J. K. GREER.

RING CUTTING AND SIZING MACHINE.

APPLICATION FILED AUG. 14, 1918.

1,324,666.

Patented Dec. 9, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

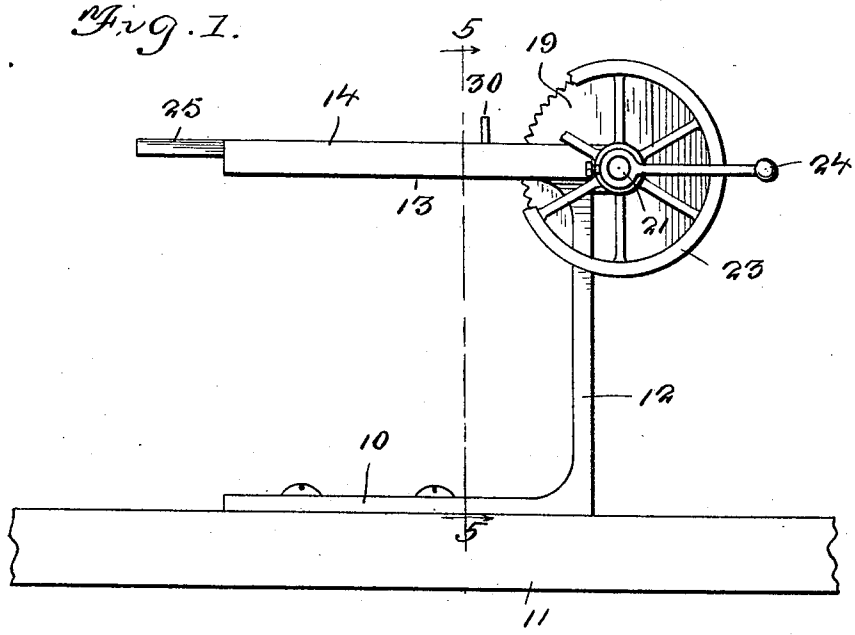
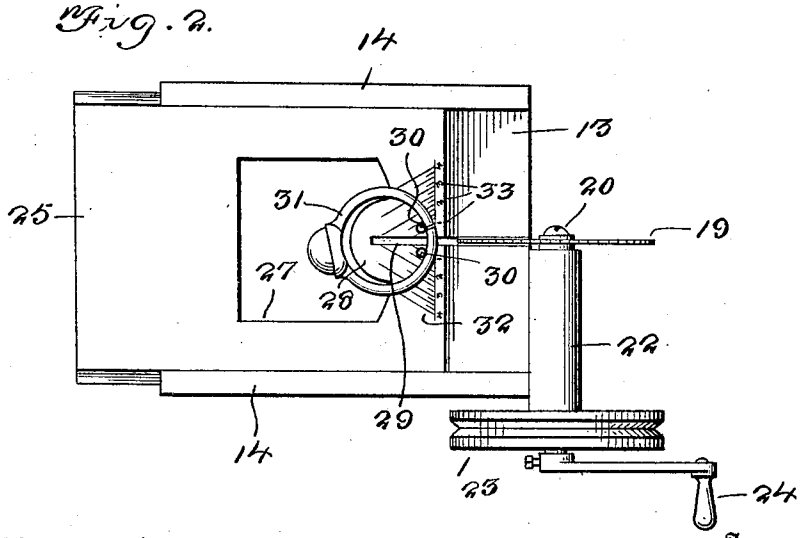


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

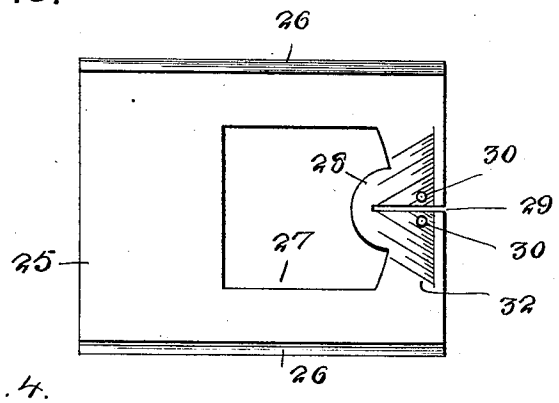


Fig. 4.

