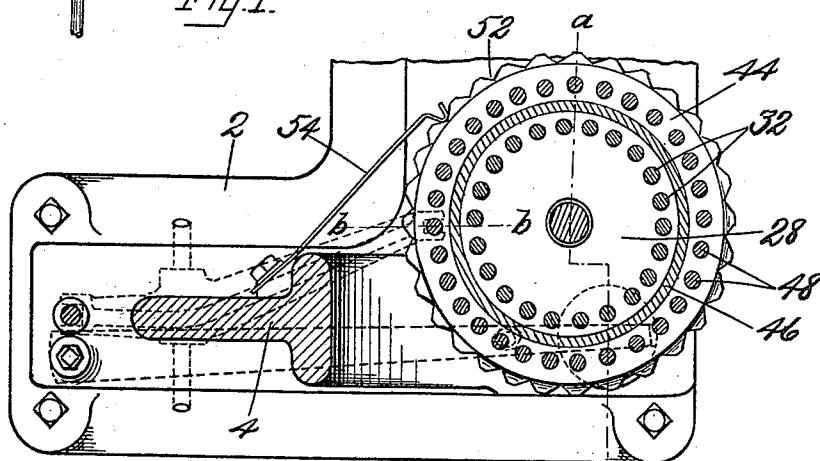
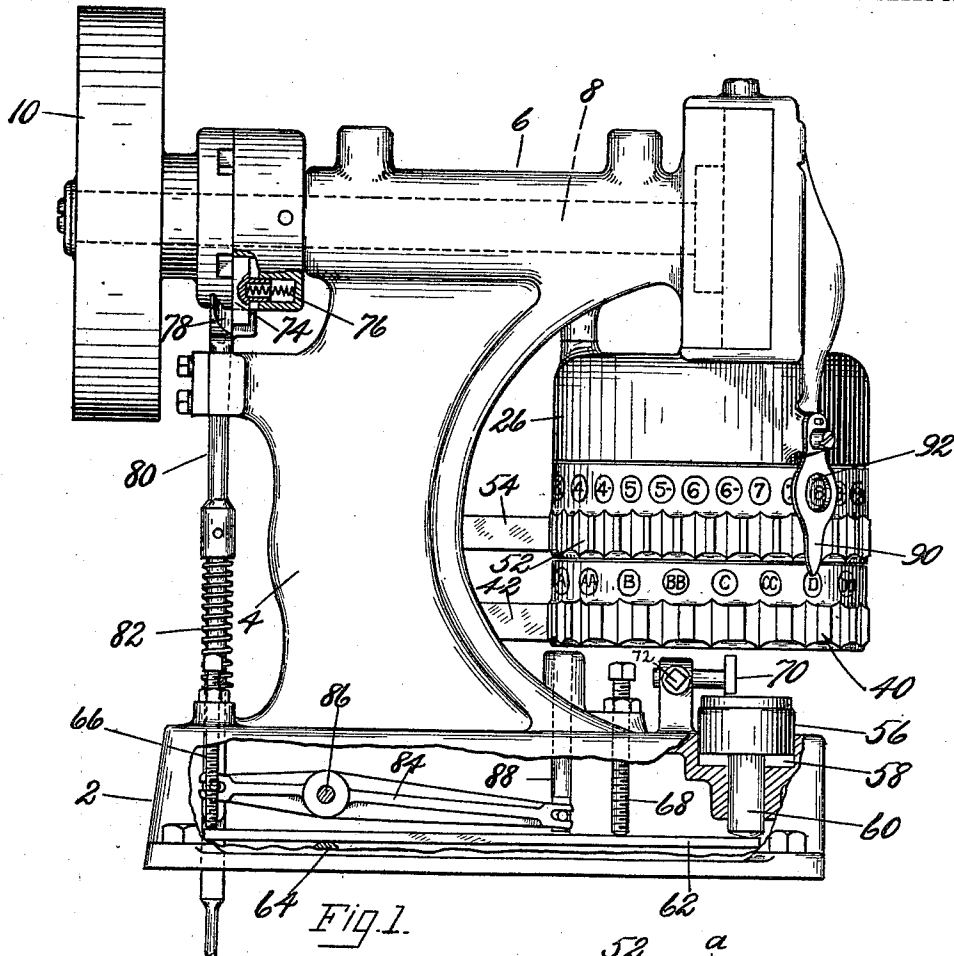


L. A. CASGRAIN.
STAMPING MACHINE.
APPLICATION FILED FEB. 20, 1907.

1,030,161.

