A. H. PRENZEL.

MACHINE FOR RECESSING SHOE PARTS.

APPLICATION FILED OCT. 22, 1909.

959,386.

Patented May 24, 1910.

2 SHEETS—SHEET 1.

Fig. 1

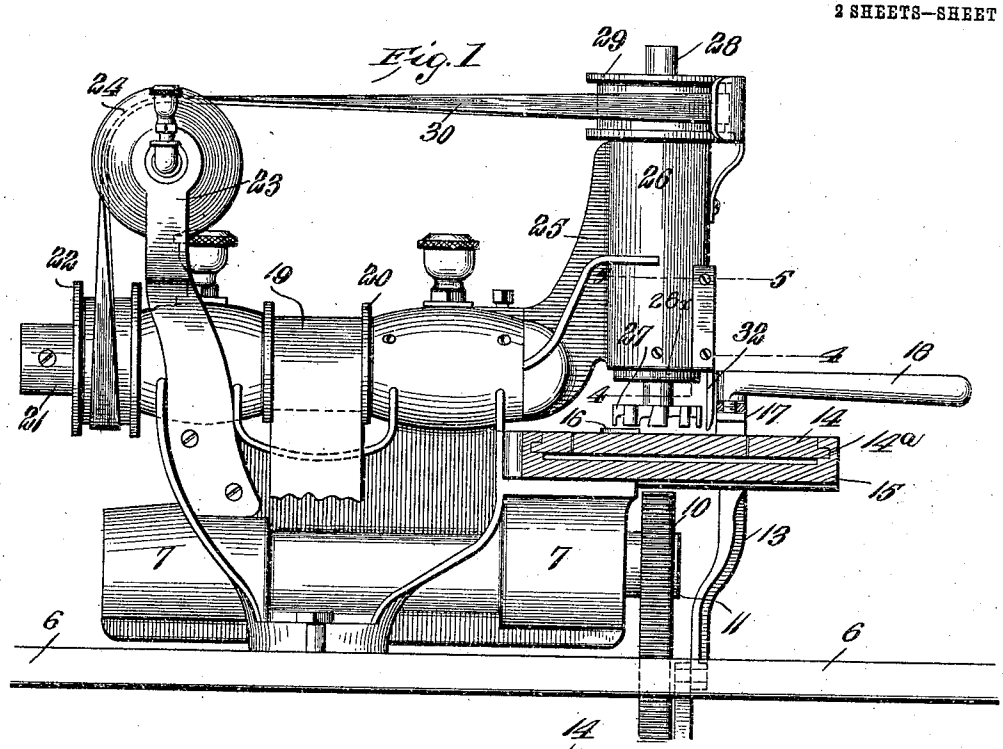
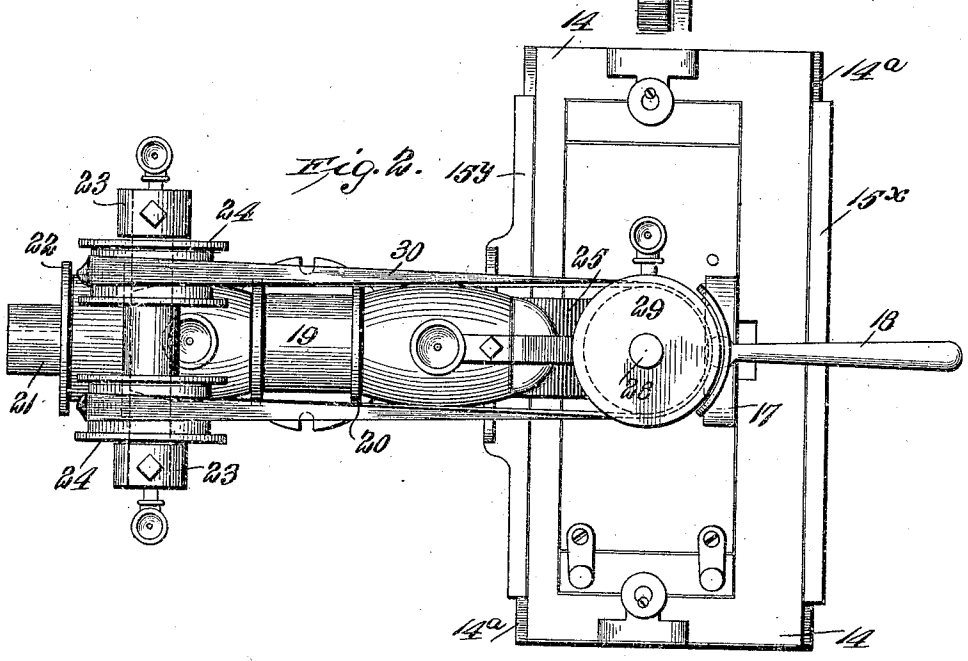


