(No Model.)

# J. LAURENT.

## MACHINE FOR FORMING SNAPS ON WATCH COVERS.

No. 259,178. Patented June 6, 1882.

*Fig 1.*

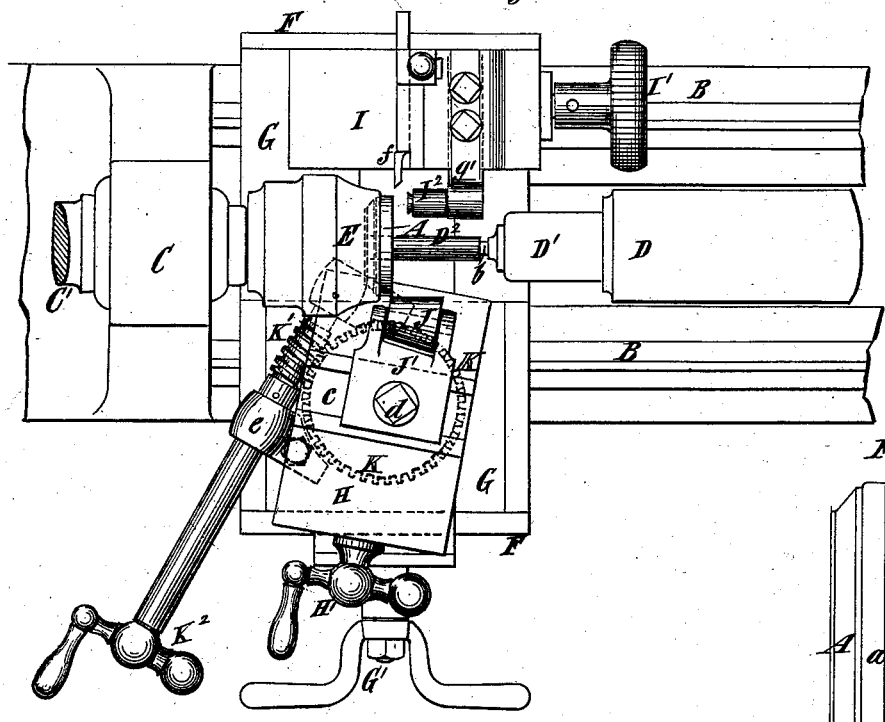



*Fig 4.*

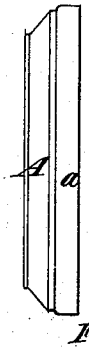



*Fig 2.*

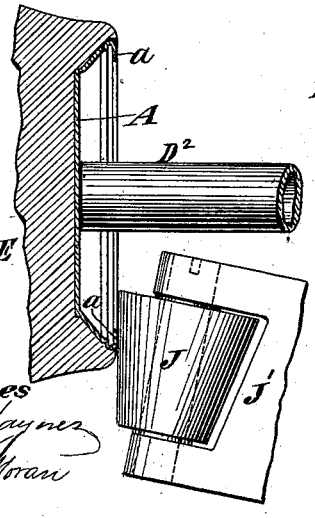



*Fig 3.*

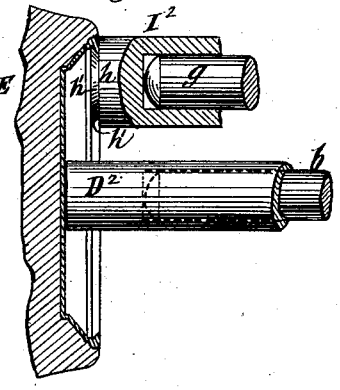
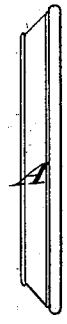



*Fig 5.*

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# UNITED STATES PATENT OFFICE.

JACQUES LAURENT, OF PHILADELPHIA, PENNSYLVANIA.

## MACHINE FOR FORMING SNAPS ON WATCH-COVERS.

SPECIFICATION forming part of Letters Patent No. 259,178, dated June 6, 1882.

Application filed February 9, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JACQUES LAURENT, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Making Watch-Covers, of which the following is a specification.

The object of my invention is to provide a simple and convenient machine for forming the snap on what are known in the trade as "watch-covers"—viz., the outer front and back portions of metal cases—whereby I am enabled to produce a strong case, stout in the snap, and equally as good as what is commonly termed a "solid snap," which is formed by a separate ring soldered to the front or back part of the cover, and a case which can be produced at a less cost than one having such a solid snap.

The covers are first produced by stamping, or otherwise, from sheet or plate metal, and are formed with lips or rims projecting considerably from their edges, so as to provide metal for forming the snap.

My invention consists in a machine of novel construction, comprising a chuck and spindle for holding and rotating a cover, a roller for turning in the lip or rim of the cover, and a second roller having a shoulder and a tapered portion of reduced diameter for upsetting and beveling such turned-in portion, as more fully hereinafter described, both said rollers being mounted upon a compound rest organized so that the rollers may be applied to the cover alternately.