Patented June 18, 1912.

2 SHEETS-SHEET 1.



WITNESSES.
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Fig. 2.

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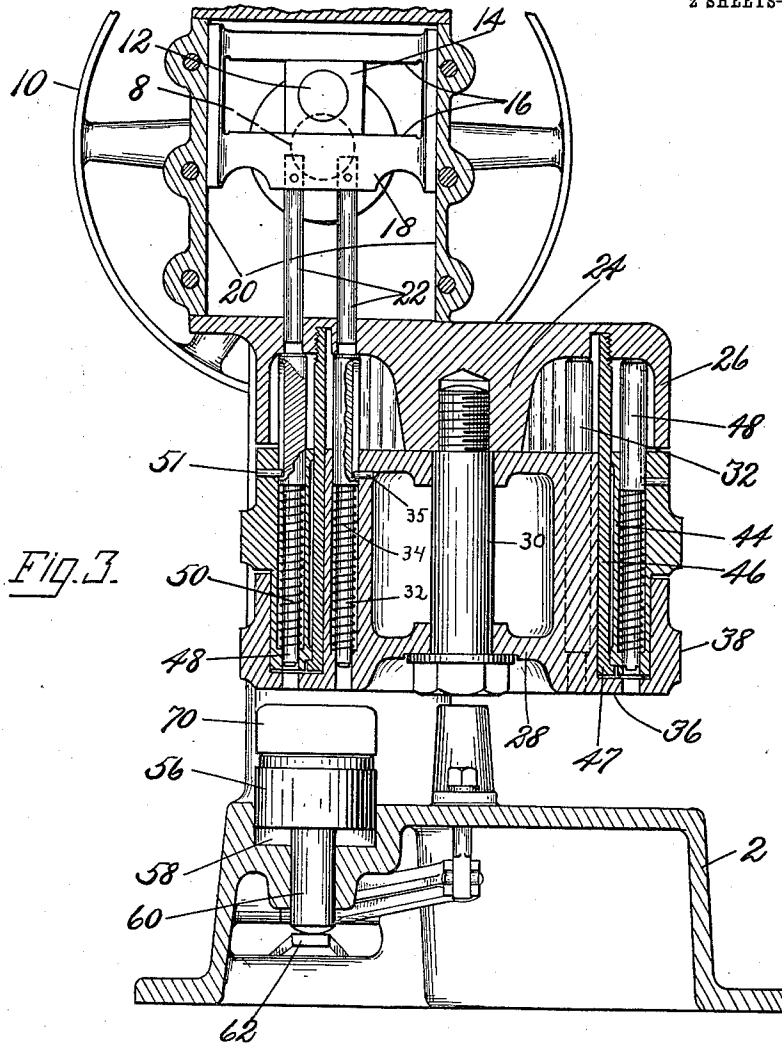


Fig. 3.

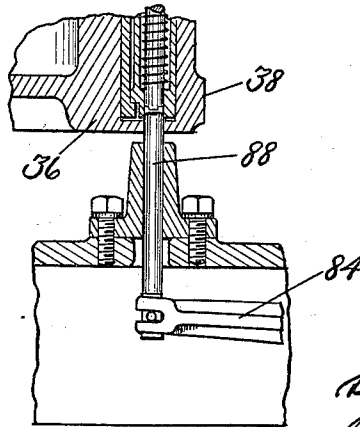


Fig. 4.

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INVENTOR:
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UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF BEVERLY, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

STAMPING-MACHINE.

1,030,161.

Specification of Letters Patent. Patented June 18, 1912.

Application filed February 20, 1907. Serial No. 358,447.

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a citizen of the United States, residing at Beverly, in the county of Essex and Commonwealth of Massachusetts, have invented certain Improvements in Stamping-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to stamping machines, and particularly to stamping machines adapted for impressing characters upon parts of boots and shoes, especially those parts such as uppers, upon which it is desired to stamp two different characters. In the manufacture of boots and shoes it is customary to mark uppers both for size and width after the parts have been cut out. Prior to this invention, this has usually been done by the cutter, who marks them by hand with a crayon or pencil. This method of marking is objectionable for several reasons. One reason is that the marks are liable to be effaced in handling the parts, thus causing delay and confusion in assembling them. Another reason is that the cutter is necessarily a skilled workman, and considerable of his time is consumed during the course of a day in thus marking the parts. Still another reason is that the operation of marking by hand is slow.

