

A. H. PRENZEL.

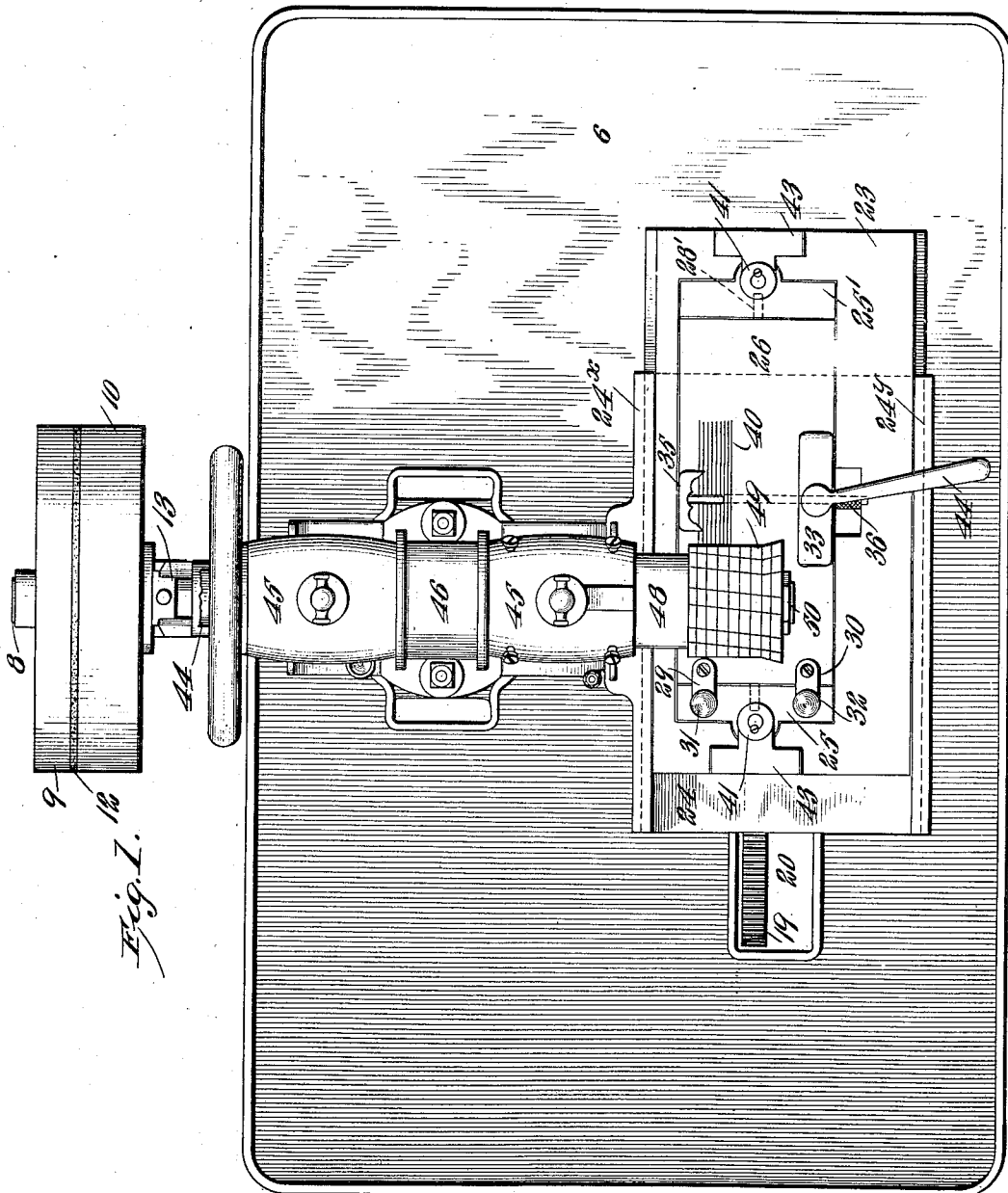
SHOE MACHINE.

APPLICATION FILED JULY 9, 1909.