Fig. 2.



WITNESSES

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Fig. 3.

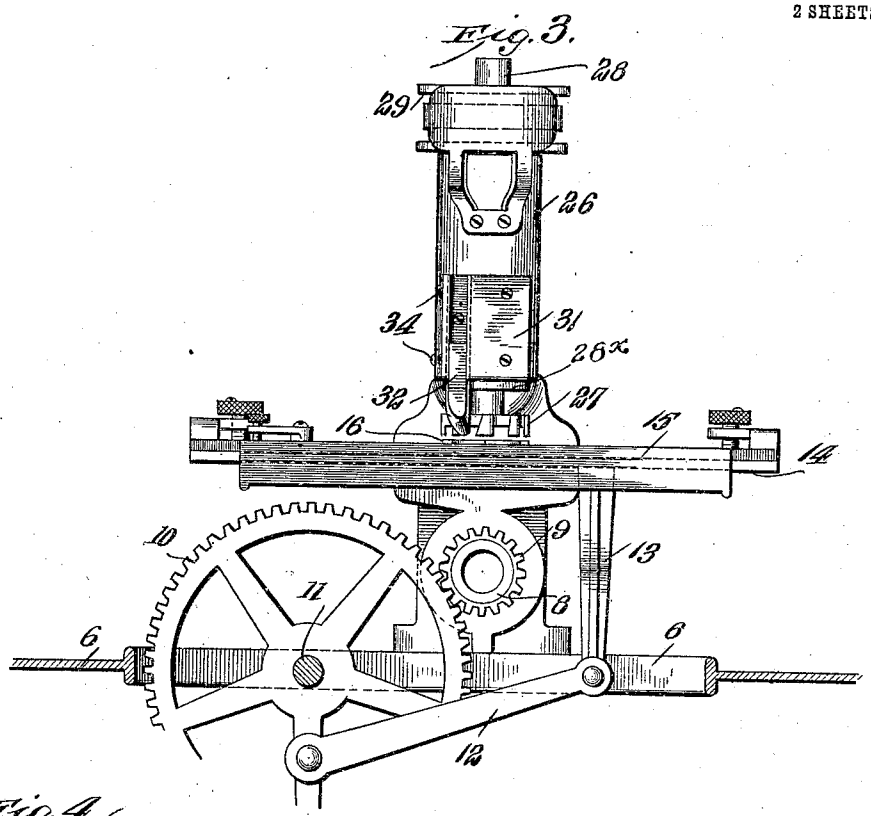


Fig. 4.