The objects of the invention are to provide a machine which shall be certain and reliable in its operation, which shall occupy the least possible space consistent with effectiveness, which may be operated by a person of no particular skill, which will perform the work expeditiously, and which will mark the stock in a permanent manner with no liability of the marks being effaced in handling the stock. I accomplish these objects by providing a machine having two movable members each of which carries stamping dies which the operator may bring into contact with the stock after he has brought the desired dies into the proper position for stamping.

In the preferred embodiment of the invention, the die-carrying members are mounted concentrically and independently of each other in order that they may be

readily rotated separately to bring the desired dies into stamping position. The dies carried by one of the members are provided with characters of different denominations belonging to one system of enumeration, while the dies carried by the other member are provided with characters of different denominations belonging to another system of enumeration. One set of characters may conveniently consist of figures to indicate different sizes, while the other set consists of letters to indicate different widths. Each of the two members is preferably provided with surfaces having characters corresponding to those on its dies, and a pointer may be provided to indicate the particular die of each set which is in stamping position. The die-carrying members may be conveniently mounted as follows to prevent them from having frictional engagement with each other. One of the members is carried on an axle secured to the head of the machine, and surrounding this member is a sleeve secured to the head at one end and having an out-turned flange at the other end. The second member is placed around this sleeve and is supported by the outturned flange on the sleeve. The two members are thus mounted entirely independently of each other.

The means for bringing the dies into contact with the stock is preferably operated through a one revolution clutch normally held out of engaged position. The means for putting the clutch into engaged position is preferably provided with a lock which prevents said means from operating when the stamping dies and actuating means therefor are not properly positioned relatively to each other. A work-support or anvil upon which to place the stock during the stamping operation is provided. This work-support is preferably yieldingly supported in order to preclude straining the machine or mutilating the stock. A convenient way of accomplishing this is by resting the work-support on one end of a spring bar held from movement at the other end.

The features above enumerated and others incident to the invention will be best understood and appreciated from the following description of a machine which constitutes a preferred embodiment of the invention and has been selected for the purpose of

illustration and shown in the accompanying drawings, in which,—

Figure 1 is a view in side elevation of the machine with certain parts broken away to disclose the interior construction; Fig. 2 is a view in horizontal section; Fig. 3 is a vertical section on the line *a—*a**, Fig. 2; and Fig. 4 is a detail view in section on the line *b—*b**, Fig. 2.

A base 2 carries a frame 4 provided with a bearing 6 for a driving shaft 8. The driving shaft has a pulley 10 on one end and an eccentric stud 12 on the other end which turns in a transverse slide 14 held between ways 16, 16 on a vertical slide 18 which is held between ways 20, 20 connected with the frame. The slide 18 carries two drivers 22, 22 arranged to actuate the stamping dies as will be explained hereinafter. Secured to the frame is a head or cap piece provided with a depending central portion 24 and a depending circumferential flange 26. A rotatable member or turret 28 is rotatably secured to the head or cap piece by an axle or bolt 30, the upper end of which is screw-threaded into the depending portion 24 and the lower end of which has an enlarged portion upon which said member rests. The turret is provided with a series of circumferentially arranged apertures within which are mounted stamping dies 32 normally held retracted by springs 34 and prevented from rotation in the apertures by pins 35 which project into slots in the sides of the dies. The lower ends of the dies are provided with characters such as letters to indicate widths. The turret 28 has a horizontal flange 36 with a vertical upstanding flange 38 formed about its periphery. The exterior of the latter flange has a series of grooves 40 and also a series of characters corresponding to those on the dies 32. A spring 42 secured at one end to the frame has its other end bent so as to engage in the grooves 40 to prevent the turret from being turned accidentally. A second rotatable member or turret 44 is rotatably mounted around the turret 28, the two turrets being separated by a depending cylindrical portion or sleeve 46 secured to the head or cap piece preferably by screw-threads, as shown. The sleeve 46 has a circumferential flange or shoulder 47 upon which the outer turret is supported in order that it may not rest upon the inner turret 28. The turret 44 is provided with a series of circumferentially arranged apertures within which are mounted stamping dies 48 normally held retracted by springs 50 and prevented from rotation in the apertures by pins 51. The lower ends of the dies are provided with characters such as figures to indicate sizes and the flange 36 has a series of apertures to register with the apertures in the turret 44 in order to permit the dies 46 to be projected below the lower face.

