H. KIME.

SOLE CUTTING MACHINE.

APPLICATION FILED JULY 15, 1919.

1,367,269.

Patented Feb. 1, 1921.

FIG. 1.

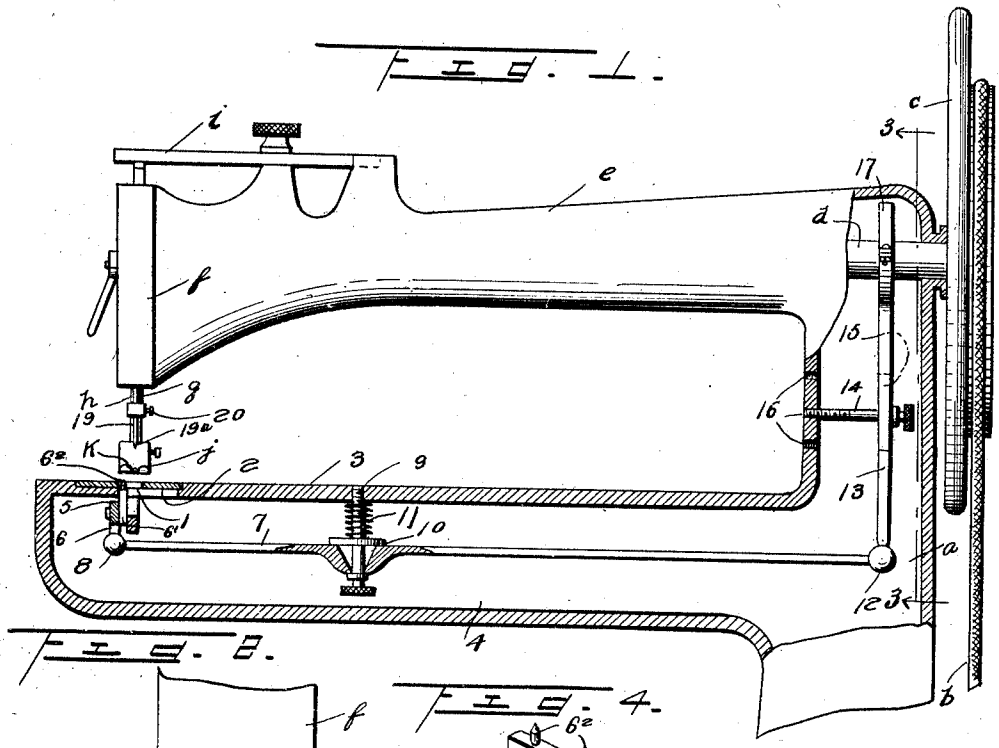


FIG. 2.

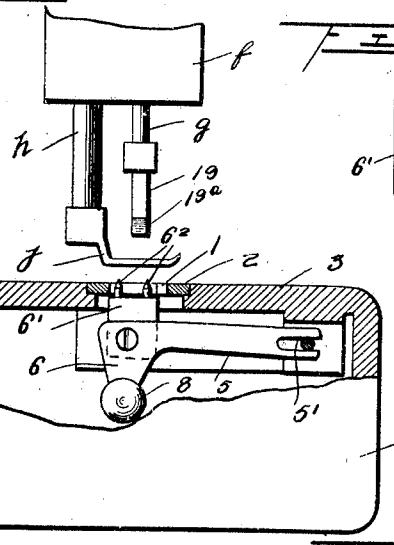


FIG. 4.

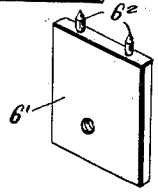


FIG. 3.

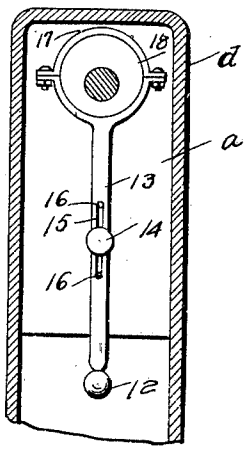


FIG. 5.

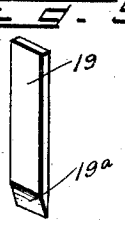
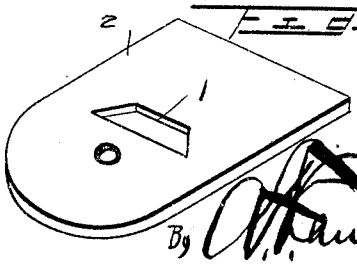


FIG. 6.



Inventor

H. Kime.

By A. Rauhelph Jr.

Attorney.

UNITED STATES PATENT OFFICE.

HOMER KIME, OF WATERVILLE, MINNESOTA.

SOLE-CUTTING MACHINE.

1,367,269. Specification of Letters Patent. Patented Feb. 1, 1921.

Application filed July 15, 1919. Serial No. 310,958.

To all whom it may concern:

Be it known that I, HOMER KIME, a citizen of the United States, residing at Waterville, in the county of Le Sueur and State of Minnesota, have invented certain new and useful Improvements in Sole-Cutting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cutting machines, and more particularly to a machine specially adapted for cutting shoe soles and similar articles from sheet material.

One of the main objects of the invention is to provide a machine of the character stated of simple construction and operation which may be produced at small cost and is well adapted for use in the ordinary shoe repair shop. A further object is to provide a machine including a reciprocating cutter by means of which a shoe sole or similar article, after being marked out on a sheet of leather, may be readily cut therefrom. Further objects will appear from the detailed description.

