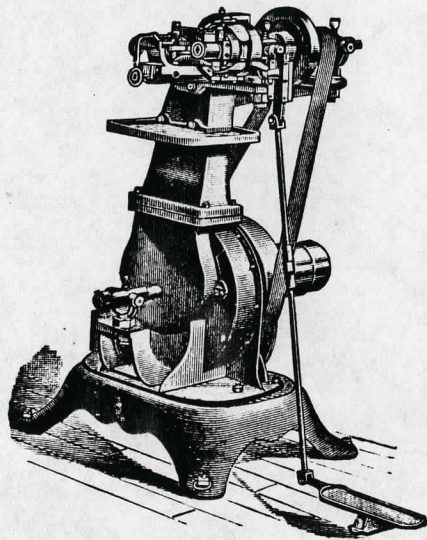
Three sizes, 4, 6 and 8 inch.



*Fig. 232.*

Wire Grip Slugging Machine.

Slug your Heels, slug on your Tap Soles, nail your Spring Heels, nail on Rands at same time you nail Heel Seats, with the Wire Grip Slugging Machine.

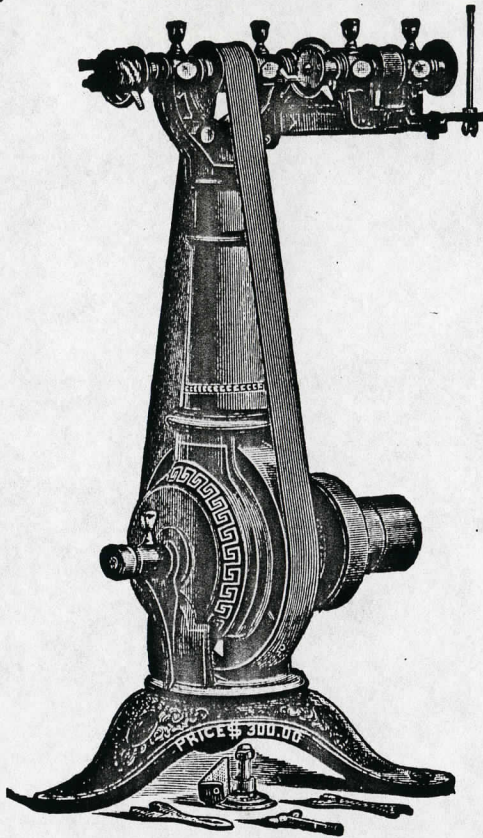


*Fig. 233.*

**McKay & Biglow's Rotary Heel Trimmer.**

The best and fastest in the market. The only one that takes out the rand while trimming.

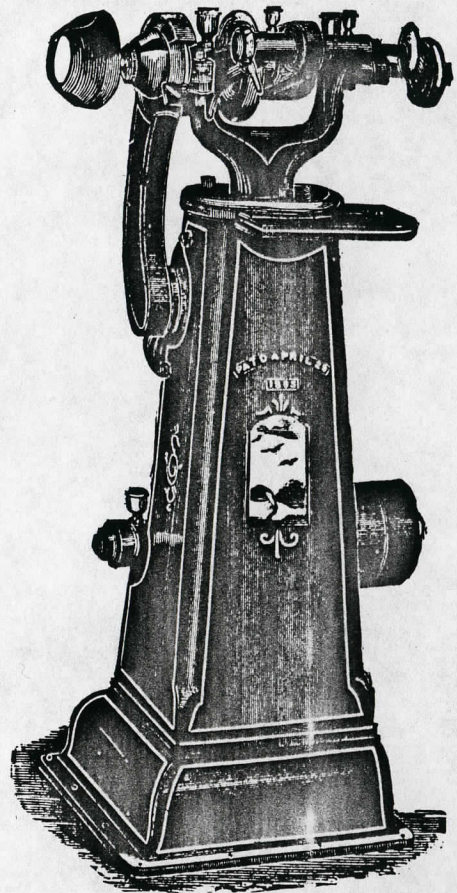
T. & L. Pulley, 6x4. Speed, 1300.



*Fig. 234.*

Busell Heel Trimmer.

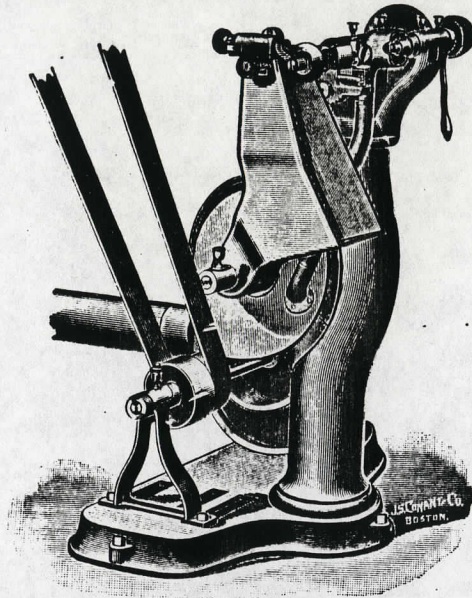
T. & L. Pulleys, 5x3. Speed 1200.



*Fig. 235.*

Smith Heel Trimmer.

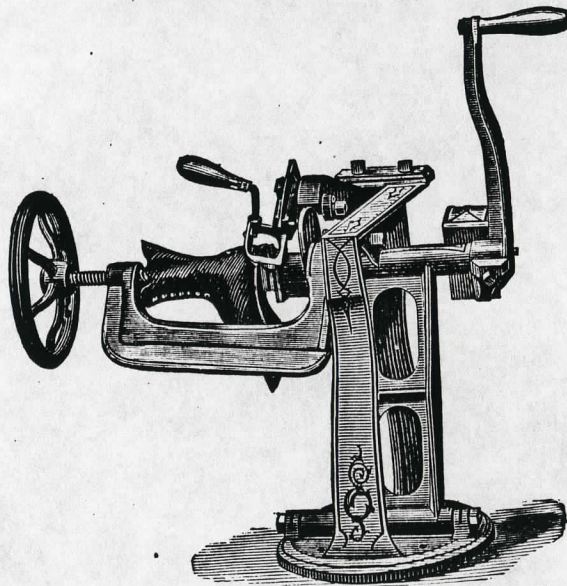
T. & L. Pulley, 6x3. Speed, 1200.



*Fig. 236.*

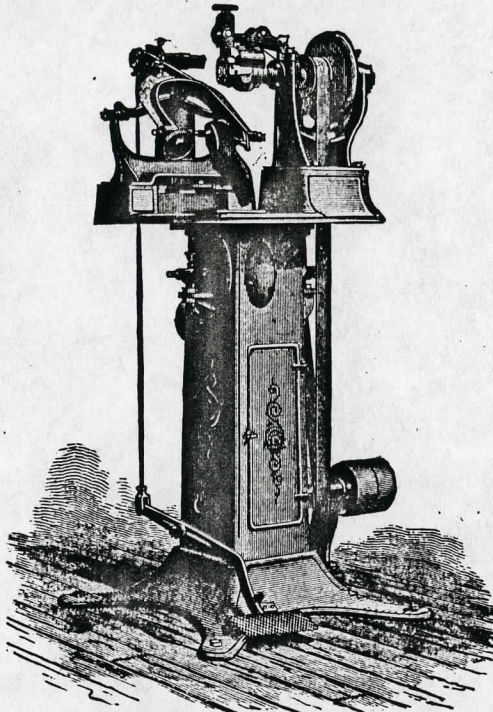
The Acme Heel Trimmer.

T. & L. Pulleys,  $6 \times 2\frac{3}{4}$ . Speed, 1175.



*Fig. 227.*

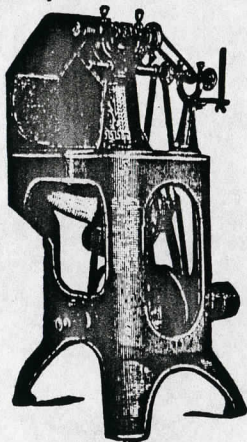
Washburn & Harden's Heel Trimmer.



**Fig. 238.**

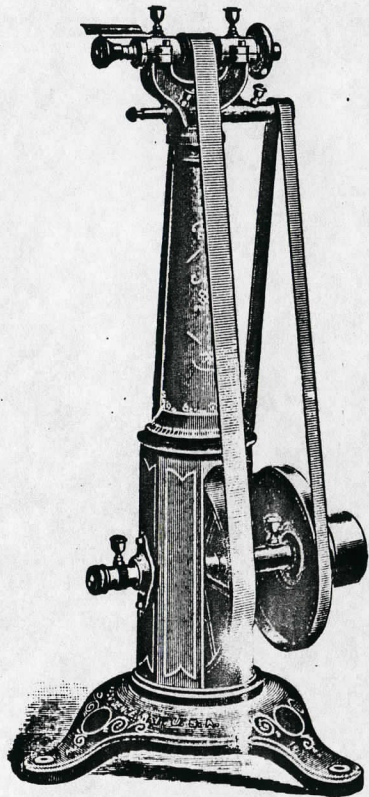
**King's Improved Rotary Heel Trimmer.**

Pulley, 6x3. Speed, 950.



**Fig. 239.**

**NEW STYLE.**



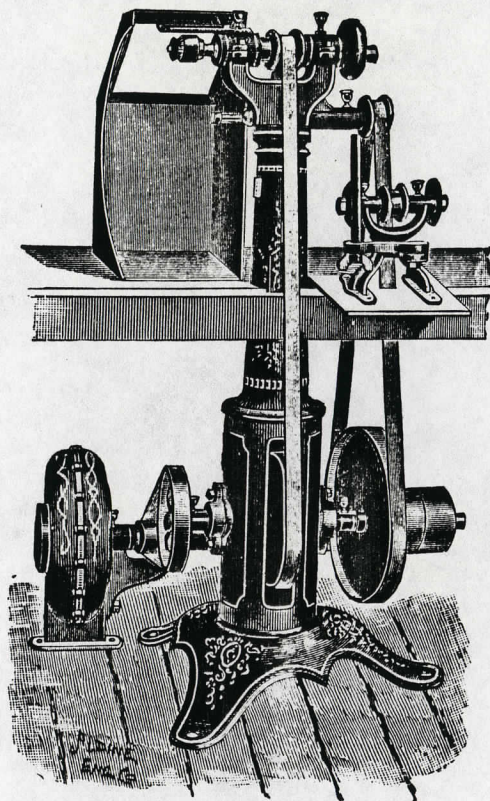
**Fig. 246**

**OLD STYLE.**

**Busell's Edge Trimming Machine.**

**For Trimming Fore Parts and Spring or Wedge Heels.**

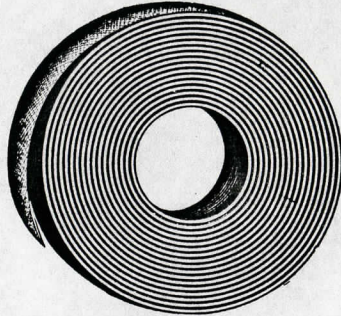
**T. & L. Pulley, 5x2½. Speed, 1300.**



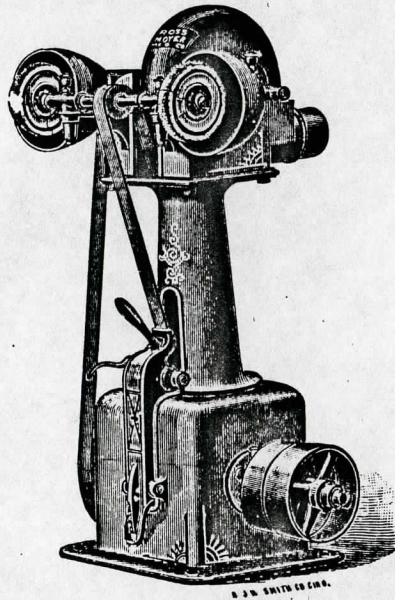
*Fig. 241.*

Edge Trimmer.

T. & L. Pulleys,  $5 \times 1 \frac{1}{2}$ . Speed, 1300.

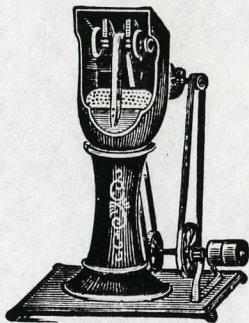
*Fig. 242.***Moulded Sandpaper.**

For finishing the Shanks and Heels of Boots and Shoes. Buffer Rolls and Heel Wheels made and refelted.

*Fig. 243.***Ross Heel Scourer.**

**T**HIS is the heaviest and most powerful machine made. It has a large Exhaust Blower, and remains in motion to remove any dust caused by changing paper. The main Shaft carrying the scouring wheels is started and stopped instantly by a lever carrying an Idler Pulley. The wheel Shaft is steel with bronze bearings. The machine is so constructed that any of the bearings becoming worn can be replaced at a small cost and in a few minutes, without calling in the aid of a machinist. The machine is also fitted with tight and loose Pulleys.

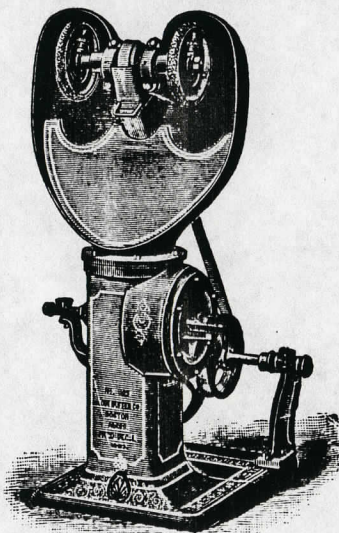
T. & L. Pulleys, 8x3. Speed, 300.



*Fig. 244.*

Buzzell Heel Scourer.

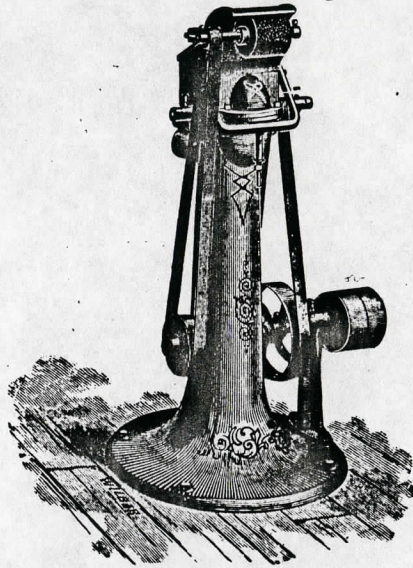
Pulley,  $5 \times 2\frac{1}{2}$ . Speed, 400.



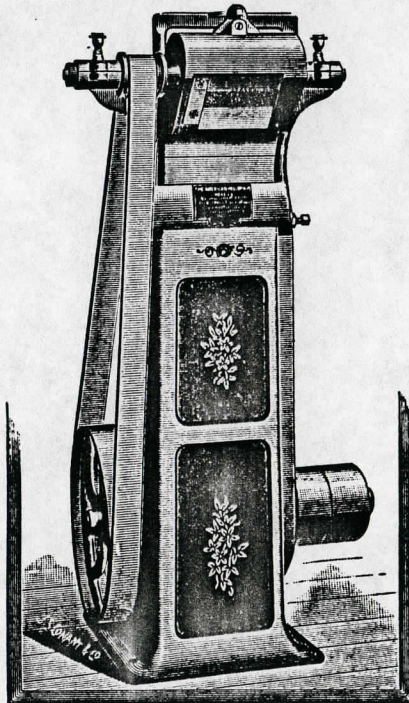
*Fig. 245.*

Globe Heel Scourer.

Pulley,  $6 \times 2\frac{3}{4}$ . Speed, 450.

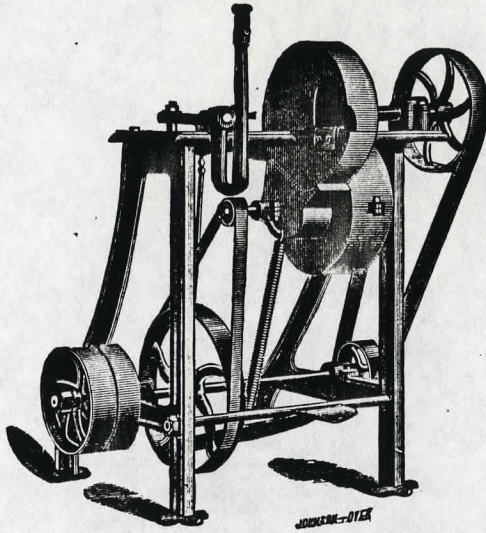


*Fig. 246.*  
Carver Top Lift Grinder.  
Pulley, 6x3. Speed, 700.



*Fig. 247.*  
American Heel Grinder.  
T. & L. Pulley, 6x2½. Speed, 450.

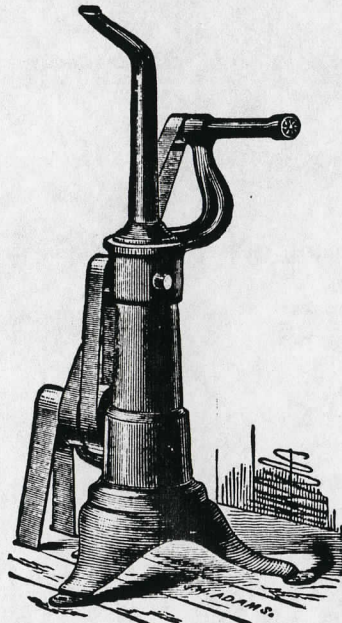
It grinds off the nails and slugs in heels. Saves its cost in sand paper alone.



*Fig. 248.*

Tower Heel Filer.

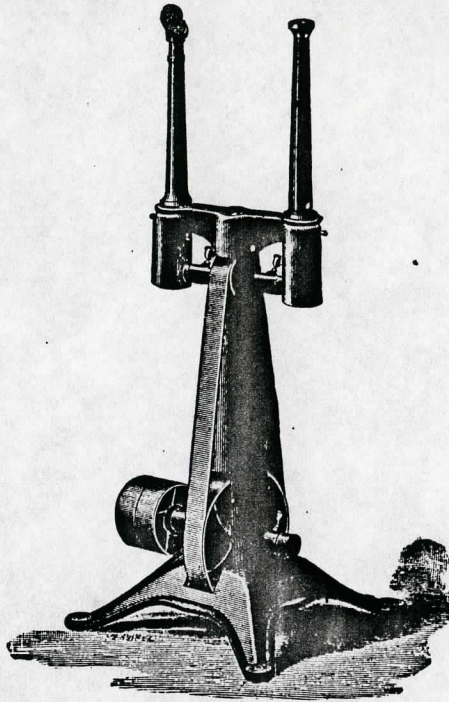
Pulley,  $10 \times 2\frac{1}{2}$ . Speed, 300.



*Fig. 249.*

Arnold Peg Cutter.

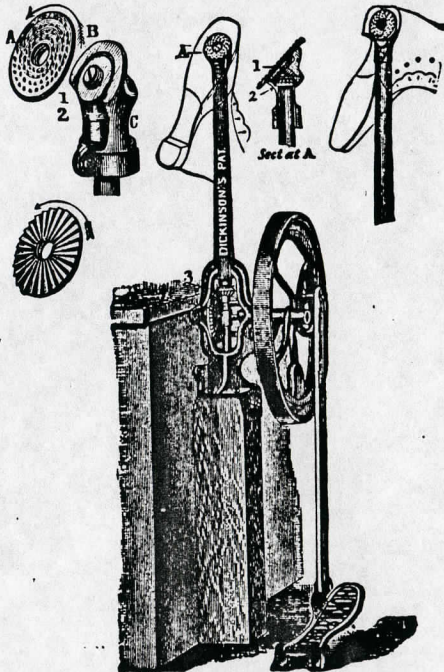
Pulley,  $3\frac{1}{2} \times 2$ . Speed, 1000.



**Fig. 250.**

**Tower Peg Cutter.**

T. & L. Pulleys, 6x3. Speed, 600.



**Fig. 251.**

**The Keystone Rotary Peg Float.**

For Foot and Steam Power.

Pulley, 6x2. Speed, 200.

ROSS' EDGE SETTING

—AND—

Burnishing Machines.

\* THE ADVANTAGES ARE \*

**Simplicity of Construction, High Speed,  
DURABILITY AND CONVENIENCE.**

*One of the most important features being Noiseless.*

The movement of the iron is on a straight line and the finest grade of work can be done equal to hand. There is no jar to the machine or to the operator.

THE TOOL HOLDER & WORKING PARTS ARE STEEL

*Hardened and Finished in the Best Manner.*

AND WITHOUT DOUBT THE SIMPLEST IN USE.

This is the Only Machine on the Market  
*WITHOUT THE FORMERLY MUCH OBJECTED PENDULUM MOVEMENT.*

THE LARGE NUMBER NOW IN USE

*On the Best Class of Work Made,*

**Is the best endorsement of their merits.**

**ROSS TWIN**  
**EDGE SETTER.**

(PATENTED.)

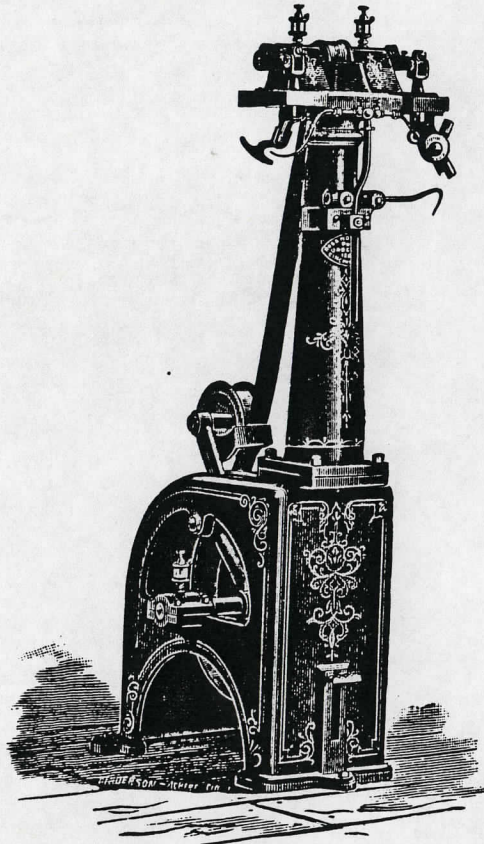


*Fig. 252.*

Pulley, 5x2. Speed, 500.

— ROSS —  
 COMBINATION EDGE AND SHANK  
 BURNISHER.

(PATENTED.)



*Fig. 253.*

One side Burnishes Edges, the other Black Shanks.

Top pieces and Gloons.

Pulley, 5x2.

Speed, 500.

# ROSS EDGE SETTER.

SINGLE HEAD.

(PATENTED.)

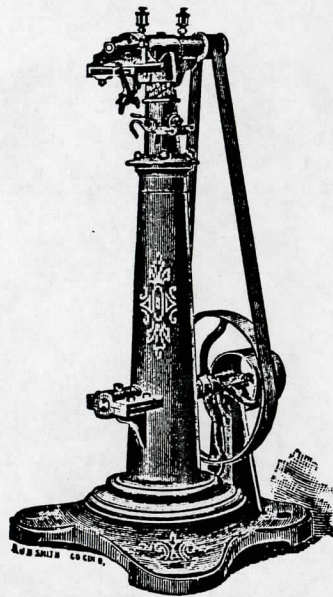


Fig. 254.

This is designed to supply a machine where a Single Head is preferred, and is

**THE BEST IN USE.**

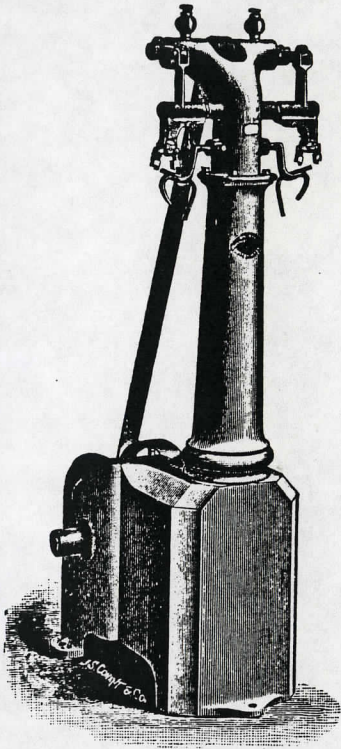
If you have the old style Union Edge Setter, put on one of our

⚡ ⚡ **NEW IMPROVED HEADS.** ⚡ ⚡

CAN BE PUT ON IN A FEW MINUTES.

IT WILL PAY YOU.

