(No Model.)

J. E. POTTER.

TOOL FOR THE MANUFACTURE OF WATCH CHAIN SWIVELS.

No. 457,888. Patented Aug. 18, 1891.

Fig. 1.

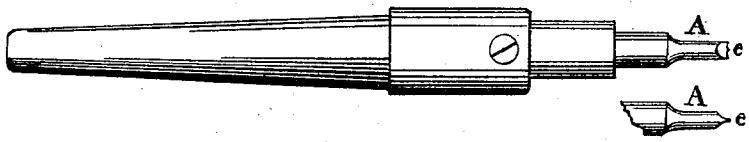


Fig. 2.

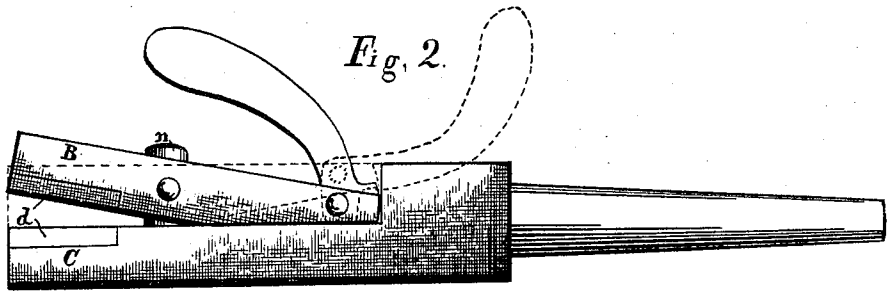


Fig. 3.

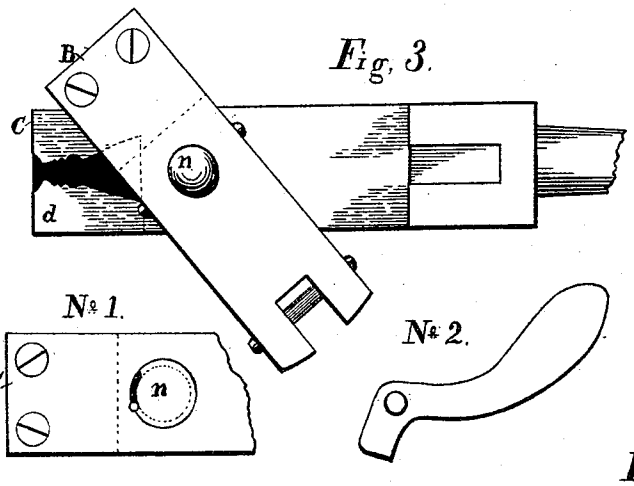


Fig. 4.

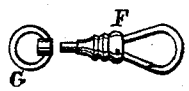


Fig. 5.

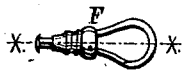




Fig. 6.

№ 1.

№ 2.

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UNITED STATES PATENT OFFICE.

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TOOL FOR THE MANUFACTURE OF WATCH-CHAIN SWIVELS.

SPECIFICATION forming part of Letters Patent No. 457,888, dated August 18, 1891.

Application filed August 6, 1890. Serial No. 361,385. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. POTTER, of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Tools for the Manufacture of Swivels for Watch-Chains; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 represents my improved combined cutting and spreading tool as fitted to a shank or center. Fig. 2 represents a side view of my improved adjustable holding-tool. Fig. 3 is an upper view of the holding-tool, showing the movable jaw as turned in position for inserting a swivel to be held for its finish. No. 1 of Fig. 3 is an end sectional view of the under surface of the lower jaw, showing the check-pin to the upper jaw when said jaw is swung in line with the lower jaw, and No. 2 of Fig. 3 is the set-lever. Figs. 4 and 5 represent a swivel in progress of manufacture. Fig. 6 is a sectional view of Fig. 5 through the line x x and an edge view of the swivel-ring bent to one side.

The object of my present invention is to facilitate the manufacture of swivels for watch-chains, lessening the cost and attaining a durable article when finished; and it consists in a combined cutting and spreading tool, together with an adjustable holding-tool, for the purpose as hereinafter described.

In the accompanying drawings, A, Fig. 1, represents the combined cutter and spreader, which may be of a round piece of steel, one end fitted into a lathe-chuck similar to a drill, the outer or extended end at e being made flat and of a suitable width and thickness. It is formed with a central cutting-point and two spreading or guiding points, said spreading or guiding points being concentric on a line with its width. The edges on either side of the central point are slightly concave, and that portion nearest the center is sharpened similar to a drill. The remaining portion of the spreading-points is left dull or rounded over, similar to a burnisher, so that when revolving in a lathe, as in use, the central portion only is made to cut, while at the same time the dull or rounded portion displaces the stock it is brought in contact with.

Fig. 2 represents my improved holding device having jaws B and C for retaining a swivel in position when forming the flange-head over the inner end of the eye of the swivel-ring. This device is provided with a shank to fit the back head of a lathe, so that the upper surface of the jaw C may be set on a line with the center of the cutting and spreading tool. At the end of each jaw from the inner surface a small plate d is fitted and held in position by screws passing through from the outer surface of said jaws. Each plate is formed with a countersunk impression corresponding in shape with the swivel to be held, and one-half in depth of its thickness. (Illustrated in Fig. 3.) The upper jaw B is arranged upon an upright central stud n, and pivoted by a small pin passing through from side to side to oscillate thereon. The stud n is made with a flange-head at its lower end, and fitted to turn through the lower jaw C. A portion of the flange on one side is cut away to give place for a check-pin, as arranged for the swinging distance of the upper jaw B. (Illustrated in Fig. 3, Section No. 1.) The set-lever represented in same figure, No. 2, is applied to the rearward end of the upper jaw B, and connected thereto through a slot by a pin similar to that illustrated in Fig. 2. When said lever is turned in the direction as shown by broken lines, the lower connecting end operates in closing the upper jaw B against the lower jaw C, bringing the two countersunk-plates d together, and a portion of the lower side of the aforesaid lever enters a recess formed in the rearward end of the said lower jaw C, setting and retaining the said upper jaw B on a line with the aforesaid lower jaw C. By this arrangement the swivel may be held firmly for its finish.

In Fig. 4, F represents the hook portion of a swivel, being provided with a suitable length-pivot at one end, and G is the swivel-ring soldered to a short tubular eye the ordinary way. Said eye is fitted loosely upon the said pivot

of the hook portion, and the whole, as arranged, is placed into the countersunk impression of the lower jaw C of the holder. The upper jaw B is then swung in line and closed over the said swivel, clamping it firmly within the countersunk impressions, as hereinbefore described. The swivel-ring is then bent to one side, as shown in Fig. 6. The combined cutter and spreader A and adjustable holder being arranged on a line in a lathe, the pivot end of the swivel is forced against the cutter and spreader A, at the end *e*, while said cutter and spreader are in motion, thus forming a solid flange-head over the inner end of the ring-eye, similar to that shown in Fig. 5. It may be plainly seen that the central stock of the pivot end being cut away, the outer portion to form the flange-head is rendered more free to spread, bringing its base on a line across from the depth of the cut, (shown in section, Fig. 6,) and the surface against the ring-eye would naturally turn sharply at a right angle from the circumference of the pivot at the said base or line across without enlarging any portion of the pivot beyond, which is an important point to the easy working of the swivel-ring when in use.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The herein-described tool for the manufacture of swivels for watch-chains, consisting of the cutting and spreading tool A jointly with the holding-tool having the jaws B and C and countersunk plates, to be operated substantially as described.

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Witnesses:
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