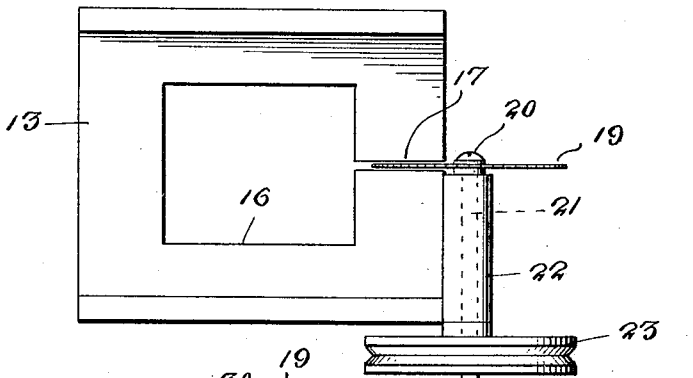
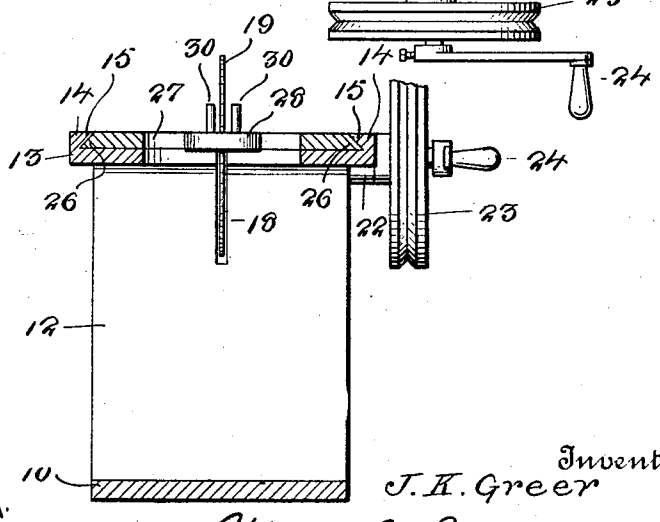


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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RING CUTTING AND SIZING MACHINE.

1,324,666. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed August 14, 1918. Serial No. 249,835.

To all whom it may concern:

Be it known that I, JAMES K. GREER, a citizen of the United States, residing at Paris, in the county of Monroe and State of Missouri, have invented new and useful Improvements in Ring Cutting and Sizing Machines, of which the following is a specification.

This invention relates to an improved ring cutting and sizing machine, especially designed for use of jewelers.

An object of the invention is to produce a machine of this class by the use of which a joint may be made without filing and which greatly assures the size of the piece to be cut out.

A further object of the invention is to simplify and improve the existing art by producing a ring cutting machine of an extremely simple form, comprising few parts, one which will operate upon either set or plain rings without necessitating the clamping thereof, and one which will perform the functions for which it is devised with ease and with accuracy.

Other objects and advantages will appear as the nature of the invention is better understood, reference being had to the accompanying drawings.

In the drawings:

Figure 1 is a side elevation of the improvement attached to a jeweler's work bench;

Fig. 2 is a top plan view of the same, showing a set ring in position to be cut;

Fig. 3 is a plan view of the slide;

Fig. 4 is a similar view of the machine with the slide removed; and

Fig. 5 is a transverse sectional view approximately on the line 5—5 of Fig. 1.

As disclosed by the drawings, the improvement comprises a frame, including a base plate 10 which is secured in any desired manner to the jeweler's work bench 11. From one end of the base arises the front plate 12 of the frame, and on the upper edge of the front plate is formed or secured the bed plate 13. The bed plate is arranged directly over the base 10 and is parallel therewith, the said bed plate being preferably, but not necessarily of a width greater than the base plate and has its edges provided with upstanding flanges 14, the inner faces of which being beveled inwardly as at 15. The bed plate is provided with a substantially rectangular opening 16 and with an approximately centrally disposed slot 17 that communicates with the opening 16 and with the vertically disposed slot 18 on the front plate 12.