T. & L. Pulleys,  $5\frac{1}{2} \times 2$ . Speed, 400.

*Fig. 255.*

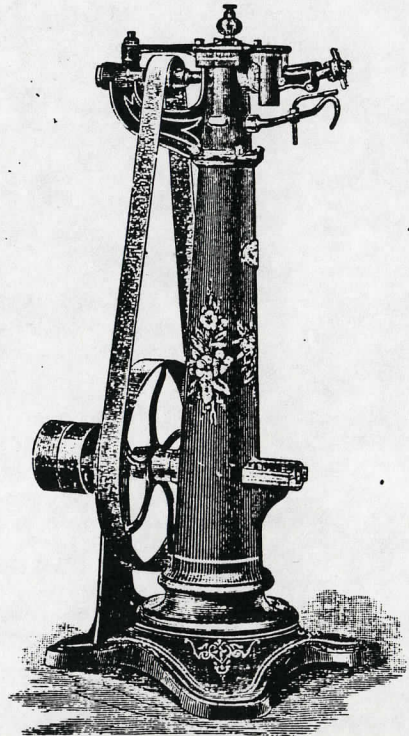
The Union Twin Edge Setter.

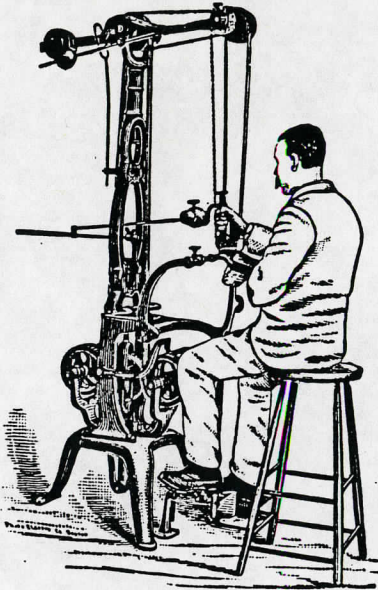
T. & L. Pulleys,  $5\frac{1}{2} \times 2$ . Speed, 380.

*Fig. 256.*

The Union Edge Setter.

Pulley,  $5 \times 2$ . Speed, 380.



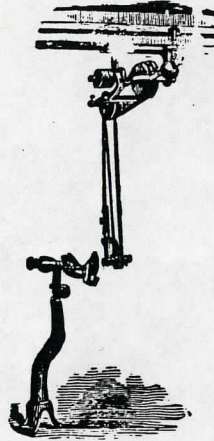


**Fig. 257.**

Beauty Edge Setting and Heel  
Burnishing Machine.

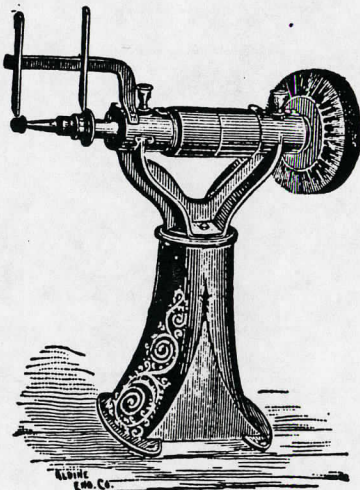
A change can be made from Edge to  
Heel Machine or *vice versa* in a few  
seconds.

Pulley,  $7\frac{1}{4} \times 1\frac{1}{2}$ . Speed, 400.



**Fig. 258.**

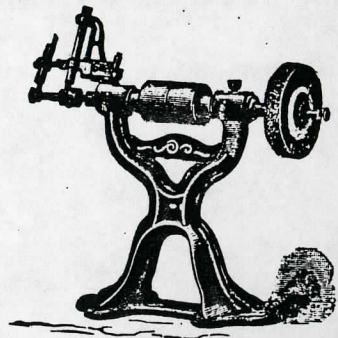
Dodge Edge Setter.



**Fig. 259.**

Wax Edge Setter.

Pulley,  $3 \times 2\frac{1}{4}$ . Speed, 1800.



**Fig. 260.**

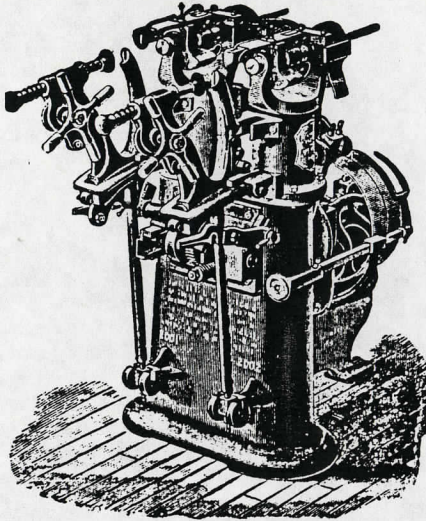
Wax Edge Setter.

Pulley,  $3 \times 2\frac{1}{4}$ . Speed, 1800.

COST OF HEEL BURNISHING  
GREATLY REDUCED

—BY THE—

*TAPLEY TWIN HEEL BURNISHER.*

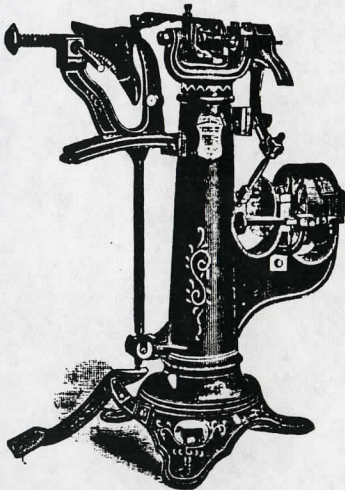


*Fig. 261.*

Tapley Twin Heel Burnisher.

One operator will do as much as two single Tapleys with two operators.

Pulley, 15x3. Speed, 150.

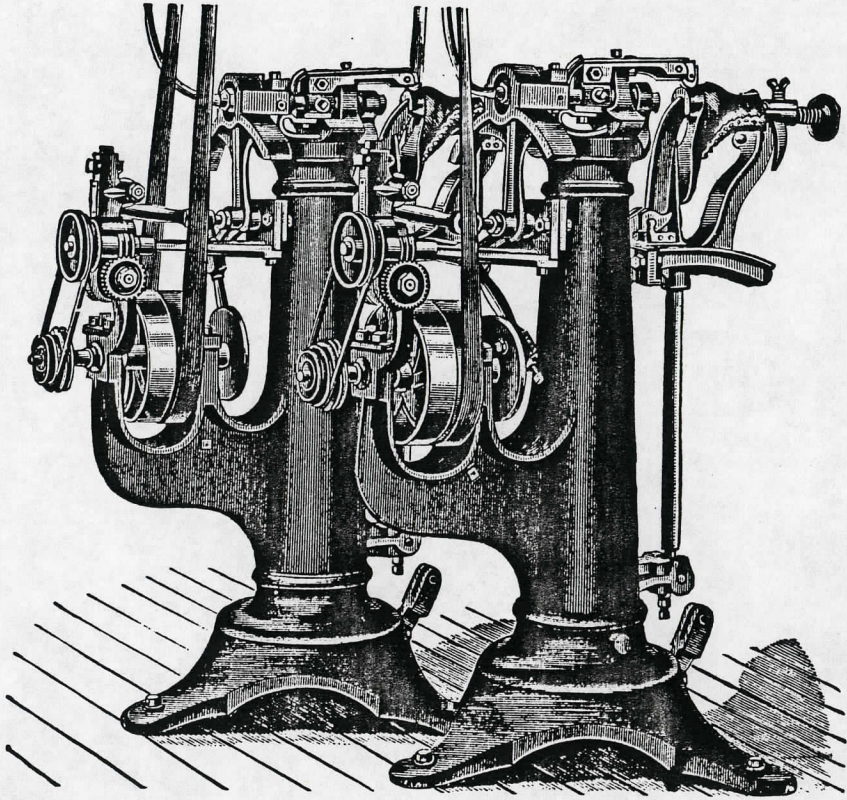


*Fig. 262.*

The Tapley Heel Burnisher.

Is the only recognized HOT KIT MACHINE in  
the Market to-day.

Pulley, 10x2. Speed, 145.



*Fig. 263.*

Tapley Heel Burnisher with the Keighley Automatic Attachment.

One operator runs both machines, saving the expense of one man.

Pulley, 10x2. Speed, 150.

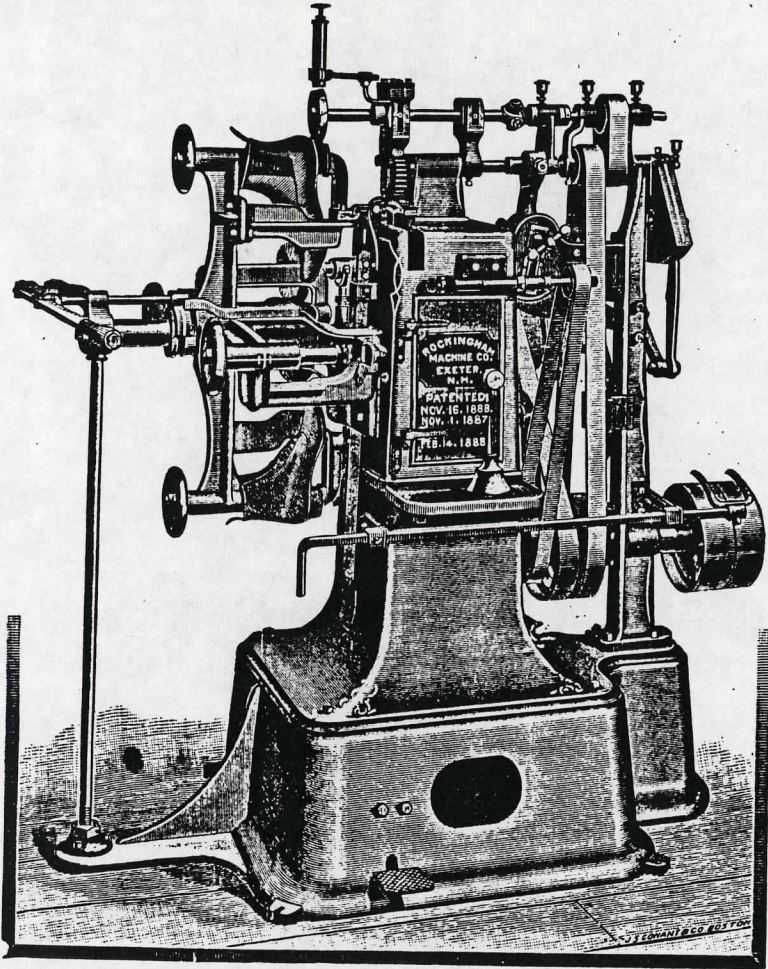
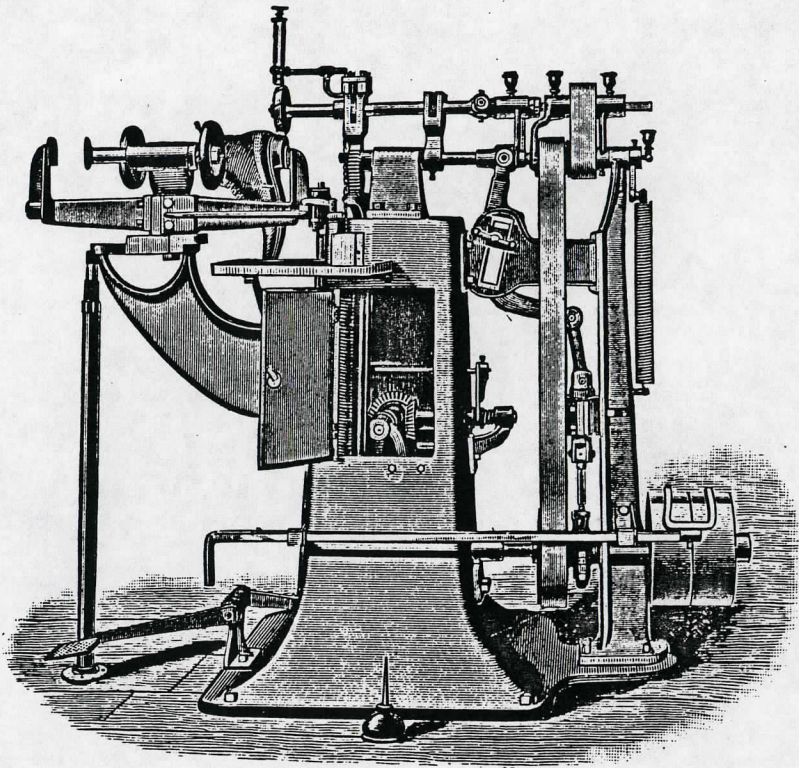


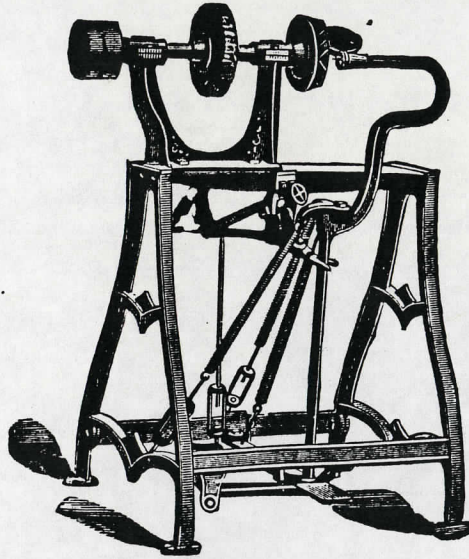
Fig. 264.

Rockingham Automatic Heel Burnisher.

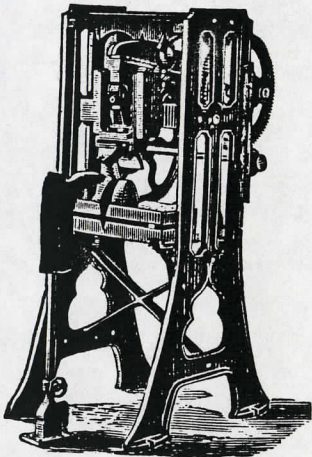


*Fig. 265.*

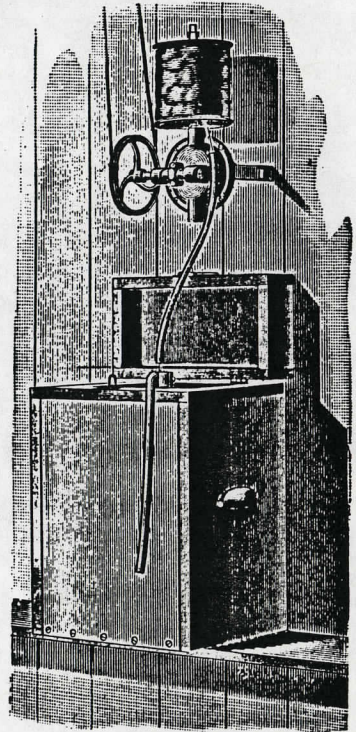
Rockingham Heel Burnisher.



*Fig. 266.*  
Chamberlain Wax Heel Burnisher.  
Pulley,  $5 \times 1\frac{1}{2}$ . Speed, 1200.



*Fig. 267.*  
Walker Springing Machine.  
Pulley,  $12 \times 3$ . Speed, 150.



*Fig. 268.*  
Gordon Carburetter or Gas  
Machine.

≡ ROSS ≡  
Heel Seat Beader.

(PATENTED.)

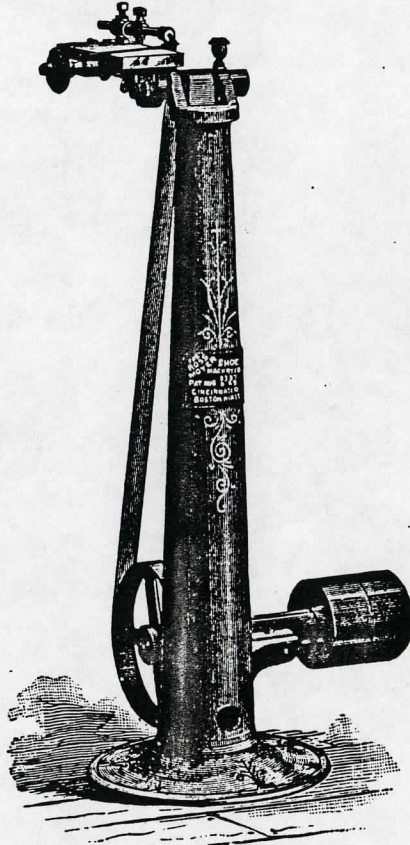
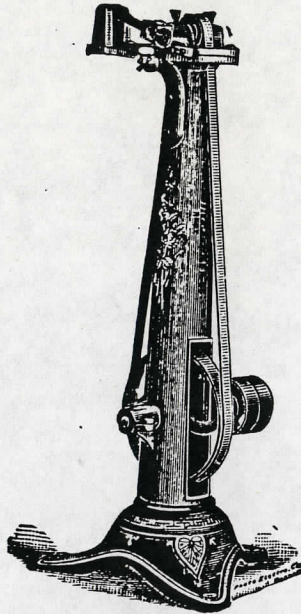


Fig. 269.

**W**ITH this Machine the best possible results are obtained, as the construction is such that it can be run at high speed without jar to the operator. It is noiseless and convenient. The work produced is equal to the best hand work, without having the objection of requiring skill to operate it.

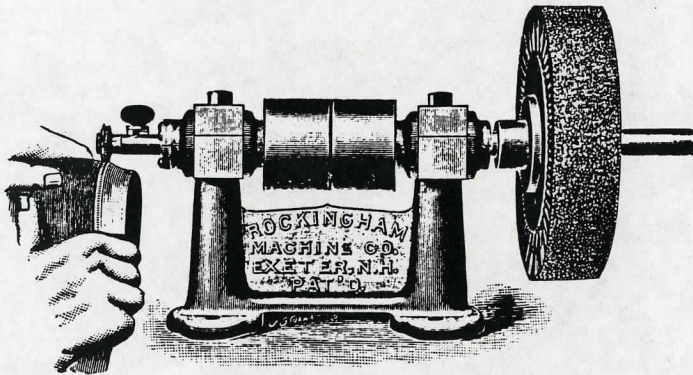
T. & L. Pulleys, 5x2. Speed, 500.



*Fig. 270.*

Tapley Heel Beder.

Pulley,  $5 \times 1\frac{1}{2}$ . Speed, 450.

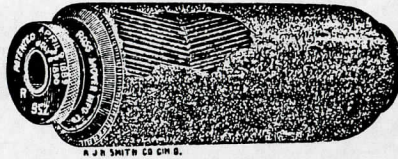


*Fig. 271.*

Heel Beading Machine.

# ROSS FLEXIBLE AUTOMATIC EXPANDING BUFFING ROLL.

(PATENTED)

*Fig. 272.*

**T**HE manufacturers of Boots and Shoes have long felt the want of a Buffering Roll better suited to the requirements than they have been able to obtain.

Our object has been to produce a roll that would give the required result, and in offering it to the trade we are satisfied that a trial will convince you of the merits of this roll over any that has been offered before, not only as to quality of work produced but as to the economy and saving in paper.

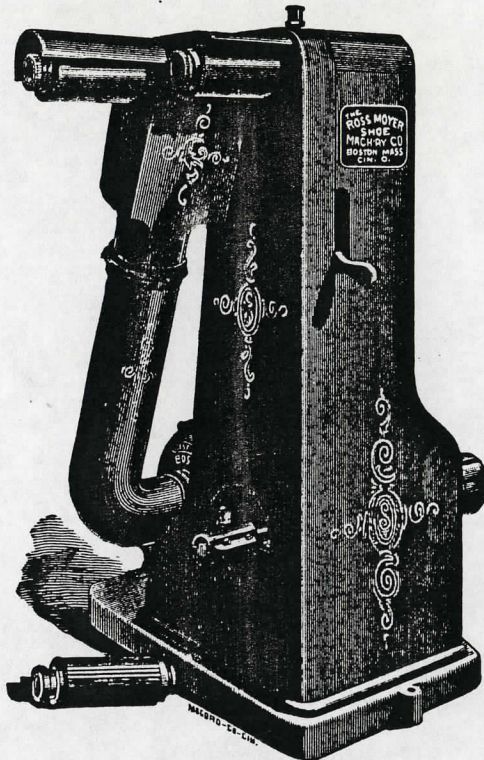
The objection heretofore to Felt or Rubber Rolls in use has been that the abrasive material or paper used was allowed to heat and thereby soften the glue and allow the material removed to adhere to, fill up and glaze, causing it to burn the shoe and require its removal before it is have worn out.

The construction of our Flexible Roll is such that the abrasive material is carried on soft rubber projections which project from the surface of the roll and allow a circulation of air under the paper at all times, thereby keeping it cool and preventing the adhesion of dust, and the recoil of the ribs or projections causes the material removed to be knocked out of or from the surface of the paper and it is carried away by the exhauster.

The result is the paper can be entirely worn out before removing it, and we find a saving by practical demonstration of at least 50 per cent. in the amount of paper over any device heretofore used for this purpose.

# ROSS BUFFING MACHINE.

A. (PATENTED.)



*Fig. 273.*

**T**HIS machine is entirely new in design and different in arrangement from any machine ever offered to the trade. It is heavier than any machine in the market and is as well made as it is possible to make it.

The Roll Shafts are of steel, and the journals of Phosphor Bronze, is furnished with a large Studevant Blower and is absolutely dustless.

The advantages as a Buffing machine are very plain to any Practical Manufacturer over any heretofore used in the trade. The machine is so arranged that the operator can finish the fore part and the top piece without moving his position from the time he takes up the shoe until he lays it down finished.

The rear roll projects out from the left of the front roll so the changes of paper can be made very quickly. The Rolls are put in motion simultaneously and stopped by a lever which passes through the front of the machine which carries an Idler Pulley and both Rolls are driven with one belt and can be stopped instantly.

The exhauster remains in motion so as to remove any dust while changing the paper, but the machine entire can be stopped by the belt being shifted to the loose pulley when not in use.

In factories where large exhausters are used, this machine can be furnished without exhauster, and in such case a credit for same will be made.

# ROSS BUFFER.

(B.)

FITTED WITH OUR PATENT ROLL.

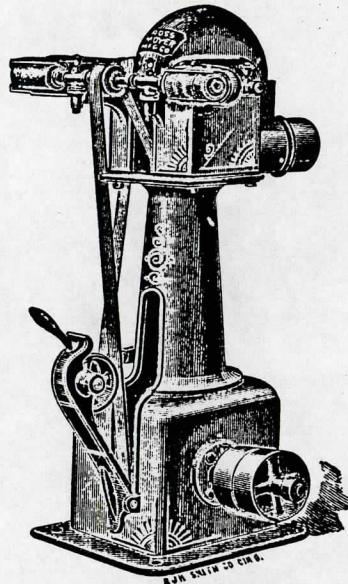
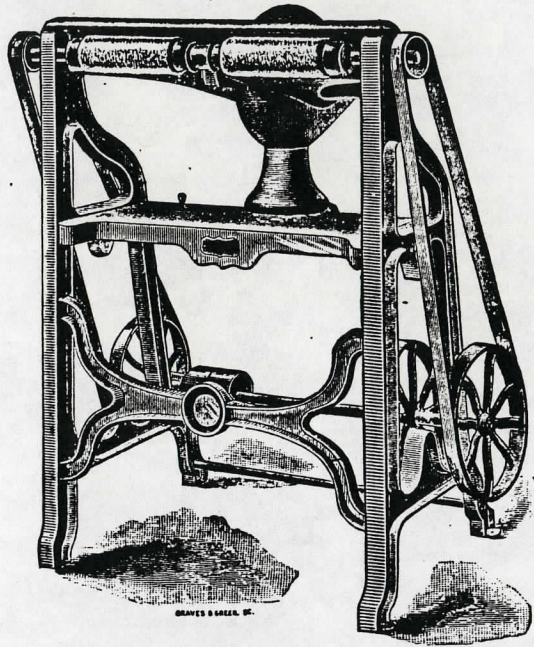


Fig. 274.

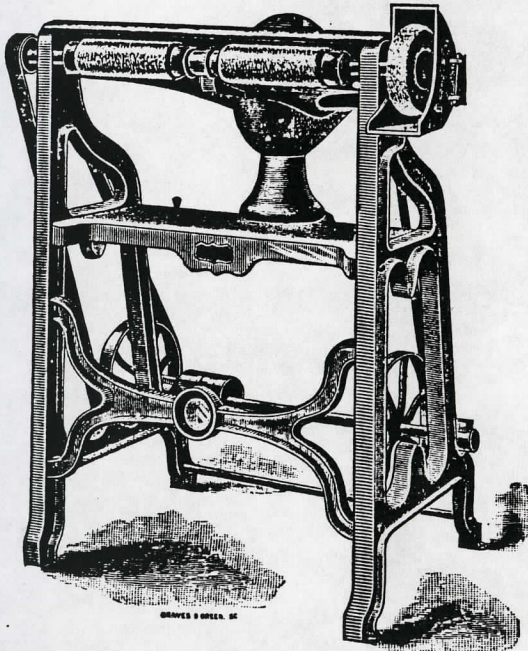
It has Steel Shaft, Bronze Bearings, and is in every particular first-class.