959,256.

Patented May 24, 1910.

4 SHEETS—SHEET 1.



WITNESSES
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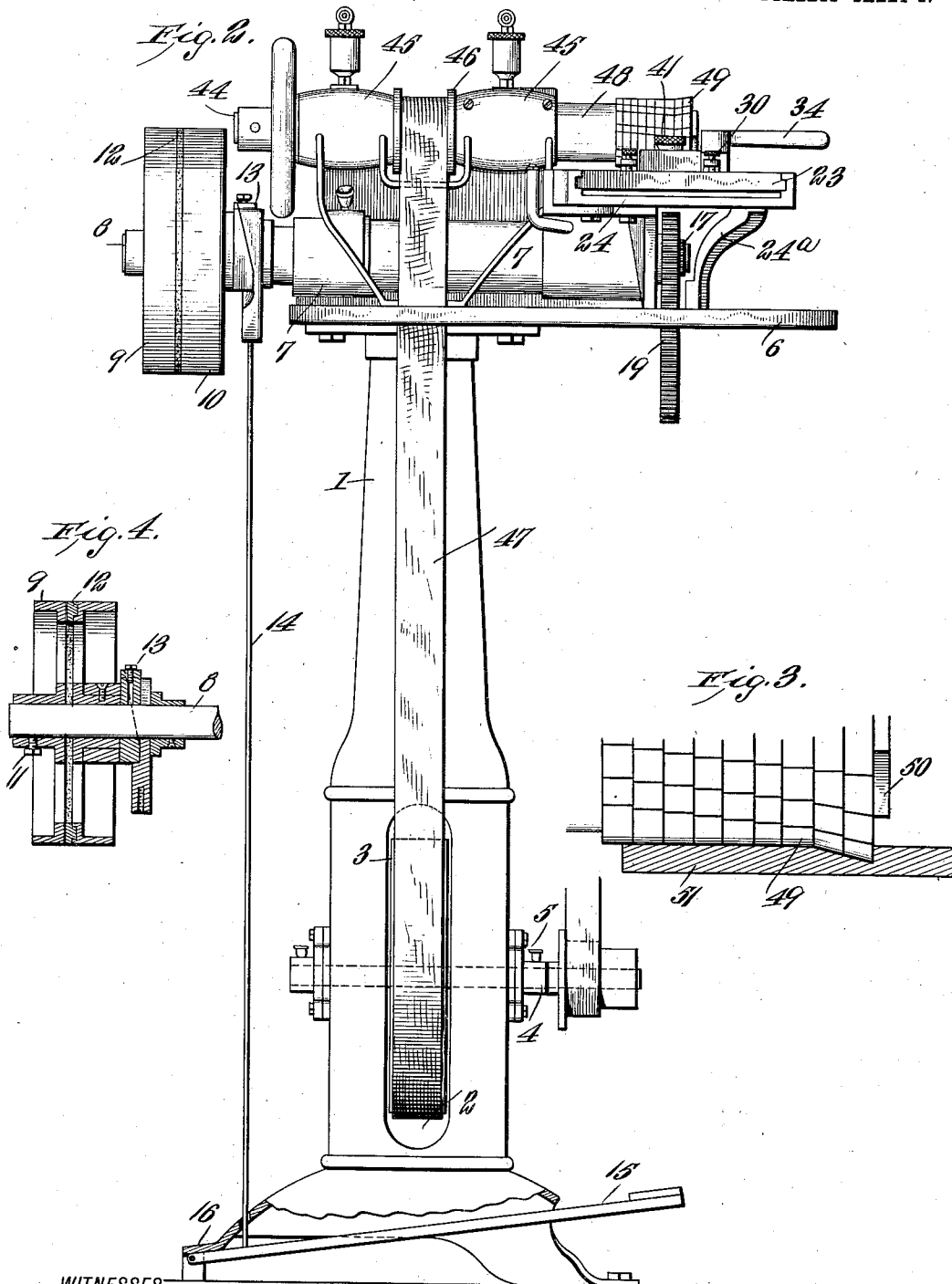
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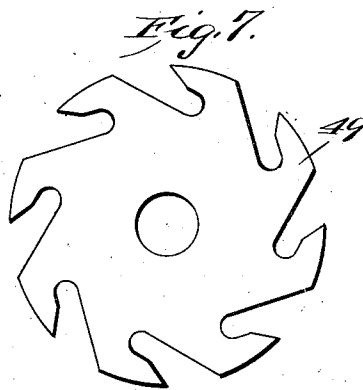
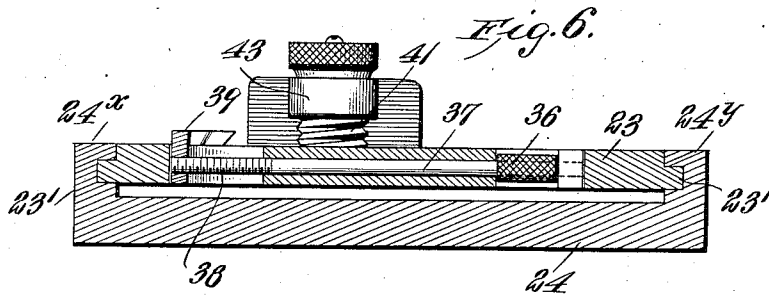