The turret 44 has a flange or enlarged portion lying over the upper end of the flange 38, such portion being provided with a series of grooves 52 and a series of characters corresponding to those on the dies 48. A spring 54 similar to the spring 42 is secured at one end to the frame and the other end is bent to engage the grooves 52 in the manner shown in Fig. 2. It will thus be seen that the turrets are rotatably mounted independently of each other so that any one of the figures may be brought over a work-support or anvil 56 contemporaneously with any one of the letters. When in stamping position over the anvil, the two dies, one of which carries the desired figure and the other the desired letter, are in axial alinement with the two drivers 22 which may be reciprocated through apertures in the head or cap piece. The anvil is supported in a socket 58 in the base and has a stem 60 extending through the bottom of the socket and resting on one end of a spring bar 62 fulcrumed at 64, the other end of said spring bar being held down by a bolt 66. A second bolt 68 engages the upper surface of the bar between the fulcrum and the stem of the anvil. By adjusting the bolts, the resistance of the spring bar may be regulated as desired. In order that the characters carried by the stamping dies may make a permanent impression on the stock, said characters are preferably constructed with thin shallow edges terminated by shoulders on the bottoms of the stamping dies. The characters cut into the surface of the stock, the depth of cut being limited by the shoulders. Any further movement of the stamping dies toward the anvil merely results in producing movement of the anvil in opposition to the sustaining force exerted by the spring bar. A gage 70 is adjustably secured with relation to the anvil and is held in desired position by a set screw 72.

The pulley 10 is loose on the driving shaft and a one revolution clutch is preferably provided by means of which the dies and connecting mechanism may be put into operation. A member 74 of the clutch is urged into clutching position by a spring 76. When at rest, said member is retracted by a wedge 78 on the upper end of a rod 80 held up by a spring 82 so as to engage the member 74. The rod is connected at its lower end to a treadle (not shown). When the treadle is depressed and then immediately released, the driving shaft will make one revolution and then stop. A locking device is provided which makes it impossible to start the machine when the apertures in the turrets are not in alinement with the drivers. Breakage of the machine by the drivers striking on the upper faces of the turrets is therefore rendered impossible. Said locking device is preferably constructed as fol-

lows: A lever 84 is pivoted at 86 to the base. One end of this lever has pivoted to it a vertically slidable pin 88 while the other end of the lever is pivoted to the rod 80. The rod 88 is so mounted as to be in alinement with an aperture in the flange 36 on the inner turret and an aperture in the outer turret when the turrets are properly positioned. By referring to Fig. 4 it will be seen that the pin 88 extends through an aperture in the flange 36 and into the bottom of an aperture in the outer turret when the treadle and rod 80 connected thereto are depressed sufficiently to remove the wedge 78 from position in which it unclutches the member 74. It is therefore impossible to depress the rod 80 sufficiently to start the machine unless both turrets are properly positioned. When the rod 88 has been elevated to enter the aligned apertures, both turrets are positively locked to the frame and will be held rigidly in position until the treadle is released and the rod retracted. A pointer 90 having an enlarged portion provided with an aperture 92 is secured to the head or cap piece in such position that one end of the pointer will indicate the letter which is in stamping position while the figure which is in stamping position will appear within the aperture.

The operation of the machine is as follows: The operator while observing the characters indicated by the pointer, turns the turrets until he obtains the desired figure and letter. The turrets may be turned readily notwithstanding the detaining force exerted by the springs 42 and 54, the operator grasping the corrugated surfaces containing the grooves 40 and 52 for this purpose. He then places the stock to be stamped in proper position on the anvil and by depressing the treadle sets the machine in operation whereupon the dies descend and stamp the stock.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is—

1. In a machine of the class described the combination of a plurality of independently rotatable, concentric, die-carrying members, a plurality of axially movable stamping dies carried by each member and means controlled by the operator for moving certain predetermined dies simultaneously to cause them to mark the work.