It is fitted with Tight and Loose Pulleys, and in addition can be stopped and started instantly with Lever carrying an Idler Pulley to facilitate the change of paper. The Exhaust Blower remains in motion to remove any dust made in making such change. In factories where large exhausters are used, this machine can be finished without exhauster, and in such case a credit for same will be made.

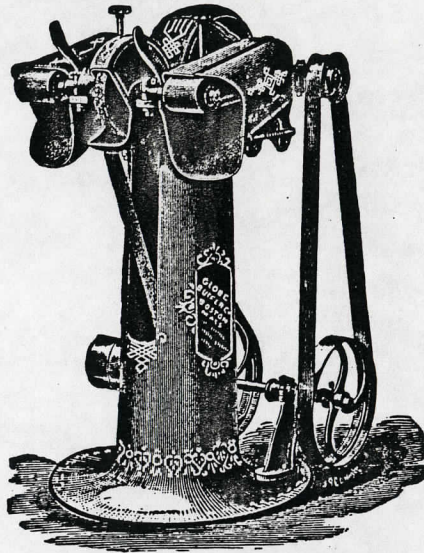
T. & L. Pulleys, 6x3. Speed, 600.



*Fig. 275.*  
 Improved Split Roll Buffer,  
 With Center Bearings.  
 T. & L. Pulley, 5x3. Speed, 650.



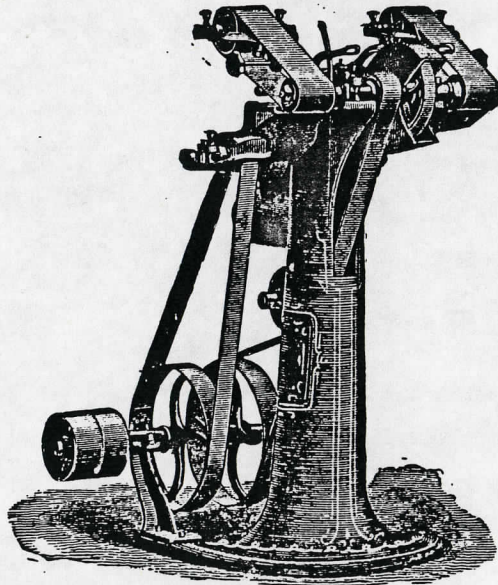
*Fig. 276.*  
 Improved Split Roll Buffer,  
 With Center Bearing and  
 Shank Wheel.  
 T. & L. Pulley, 5x3. Speed, 650.



*Fig. 277.*

Improved Globe Buffer.

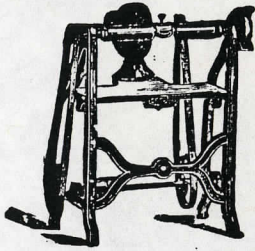
T. & L. Pulleys, 6x3. Speed, 800.



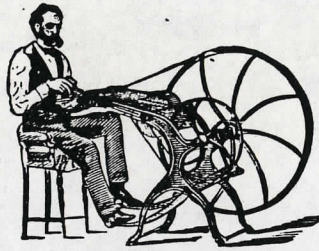
*Fig. 278.*

Old Style Globe Buffer.

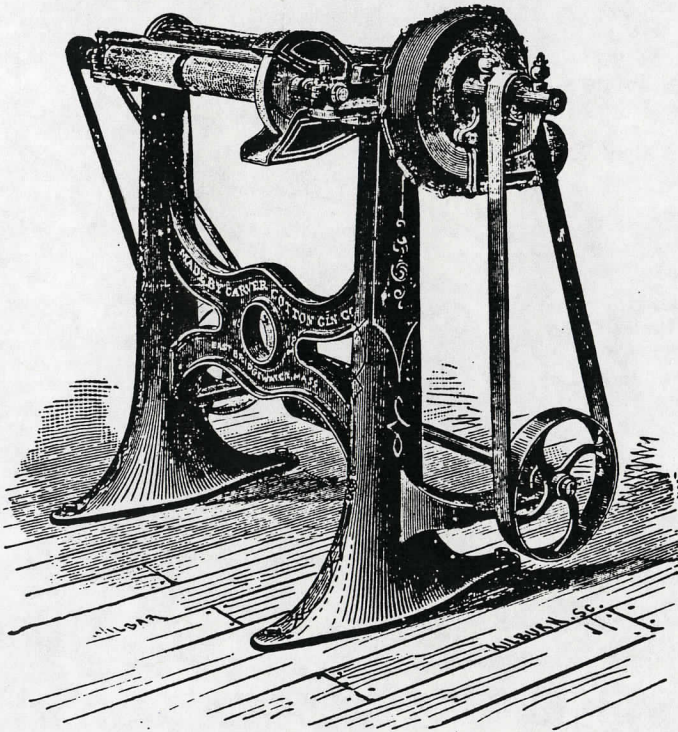
T. & L. Pulleys, 6x3. Speed, 800.



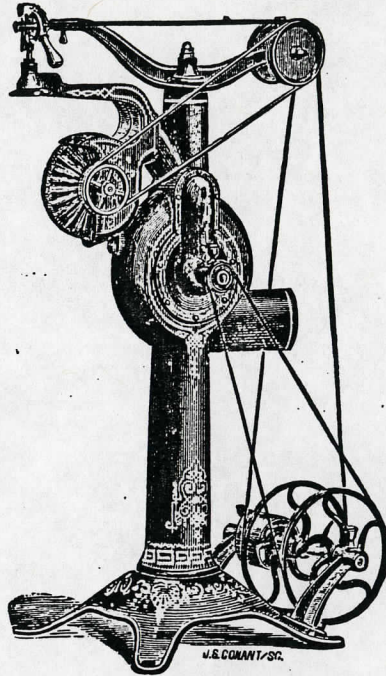
**Fig. 279.**  
Buzzell Sandpaper Machine.  
With or without Shank Wheel.  
Pulley, 5x2½. Speed, 650.



**Fig. 280.**  
Foot Power Sandpaper Machine.



**Fig. 281.**  
Gilmore Buffer.  
Pulley, 6x3. Speed, 600.



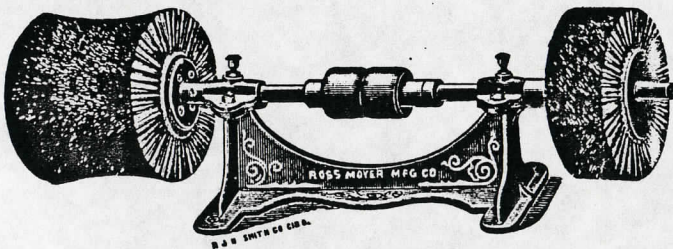
*Fig 282.*

Naumkeag Buffing Machine.

Pulley,  $5x1\frac{1}{4}$ . Speed, 450.

## POWER BRUSH SHAFT,

FOR APPLYING STAINS TO BOTTOMS OF BOOTS & SHOES.

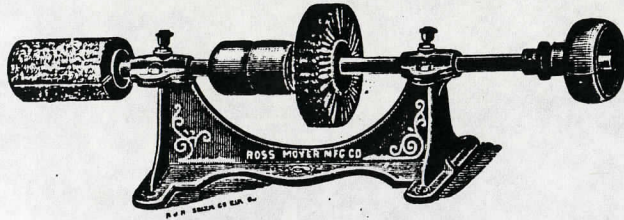


*Fig. 283.*

T. & L. Pulley,  $3x2$ . Speed, 800 to 1000.

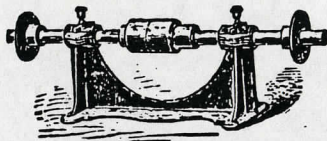
# BOTTOM POLISHING MACHINE.

For Polishing Bottoms of Shoes after Staining.



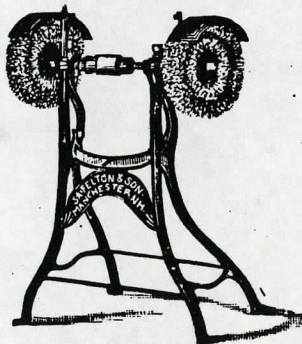
*Fig. 284.*

T. & L. Pulley, 3x2. Speed, 1200.



*Fig. 285.*

Brush Shaft Stand.



*Fig. 286.*

Upper Cleaning Machine.

# ROSS TWIN BURNISHER.

For Burnishing Black Shanks, Top Pieces and Galloons.



*Fig. 287.*

Pulley, 5x3. Speed, 500.

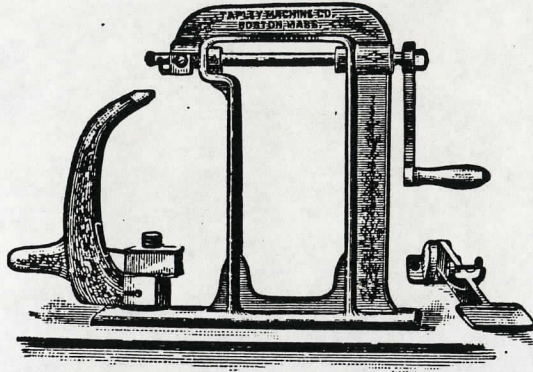
**T**HIS machine is simple in construction, has no complicated parts to get out of order, is easily operated, runs very smoothly, consequently does not jar the operator, is noiseless, and can be run at a high rate of speed.

This machine has all necessary adjustments to compensate for wear; is constructed on an entirely different principle from any machine that has ever been offered—the peculiar construction of which enables it to produce results never before obtained by any machine on work of this class.

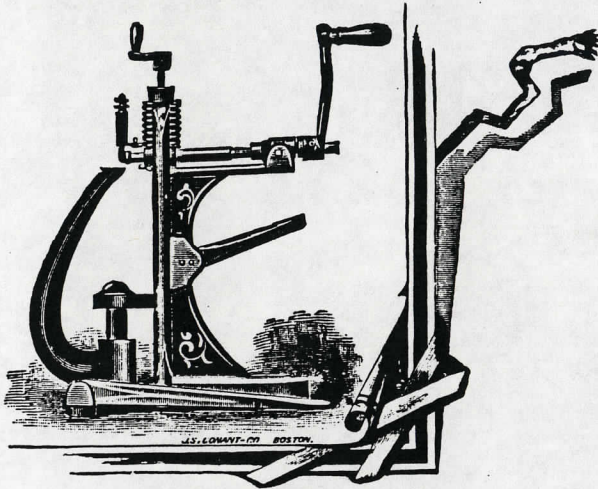
The material used in the construction throughout is the best it is possible to obtain. The workmanship and finish second to none. All moving parts are of a fine grade of steel hardened. Journals and bearings are of phosphor bronze. Pieces and parts are interchangeable and can be duplicated.

The quality of work produced is equal to the finest hand work. As regards quantity, we have no hesitation in placing the machine on trial with any responsible firm, knowing as we do, by experience, that there have been few machines offered to the trade that will give larger returns on the investment.

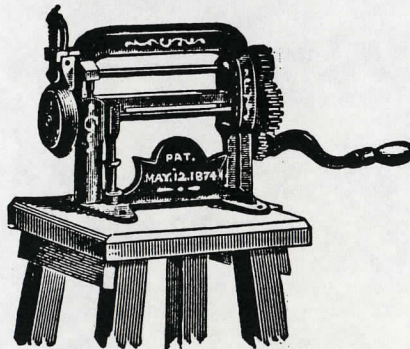
We are prepared to furnish an operator with each machine, who will instruct others how to operate. We will also furnish testimonials from manufacturers who are using the machine.



*Fig. 288.*  
Waukenphaust Imitation and Embossing Machine.



*Fig. 289.*  
Waukenphaust and Imitation Stitch Machine.

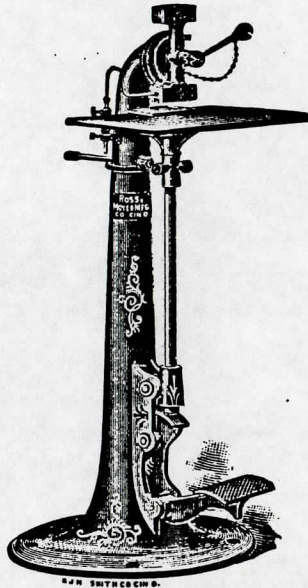


*Fig. 290.*  
Impression Stitch Machine.

# ROSS EMBOSSING MACHINE.

(PATENTED.)

*For Stamping Names or Designs, in Silver or Gold, on the Top Facings of Shoes.*



*Fig. 291.*

**I**t will work equally well on Silk, Leather or Cotton Top Facings, embossing the shoe either before or after it is completed. This machine is neat in design, simple in construction, powerful and durable. Has a revolving head fitted to carry two stamps; one for the name of the firm, the other for the customer, either of which can be brought in use in an instant; is heated by gas. Can be screwed to the floor ready for operation in a few minutes.

# METAL LEAF

—AND—

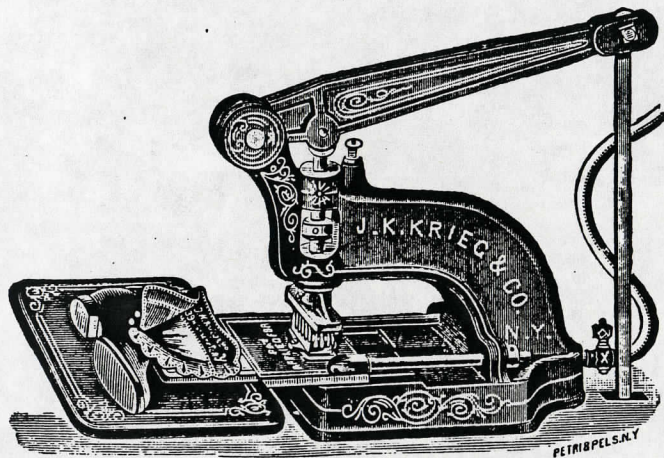
## SIZING FOR EMBOSSING MACHINES.

Prepared Expressly for our Trade,

AND IT WILL BE FOUND

**SUPERIOR** and **CHEAPER**

**THAN ANY ON THE MARKET.**



*Fig. 293.*

Embossing Machine.

For Embossing Name or Trade Mark on Leather, Silk or Cotton.

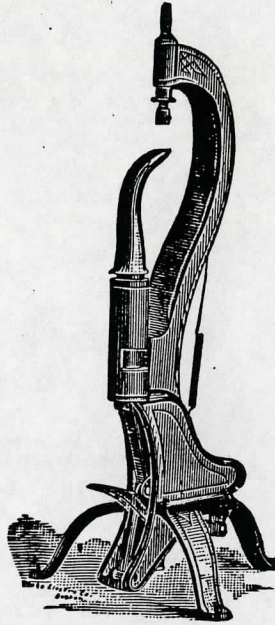
÷ ROSS ÷  
 BOTTOM STAMPER.

THIS IS THE  
 SIMPLEST, + STRONGEST + AND + MOST + CONVENIENT  
 MACHINE MADE.

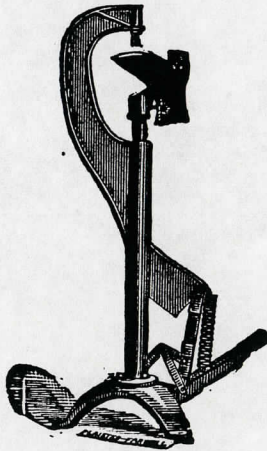


Fig. 294.

IT has its own gas fixture for heating the Stamp. Has Revolving Head fitted to carry Six Stamps. Does away with a complication of toggle joints found in other machines, which causes so much trouble and annoyance.



*Fig. 295.*  
Smith Bottom Stamper.



*Fig. 296.*  
Ellison Bottom Stamper.

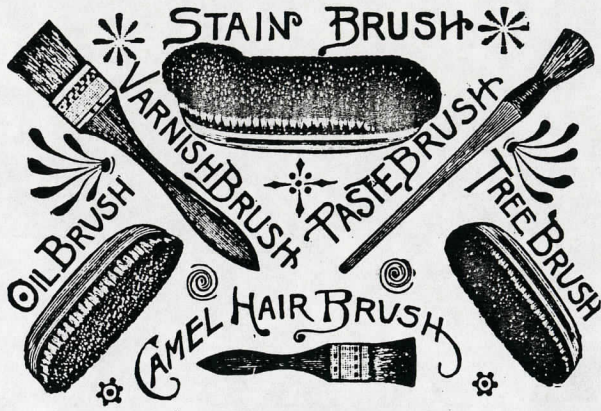


Fig. 297.  
Hand Brushes.

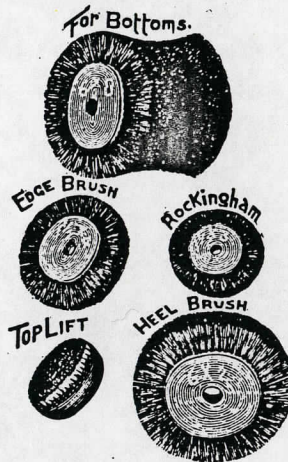


Fig. 298.  
Power Brushes.



Fig. 299.  
Felt Wheels.

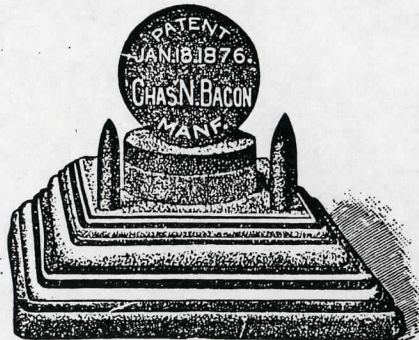
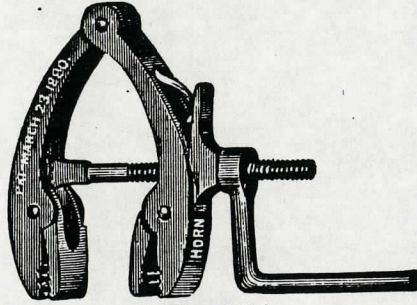
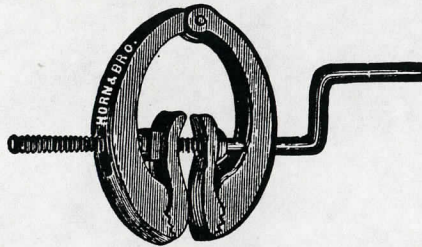


Fig. 300.  
Sheet Felting.

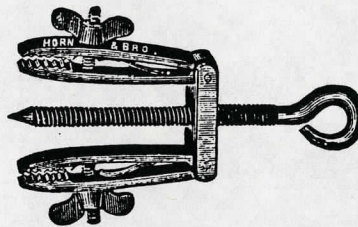
*Fig. 301.*

Keystone Shank Lasters, Davidson's Patent.  
Universally acknowledged to be the best Laster.

*Fig. 302.*

Shank Lasters.

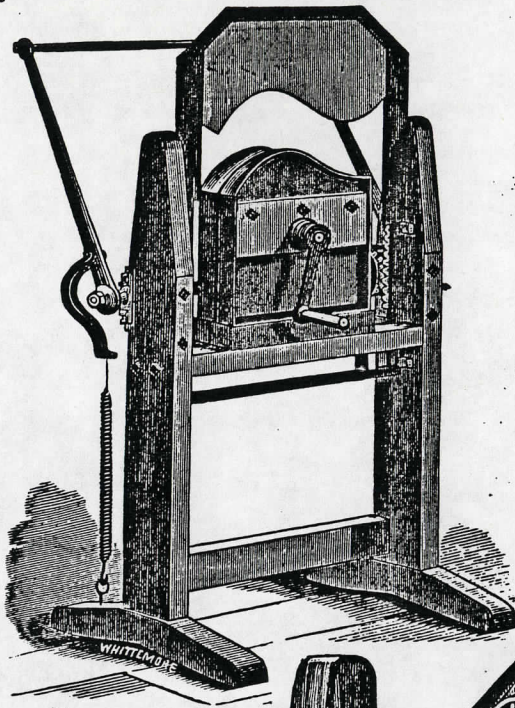
Extra heavy, Steel Screws and Nuts, Bronzed. Also in Malleable, Japanned.

*Fig. 303.*

Crimping Screws.  
Hinged Jaws.

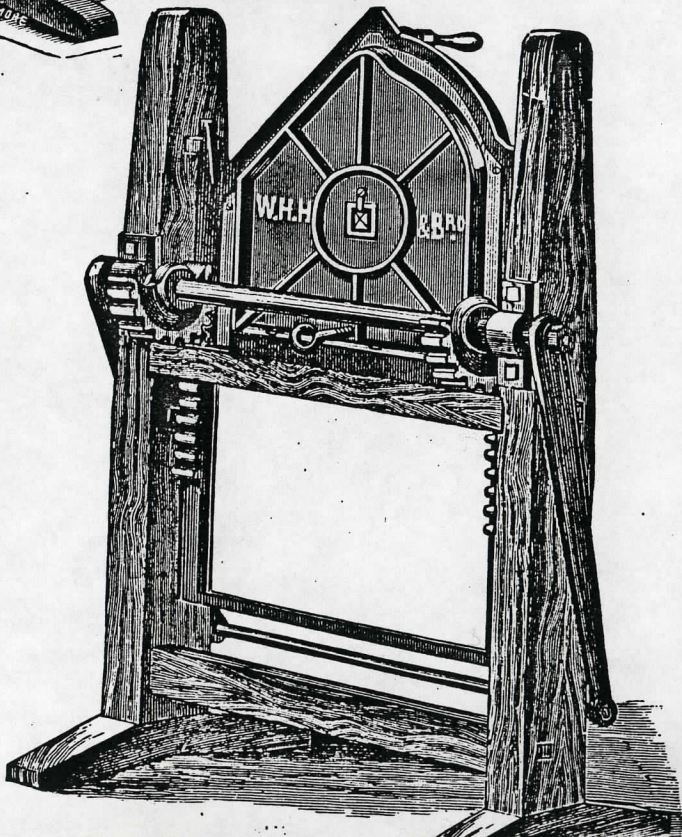
*Fig. 304.*

Crimping Screws.  
Plain.



*Fig. 305.*

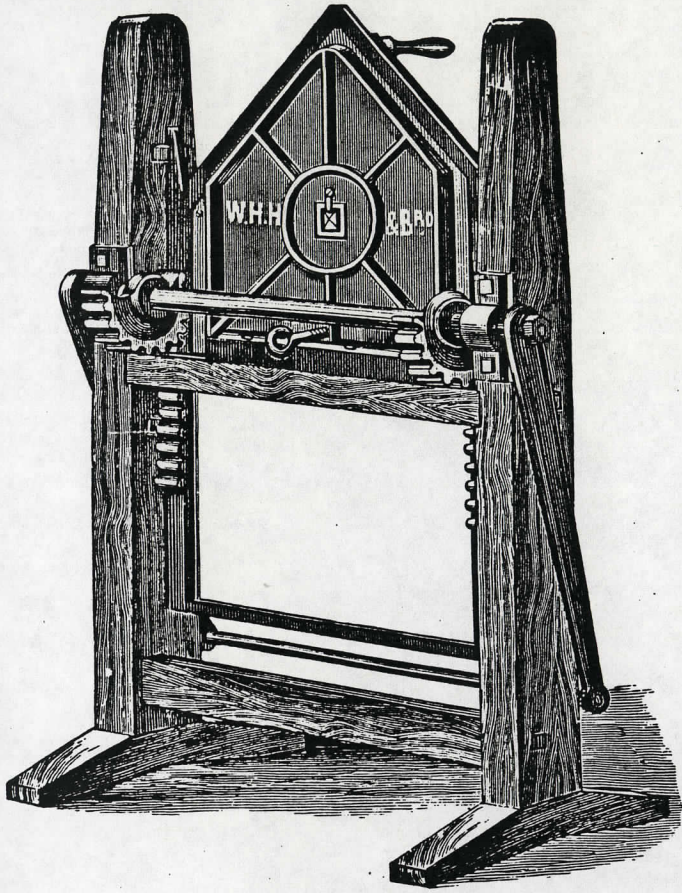
Improved Shoe Crimping Machine.



*Fig. 306.*

Improved Crimping Machine.

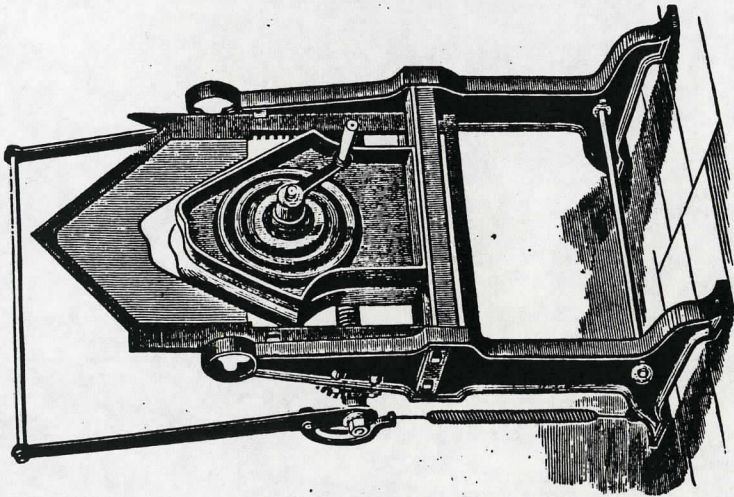
Brass Lined Iron Jaws and Brass Follower. This machine is shipped without crating or boxing, unless to order.



