V. DRAPER.

CLAMPS FOR THE MANUFACTURE OF CHAIN SWIVELS.

No. 180,855. Patented Aug. 8, 1876

Fig. 1.

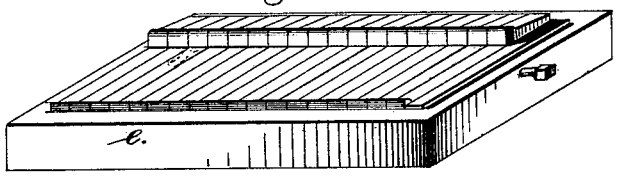

Fig. 2.

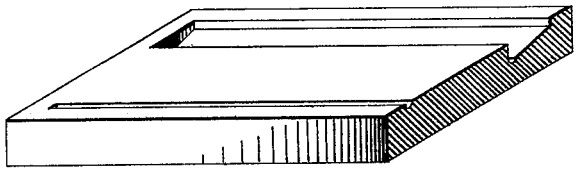

Fig. 3.

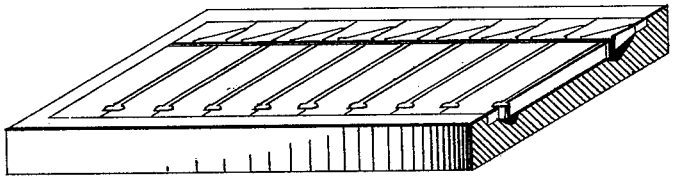

Fig. 4.

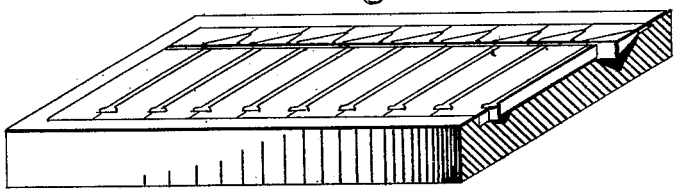

Fig. 5. Fig. 6. Fig. 9. Fig. 7. Fig. 8.

WITNESSES.

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VIRGIL DRAPER, OF NORTH ATTLEBOROUGH, MASSACHUSETTS, ASSIGNOR TO OSCAR M. DRAPER, OF SAME PLACE.

IMPROVEMENT IN CLAMPS FOR THE MANUFACTURE OF CHAIN-SWIVELS.

Specification forming part of Letters Patent No. **180,855**, dated August 8, 1876; application filed March 17, 1876.

To all whom it may concern:

Be it known that I, VIRGIL DRAPER, of North Attleborough, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Clamps used in the Manufacture of Chain-Swivels; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 represents a clamping-frame, in which a number of blanks are secured to be operated upon by a milling, planing, or shaping machine. Fig. 2 represents a matrix, arranged to support the blanks after one side of the same is shape as shown in Fig. 1. Fig. 3 is a view of the matrix provided with intermediate blocks, and arranged to secure the blanks after the second process of shaping is completed. Fig. 4 is a view of the frame or matrix in which the blanks are secured to be operated upon by the finishing-cutter. Fig. 5 represents the blank after the first cutting or shaping operation. Fig. 6 represents the blank after the second operation, Fig. 7 after the third, and Fig. 8 after the final cutting or shaping operation. Fig. 9 is a view of the finished chain-swivel.

Similar letters of reference indicate corresponding parts.

The object of the invention is to produce chain-swivels of precious metal, of plated metal, or of alloys or compositions of different metals, made in one piece, or when made in two pieces to secure the same together, so as to form a stronger and better swivel than has heretofore been made.

Another object of the invention is to manufacture chain-swivels, or parts thereof, by successive operations, and by especially-arranged machinery, so that all parts will be made alike, and without the skilled and experienced labor heretofore required in their manufacture.

The invention relates to that class of chain-swivels used on watch or other chains usually made by jewelers, either of precious metal or such metal or composition of metals as are used for imitation jewelry.

In the drawings, Fig. 9 represents the finished swivel, of which *a* is the base, and *b* is the bent bow, which, when completed, is cut open and provided with a spring, as shown in the above Fig. 9. When such a swivel is made in one piece, the same is shaped and completed first, and the part forming the bow is then bent, and one end secured by a pin. This end is then cut open, and a spring inserted in the usual manner. When made in two parts, the base *a* and loop *b* are milled or shaped separately, and the ends secured by pins, one being also soldered, and the other cut open to have a spring inserted, in the usual manner.

This mode of construction is superior to the old process of soldering the loop to the base, or of casting the base and loop, and then finishing the same, while the cost of producing the same is much reduced by the peculiar and novel process of their manufacture, no skilled labor being required, while all swivels of a given size will be alike in all parts, stronger, and more durable.

The process consists in first cutting from a proper wire the required length for a blank. A boy places these blanks into the frame *e*, arranged so that the same project sufficiently above the frame to allow the cutter of a milling, shaping, or planing machine to remove the surplus metal, and produce the shape on one side, as shown in Figs. 1 and 5. The blanks are now removed to a frame provided with a bottom or matrix, as shown in Fig. 2, in which they accurately fit, and are again secured and subjected to a cutter arranged to form the opposite side of the blank, and thus produce the shape shown in Fig. 6. The blanks are now placed in the frame shown in Fig. 3, in which they are separated by blocks arranged to accurately fit between two blanks, and are thus secured and subjected to the operation of the third cutter, producing a blank, as shown in Fig. 7. They are now placed into the frame shown in Fig. 4, also arranged with division-blocks, and subjected to a cutter, producing the shape shown in Fig. 8. A special cutter is now used to cut out the portion at *c*, Fig. 9, where the end of the bow or loop is to be hinged and secured by a pin. The loop is now bent, as shown, a hole is drilled through the base and loop, as shown at *c*, and a pin inserted. The loop may now be cut open, and a

spring inserted, thus completing the swivel by mechanical means without any skilled labor.

The loop *b* and base *a* may be made separate, and, if required, of different metals, each piece being made successively in the same manner as the whole. The slot cut into the base *a* at *c* will also be cut at *d*, Fig. 9, and the loop *b* bent and secured to the base by pins, the connection at *d* being also soldered, and the swivel cut and finished, as before.

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

For use in the manufacture of chain-swivels, a series of clamps, forms, or dies, substantially as described, for clamping and holding the chain-swivel blanks in proper positions for being operated upon by milling-tools.

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Witnesses:

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