2. In a machine of the class described the combination of a die carrying member, a plurality of stamping dies carried by said member, mechanism for moving a die to mark the work, power driven means for operating said mechanism and positive means cooperating with said member to prevent the actuation of said mechanism when none of the dies are in operative relation thereto.

3. In a machine of the class described, the

combination with two rotatable concentric members, of means for supporting said members independently of each other, a plurality of stamping dies carried by each of said members, and means for simultaneously actuating certain predetermined ones of the dies carried by different members.

4. In a machine of the class described, the combination with two rotatable members, of a head, an axle secured directly to said head and supporting one of said members, a sleeve also secured to said head and by which the other of said members is supported, stamping dies carried by each of said members, and means for actuating said dies.

5. In a machine of the class described, the combination with two rotatable members, of a head, an axle secured to said head, an enlarged portion upon said axle upon which one of said members is supported, a sleeve secured to said head concentrically with said axle, a flange on said sleeve upon which the other of said members is supported, stamping dies carried by each of said members, and means for actuating said dies.

6. In a machine of the class described, the combination with two rotatable members, of a plurality of stamping dies carried by each of said members, circumferential flanges on each of said members having characters corresponding to those carried by the dies, and means for actuating certain predetermined ones of said dies.

7. In a machine of the class described, the combination with two rotatable concentric members, of a plurality of stamping dies carried by each of said members, a horizontal flange on the inner one of said members, a circumferential flange carried by said horizontal flange, a circumferential flange on the outer one of said members, said circumferential flanges being in vertical alinement with each other, and having characters corresponding to those carried by the dies, and means for actuating certain predetermined ones of said dies.

8. In a machine of the class described, the combination with two rotatable concentric members, stamping dies carried by each of said members, and separate drivers for actuating said dies.

9. In a machine of the class described, the combination with two rotatable concentric members, stamping dies carried by each of said members, a reciprocatory slide and drivers carried thereby in line with a die in each of said members.

10. In a machine of the class described, the combination with stamping mechanism, of an anvil, a spring bar for supporting said anvil, a pivot for said bar, and adjusting bolts for said bar located on opposite sides of the pivot.

11. In a machine of the class described, the combination with an anvil and cooperating

ating stamping mechanism, of a clutch, means for disengaging said clutch, and positive means for keeping said clutch in disengaged position when the stamping mechanism is improperly positioned.

12. In a machine of the class described, the combination with an anvil and cooperating stamping mechanism, of a clutch normally held in disengaged position, means for putting said clutch into engaged position, and positive means for preventing the clutch from being moved into the latter position when the stamping mechanism is improperly positioned.

13. In a machine of the class described, the combination with stamping mechanism, of a clutch, a treadle-rod, a wedge on said treadle-rod to normally hold said clutch in disengaged position, a lever connected with said treadle-rod, and a pin connected with said lever and arranged to prevent the clutch from being moved into engaged position when the stamping mechanism is improperly positioned.

14. In a machine of the class described, the combination with two rotatable concentric members, each of which has a series of apertures therethrough, stamping dies mounted in said apertures, a head which supports said members, a reciprocating slide, two drivers carried thereby in line with openings through said head, a clutch, means for holding said clutch in disengaged position, means for putting said clutch into engaged position, and a pin operatively connected to said last-mentioned means and arranged to prevent the clutch being moved

into engaged position when either of said rotatable members has none of its apertures in line with the drivers.

15. In a machine of the class described, the combination with an anvil and cooperating tools movable transversely into operative position, of an actuator for relatively moving said anvil and tools to operate upon the work, power operated mechanism for moving the actuator, and positive means for preventing the actuation of said power operated mechanism when the operating tools are improperly positioned transversely, said means acting to lock said tools against transverse movement when the tools have been properly positioned.

16. In a machine of the class described, the combination with an anvil, of a rotatable die carrier having stamping dies mounted therein, an actuator for relatively moving one of said dies and anvil to stamp the work, power operated mechanism for moving the actuator, and positive means for preventing the actuation of said power operated mechanism when the die carrier is improperly positioned, said means acting, when the carrier has been turned to the proper position, to lock said carrier against turning movement.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS A. CASGRAIN.

Witnesses:

JOHN H. RUCKMAN,
FREDERICK L. EDMANDS.