*Fig. 307.*  
Crimping Machine.

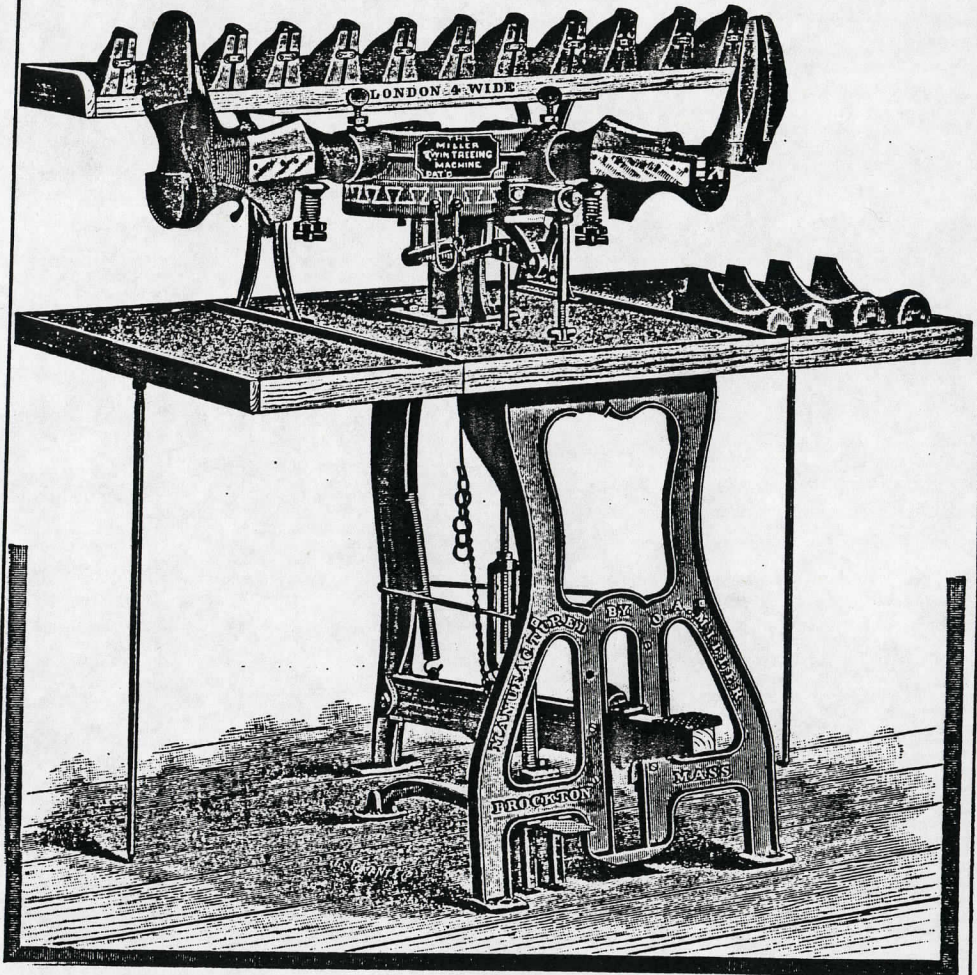
Brass Lined Iron Jaws and Brass Follower. Also in Extra Heavy.

This machine is shipped without crating or boxing, unless to order. Our Crimping Machines have extra heavy and well-finished jaws, and are much stronger than the usual run of machines of this kind.



*Fig. 308.*

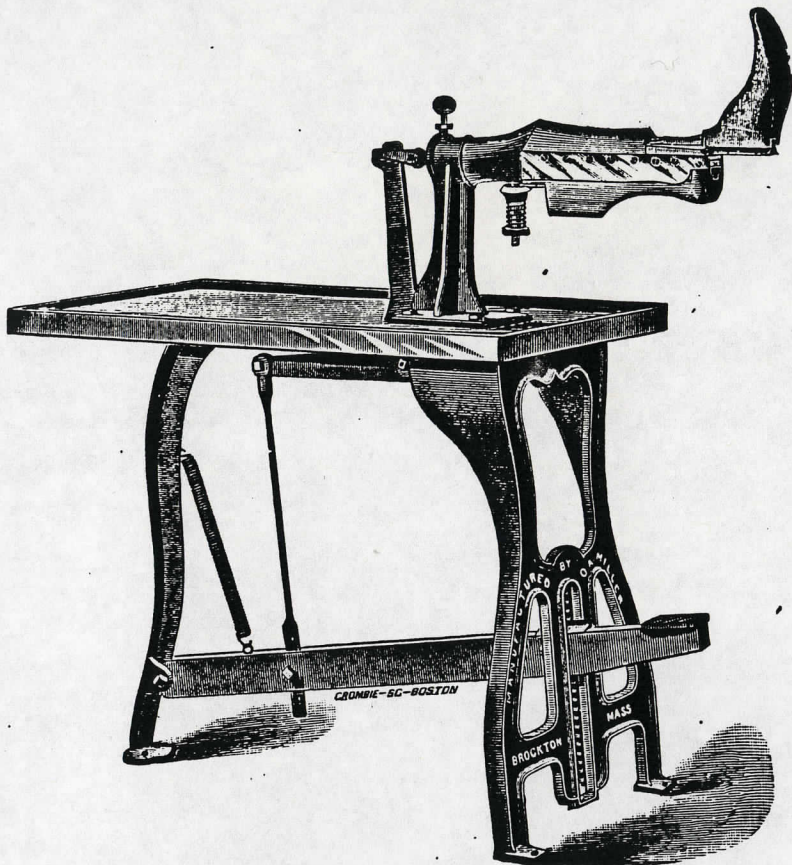
Instep Beak for Men's, Boys' and Youths' Boots.



**Fig. 309.**

**The Miller Twin Boot and Shoe Trees.**

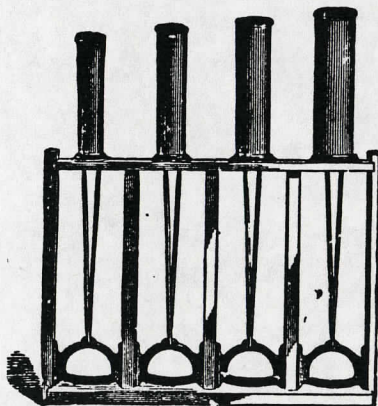
The Miller Twin Treeing Machine, with right and left tree legs and split feet. Fits the shoe perfectly, and allows one shoe to dry on the form while the other is being treed. It is the best. One hundred now in use.



**Fig. 310.**

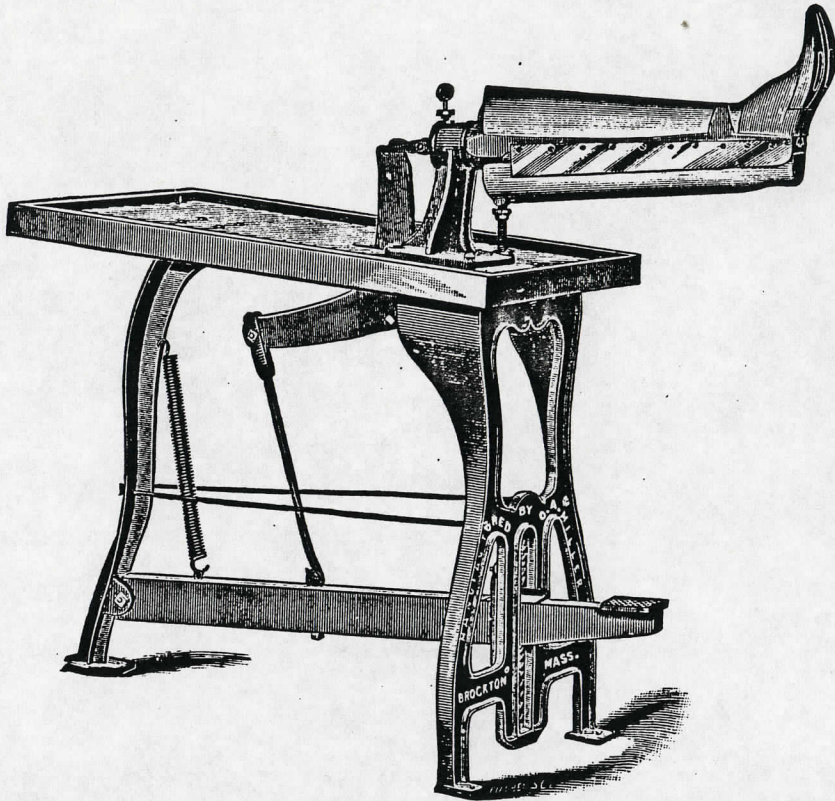
**The Miller Shoe Tree.**

Shoe Tree Bench with Leg attached, and one foot ready for use.

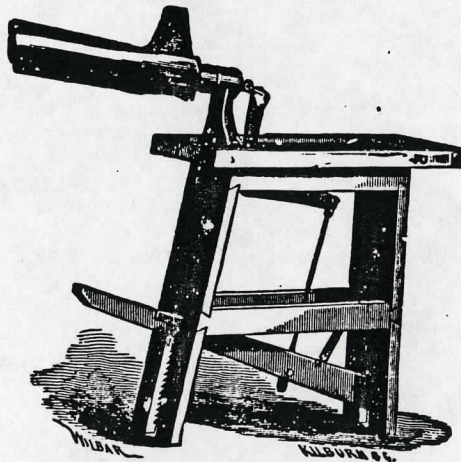


**Fig. 311.**

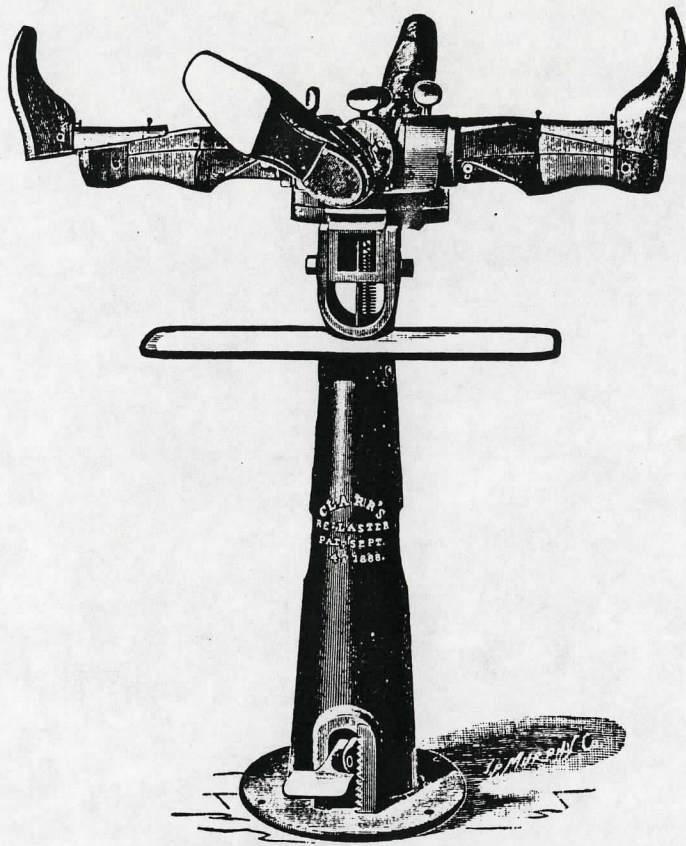
**Boot Pipe Turners.**



*Fig. 312.*  
Improved Boot Tree.



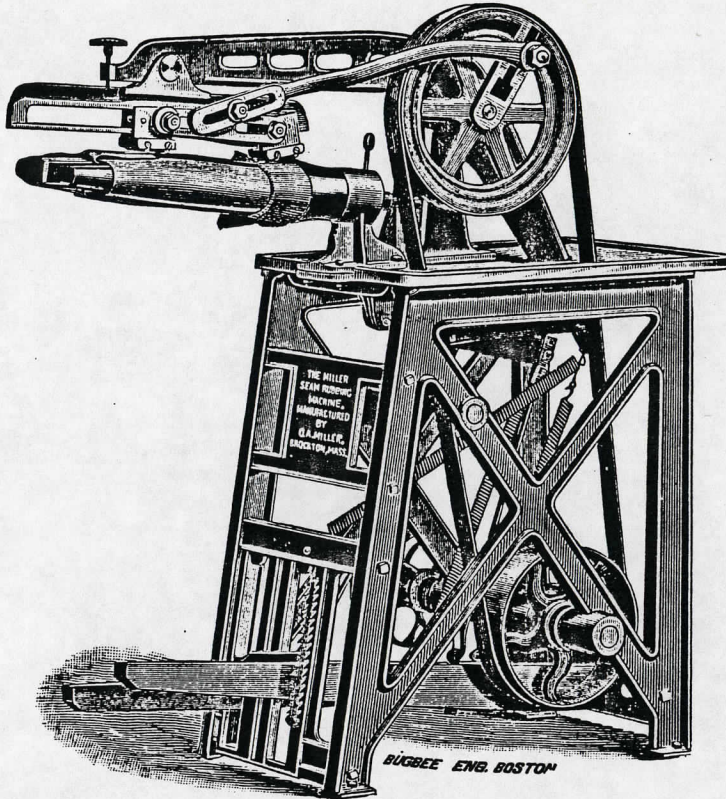
*Fig. 313.*  
Seam Rubber for Boot Legs.



*Fig. 314.*

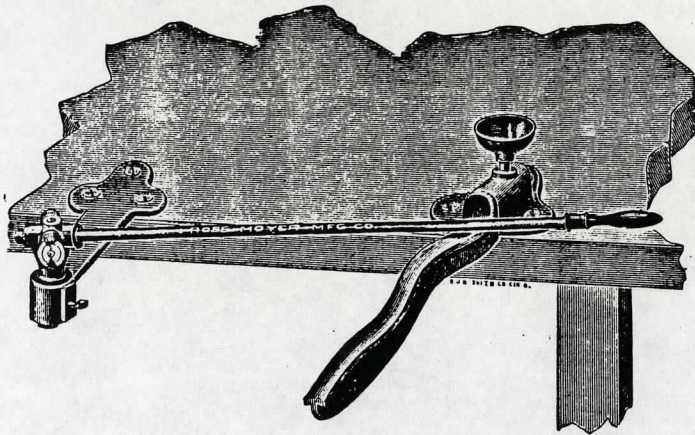
The Clark Re-Lasting and Shoe Treeing Process.

A most desirable addition to the equipment of any factory. All shoes treed by this process are entirely free from wrinkles. These Tree Feet can be put into and taken out of the shoe without straining the bottoms or linings.

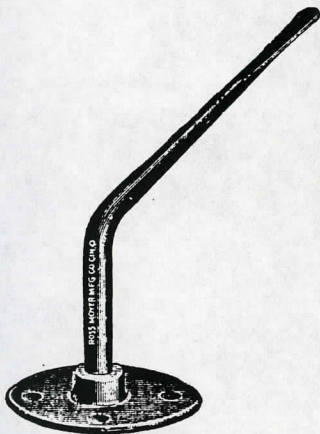


*Fig. 315.*

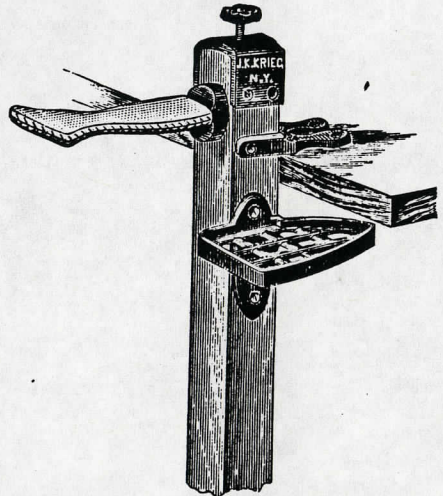
**Miller Power Seam Rubbing Machine.**



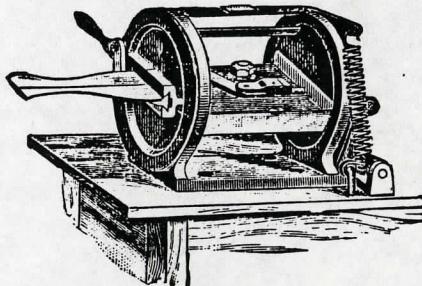
*Fig. 316.*  
Common Seam Rubber.



*Fig. 317.*  
Turning Iron.



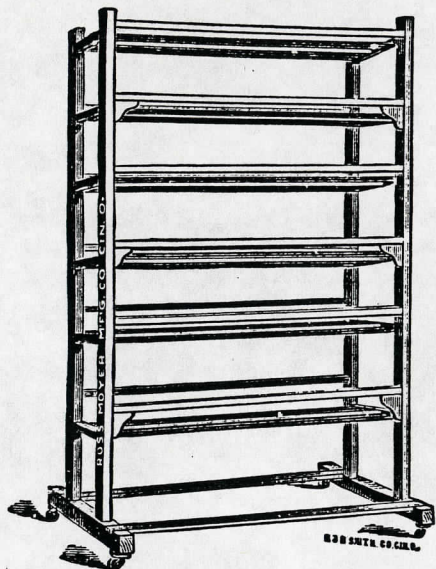
*Fig. 318.*  
Shoe Upper Cleaning and Ironing Stand.



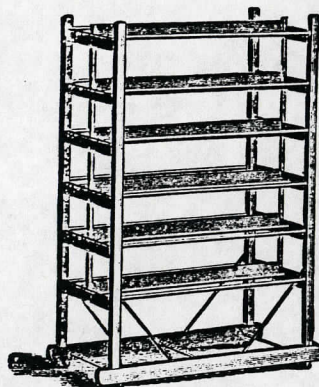
*Fig. 319.*  
Booth Upper Shaper.

Straightens out the Leg of the Shoe ; makes the Shoe remain smooth and flat ; and brings out the true shape of your patterns.

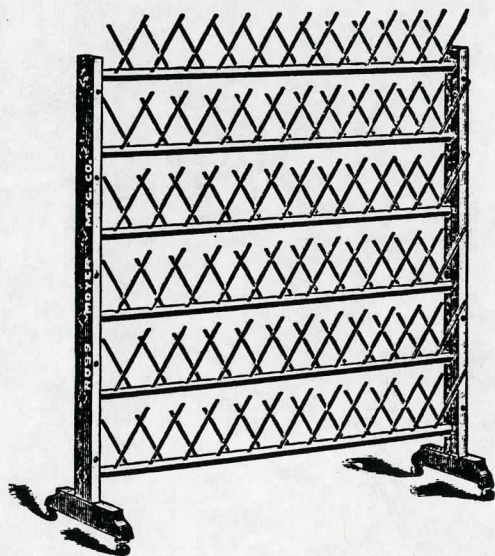
# SHOE RACKS.



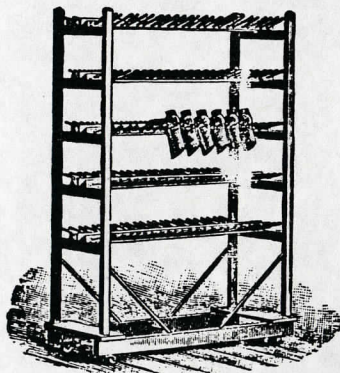
*Fig. 320.*  
Shelf Rack.



*Fig. 321.*  
Shelf Rack.



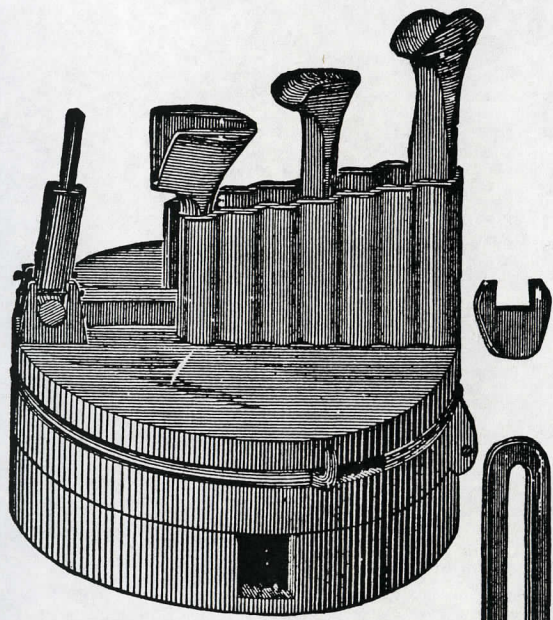
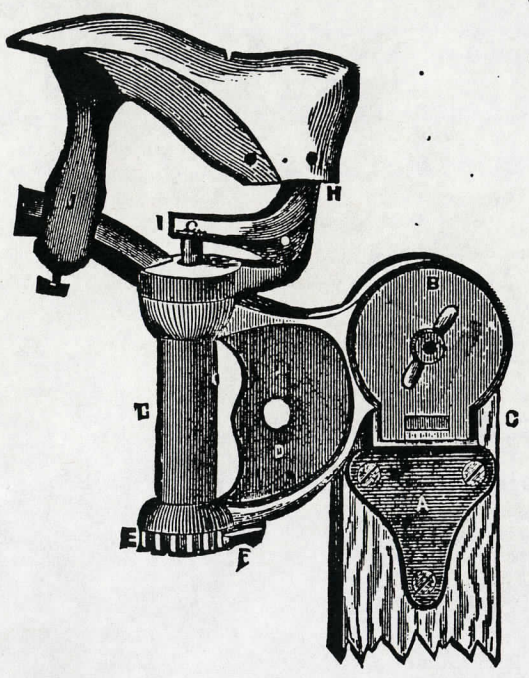
*Fig. 322.*  
Pin Rack.



*Fig. 323.*  
Pin Rack.

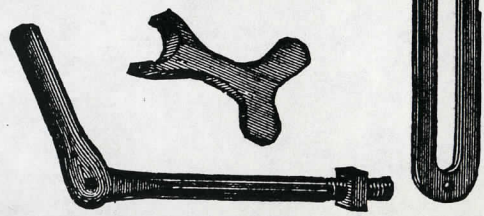
*Fig. 324.*  
Crispin Lasting Jacks.  
High Rest.

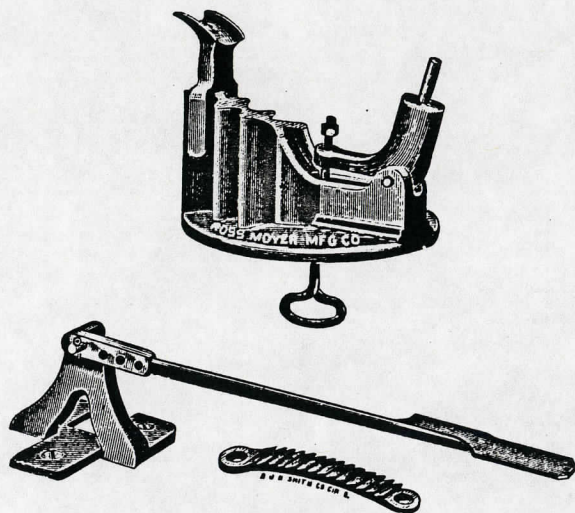
Crispin Lasting Jacks.  
Low Rest.



*Fig. 325.*  
Bailey Jack.  
High Rest.

Bailey Jack.  
Low Rest.

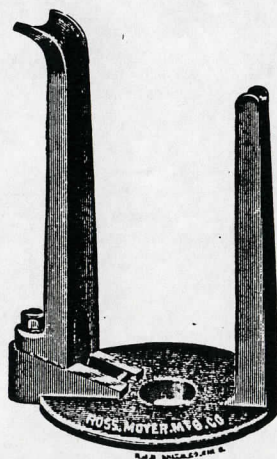




*Fig. 326.*

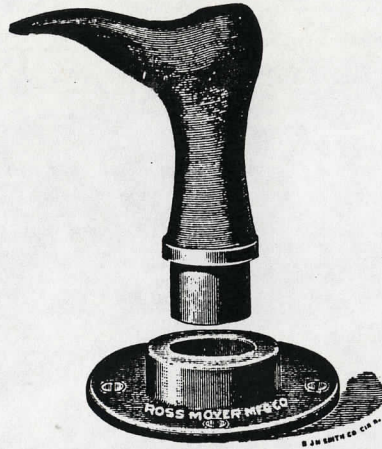
Shoe Jack.

Used for Nailing and Beating out.  
Hand Turns and Welt Work.