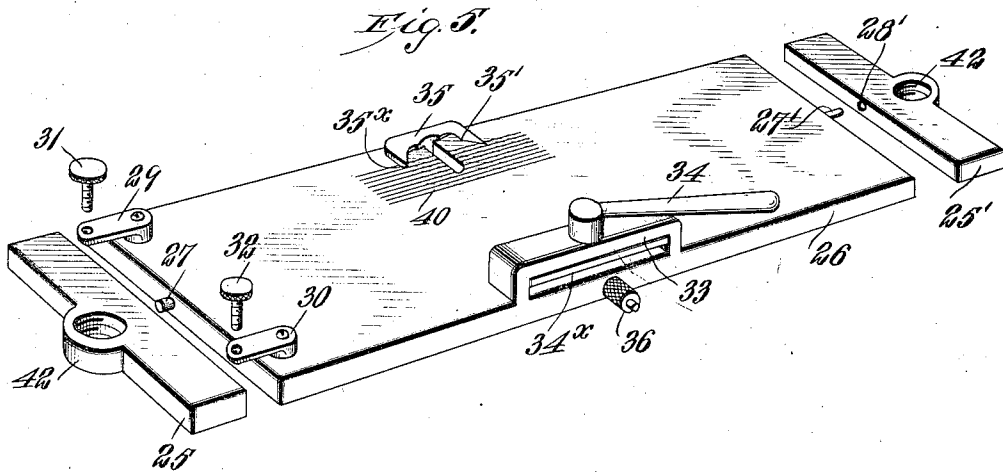
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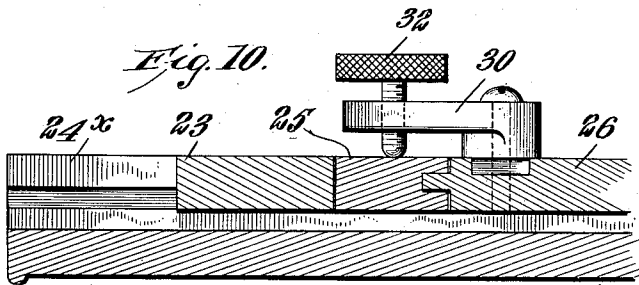
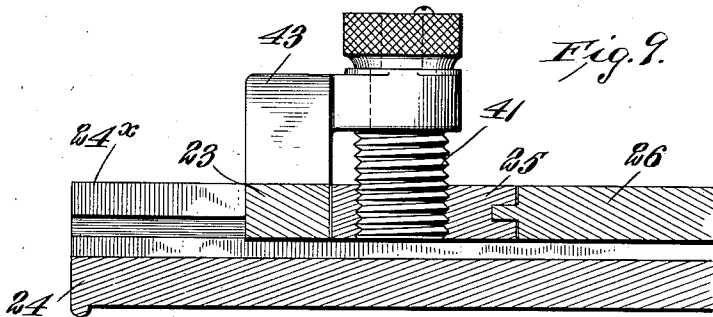
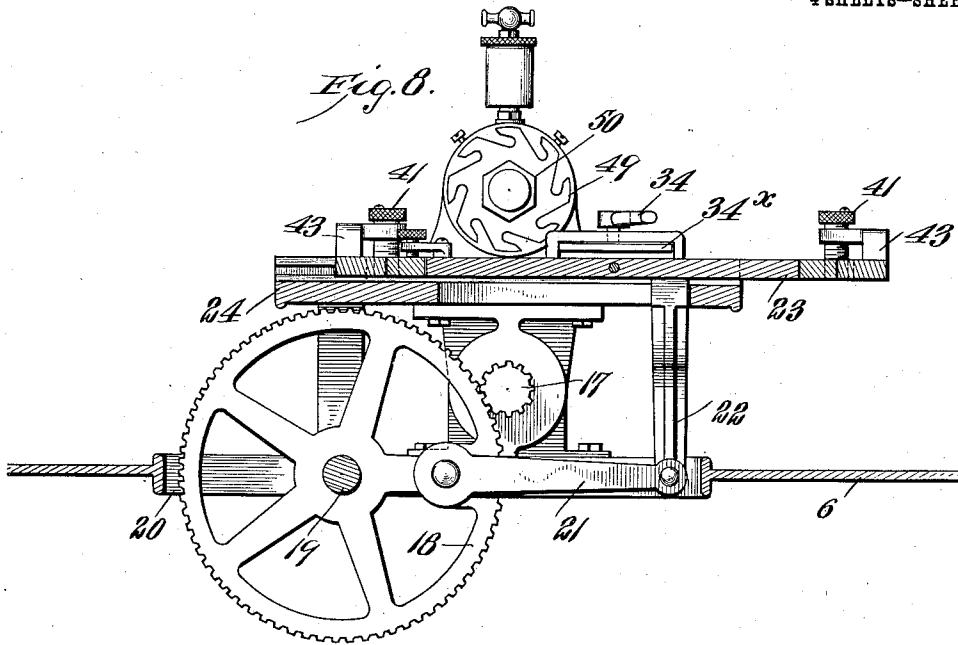
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UNITED STATES PATENT OFFICE.