In the slots 17 and 18 is arranged a circular saw 19. The saw is provided with a central opening through which is passed a removable securing element 20 whereby the saw is attached to one end of a shaft 21. The shaft is journaled in a suitable bearing 22 provided upon the upper corner of the front plate 12 and projects beyond one of the sides of the frame. The outer end of the shaft has arranged thereon a pulley 23 around which may be trained a belt, when the device is driven by motor power, but the pulley is also provided upon its outer face with a handle 24 so that the shaft and saw may be rotated by hand.

On the bed plate 13 rests a slidable work holder 25. The opposite edges of the plate comprising the work holder 25 are beveled as at 26 and engaged with the beveled faces 15 of the flanges 14 on the bed plate. By this means the work holder is held against lateral movement, but is permitted a free slidable movement in a longitudinal direction toward or away from the saw.

The work holder plate 25 is provided with a substantially rectangular opening 27, and the inner wall, provided by the opening is formed with a central rounded extension 28, projecting into the said opening. The plate is provided with a central slot 29 entering from the edge thereof that is disposed adjacent the saw, the said slot alining with the slot 17 in the bed plate, so that the saw 19 may play through both of these slots. The slot 29 may be of any desired length, but terminates inwardly from the rounded extension or table 28. The table portion of the work holder, to the opposite sides of the slot is provided with upstanding pins 30 against which the ring 31 is adapted to be pressed by the hand of the operator, the ring resting upon the table, and when a set ring is to be cut, as illustrated in Fig. 2 of the drawings, the set thereof is received in the opening 27.

The work holding plate 25 is provided with an index, the same being in the nature of a series of lines 32, certain of which being inscribed with suitable indicia 33, and the said lines being disposed angularly from opposite directions toward the slot 29.

It is believed the simplicity and the op-

eration of the device will be apparent to those skilled in the art to which such inventions appertain. The ring is placed on the table portion of the work holder, being held against the pins 30 by the hand of the operator. The slide is gradually moved toward the saw which, of course, is in motion. The index insures the proper cut being made through the ring. It will be noted that no clamping means, other than the finger of the operator and the pins is employed in holding the ring. It will be further seen that the rounded extension, or what I have termed the table portion of the work holder, being disposed inwardly of the opening 27 permits of the device being successfully employed for cutting set rings as well as plain rings, and while I have illustrated a simple and satisfactory embodiment of the improvement, as it now appears to me, it is to be understood that I am entitled to all such departures therefrom, as fall within the scope of what is claimed.

Having thus described the invention, what is claimed as new, is:—

1. In a device for the purpose set forth, a frame including a bed plate, a circular saw journaled thereon and means for imparting motion to the latter, a slidable work holder on the bed plate having a slot to receive the circular saw, and pins on the work holder located adjacent to and upon opposite sides of said slot, as and for the purpose set forth.

2. In a ring cutting machine, a frame, a circular saw journaled thereon and received in a slot therein, means for imparting motion to the saw, a slidable work holder on the frame having a slot to receive the circular saw, pins positioned on the work holder adjacent to and upon the opposite sides of the slot, and said work holder having an opening therethrough disposed to the rear of the pins all as and for the purpose set forth.

3. In a ring cutting machine, a frame including a bed plate, a circular saw journaled on the frame and entering the slot in the bed plate, means for imparting motion to the saw, a slidable work holder on the bed plate co-engaging therewith to hold the latter against side movement, said plate having a slot to receive the circular saw, pins on said plate, an index on said plate, said pins and index being arranged adjacent to and upon the opposite sides of the slot, and said work holder having an opening to the rear of the pins, as and for the purpose set forth.

4. In a ring cutting machine, a frame including a base plate, a front plate arising from one end thereof, a bed plate on said front plate having its edges formed with upstanding flanges the inner surface of which being inclined, said front plate and bed plate having alining slots, a circular saw playing through said slots, means for imparting motion to the saw, a work holding plate having beveled edges and engaged by the flanges on the bed plate, said work holder having an opening therethrough and a slot to receive the saw, a table on the work holder plate projecting into the opening, pins on said plate, an index comprising inclined lines, and said pins and index being arranged adjacent to and upon the opposite sides of the slot.

In testimony whereof I affix my signature.

JAMES K. GREER.