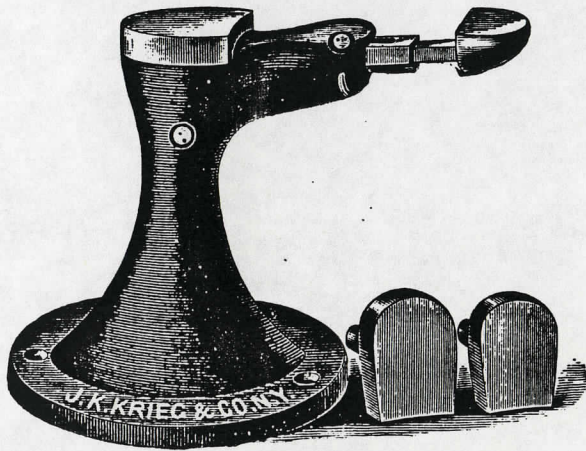
*Fig. 327.*

Boot Jack with Plain Rest.



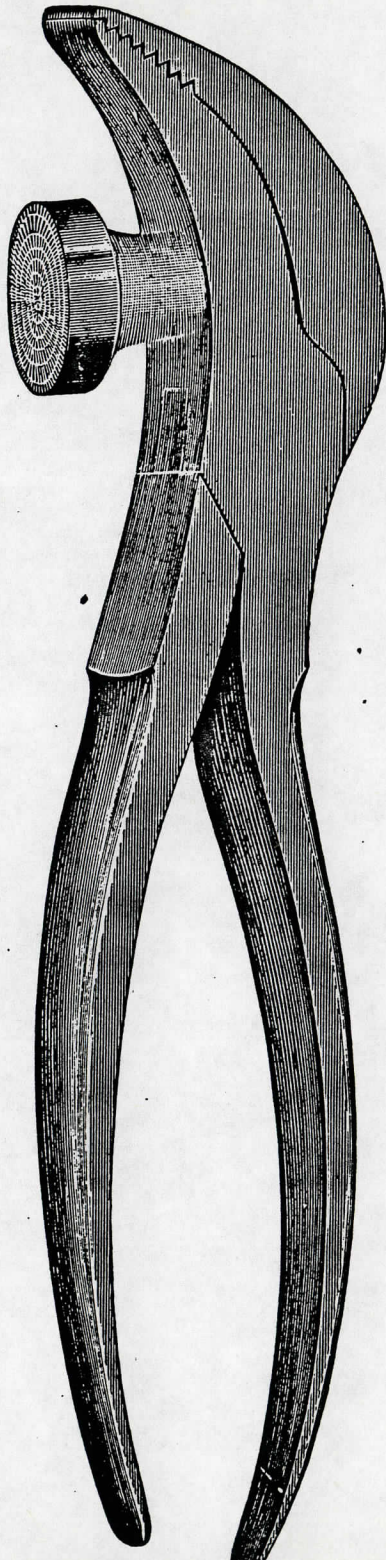
*Fig. 328.*

Iron Leveling and Heeling Last.



*Fig. 329.*

Nailing Jack.



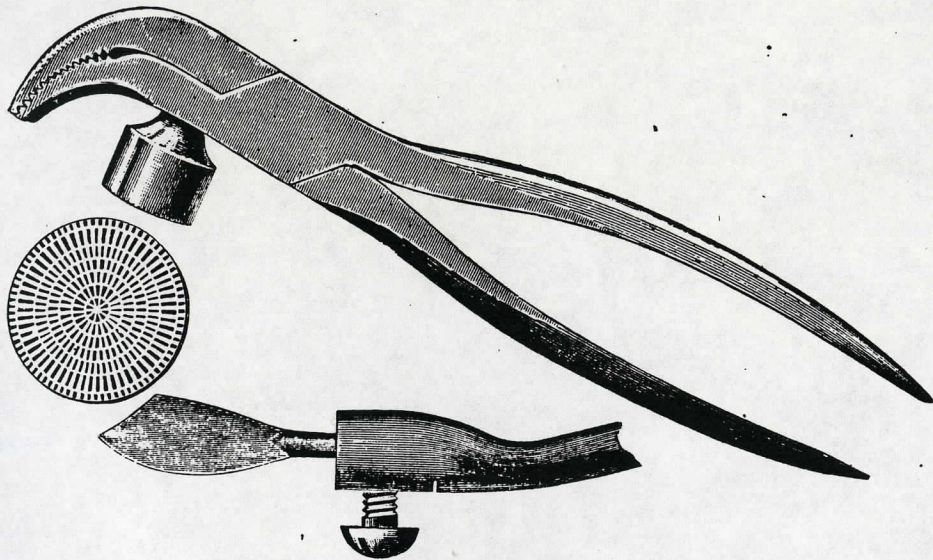
*Fig. 330.*

Knell's Pinchers.

Full Size.

Sizes,

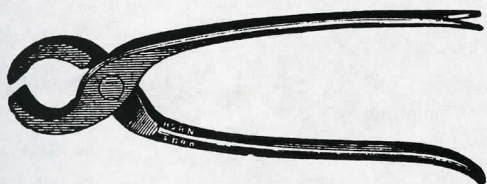
1, 2, 3, 4, 5, 7, 8, 9.



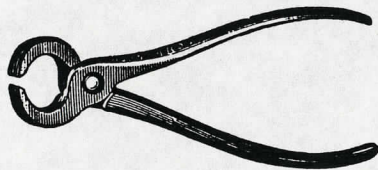
**Fig. 331.**

Union Pinchers.

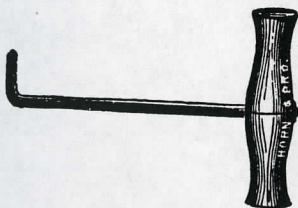
Sizes, 1, 2, 3, 4. With or without Knife Attachment.



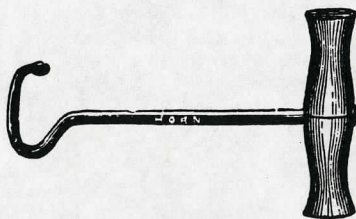
**Fig. 332.**  
Steel Nippers.



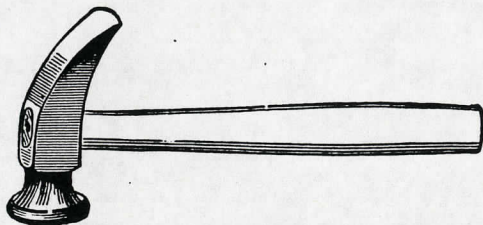
**Fig. 333.**  
Peg Nippers.



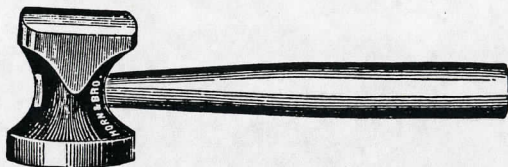
**Fig. 334.**  
Last Hooks.  
Iron and Wood Handles.



**Fig. 335.**  
Boot Hooks.  
Black Wood Handles, 6, 7 and 8 inch.



**Fig. 336.**  
Shoe Hammers.  
Nos. 1, 2 and 3.



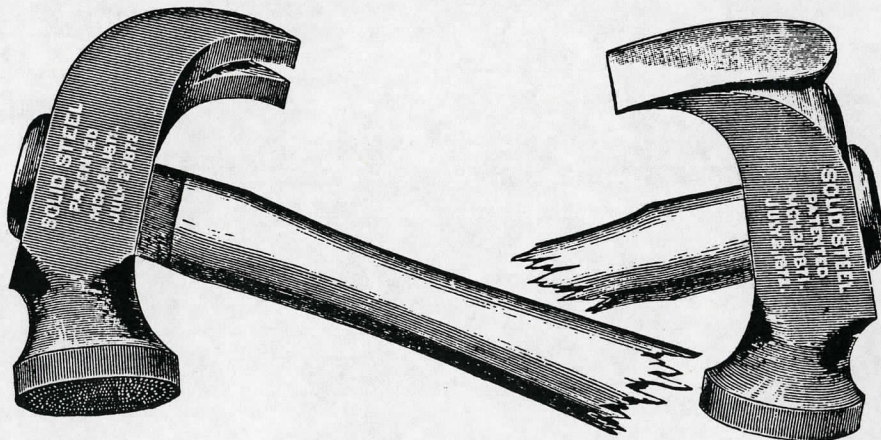
**Fig. 337.**  
Beating-out Hammers.  
20 and 28 ounce.



**Fig. 338.**  
Fitters' Hammers.



**Fig. 339.**  
Seam Rubbers, Coccoa.



**Fig. 340.**

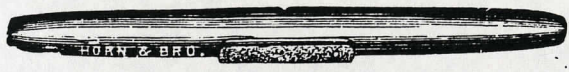
Crispin Hammer.

Knights of Labor Hammer.

Rough Face. Sizes, 1, 2, 3, 4.



**Fig. 341.**—Long Sticks.  
Cocoa and Ironwood.



**Fig. 342.**—Long Sticks.  
Colted—Cocoa and Ironwood.



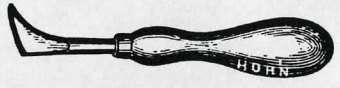
**Fig. 343.**—Shoulder Sticks.  
Cocoa and Ironwood.



**Fig. 344.**—Treering Sticks.  
Oval and Round. Cocoa or Boxwood Centers. Solid Ironwood or Cocowood.



**Fig. 345.**—Men's and Women's Stamps.



**Fig. 346.**—Stitch Dividers or Pricks.



**Fig. 347.**—Nail Punches, Cast Steel.



**Fig. 348.**—Buffers, Cast Steel, 5, 6, 7, 8 in.



**Fig. 349.**



**Fig. 350.**



**Fig. 351.**



**Fig. 352.**

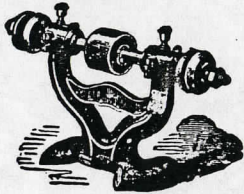


**Fig. 353.**



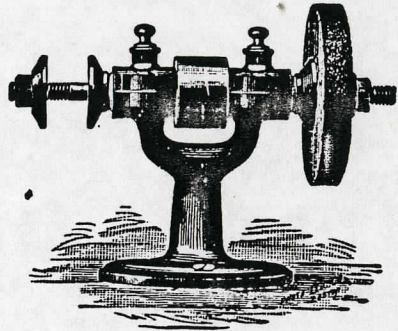
**Fig. 354.**

Handles.



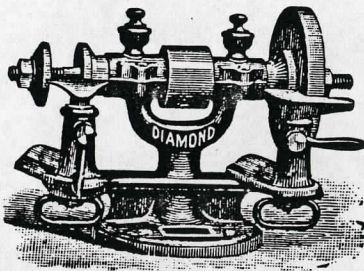
*Fig. 355.*

Emery Grinder, No. 0.



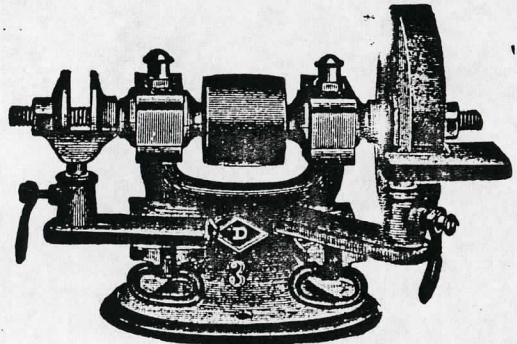
*Fig. 356.*

Emery Grinder, No. 1.



*Fig. 357.*

Emery Grinder, No. 2.



*Fig. 358.*

Emery Grinder, No. 3.



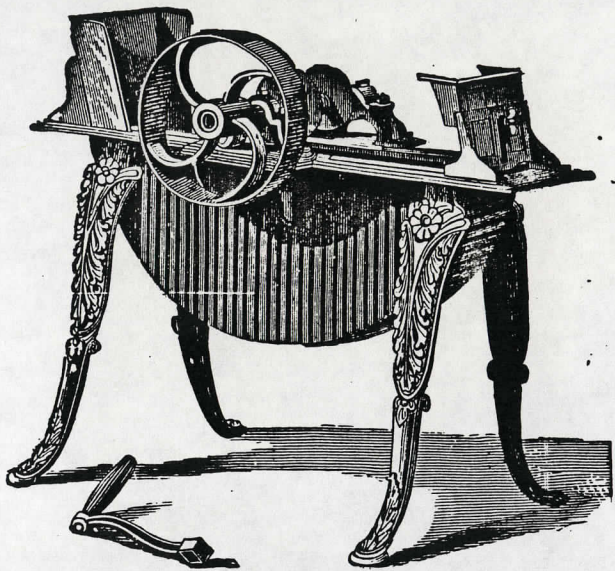
*Fig. 359.*

Lathe Diamond Turning Tool.

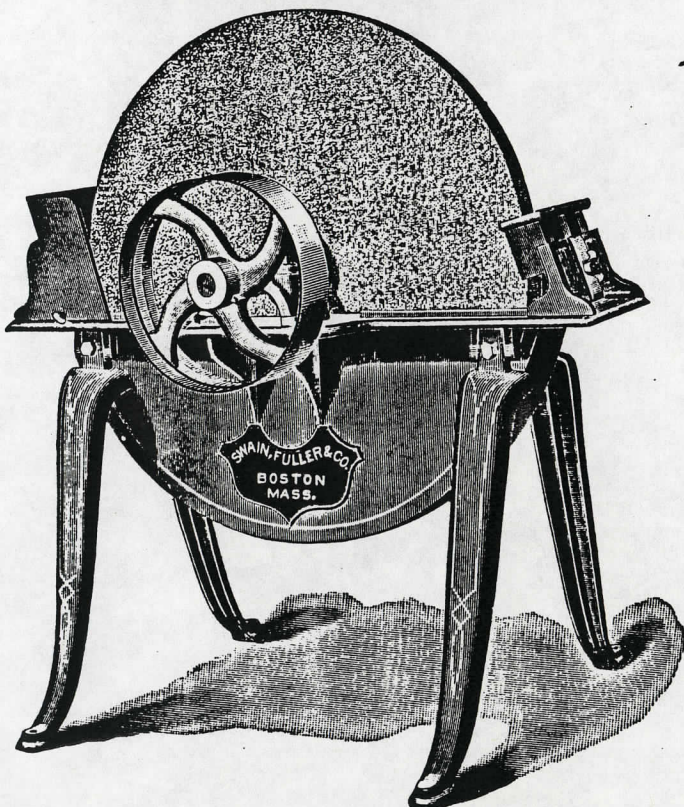


*Fig. 360.*

Hand Diamond Tool for Turning Emery Wheels.

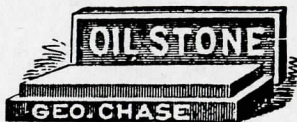


**Fig. 361.**  
Grindstone Frame, Hand or Power.

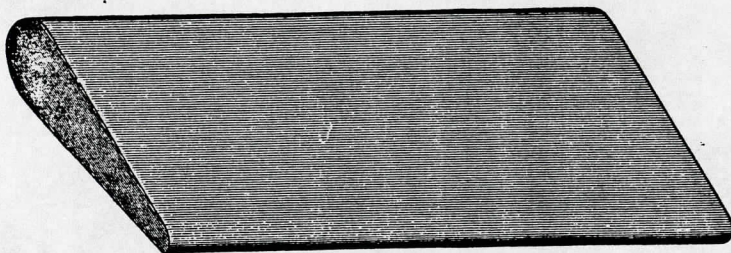


**Fig. 362.—Grindstone Frame, Power.**

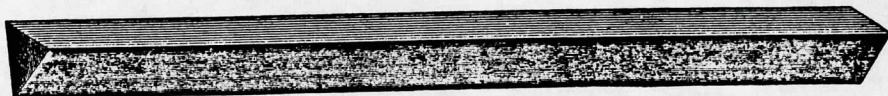
# OIL STONES.



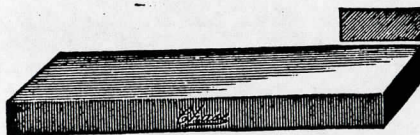
*Fig. 363.*  
Chase Oil Stone.



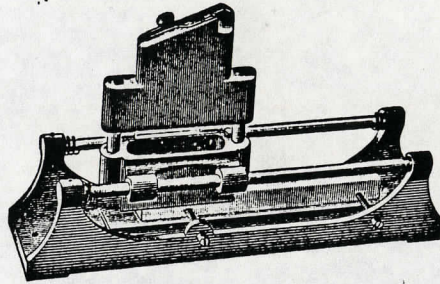
*Fig. 364.*  
Round Edge Slip, either in Washita or Arkansas.



*Fig. 365.*  
Three-Cornered.



*Fig. 366.*  
Chase Oil Stone.



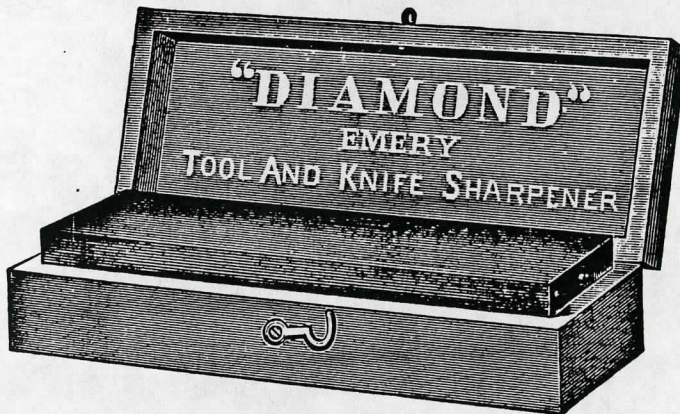
*Fig. 367.*

The "Model" Trimmer Knife Hone.

Something New for the Stitching Room.

BY its use money is saved, time is saved, and a better quality of work obtained. The value of this machine will never be questioned by those familiar with the operating of a stitching machine, where the seam trimmer is used. The difficulty experienced in getting a good cutting edge on the knife is well known to every operator. Much time has always been lost, and much of the knife worn away in this troublesome endeavor.

With the "Model" Trimmer Knife Hone, a perfect "razor" edge is always had, and the true and original bevel of the knife preserved.

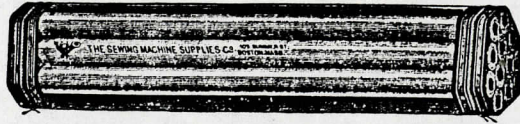


*Fig. 368.*

Diamond Knife Sharpener.

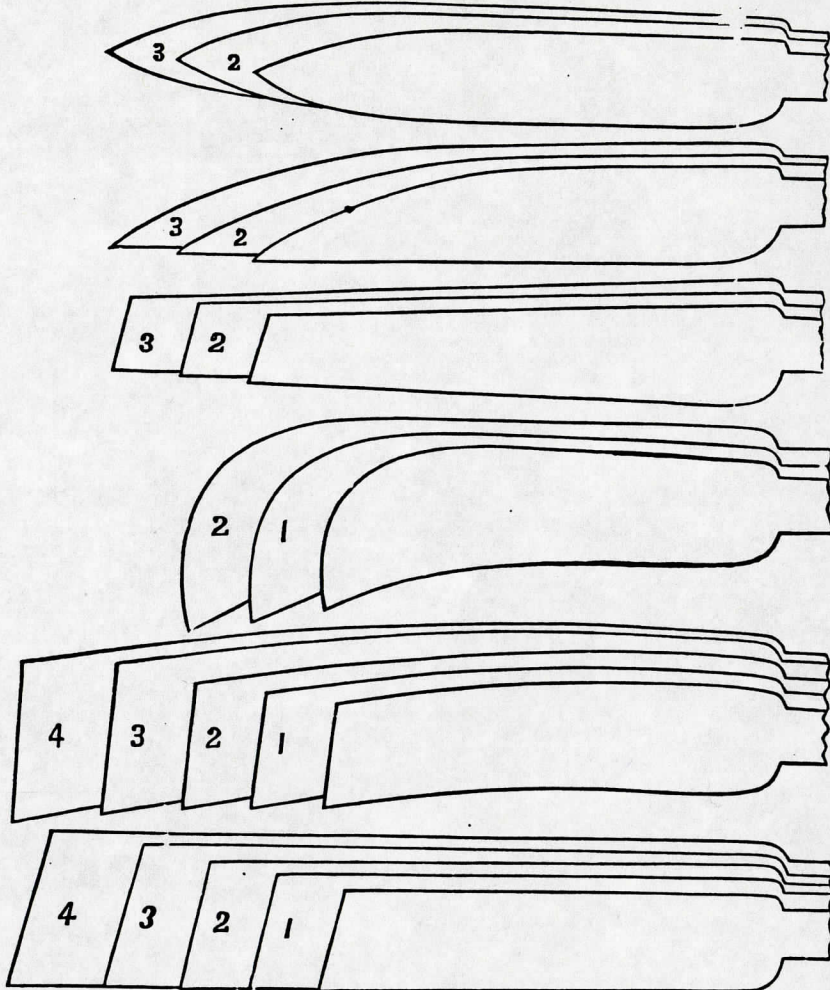
Emery Wheels for Sharpening

Cutters and Knives for Heel and Edge Trimmers, Amazeen Skivers, etc.



Colors: Blue, Red, Green and Black.

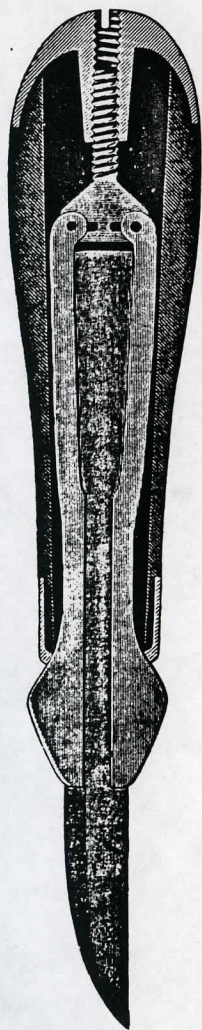
*Fig. 369.*—Cutter's Pencils.



*Fig. 370.*

**LIST OF KNIVES.**

Nos. 0, 1, 2, 3, 4, 5, 6, Square Point. Nos. 1, 2, 3, 4, 5, 6, Curve Point. Nos. 0, 1, 2, 3, Narrow Square Point. Nos. 1, 2, 3, Narrow Curve Point. Nos. 1, 2, 3, 4, Sharp Point. Nos. 1, 2, 3, 4, Curve Sharp. Nos. 0, 1, 2, 3, 4, Hawk Bills. Nos. 2, 3, Round Edge Heel. Nos. 1, 2, 3, Heel. Nos. 5, 6, 7, Skivers. Nos. 1, 2, Buffers. Nos. 0, 1, 2, 3, Lip Knives. Taper Point. Spear Point. Gothic Point. Guard. Blocking. Sole Leather. Upper Leather Skivers. Rough Knife Blades, 0 to 6. Rough Heel Blades. Extension Blades. Double Cut Welt Knives.



**Fig. 371.**

White's Patent Adjustable  
Knife Blade Handle.

Cherry, Apple, Ebony and Rosewood Handles.



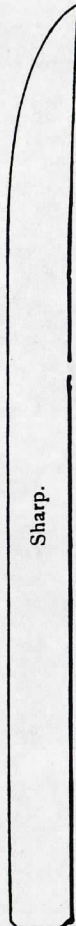
Lance.

**Fig. 372.**



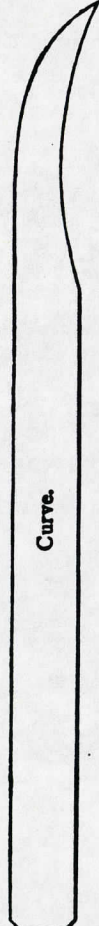
Level.

**Fig. 373.**



Sharp.

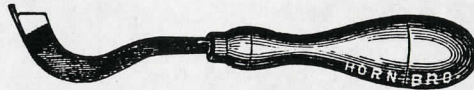
**Fig. 374.**



Curve.

**Fig. 375.**

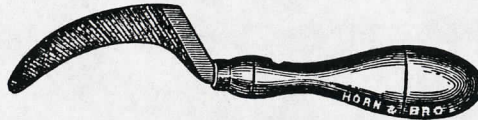
Extension Blades and Handles.



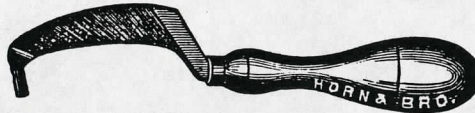
*Fig. 376.*  
Welt Knives, Cast Steel.



*Fig. 377.*  
Strip Awls, Cast Steel.



*Fig. 378.*  
Rhan Files, Cast Steel.



*Fig. 379.*  
Rhan Files, with Hooks, Cast Steel.



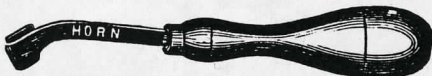
*Fig. 380.*  
Shoe Knives, French or German Style, Cast Steel.



*Fig. 381.*  
Lining Knives, Cast Steel. With Iron and Wood Handles.