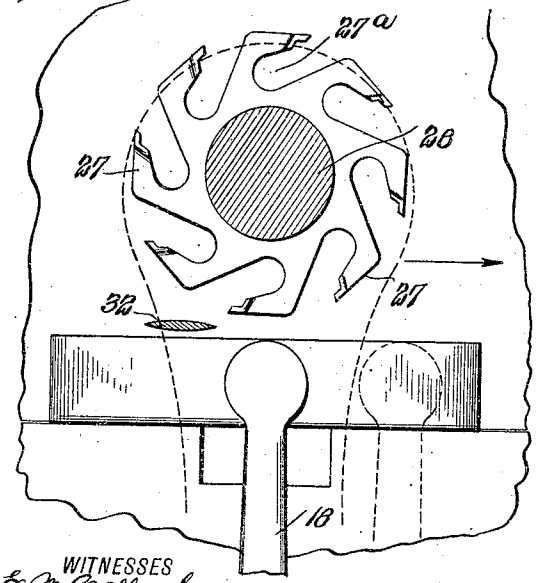
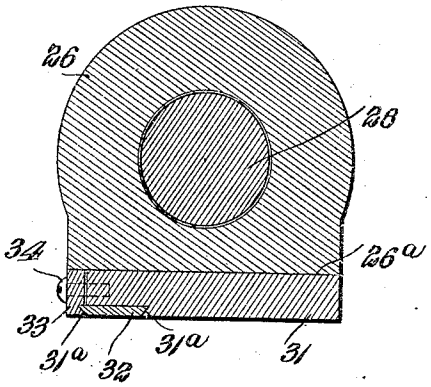


Fig. 5.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR RECESSING SHOE PARTS.

959,386. Specification of Letters Patent. Patented May 24, 1910.

Application filed October 22, 1909. Serial No. 524,093.

To all whom it may concern:

Be it known that I, ADAM HENRY PRENZEL, a citizen of the United States, and resident of Halifax, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Recessing Shoe Parts, of which the following is a specification.

My invention relates to devices for recessing shoe parts and it consists in combinations, constructions and arrangements of parts herein described and claimed.

An object of my invention is to provide an improvement on the device disclosed in a prior application, No. 506,698, filed July 9, 1909. In the device disclosed in the prior application, a slidable plate is arranged to hold a shoe bottom and to be reciprocated beneath a revolving cutter. This cutter is arranged on a horizontal axis, the blades of the cutter revolving in vertical planes. Experience has shown that in certain instances the edge of the shoe bottom will be lifted by the first cutter, still further by the second, and each succeeding cutter will tend to pull up the edge of the bottom so that the cut which is made is not parallel to the surface of the shoe part. In order to obviate this objection, I have arranged a novel form of cutter blade which will be fully described hereinafter.

A further object of my invention is to provide a cutter which will rotate in a horizontal plane on a vertical axis, with means for driving the same.

Further objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming a part of this application in which similar reference characters denote like parts in the several views, and in which:

Figure 1 is a side elevation of the device, Fig. 2 is a plan view thereof, Fig. 3 is a front view, Fig. 4 is an enlarged section along the line 4—4 of Fig. 1, and Fig. 5 is an enlarged section along the line 5—5 of Fig. 1.

Since this invention is an improvement over that already mentioned, I will only describe those parts that are necessary for the full disclosure of the improvement.

In carrying out my invention, I provide a base portion 6 to which is secured the bearings 7 for the main shaft 8. This shaft may be driven in any suitable manner. The shaft bears a gear 9 arranged to mesh with a larger gear 10 mounted for rotation on a shaft 11. The larger gear is connected by means of a link 12 to the downwardly extending arm 13 attached to the bottom of a sliding frame 14. The gear 10 and link 12 serve as a crank mechanism for reciprocating the frame 14. The frame 14 is mounted in a runway formed by the opposite sides 15^x and 15^y (see Fig. 2), of the supporting frame 15, (see Fig. 1). The frame 14 is provided with extended edges 14^a arranged to enter grooves in the sides 15^x and 15^y to guide the frame in its backward and forward movement.

The frame 14 is provided with means for clamping the shoe part. These means consist of a stop 16 and a clamp 17 operated by a handle 18.

A belt 19 running over the pulley 20 drives a shaft 21 bearing the pulley 22. The arms 23 carry the pulleys 24, while at the opposite end is an arm 25 which bears a sleeve 26.