ADAM HENRY PRENZEL, OF HALIFAX, PENNSYLVANIA.

SHOE-MACHINE.

959,256.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed July 9, 1909. Serial No. 506,698.

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 Shoe-Machines, of which the following is a specification.

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

In the manufacture of shoes it is sometimes necessary to recess the heel portion of the bottom pieces slightly in order to prepare them for subsequent operations. This is particularly necessary in those shoes designed for children, in which a wedge is inserted under the heel seat to raise the heel, while at the same time preserving the continuity of the bottom from the front to the extreme rear. The heel seat is designed to be inserted in the recess.

An object of my invention is to provide a machine for recessing the heel portions of the bottom piece of shoes preparatory to affixing thereto a heel seat, and an under-wedge.

A further object of my invention is to provide means for adjusting the device so as to make recesses of various sizes and shapes.

A further object of my invention is to provide means for gaging the amount of material to be cut away.

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

My invention is illustrated in the accompanying drawings in which similar reference characters indicate like parts in the several views, and in which—

Figure 1 is a plan view of the machine, Fig. 2 is a side view of the machine, Fig. 3 is a detail view showing the relation of the cutters and the portion of the heel to be recessed, Fig. 4 is a section through the drive pulley showing the friction clutch, Fig. 5 is a perspective view of the tiltable supporting plate, Fig. 6 is a transverse section through the central part of the tilting plate and the sliding frame, Fig. 7 is a side view of one of the cutters, Fig. 8 is a side view of the means for reciprocating the sliding frame, certain parts being shown in

section, Fig. 9 is a section through a portion of the sliding frame, and the tilting plate at right angles to Fig. 6, and Fig. 10 is a section through the frame and tilting plate showing the adjusting screw for tilting the plate.