*Fig. 382.*  
Heel Pryers, Steel. For taking off old Soles or Heels.



*Fig. 383.*  
Channel Gouges, Cast Steel.



*Fig. 384.*  
Knife Guards.

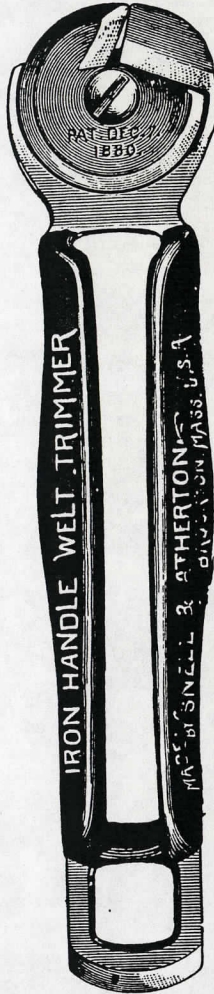


Fig. 385.

With Welt Set on the opposite end of Trimmer.



FOR HAND SEWED OR FAIR STITCH ONLY.

Fig. 386.

HAZARD'S PATENT EDGE PLANE.



*Fig. 387.*

Hazard's Patent Edge Plane.

ANY SIZE FROM NO. 0. TO 36.  
AND ANY STYLE YOU WISH



*Fig. 388.*

Edge Planes, Adjustable.



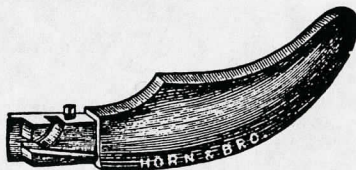
*Fig. 389.*

Edge Planes, Improved.



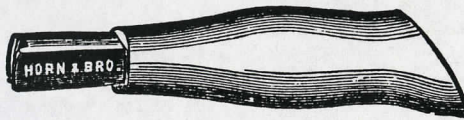
*Fig. 390.*

Edge Planes, Plain.



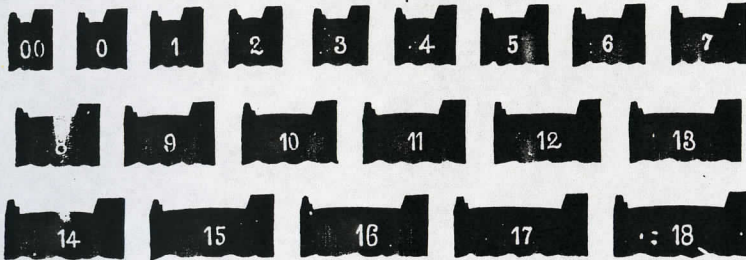
*Fig. 391.*

Edge Buffers.



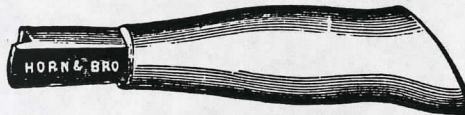
**Fig. 392.**

Men's Collics, Sewed, (Boot Iron.) Nos. 00 to 20.



**Fig. 393.**

Showing sizes and widths of Edges and Faces on Fig. 392, Sewed Collics.



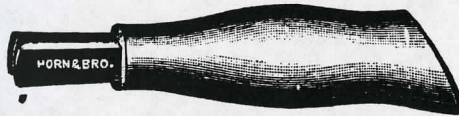
**Fig. 394.**

Men's Kip Collics, Nos. 1 to 20.



**Fig. 395.**

Men's Peg Collics, Nos. 00 to 20.



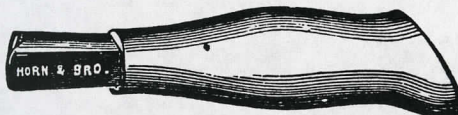
**Fig. 396.**

Men's Bevel Edge Collics, made to order.



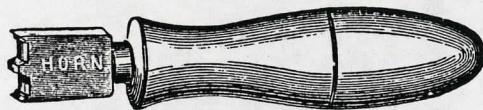
**Fig. 397.**

Women's Channel Collics, Nos. 00 to 12.



**Fig. 398.**

Shank Irons, Nos. 00 to 4. Also with Round Bottom, to order.



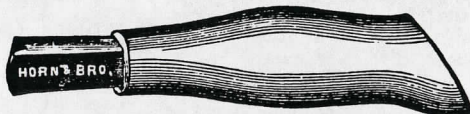
**Fig. 399.**  
Men's Sewed, Kip and Peg Collices.  
Double Nos. 00 to 20.



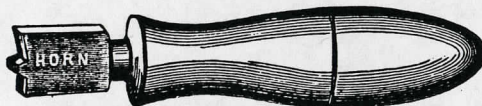
**Fig. 400.**  
Shank Irons.  
Double Nos. 00 to 4.



**Fig. 401.**  
Shank Irons.  
Curved, Nos. 00 to 4.



**Fig. 402.**  
Shoulder Irons.  
Single, Assorted Sizes.



**Fig. 403.**  
Shoulder Irons.  
Double, Assorted Sizes. Sizes run 1-2, 3-4, 5-6, etc., no irregular sizes.



**Fig. 404.**  
Jiggers.  
Long Handles, Assorted Sizes.



**Fig. 405.**  
Jiggers.  
Short Handles, Assorted Sizes.



*Fig. 406.*

Top Channel Sets.



*Fig. 407.*

Shoe and Welt Keys.

Medium, Heavy and Light.



*Fig. 408.*

Spring Keys.



*Fig. 409.*

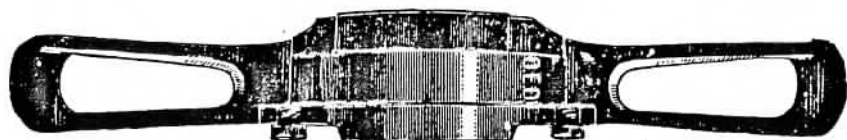
Corner Sets.



*Fig. 410.*

Seam Sets.

Nos. 0 to 3.

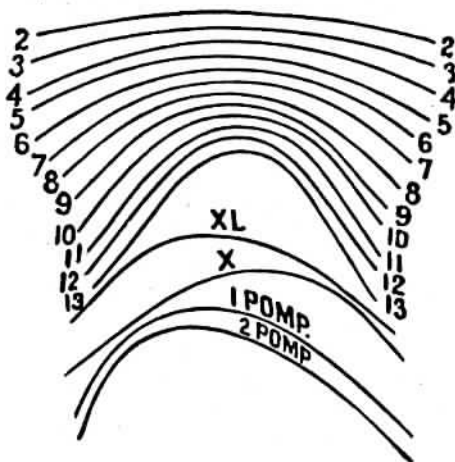


*Fig. 411.*

O. E. D. Heel Shaves.

Made in 16 Sizes.

Diagram showing shape and length of Cutting Edge of the "O.E.D." and "Snell & Atherton" Heel Shaves.

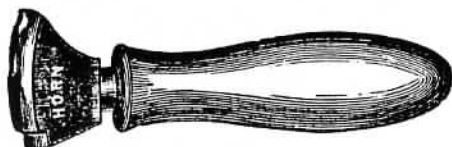


*Fig. 412.*

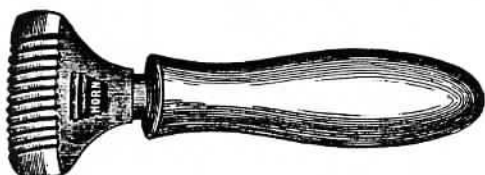
Blades for O. E. D. Heel Shaves.

*Fig. 413.*

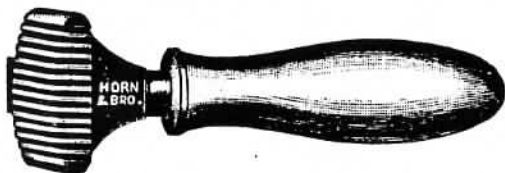
Heel Slickers, Plain, No. 2.

*Fig. 414.*

Heel Slickers, Steel, Nos. 1, 2 and 3.

*Fig. 415.*

Corrugated Heel Slickers, Straight and Diag.

*Fig. 416.*

Corrugated Heel Slickers, Combination Style. Will suit any Shave.

*Fig. 417.*

Heel Slickers, Corrugated, L. Pattern.



*Fig. 418.*  
Bottom or Shank Slickers.  
 $\frac{1}{2}$  Round, 2 Handles.



*Fig. 419.*  
Bottom or Shank Slickers.  
 $\frac{1}{2}$  Round, 1 Handle.



*Fig. 420.*  
Bottom or Shank Slickers.  
Tooth Pattern.



*Fig. 421.*  
Bottom or Shank Slickers.  $\frac{1}{4}$  Round Improved.

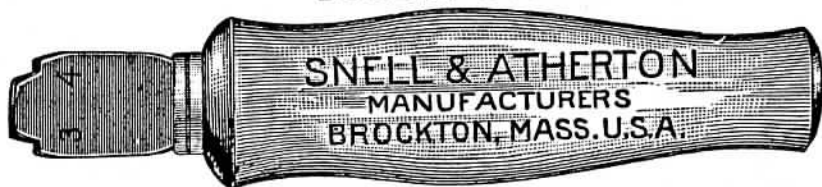


*Fig. 422.*  
Bottom or Shank Slickers. Oval.



*Fig. 423.*  
Improved Bottom or Shank Slickers. Oval.

## DOUBLE STRIPER



*Fig. 424.*  
For Finishing the Stripe on the bottom of Boots and Shoes.  
Made in 5 Sizes. Nos. 1 to 5.



*Fig. 425.*  
Box Wheels, Plain, Nos. 1 to 5.



*Fig. 426.*  
Box Wheels, with Slide, (Pin, Wheel and  
Box, all Steel). Nos. 0 to 5.



*Fig. 427.*—French Key Wheels.



*Fig. 428.*

Fudge Wheels, Nos. 10 to 24.



*Fig. 429.*

Forepart (*Bottom*) Wheels, 8 Patterns.



*Fig. 430.*

Shank Wheels, 15 Patterns.



*Fig. 431.*

Pattern Wheels or Tracers, Steel Wheels.



*Fig. 432.*

Clamp (*Stitch*) Wheels, Nos. 8 to 16.  
Steel.



*Fig. 433.*

Cord Wheels, Nos. 1 to 4.



*Fig. 434.*

Peg Wheels, With Slide, Single and Double, Nos. 3 to 7.



*Fig. 435.*

Extra Wheels and Bolts, Single and Double, Nos. 3 to 7.



*Fig. 436.*

Peg Wheels, Plain, Single and Double, Nos. 3 to 7.



*Fig. 437.*  
Heel Knives, Cast Steel.  
Riveted in Handles.



*Fig. 438.*  
Yankee Cutters.  
Cast Steel, Long and Short.



*Fig. 439.*  
Double Cutters, Cast Steel.



*Fig. 440.*  
Peg Floats, Cast Steel.  
20 inch, and Extra Heavy 23 inch.



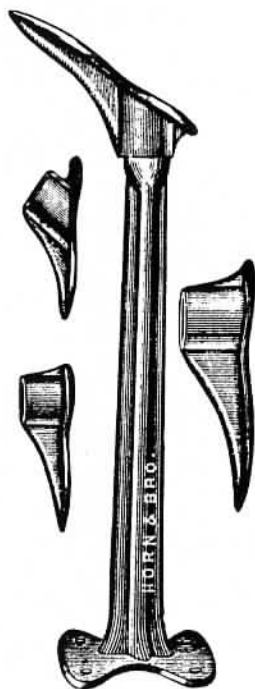
*Fig. 441.*  
Peg Floats, Cast Steel.  
Chisel.



*Fig. 442.*  
Peg Floats, Cast Steel.  
Pivot.

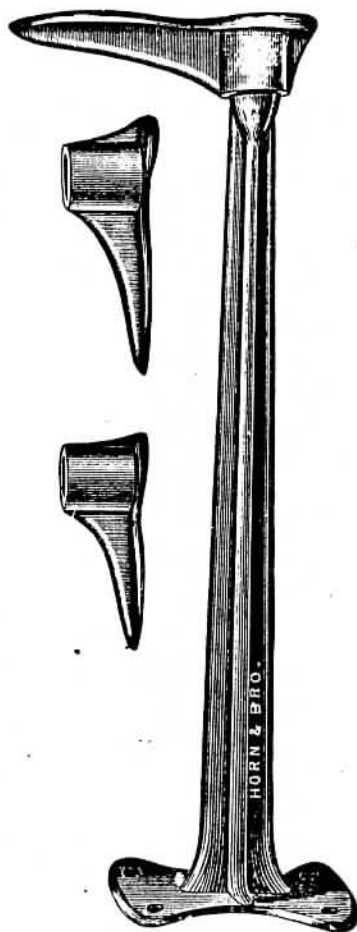


*Fig. 443.*  
Heel Breaks.

*Fig. 444.*

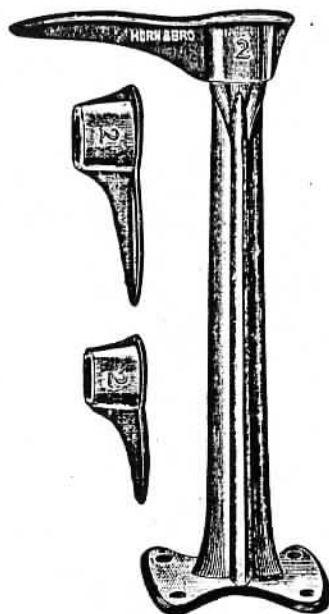
Iron Stands.

14½ inches. With 4 Lasts.

*Fig. 445.*

Iron Stands.

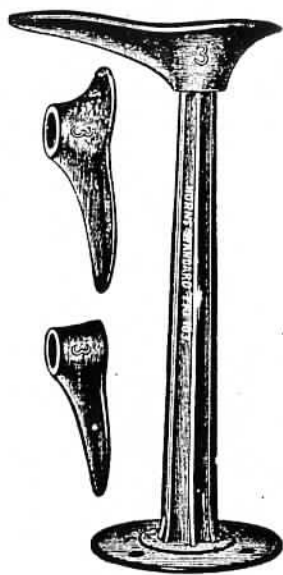
23¼ inches. With 3 Lasts.  
Extra Heavy.



*Fig. 446.*

Iron Stands.

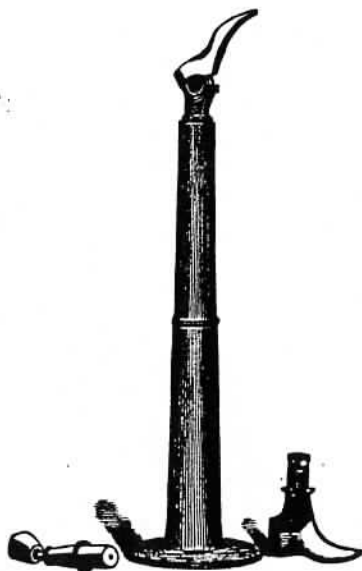
14½ inch, Extra Heavy, 3 Lasts.



*Fig. 447.*

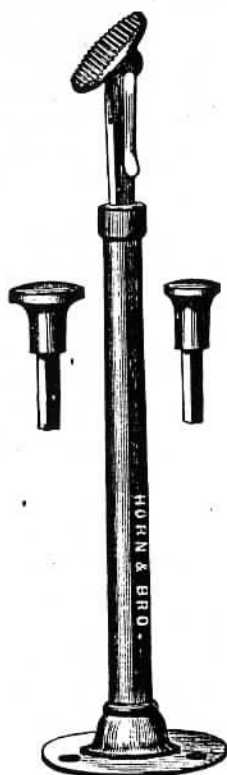
Revolving Iron Stands.

14 inch, 3 Lasts.



*Fig. 448.*

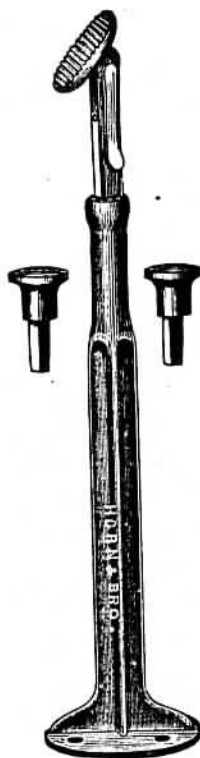
Iron Standard.



**Fig. 449.**

Standard Floats.

For Counter, Cast Steel Cutters,  
(Wrought Tangs in Clinchers.)



**Fig. 450.**

Standard Floats.

For Counter, (Small Size.)



**Fig. 451.**

Extra Tops.

For Fig. 449.



**Fig. 452.**

Extra Cutters.

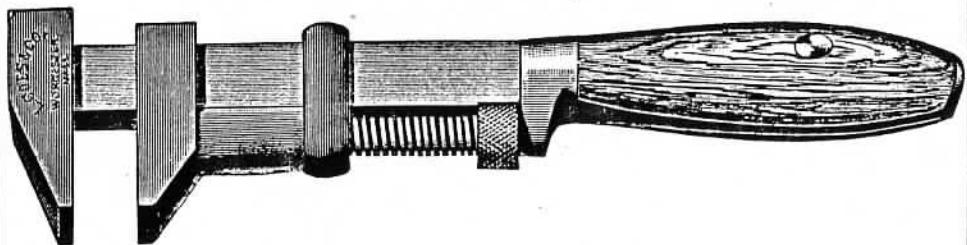
For Fig. 449, Cast Steel.



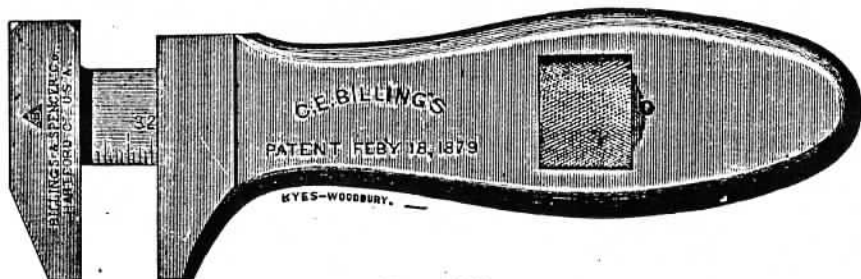
**Fig. 453.**

Iron Feet.

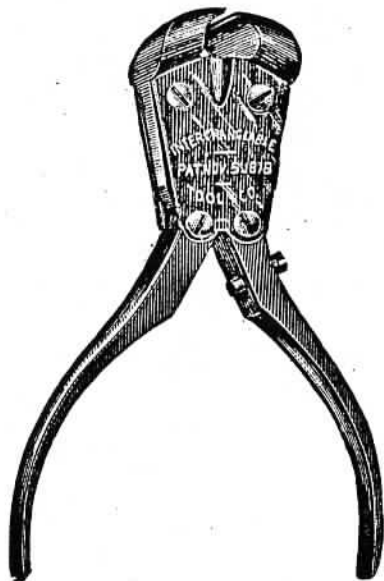
For Shank, to fit Figs. 449 or 450, (Wrought Tangs.)



*Fig. 454.*  
 Coes' Genuine Wrenches.  
 6, 8, 10, 12, 15, 18 and 21 inch.



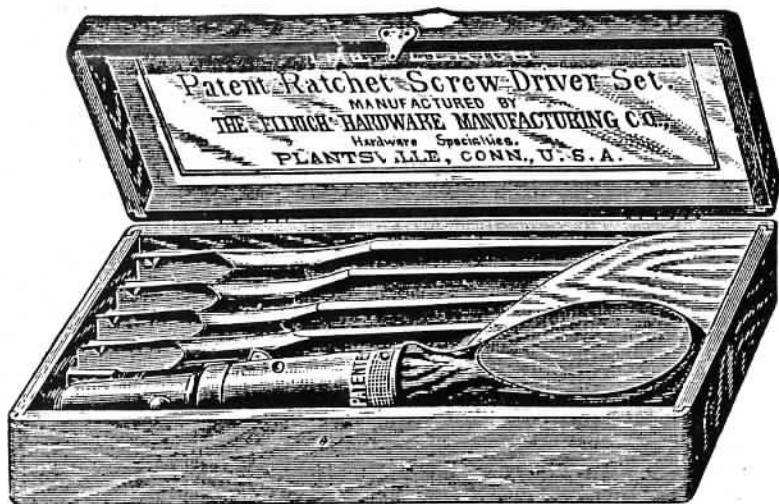
*Fig. 455.*  
 Five Inch Pocket Wrench.



*Fig. 457.*  
 Cutting Nippers.  
 Sizes, 1, 2, 4 and 6.



*Fig. 456.*  
 Baxter Wrenches.  
 4, 6, 8, 10 and 12 inch.

*Fig. 458.*

## Ratchet Screw Driver Set.

Rosewood Handle. 4 Blades.

*Fig. 459.*

## Screw Driver Set.

Without Ratchet Handle. 4 Blades.

*Fig. 460.*

## Double Ratchet Screw Driver.

Sizes, 4, 5, 6 and 8.

*Fig. 461.*

Screw Driver.

Length,  $4\frac{1}{4}$  inch. Blade,  $1\frac{1}{2}$  inch.*Fig. 462.*

Screw Driver.

Length,  $5\frac{1}{4}$  inch. Blade,  $2\frac{1}{4}$  inch.*Fig. 463.*

Screw Driver.

*Fig. 464.*

Screw Driver.

Apple Tree Handle. Round Blades Forged from Cast Steel. Length of Blade from  $1\frac{1}{2}$  to 18 inches. Diam. Large, 5-16. Small, 5-32.

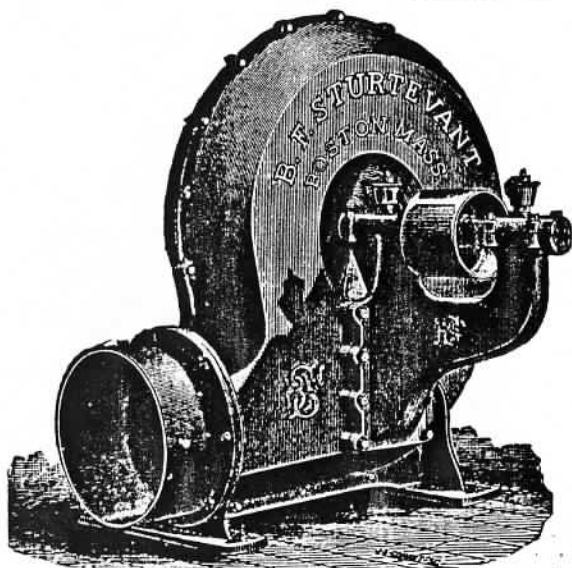
*Fig. 465.*

Favorite Screw Driver.

Length, 1½, 2, 3, 4, 5, 6, 7, 8, 10 and 12 inch.

# EXHAUSTERS.

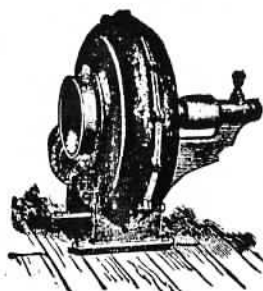
For Removing Cuttings, Dirt and Dust from Trimmers, Heel Scourers,  
Buffers, Etc.



*Fig. 466.*

Monogram Exhauster.

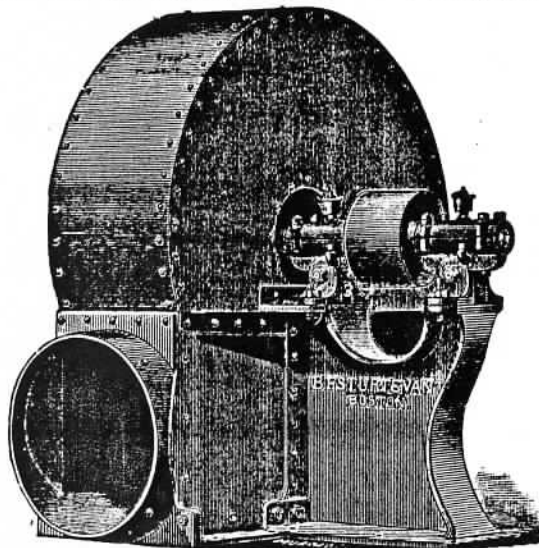
8 Sizes, 00 to 6. Height, 15 to 45 inches.



*Fig. 467.*

Small Exhauster.

Pulley,  $2\frac{1}{2} \times 2\frac{1}{4}$ . Speed, 1800.



*Fig. 468.*

Steel Plate Exhauster.

7 Sizes, 30 to 80 inches.

SHAFTING, HANGERS,  
Couplings and Collars.

---

÷ PULLEYS ÷

WOOD, IRON OR STEEL RIM.