In the accompanying drawings, Figure 1 represents a plan of such portions of my machine as are necessary to illustrate my invention. Fig. 2 represents a sectional view of certain parts, upon a large scale, including the cover and the roller which turns the edge thereof inward. Fig. 3 represents a similar view, with the edge-turning roller omitted, and including the roller for upsetting and beveling the turned-in edge. Fig. 4 represents a side view of the cover after it is stamped or pressed and before the snap is formed, and Fig. 5 represents a side view of the completed cover.

Similar letters of reference designate corresponding parts in all the figures.

A, Fig. 4, designates the cover, which is stamped or otherwise produced from sheet metal in the ordinary way, and is formed with a lip or rim, *a*, projecting considerably therefrom, so as to provide metal for forming the snap.

The machine or apparatus which I employ very much resembles an ordinary lathe. B designates the shears or ways. C designates the head-stock, containing the live-spindles C′, and D designates the tail-stock, containing the dead-spindle D′, which may be moved longitudinally in the usual way.

E designates a chuck, which is fast upon the live-spindle C′, and the cavity of which is made to conform to the shape of the cover A, as clearly seen in Figs. 2 and 3. The cover A to be operated upon is placed in the chuck E, and is pressed into and held in the chuck by a sleeve or pusher, $D^2$, fitted and adapted to rotate upon the stationary center *b*.

Upon the shears or ways B is mounted a carriage, F, very similar to that employed in a lathe, and this carriage may be moved along the shears or ways by a rack and pinion, or any other desirable mechanism well known in lathes for a like purpose.

Upon the carriage F is mounted a slide-rest, G, which may be moved transversely to the shears or ways by a screw or other suitable device operated by a handle, G′, and upon the rest G are mounted two independent supplemental rests, H I, (clearly shown in Fig. 1,) and forming, with the rest G, a compound rest.

Upon the rest H is a roller, J, and a holder or bearing, J′, therefor, which may be adjusted in a channel or slideway, *c*, across the rest H, and secured in position after adjustment by a screw, *d*, and the said rest is adapted to turn upon a pivot on the rest G. Concentric to the pivot on which the rest H turns is a worm-wheel, K, (shown dotted in Fig. 1,) and K′ designates a worm or screw engaging with said wheel and mounted in bearings *e* on the rest H.

The worm K′ may be turned by a handle, $K^2$, and by means of the said worm and the worm-wheel K the rest H may be turned a quarter of a turn more or less to present the roller J to the cover in the position shown in Fig. 1 or in that shown in Fig. 2.

The rest H may be shifted upon the rest G by a screw or other means operated by a han-

dle, H′. The rest I is adapted to be moved upon the rest G in the direction of the length of the shears or ways B by a screw or other means operated by the handle I′, and said rest I carries a knife or cutter, *f*, and a roller, $I^2$. The roller $I^2$ is fitted on and adapted to rotate upon a pin or stud, *g*, as shown clearly in Fig. 3, and said pin or stud projects from a bracket or arm, *g′*, on the rest I. Near the end of the roller $I^2$ is a shoulder, *h*, and beyond the shoulder is a portion, *h′*, of reduced diameter, tapered or beveled toward the shoulder, as clearly shown in Fig. 3.

In the operation of my machine the cover A is placed in the chuck E, which is then rotated rapidly. The rest H is then moved toward the rim or lip *d* on the cover by operating the screw H′, and the roller J is brought to bear against the same. The handle $K^2$ is then operated to work the worm and turn the rest H, and the handle H′ is likewise operated sufficiently to cause the roller to press with proper force against the lip or rim *a*. By turning the roller J from its position shown in Fig. 1 to that shown in Fig. 2, and keeping it tightly pressed against the rim *a* meanwhile, the latter is turned inward into a plane parallel with the top of the cover, as clearly shown in Fig. 2. The handle G′ is then operated to draw back the rest H and draw forward the rest I, and by operating the handle I′ the cutter *f* is caused to face off the rim *a* on the cover to leave it the depth required. The rest G is then moved back and the handle I′ is operated to bring the roller $I^2$ into such a position that its shoulder *h* and tapered portion *h′* will operate on the turned-in rim *a*, as seen in Fig. 3, and by moving the rest G backward the said roller is caused to press on the rim *a* with sufficient force to upset the rim or lip *a* outward, and thereby thicken and at the same time bevel its inner side, as clearly seen in Fig. 3, thereby giving the proper form to the snap.

By my invention I provide for forming a snap integral with the cover, and thereby make a very strong case, having a stout and effective snap.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a chuck and spindle for holding and rotating a cover, of a compound rest carrying a roller for turning in the lip or rim of the cover, and a roller having a shoulder and a tapered portion of reduced diameter for upsetting and beveling such turned-in portion, said rest being organized so that said rollers can be separately applied to the cover, substantially as herein described.

2. The combination, with a chuck and spindle for holding and rotating a cover, of the rest G, the supplemental rests H I, the worm-wheel K and worm K′, the roller J, and the roller $I^2$, all arranged and operating substantially as and for the purpose herein described.

JACQUES LAURENT.

Witnesses:
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