The cutter 27 is carried on the bottom of a shaft 28 which revolves in the sleeve 26. The shaft 28 carries a pulley 29 which is firmly secured to it and forms a support for the shaft, this pulley bearing on the upper end of the sleeve 26. The shaft is prevented from an upward movement by means of the collar 28^x at the lower end of the sleeve. The twisted belt 30 causes the rotation of the shaft 28 when the horizontal shaft 21 is revolved.

Referring now to Fig. 5, it will be seen that the sleeve 26 has a flat surface 26^a on its forward side to which the plate 31 is secured. This plate is slotted at 31^a to receive a slidable knife 32 which is held in position by the plate 33 which is provided with a similar slot 31^a, these slots being arranged to engage the beveled edges of the knife. The plate 33 is held in position by the screws 34.

The cutter 27 is provided with a series of teeth of the shape shown in Figs. 1 and 4.

In Fig. 1 it will be seen that the blades are inclined from the bottom to the top, thus presenting a shearing edge. It is also

to be noted from Fig. 4 that they are practically of an L-shaped formation, thus giving a greater thickness of metal in the direction of the strain, and preventing the teeth from being broken.

The cutters are provided with a series of slots 27^a so that the material cut out from the shoe part may have ready means of escape.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The rotation of the shaft 8 through the medium of the gears 9 and 10, the link 12, and the arm 13 causes the reciprocation of the sliding frame 14. The shoe part such as the heel portion of the bottom of a shoe is inserted underneath the clamp 17 until it bears against the stop 16. The handle 18 is then turned so as to clamp the shoe firmly to the plate 14. The cutter 27 is revolved on its vertical axis 28 and as the plate is moved forwardly, the knives of the cutter cut away the shoe part. The rotation of the knives being in a horizontal plane parallel to the face of the shoe part, it will be seen that the cut made must be parallel and that there is no tendency of the shoe part to be caught up on its edge by the revolving cutter blades. The knife 32, it will be seen from Fig. 4 is set in such a position that it precedes the revolving cutter, thereby cutting the part to be removed by the cutters following. The adjustment of the stop 16 as well as the tilting feature of the plate 14 forms no part of the present invention, being fully shown in my prior application referred to above.

I claim:

1. A device for recessing shoe parts comprising a stand, a vertical shaft carried by said stand, a cutter at the end of said shaft arranged to revolve in a horizontal plane, a knife disposed near said rotary cutter and arranged to coöperate therewith, a slidable frame, means for securing a shoe part upon said frame, and means for causing the reciprocation of said frame.

2. A device for recessing shoe parts comprising a stand, a vertical shaft carried by said stand, a cutter at the end of said shaft, arranged to revolve in a horizontal plane, a stationary adjustable knife disposed near said rotary cutter, and arranged to coöperate therewith, means for securing a shoe part upon said frame, and means for causing the reciprocation of said frame.

3. A device for recessing shoe parts comprising a stand, a sleeve secured to said stand, a vertical shaft arranged to revolve in said sleeve, means for suspending said shaft, a rotary cutter disposed on the lower end of said shaft for rotation in a horizontal plane, a slidable frame disposed beneath said cutter, a knife carried by said sleeve and adjustable toward and away from said frame and arranged to coöperate with said cutter, a clamp carried by said frame for securing a shoe part to said frame, and means for reciprocating said frame.

4. A device for recessing shoe parts comprising a stand, a sleeve secured to said stand, a vertical shaft arranged to revolve in said sleeve, and to bear upon the upper end of said sleeve for suspending the shaft, means for preventing the upward movement of said shaft, a rotary cutter disposed on the lower end of said shaft for rotation in a horizontal plane, a slidable frame disposed beneath said cutter, a knife carried by said sleeve, a clamp for adjusting said knife toward and away from said frame and arranged to coöperate with said cutter, a clamp carried by said frame for securing a shoe part, and means for reciprocating said frame.

ADAM HENRY PRENZEL.

Witnesses:
L. W. Ryan,
G. W. Shultz.