In the drawings:

Figure 1 is a front view of a machine constructed in accordance with my invention partly broken away.

Fig. 2 is a side view partially in section.

Fig. 3 is a section taken substantially on line 3—3 of Fig. 1.

Fig. 4 is a detail of the feed plate.

Fig. 5 is a detail of the cutting member.

Fig. 6 is a perspective view of a cover plate through which the cutting knife and feed plate pass.

The machine resembles, generally, a shoe sewing machine of known construction and includes a standard *a* which may be provided with any suitable supporting base carrying a treadle and an operating wheel connected thereto for driving a cord *b* passed about a grooved drive wheel *c* secured upon a drive shaft *d* rotatably mounted through a horizontal arm *e* formed at the upper end of the standard *a*. This arm is provided at its forward end with the usual head *f* in which is mounted a needle bar *g* for vertical reciprocation, this bar being reciprocated by rotation of shaft *d* in the known manner. A presser bar *h* is also carried by the head *f* being normally held in lowered position by a leaf spring *i*, this presser bar being provided at its lower end with a presser foot *j* of known type.

The presser foot *j* is provided with the usual longitudinally extending slot K which alines with a slot 1 extending transversely of a substantially rectangular cover plate 2 which is slidably mounted in top plate 3 of a horizontal work supporting arm 4 positioned below and parallel with the upper arm *e*. A rocker arm 5 is pivotally and slidably mounted in the hollow work supporting arm as shown at 5′ and has its opposite end portion provided with a depending arm 6 terminating in a ball received by a suitable socket provided at the forward end of a horizontally disposed operating lever 7 so as to establish a ball and socket connection 8 between the plate and the lever. This lever is mounted in arm 4 for rocking and rotary movement by a screw 9 secured to the top plate 3, this screw being inserted through a slot 10 in the plate and a pressure spring 11 being mounted about the screw and confined between plate 3 and the lever for holding the lever in proper operative position and preventing excessive looseness thereof. The outer end of lever 7 is connected by a ball and socket connection 12 to the lower end of a vertically disposed lever 13 which is pivotally mounted intermediate its ends for rocking movement about a horizontal axis by means of a supporting screw 14 inserted through a longitudinally extending slot 15 in the lever, this screw being adapted to be screwed into any one of a plurality of screw threaded bores 16 provided in the standard *a* for varying the throw of the lower end of lever 13. At its upper end lever 13 is provided with an eccentric strap 17 which fits about an eccentric disk 18 secured upon shaft *d*. When the shaft *d* is rotated in the manner described, horizontal and vertical movement will be imparted to the forward end of lever 7 thus causing the forward end to move in the path of an ellipse. This will cause the teeth 6^2 of the feed plate 6′ to have movement vertically through and longitudinally of the slot 1 so as to intermittently feed the material positioned between the presser foot *j* and this plate across the work supporting arm 4.

The needle bar *g* is provided, in the lower end portion thereof, with an axially extending bore which is shaped to receive the upper portion of a cutting member designed generally by 19. This cutting member is se-

cured in position in bar *g* by a set screw 20, or in any other suitable manner. As will be understood, the cutting member is so mounted that, when the bar *g* is reciprocated this member will pass through the alined slots in the presser foot and in the cover plate so as to cut the material which is passed between these two members. In practice, the sole or other article which it is desired to cut out is first outlined upon the leather or other material, after which this sheet of material is placed between the presser foot and the cover plate 2 so as to be held securely for cutting and moved across the top plate 3 of the supporting arm 4 during operation of the machine. When the bar *g* is reciprocated, the cutter 19 acts to cut or chisel out the article along the line marked on the material defining the same, the work being readily turned during its passage beneath the presser foot so as to cause the cutter to operate along the line marked thereon. To permit this ready turning of the work and insure a smooth cut, the lower or cutting end 19ª of the cutter 19 is made relatively narrow, the work being advanced a distance slightly less than the width of this cutting edge after each reciprocation of the bar *g*. This machine may be operated in the same manner as the ordinary shoe sewing machine and enables the article to be readily and easily cut from sheet material and in any desired size or shape.

It will be evident that there may be slight changes made in the construction and arrangement of the details of my invention without departing from the field and scope of the same, and I intend to include all such variations, as fall within the scope of the appended claim, in this application in which a preferred form only of my invention is disclosed.

What I claim is:

In a sole cutting machine, the combination with the standard, the lower work supporting arm carried thereby, a horizontal arm extended from said standard and parallel with the lower work supporting arm, a cover plate for said lower work supporting arm provided with a slot, of a feed plate having spaced upwardly extended teeth on its upper edge, a rocker arm, a mounting for said rocker arm, said feed plate being pivoted to said rocker arm, said rocker arm including a depending portion and a ball carried thereby beneath the pivot connection of said rocker arm with said feed plate, an operating lever having a socket at one end receiving said ball to form a ball and socket connection between said rocker arm and said operating lever, a cam and pitman arm operating mechanism engaged with the opposite end of said operating lever, a pivot slide pin for said operating lever secured in the said top plate, and a pressure spring mounted on said pin for holding the operating lever in proper operative position and preventing excessive looseness thereof, and a pressure foot and cutter carried by the upper horizontal arms for coöperation with said feed plate.

In testimony whereof I affix my signature in presence of two witnesses.

HOMER KIME.

Witnesses:
W. M. Cory,
Chas. Bachman.