---

÷ BELTING. ÷

*SPECIAL BELTING for HIGH SPEED MACHINES.*

---

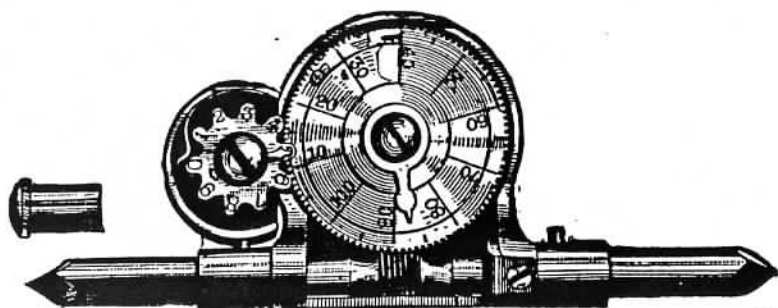
LACE LEATHER, HOOKS, ETC.

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Solid or Twisted Round Belts.

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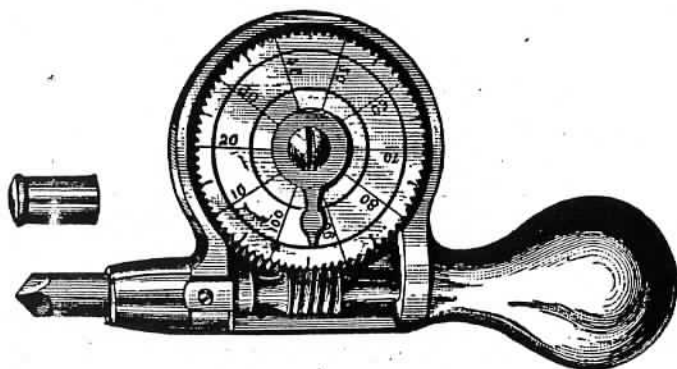
*Send for Prices and Discounts.*



*Fig. 469.*

Double Speed Indicator.

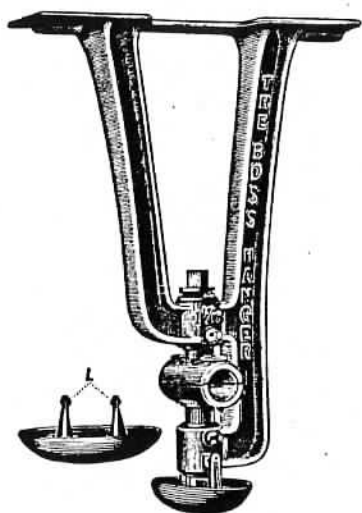
Full Size.



*Fig. 470.*

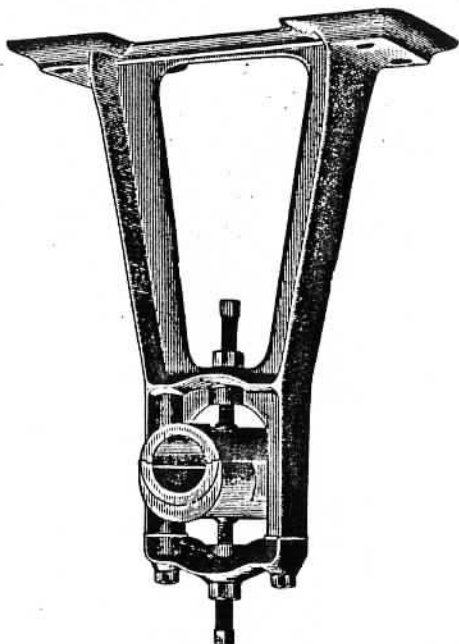
Single Speed Indicator.

Full Size.

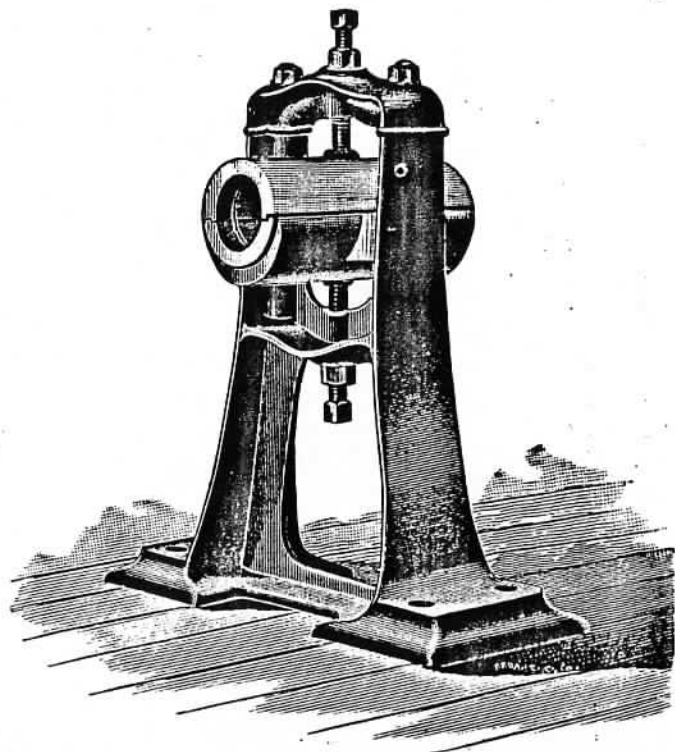


*Fig. 471.*

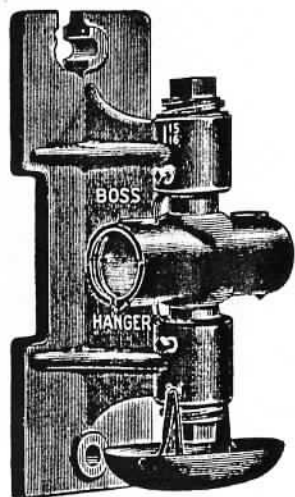
Adjustable Ball and Socket  
Drop Hanger.



*Fig. 472.*—Adjustable Double Braced  
Self-Oiling Drop Hangers.

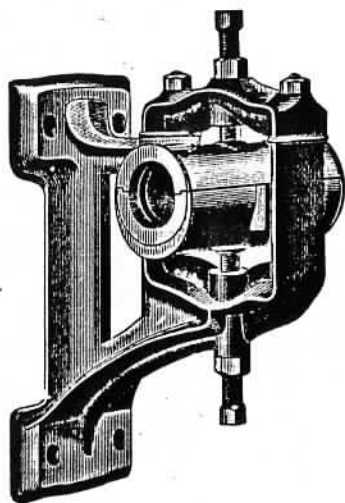


*Fig. 473.*  
Double Brace  
Self-Oiling  
Floor Stand.



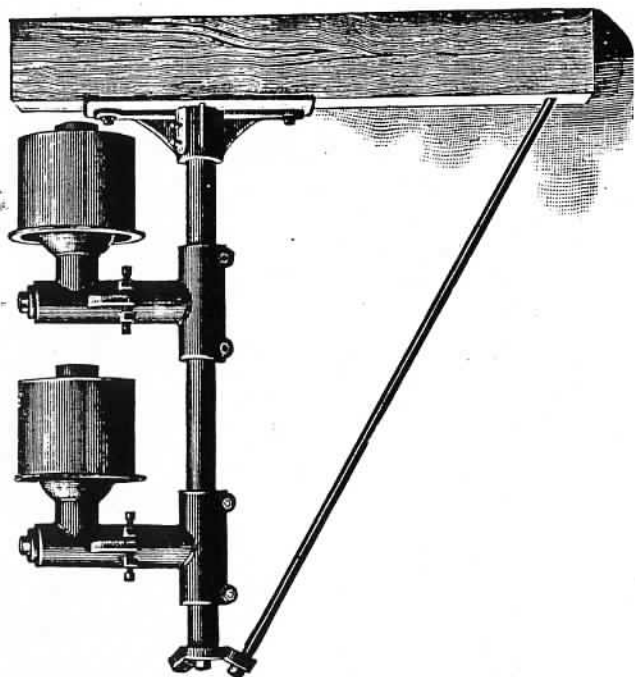
*Fig. 474.*

Adjustable Ball and Socket Post Hangers.



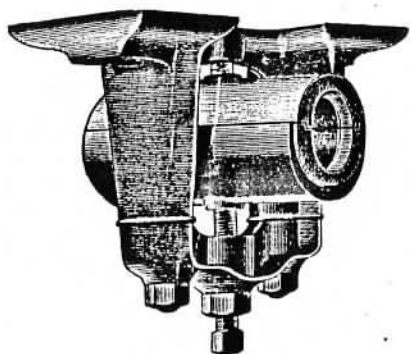
*Fig. 475.*

Adjustable Self-Oiling Post Hangers.



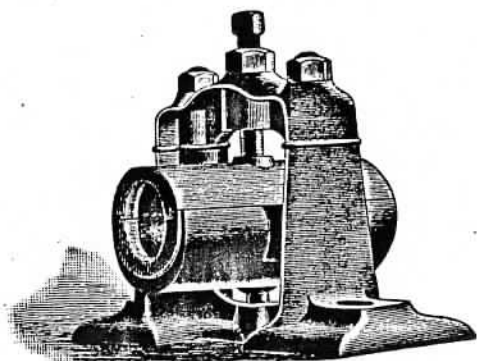
*Fig. 476.*

Adjustable Mule Pulley Stand.



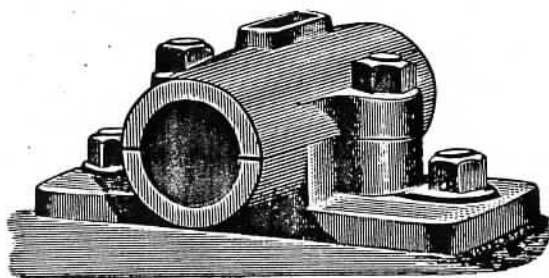
*Fig. 477.*

Adjustable Self-Oiling  
Drop Hanger.



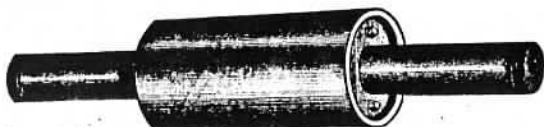
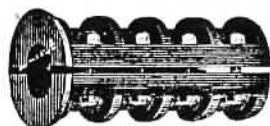
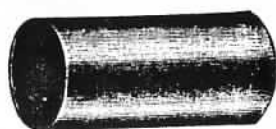
*Fig. 478.*

Pillow Block.

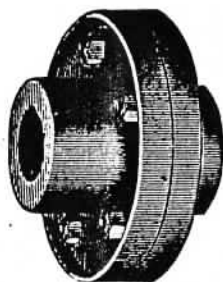


*Fig. 479.*

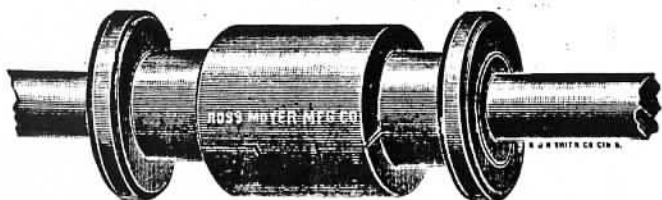
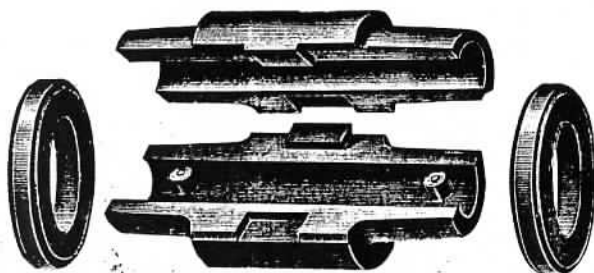
Rigid Journal Boxes.



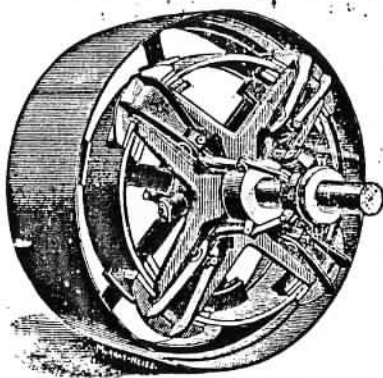
*Fig. 480.*  
Compression Couplings.



*Fig. 481.*  
Plate or Flange Coupling.

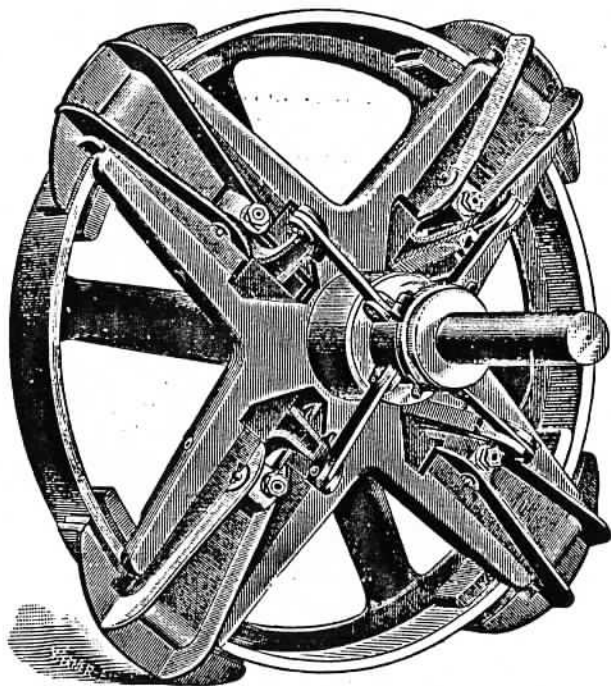


*Fig. 482.*  
COMPRESSION RING COUPLING.



*Fig. 483.*

Friction Clutch Pulley



*Fig. 484.*

Friction Clutch Cut-Off Coupling.

Our Clutch Couplings and Clutch Pulleys are made with two, four or six arms, according to amount of power desired to be transmitted, and will transmit from ten to twenty per cent. more power than any other friction clutch in the market.

Every Clutch and Pulley are perfectly balanced.

# PATENT WOOD SPLIT PULLEYS.

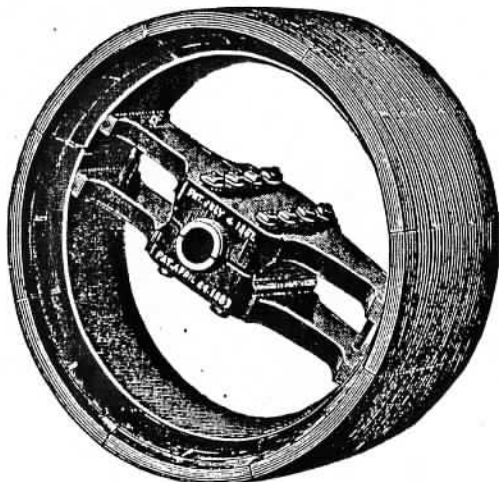


Fig. 485.

## HOW TO ORDER PULLEYS.

STATE WHETHER WOOD OR IRON; IF IRON WHETHER SOLID OR SPLIT.

Give diameter of Pulley.

Do not order a certain face, but give width of belt to be used, and state whether it is to be a shifting or a non-shifting belt.

Give exact bore, and if it is not in odd sixteenths of an inch, state it to be net.

Do not write 2 inches if 1 15-16 is meant, and do not order it "full" or "scant." If it is to be over or under standard send a piece of wire filed to the exact size.

### EXAMPLE OF ORDER.

One 36 in. pulley for 6 in. shifting belt, 2 7-16 bore.

One 36 inch pulley for 6 in. non-shifting belt, 2 1/2 in. bore, net, or say crown or straight.

When ordered as above we will furnish for a non-shifting belt a round faced pulley from 1/4 to 3/8 of an inch wider than the belt, or for a shifting belt a flat faced pulley from 1/4 to 3/8 of an inch wider than double the width of the belt.

If instead of ordering by the belt a certain face is called for, it will probably necessitate cutting a wider face down to the size ordered in which case the wider face will be charged for.

If any bore not in odd sixteenths of an inch is ordered, and it is not stated to be net or for cold rolled shafting, we shall have to write for further particulars before finishing the work.

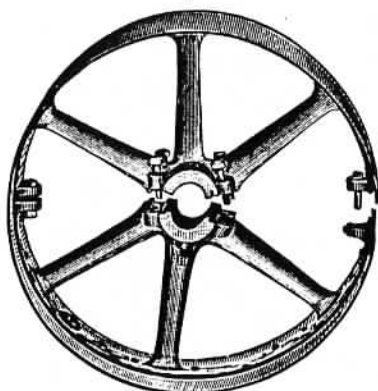
Pulleys ordered with fractions of an inch in either face or diameter, will be charged for at next largest size.

We can furnish any diameter from 9 inches to 10 feet, any size bore or width of face.

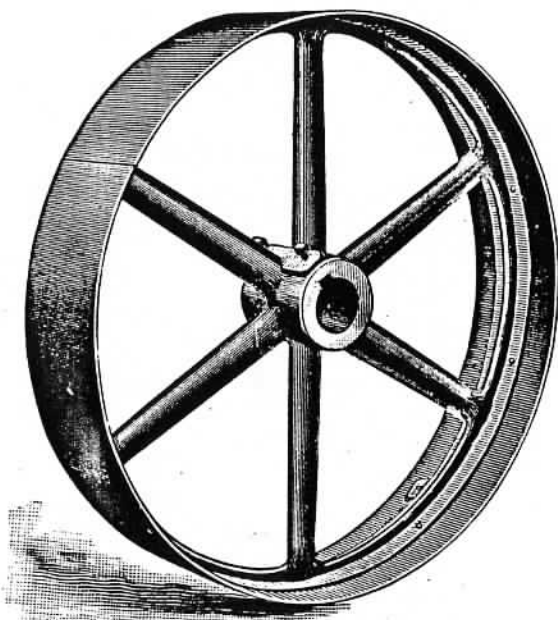


Fig. 486.

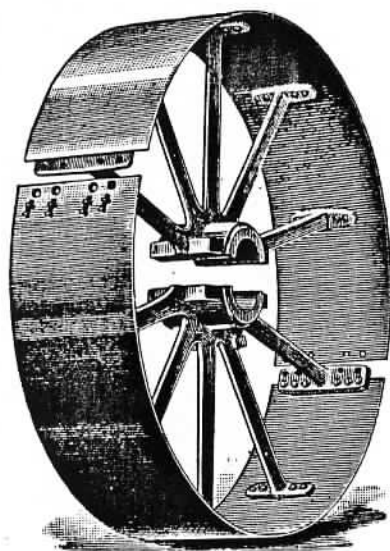
Wood Bushings.



*Fig. 487.*  
Steel Rim Split Pulley.

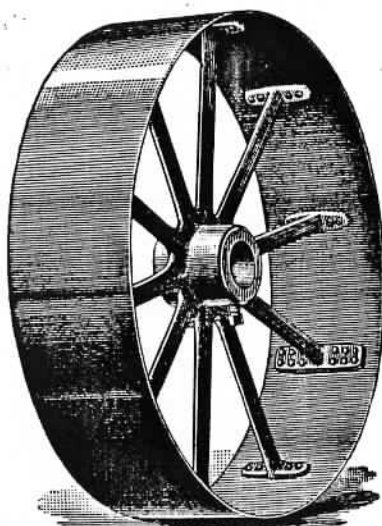


*Fig. 488.*  
Steel Rim Solid Pulley.



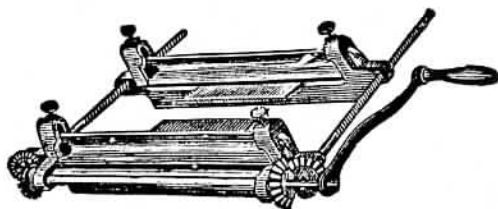
*Fig. 489.*

Medart Split Wrought Iron Rim Pulley.

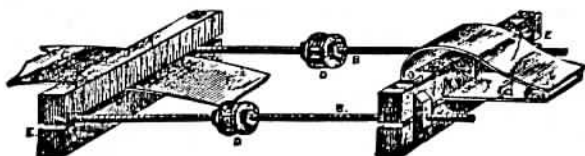


*Fig. 490.*

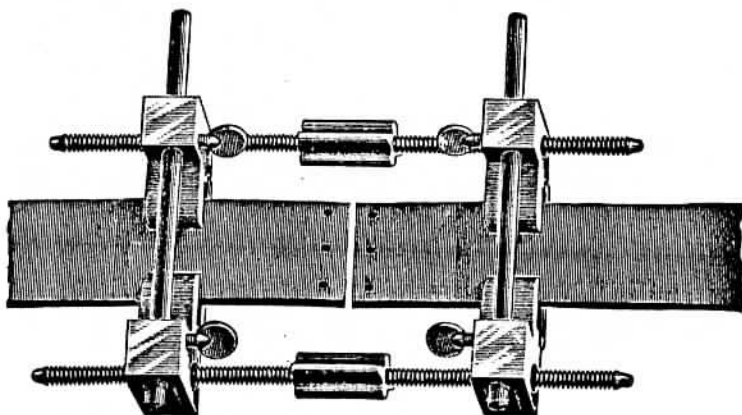
Medart Solid Wrought Iron Rim Pulley.



*Fig. 491.*  
Belt Clamp and Stretcher.



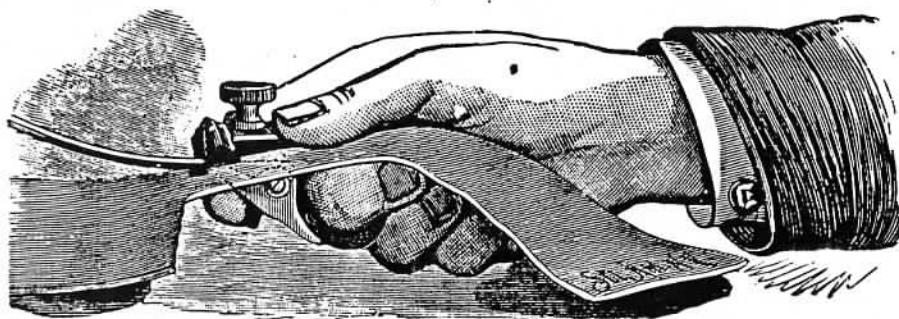
*Fig. 492.*  
Belt Clamps.



*Fig. 493.*  
Porter Belt Tightener.



*Fig. 494.*  
Lace and Welt Cutter.



*Fig. 495.*  
Lace Cutter.

# BELT PUNCHES.



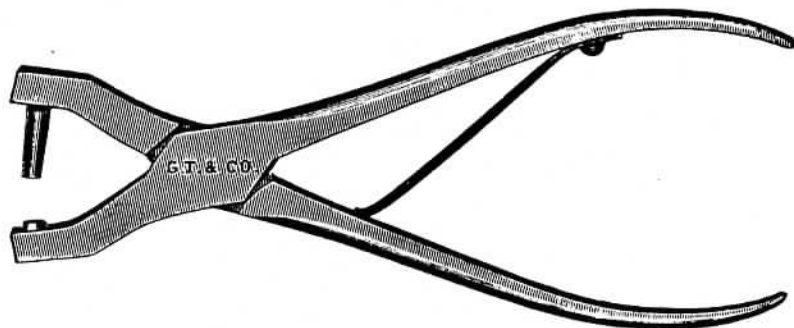
*Fig. 496.*  
Round Punches.



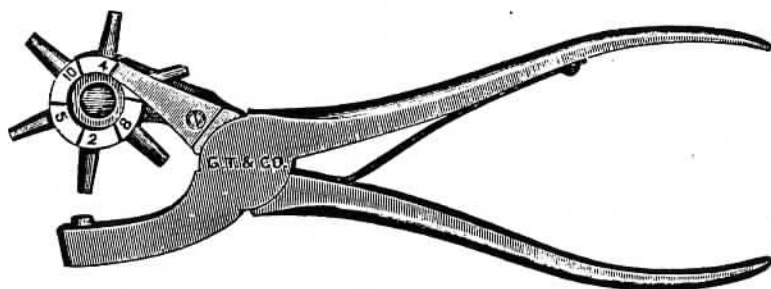
*Fig. 497.*  
Oval Punches.

Sizes, No. 9, 10, 11, 12, 13, 14, 15, 16.

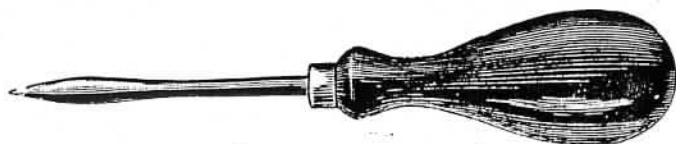
|    |   |    |    |    |    |    |   |
|----|---|----|----|----|----|----|---|
| 5  | 1 | 9  | 19 | 5  | 11 | 23 | 3 |
| 64 | 4 | 32 | 64 | 16 | 32 | 64 | 8 |



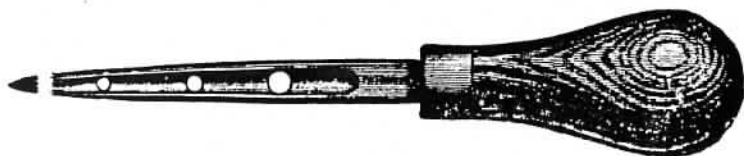
*Fig. 498.*  
Spring Punch.