Referring now to Fig. 2, I have shown therein a standard or upright 1 provided with a central opening 2 arranged to receive a drive wheel 3 which is carried by a shaft 4 the latter being journaled in the bearings 5 secured to the standard. At the upper part of the standard 1 is the cutting machine proper. This consists of a base portion 6 of the shape shown in Figs. 1 and 2, to which is secured the bearings 7 for the main shaft 8. On one end of the shaft are the two pulleys 9 and 10, the former being secured to the shaft by means of a set screw 11 (see Fig. 4), while the latter is loose on the shaft. The loose pulley is provided with a resilient facing 12 and is arranged to be forced into contact with the pulley 11 by means of the sliding block 13 which is connected, through the medium of the rod 14, with a foot lever 15, pivotally secured to the base 16 of the upright 1. On the opposite end of the shaft 8 is a gear 17 arranged to mesh with a larger gear 18 mounted for rotation on the shaft 19. The large gear is arranged to project through the opening 20 in the base plate 6 (see Figs. 1 and 2) and is connected by means of the link 21 to the downwardly extending arm 22 attached to the bottom of a sliding frame 23. The gear 19 and the link 21 serve as a crank mechanism for reciprocating the frame 23. The frame 23 is mounted in the run-way formed by the opposite sides 24^x and 24^y of the supporting frame 24, the latter being carried by the uprights 24^a extending from the base plate 6. The frame 23 is provided with extended edges 23ⁱ arranged to enter grooves in the sides 24^x and 24^y to guide the frame in its backward and forward movement. The sliding frame 23 is provided with a rectangular recessed portion arranged to receive the movable end plates 25 and 25ⁱ (see Fig. 1), and the tilting plate 26. The relation of the end plates 25 and 25ⁱ to the tilting plate 26 is clearly shown in Figs. 1 and 5. The tilting plate 26 is provided with dowel pins 27 and 27ⁱ arranged to enter openings 28 and 21 respectively in the end plates. At one end of the tilting plate 26,

on each side of the pivot pin 27, are arms 29 and 30 through which the respective screws 31 and 32 pass. The ends of these screws bear upon the end plate 25 in the manner shown in Fig. 10. It will be seen that by the adjustment of the screws 31 and 32 the plate 26 may be tilted about an axis through the pivots 27 and 27'. On one side of the tilting plate 26 is a bracket 33 bearing a handle 34 which, when turned, forces down a clamping strip 34^x (see Figs. 5 and 8), the purpose of which will be explained later. On the opposite edge is a movable indicator 35 having a recess of a concave shape provided with a series of sharp points 35' adapted to hold the heel portion of a shoe bottom. The member 35 serves a double function, therefore, of an indicator and a holder. It is manipulated by means of the milled head 36 of the rod 37 whose opposite end is threaded to engage the threads of a downwardly projecting portion 39 of the gage. Upon the plate 26 is laid off a scale 40 representing the sizes for heels of different shoes.

As heretofore explained, the end members 25 and 25' are secured to the tilting plate 26 by pivot pins 27 and 27'. Each of the end plates 25 and 25' may be raised or lowered by means of an adjusting screw 41 which extends through the threaded opening 42 in the enlarged portion of the end plates (see Fig. 5). The screws 41 are mounted on uprights 43 secured to the sliding frame 23. The cutter shaft 44 is supported in appropriate bearings 45 and is driven by means of a pulley 46 which is connected with the drive wheel 3 by means of a belt 47. The shaft is provided with a collar 48 and the cutter wheels 49 are slipped over the end of the shaft and are secured between the collar and the nut 50. These cutter wheels are of the type shown in Fig. 7. They are assembled in the manner shown in Figs. 1 and 3, each wheel being slightly in advance of the adjacent one, and the two larger wheels being beveled in the manner shown in Fig. 3. Instead of the two wheels being beveled, it is obvious that only one might be beveled, the purpose being to effect a deeper cut at the inner side of the recess.

