No. 673,847. Patented May 7, 1901.

A. RÜCKL.

PROCESS OF MAKING LENSES.

(Application filed June 8, 1900.)

(No Model.)

Fig. 1.

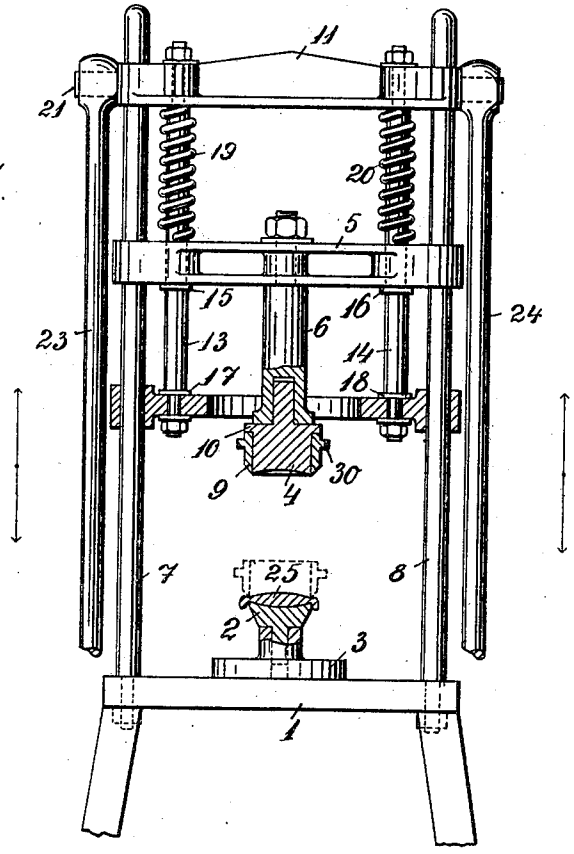
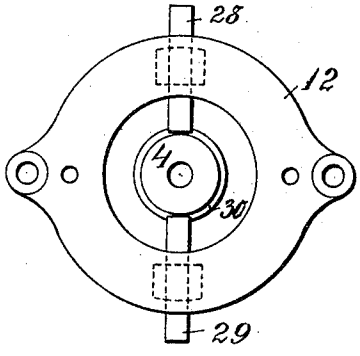


Fig. 2.



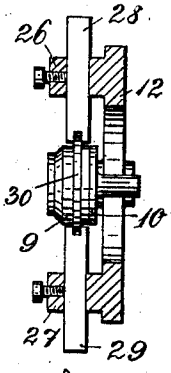


Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

ANTONIN RÜCKL, OF NOVÉ MITROVICE, AUSTRIA-HUNGARY.

PROCESS OF MAKING LENSES.

SPECIFICATION forming part of Letters Patent No. 673,847, dated May 7, 1901.

Application filed June 8, 1900. Serial No. 19,568. (No model.)

To all whom it may concern:

Be it known that I, ANTONIN RÜCKL, manufacturer, a subject of the Emperor of Austria-Hungary, residing at Nové Mitrovice, Bohemia, Austria-Hungary, have invented a new and useful Improvement in Pressing Lenses, Glass for Lanterns, Mirrors, and the Like; and I hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

I make my molds from aluminium alloys or other non-oxidizable materials.

The construction of the press or machine by which I carry out my process and for which it is specially adapted is as follows:

In the drawings, Figure 1 represents a side elevation; Fig. 2, a detail plan view of the cross-head 12, the upper die, and knife, with attachments; and Fig. 3, a side view of the same, showing the cross-head 12 in section.

1 designates a base or standard having at its center a smaller support 3, to the top of which is attached the lower die or half of the mold 2. From the ends of said base 1 rigid parallel uprights or standards 7 8 (one at each end) rise vertically. Three parallel horizontal cross-heads 11, 5, and 12 are adapted to slide vertically on said standards, which pass through them and act as guides. The cross-head 11 is the uppermost, 5 the middle, and 12 the lowermost. To the ends of the uppermost cross-head 11 are attached handles 23 and 24 or equivalent means for raising and lowering it. The said cross-head is connected to the others by two vertical parallel bars or guide-rods 13 and 14, which are securely attached to cross-heads 11 and 12 and pass loosely through guide-holes in cross-head 5. Between cross-heads 5 and 12 the said bars 13 and 14 are provided with two pairs of collars 15 and 16, 17 and 18, which serve to maintain a certain fixed distance between cross-heads 5 and 12, the holes in cross-head 5 being too small to permit the passage of the uppermost pair of collars 15 and 16. Between cross-heads 5 and 11 two spiral springs 19 and 20 surround the bars 13 and 14. At the middle of cross-head 5 is rigidly attached a depending bar or mold-support 6, in the lower end of which is inserted securely the upper die or half of the mold 4, similar to and registering with the lower half 2. This die 4 has a collar 10 surrounding it at its upper end, and below this a ring-knife 9 surrounds it and is vertically movable thereon. The cutting edge of said knife passes close to the lower edge or ridge of die 4 when in use. The cross-head 12 is made circular in shape, with a circular central aperture through which the die-support 6 and die 5 pass. Two lugs 26 and 27 depend from diametrically opposite sides of the lower surface of said cross-head 12, and two horizontal arms 28 and 29 pass through them, respectively, and are provided with slots in their inner ends which engage a collar 30, formed on the exterior periphery of the ring-knife 9. These arms are adjustable in said lugs.

The operation is as follows: The amorphous lump of semimolten glass is placed upon the lower die 2, and by means of handles 23 and 24 the cross-head 11 is forced down, bringing with it the two lower cross-heads and die 4. When die 4 reaches the lump of glass, it compresses it into the desired shape and squeezes the surplus out between the edges of dies 2 and 4, so as to form a surrounding bead. The downward pressure continuing, the springs 19 and 20 are compressed, and consequently while cross-head 5 remains stationary cross-heads 11 and 12 still descend, carrying the ring-knife with them, which thus cleanly cuts off the said squeezed-out bead of surplus glass. The position of the upper die just before the knife is operated is shown in dotted lines in Fig. 1. When the pressure is released, the springs 19 and 20 cause the ring-knife to return to its normal position, and the upper die is then lifted from the glass, which will be found to be pressed into a perfect lens.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The process of making lenses and the like, consisting first in compressing the amorphous glass into the desired shape so that the superfluous glass shall be squeezed out at the edges, and secondly cutting off said superfluous and expressed glass by a continued exertion of the same force operating independently of the compressing action substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ANTONIN RÜCKL.

Witnesses:
ADOLPH FISCHER,
L. VOJAREL.