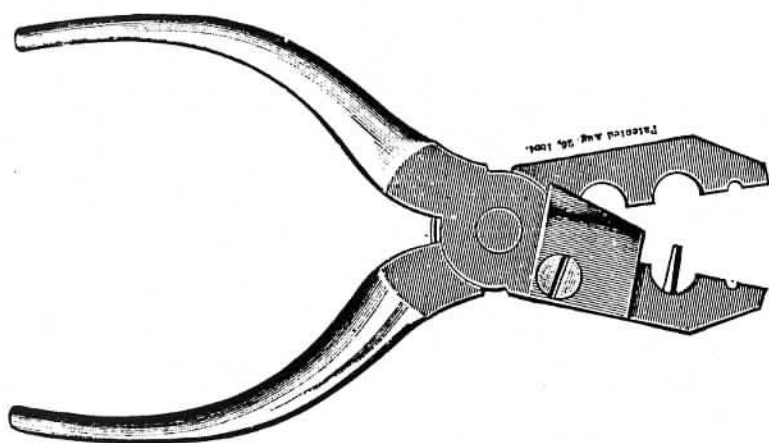
*Fig. 499.*  
Revolving Spring Punch.  
4 and 6 Tubes.



*Fig. 500.*  
Belt Awls.



*Fig. 501.*  
Belt Awls.

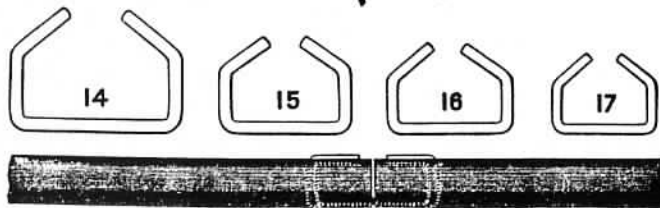


*Fig. 502.*

Entrekin's Combined Cutter, Punch and Pliers.

Made of the best Steel, and weighs but 3 ounces.

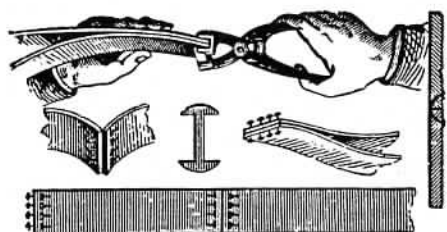
By its use the belts will be kept properly adjusted (for the simple reason that it is a pleasure to adjust them), thereby insuring a more even motion and lighter running machine. It is a handy and useful tool in every factory.



*Fig. 503.*

Improved Belt Hooks.

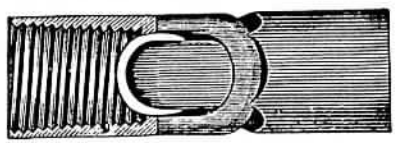
Made of the best steel wire and are very strong and durable. This hook does not mutilate the belt as the old style hook, and for that reason will not tear out as quickly.



**Fig. 504.**

Blake's Belt Studs.

Sizes, 00 to 6.



**Fig. 505.**

Patent Coupling.

For Solid Round, Braided or Twisted Belts.

Sizes,  $\frac{1}{8}$   $\frac{3}{16}$   $\frac{1}{4}$   $\frac{5}{16}$   $\frac{3}{8}$  inches.

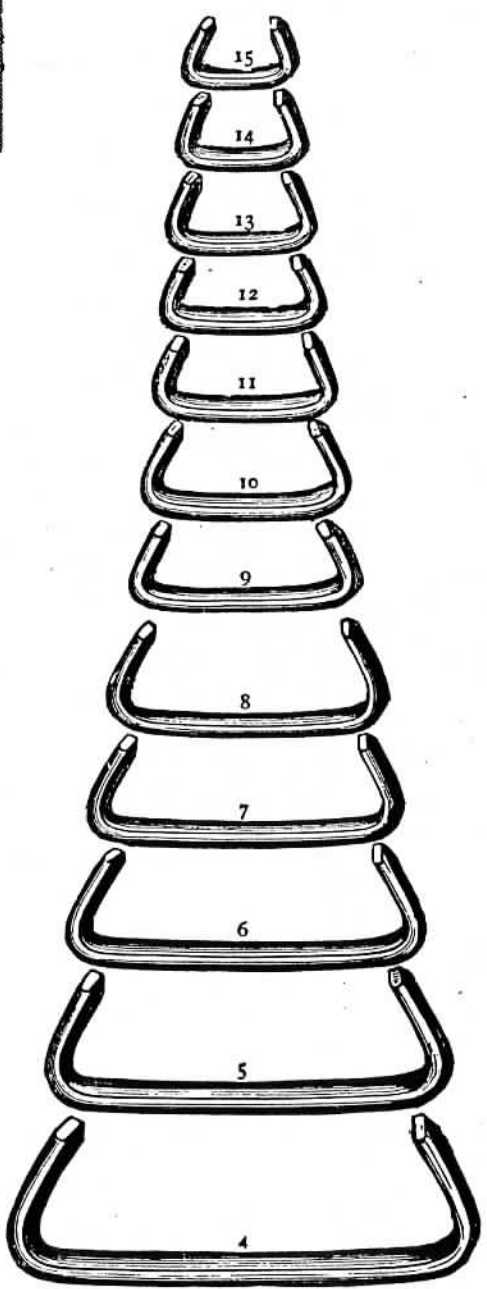


**Fig. 506.**

Round Steel Belt Coupling.

Sizes,  
 $\frac{1}{8}$   $\frac{3}{16}$   $\frac{1}{4}$   $\frac{5}{16}$   $\frac{3}{8}$   $\frac{7}{16}$   $\frac{1}{2}$   $\frac{5}{8}$   $\frac{3}{4}$   $\frac{7}{8}$  1  
 inches.

## BELT HOOKS.



**Fig. 507.**

Common Belt Hooks.

Full Size.

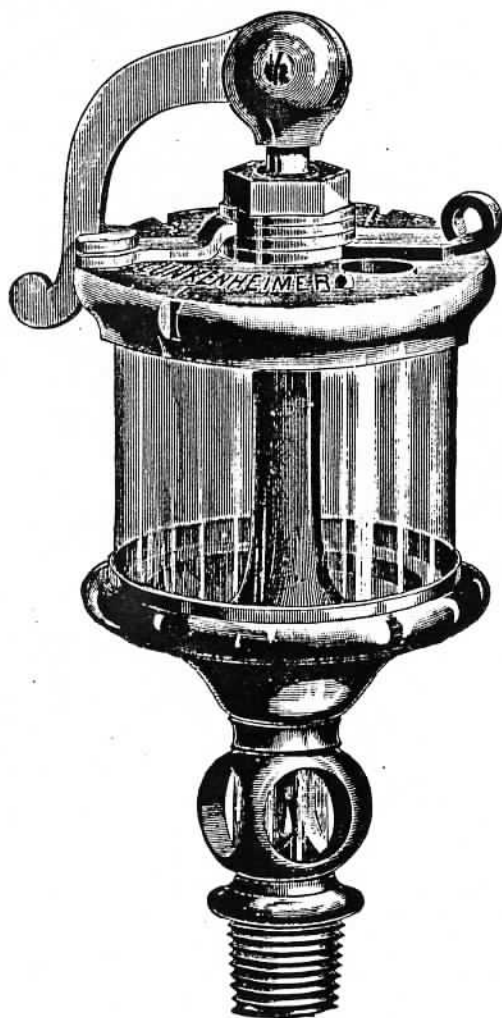


Fig. 508.

## Improved Index Glass Oil Cup.

With Sight Feed. Full Size, No. 1½.

This Cup is provided with an Indicator Arm to mark the notch giving the desired feed. By this means the feed can be instantly turned off and on again, by replacing the Index Lever in the notch of the Indicator Arm.

This is strictly a first-class cup. The most simple, accurate and reliable Sight Feed Glass Cup in the market.

|                               |    |    |    |    |    |    |   |    |
|-------------------------------|----|----|----|----|----|----|---|----|
| NUMBER,.....                  | 0  | 1  | 1½ | 2  | 3  | 4  | 5 | 6  |
| DIAMETER OF GLASS,.....inches | 1¼ | 1½ | 1¾ | 2  | 2¼ | 2½ | 3 | 3½ |
| HEIGHT OF GLASS,.....inches   | 1½ | 1¾ | 1¾ | 1¾ | 2½ | 2¾ | 3 | 4  |

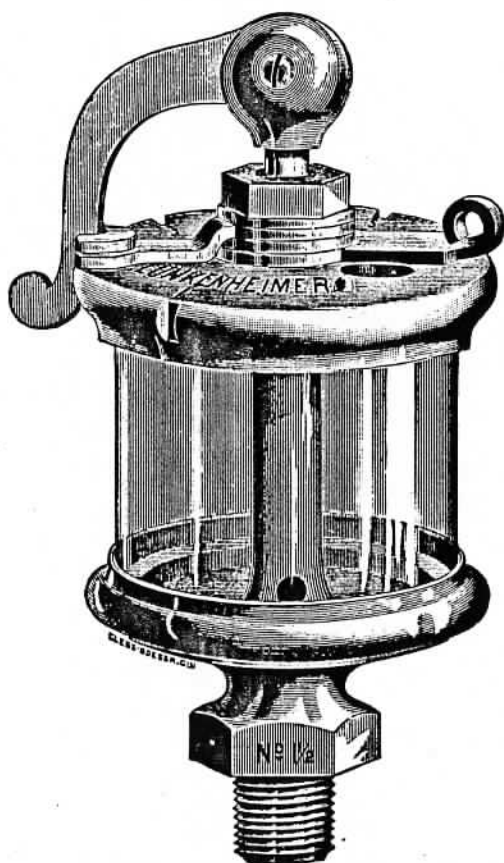


Fig. 509.

## Improved Index Glass Oil Cup.

This cup is provided with an Indicator Arm to mark the notch giving the desired feed.

By this means the feed can be instantly turned off and on again, by replacing the Index Lever in the notch of the Indicator Arm.

|                                 |    |    |    |   |    |    |   |    |
|---------------------------------|----|----|----|---|----|----|---|----|
| NUMBER, .....                   | 0  | 1  | 1½ | 2 | 3  | 4  | 5 | 6  |
| DIAMETER OF GLASS, ..... inches | 1¼ | 1½ | 1¾ | 2 | 2¼ | 2½ | 3 | 3½ |

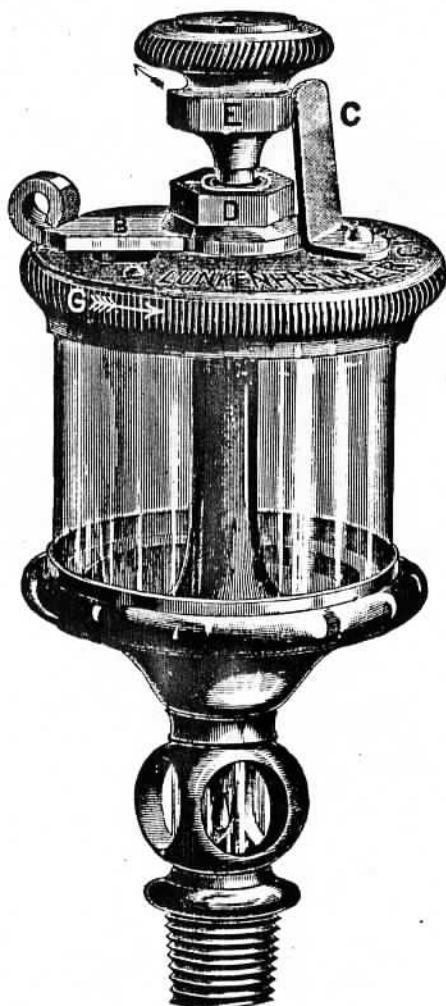


Fig. 510.

## Improved Milled Cover Sight Feed Glass Oil Cup.

Full Size, No. 1½.

## DIRECTIONS TO SET FEED.

Turn the milled cover G so that the desired feed is obtained, when the flat side (E) of regulating stem engages the spring. All Cups are sent with Glass shields over Sight Drop, unless otherwise ordered.

|                              |    |    |    |    |    |    |    |   |    |
|------------------------------|----|----|----|----|----|----|----|---|----|
| Number, .....                | 0  | 0  | 1  | 1½ | 2  | 3  | 4  | 5 | 6  |
| Outside dia. of glass....in. | 1½ | 1¼ | 1½ | 1¾ | 2  | 2¼ | 2½ | 3 | 3½ |
| Height of glass,.....in.     | 1  | 1½ | 1¾ | 1¾ | 1¾ | 2¾ | 2¾ | 3 | 4  |

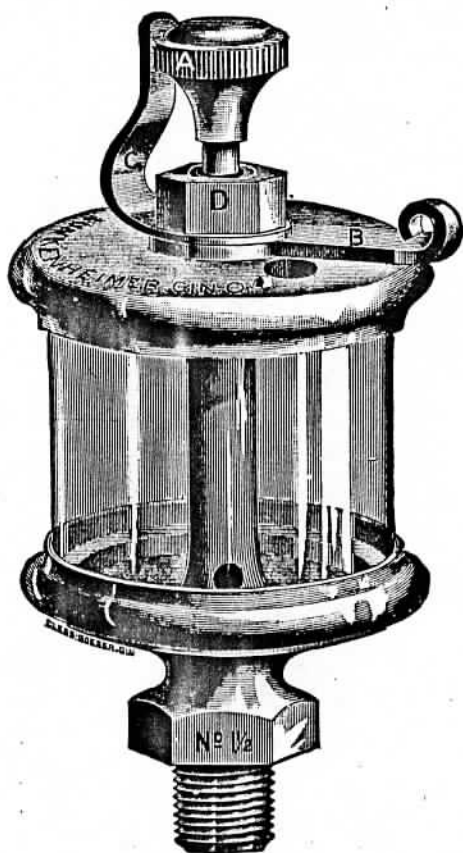


Fig. 511.

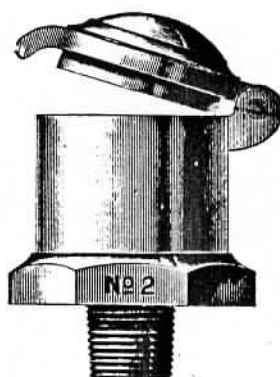
Improved Slide Top Glass Oil Cup.

Full Size, No. 1 1/2.

|                                  |     |       |       |       |       |       |       |       |   |       |
|----------------------------------|-----|-------|-------|-------|-------|-------|-------|-------|---|-------|
| Number, .....                    | 000 | 00    | 0     | 1     | 1 1/2 | 2     | 3     | 4     | 5 | 6     |
| Outside dia. of glass, ..... in. | 1   | 1 1/8 | 1 1/4 | 1 1/2 | 1 3/4 | 2     | 2 1/4 | 2 1/2 | 3 | 3 1/2 |
| Height of glass, ..... in.       | 7/8 | 1     | 1 1/8 | 1 1/8 | 1 3/8 | 1 3/8 | 2 1/8 | 2 3/8 | 3 | 4     |



Small Base.  
Fig. 512.



Large Base.  
Fig. 513.

Brass Hinge Lid Oil Cups.

|                        |               |   |                |                |                |                |   |
|------------------------|---------------|---|----------------|----------------|----------------|----------------|---|
| NUMBER, .....          | 1             | 2 | 3              | 4              | 5              | 6              | 7 |
| DIAMETER, ..... inches | $\frac{7}{8}$ | 1 | $1\frac{1}{4}$ | $1\frac{1}{2}$ | $1\frac{3}{4}$ | $1\frac{7}{8}$ | 2 |



Fig. 514.

Brass Loose Pulley Oilers.

Full Size.

This Oiler must be attached to hub of pulley, is easily filled and regulated, will not throw or waste oil, and a trial will convince users that it is the simplest and most satisfactory oiler for loose pulleys in the market. It is guaranteed to give satisfaction, one filling lasting from two to four weeks, and feeding only when in motion.

|                 |   |                |                |                |   |
|-----------------|---|----------------|----------------|----------------|---|
| NUMBER, .....   | 0 | 1              | 2              | 3              | 4 |
| DIAMETER, ..... | 1 | $1\frac{1}{4}$ | $1\frac{1}{2}$ | $1\frac{3}{4}$ | 2 |



Shaft Oiler. Shaft Oiler with Loose Wire and Wood Plug.

Fig. 515.



Fig. 516.



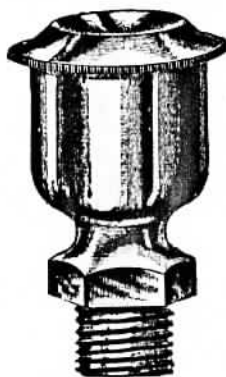
Machine Oiler.

Fig. 517.

Air Tight Shaft and Engine Oilers.

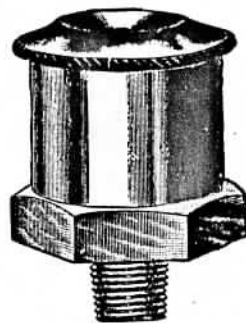
**ADVANTAGES.**—They are all made in a first-class manner, of the best materials, and are warranted in every respect. They are as reliable in winter as in summer. Being perfectly air-tight, the oil will never gum in them, and is always free from dust and grit. They will feed only when the machinery is in motion. In case of breakage, a glass can be easily replaced at a small cost.

**DIRECTIONS.**—Fill the Oiler full of oil; screw on the socket air-tight, and then screw the stem tightly into the oil-hole in bearing. When the cups need refilling, unscrew the stem out of the hole; take the Oiler apart, and proceed as before. See that the hole through stem is always clear of any obstruction before putting the Oiler in its place.



Plain Top.

Fig. 518.



Locomotive Pattern.

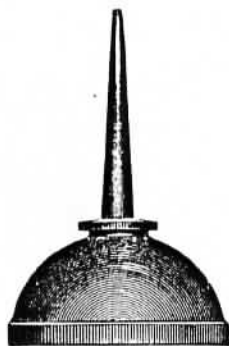
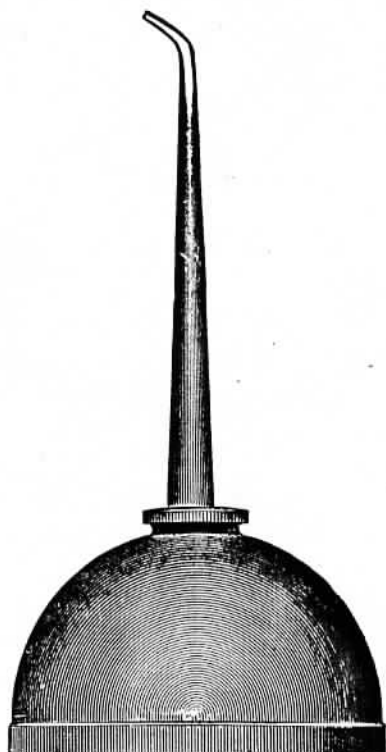
Fig. 519.

Brass Oil Cups.

|                   |               |               |               |   |                |                |                |                |   |                |                |    |
|-------------------|---------------|---------------|---------------|---|----------------|----------------|----------------|----------------|---|----------------|----------------|----|
| Number,.....      | 00            | 0             | 1             | 2 | 3              | 4              | 5              | 6              | 7 | 8              | 9              | 10 |
| Diameter,.....in. | $\frac{3}{8}$ | $\frac{3}{4}$ | $\frac{7}{8}$ | 1 | $1\frac{1}{4}$ | $1\frac{1}{2}$ | $1\frac{3}{4}$ | $1\frac{7}{8}$ | 2 | $2\frac{1}{4}$ | $2\frac{1}{2}$ | 3  |

## Star Oilers.—All Steel.

Sizes, 1, 2, 3, 4.

*Fig. 520.**Fig. 521.**Fig. 522.*

Chac Oiler.

Sizes, 00 to 6.

*Fig. 523.*

Bent or Straight Spouts.

# POWER TRANSMISSION

—AND NOTES ON—

## BELTING, SHAFTING, ETC.

---

THE arrangement of shafting and pulleys should be under the direction of a mechanical engineer or competent machinist. Destruction of machinery and belts, together with unsatisfactory results in the business, is a common experience which may, in most cases, be traced to want of knowledge and care in the arrangements of the machinery, and in the width and style of belts bought and in the manner of their use, while the manufacturers of the "outfit" are often blamed for bad results which are caused by the faulty management of the owner himself.

The amount of power required to drive a line of shafting may be increased fully 50 per cent. by improper conditions, and that the defects most commonly found are shafting too light for duty, hangers too far apart, hanger bearings too short and too far from couplings, pulleys too heavy and not properly balanced, hangers which are not adjustable, and improper proportions between two pulleys connected by the same belt. Of course the loss of power arising from these defects must be compensated for by increasing the power, and thus a direct pecuniary loss is inflicted on the operators of the establishment in which improper conditions are found. This is a subject to which too little attention has been paid by manufacturers, although all are aware that it is the bill for fuel that absorbs so much of the profits of a business.

Even when material furnished is all that it should be in every particular, poor or injudicious millwright work will still produce the same results. And still further, that power transmitting machinery is no exception to the rule

that machinery improperly put up works to its own injury and deterioration every day it is operated under improper conditions. With shafting, couplings, hangers and pulleys, in common with machinery of other description, too much care in erecting can not be taken. After erection, especially in new buildings, much trouble is frequently caused by shafting being thrown out of correct alignment by the settling of the foundations. All line shafting should be gone over occasionally and be relined.

In the location of shafts that are to be connected with each other by belts, care should be taken to secure a proper distance one from the other. It is not easy to give a definite rule what this distance should be. Circumstances, generally, have much to do with the arrangement, and the engineer or machinist must use his judgment, making all things conform, as far as may be, to the general principles. This distance should be such as to allow a gentle sag to the belt when in motion.

If too great a distance is attempted, the weight of the belt will produce a very heavy sag, drawing so hard on the shaft as to produce great friction on the bearings, while at the same time the belt will have an unsteady flapping motion, which will destroy both the belt and machinery.

If possible to avoid it, connected shafts should never be placed one directly over the other, as in such case the belt must be kept very tight to do the work. For this purpose belts should be carefully selected of well stretched leather.

The pulley should be wider than the belt required for the work.

The motion of driving should run with and not against the laps of the belt.

Tightening or guide pulleys should be applied to the slack side of the belts, and near the smaller pulley.

Quick motion belts should be made as straight and as uniform in section and density as possible, and endless, if practicable—that is, with permanent joints.

Belts which run loose will, of course, last much longer than those which must be drawn tight to drive—tightness being evidence of over-work and disproportion.

Never add to the work of a belt so much as to over-load it.

Leather belts run with the grain side to the pulley will drive 30 per cent. more than if run with the flesh side. The belt as well as the pulley

adheres best when smooth, and the grain side adheres best because it is smoothest.

Belts should be kept clean and free from accumulations of dust and grease, and particularly from contact with lubricating oils, some of which permanently injure leather.

Leather belts must be well protected against water, and even moisture.

India Rubber is the proper substance for belts exposed to the weather, as it does not absorb moisture and stretch and decay.

Belts should be kept soft and pliable.

## TIGHT BELTS.

Clamps, with powerful screws, are often used to put on belts of extreme tightness, and with most injurious strain upon the leather. They should be very judiciously used for horizontal belts, which should be allowed sufficient slackness to move with loose undulating vibration on the returning side, as a test [that they have no more strain imposed than is necessary simply to transmit the power.

## Rules for Calculating Speed of Pulleys.

*Problem I.*—The diameter of the driver and driven being given, to find the number of revolutions of the driven.

*Rule.*—Multiply the diameter of the driver by its number of revolutions, and divide the product by the diameter of the driven, the quotient will be the number of revolutions.

*Problem II.*—The diameter and revolutions of the driver being given, to find the diameter of the driven, that shall make any given number of revolutions in the same time.

*Rule.*—Multiply the diameter of the driver by its number of revolutions, and divide the product by the number of revolutions of the driven, the quotient will be its diameter.

*Problem III.*—To ascertain the size of the driver.

*Rule.*—Multiply the diameter of the driven by the number of revolutions you wish to make, and divide the product by the revolutions of the driver, the quotient will be the size of the driver.

### **SPEED OF SHAFTING.**

It has been found by experience that it is very good practice to run the driving shaft of

Sole Leather Room,            200 revolutions.

Bottoming Room,    250 to 300 revolutions.

Stitching Room,    300 to 350 revolutions.

## **THE ROSS, MOYER MFG. CO.,**

**Cor. Seventh and Sycamore,            CINCINNATI, O.**

~~~~~  
CHICAGO, ILL.

BOSTON, MASS.

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