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

In starting the machine as heretofore explained, the gage 35 is set at the proper distance by turning the milled head 36 of the rod 37 so that the inner points 35^x (see Fig. 5), just register with the proper line for recessing a heel of the desired size. The heel portion of the bottom of the shoe is now inserted beneath the bracket 33 until it engages the points 35' which limit the inward movement. The handle 34 is now turned and the bottom is firmly clamped to the

plate 26. The foot lever 15 is now depressed, thereby forcing the loose pulley 10 into frictional engagement with the fixed pulley 9. The loose pulley is connected with some suitable source of power and the shaft 8 is therefore turned causing the reciprocation of the frame 23 through the medium of the crank mechanism comprising the gear 18 and the link 21. The movement of the plate underneath the cutter causes the latter to cut away the heel 51 in the manner shown in Fig. 3. If it should be desired to recess the heel deeper on one part, adjusting screws 31 and 32 may be manipulated to tilt the plate 26 at various angular positions. If, on the other hand, it is desired to make a deeper cut or one less deep, the screws 41 may be manipulated, thereby raising or lowering the end plates 25 and 25' together with the tilting plate 26.

The operation of recessing the heel portions of the bottoms of shoes may be readily and accurately carried on and the adjustment for various sizes of shoes may be accurately and quickly made.

I claim:

1. A device for recessing shoe parts, comprising a stand, a rotary cutter carried by said stand, a reciprocating supporting plate for holding the parts to be recessed, a clamp carried by said plate and a movable retaining member arranged to move toward and away from said clamp for holding a portion of said shoe part and for gaging the extent of the recess.

2. A device for recessing shoe parts comprising a stand, a rotary cutter carried by said stand, a slidable frame, a plate pivoted in said frame, means for securing the shoe part upon said plate and means for causing the reciprocation of said frame and plate.

3. A device for recessing shoe parts, comprising a stand, a rotary cutter carried by said stand, a slidable frame, a plate pivoted in said frame, means for swinging the plate on its pivots and for retaining it in its shifted position, means for raising the plate and its pivots and means for reciprocating the plate.

4. In a device for recessing shoe parts, a base portion, a run-way, a slidable frame mounted therein, a pivoted plate carried by said slidable frame, a gage mounted on said pivoted plate, means for adjusting said gage to a pre-determined position, means for raising either end of the plate, and means for reciprocating the plate.

5. In a device for recessing shoe parts, a base portion, a run-way mounted thereon, a slidable frame disposed in said run-way, a pivoted plate carried by said slidable frame arranged to be tilted at various angles, a gage carried by said plate and constituting a stop for the shoe part, a clamp carried by said plate for holding the shoe

part in position, a series of rotary cutters and means for causing the engagement of the shoe part with said cutters.

5 6. In a device for recessing shoe parts, a base portion, a run-way mounted thereon, a slidable frame disposed in said run-way, a pair of end plates, carried by said slidable frame, a supporting plate pivotally mounted on said end plates, means for raising and
10 lowering each end plate independently of the other, a driving shaft, a crank on said driving shaft for reciprocating said sliding frame, means for securing a shoe part to said supporting plate, and a cutter mount-
15 ed for rotation upon said frame, said shoe part being arranged to be brought into engagement with said cutter by the reciprocatory movement of said slidable frame.

7. In a device for recessing shoe parts, a base, a shaft mounted on said base, a slid- 20 able frame, a supporting plate pivotally mounted on said slidable frame, means for securing the supporting plate in any of its tilted positions, means for reciprocating said slidable plate, a second shaft, a series 25 of cutters arranged on said second shaft, certain of said cutters being of greater diameter than the other of said cutters and having their edges beveled, and means for raising and lowering said supporting plate, 30 to bring the part supported thereon into engagement with the rotating cutters.

ADAM HENRY PRENZEL.

Witnesses:

G. W. SHULTZ,
L. W. RYAN.