

D. B. WAITE.

Making Watch and Locket Rims.

No. 32,159.

Patented April 23, 1861.

Fig. 1.

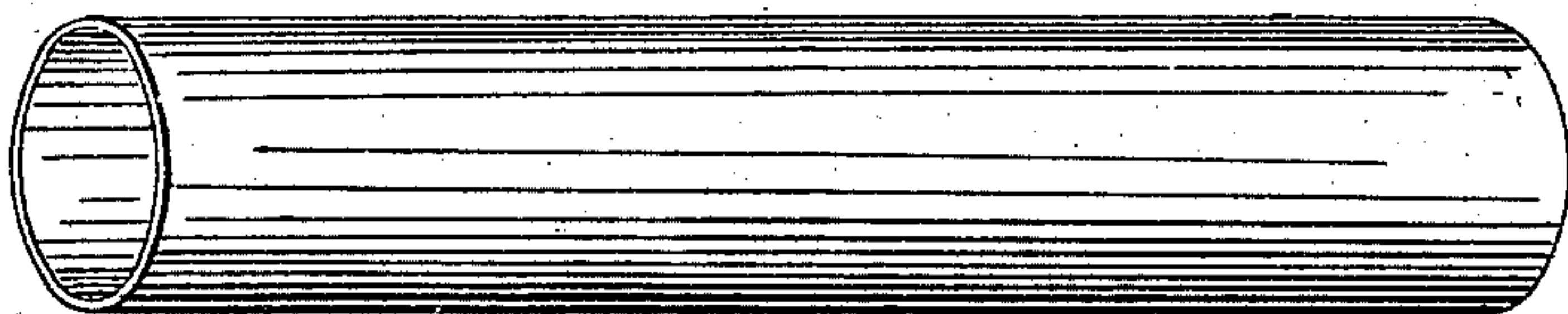


Fig. 2.

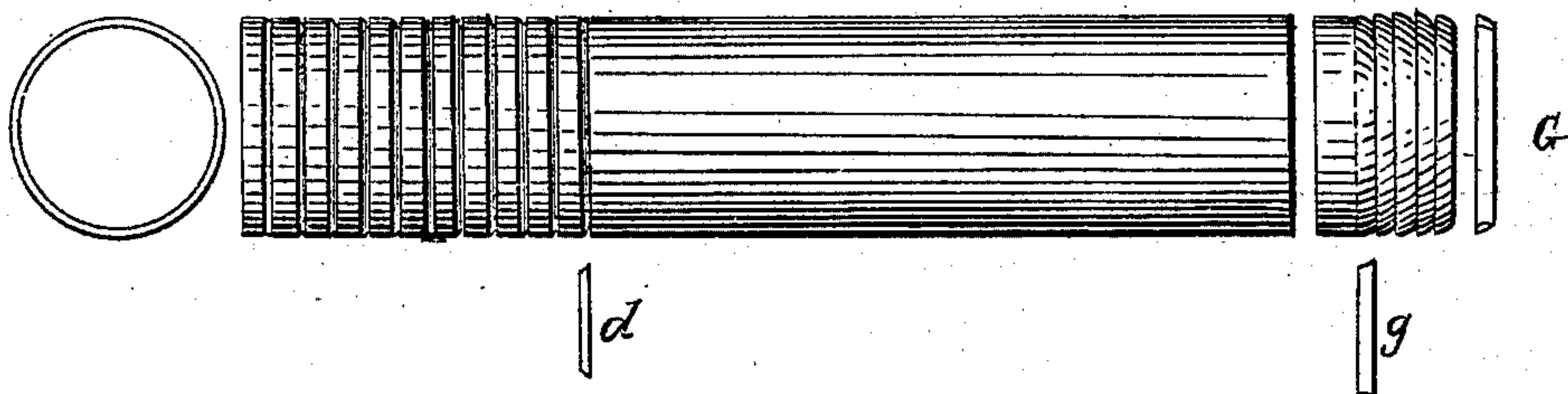


Fig. 3.

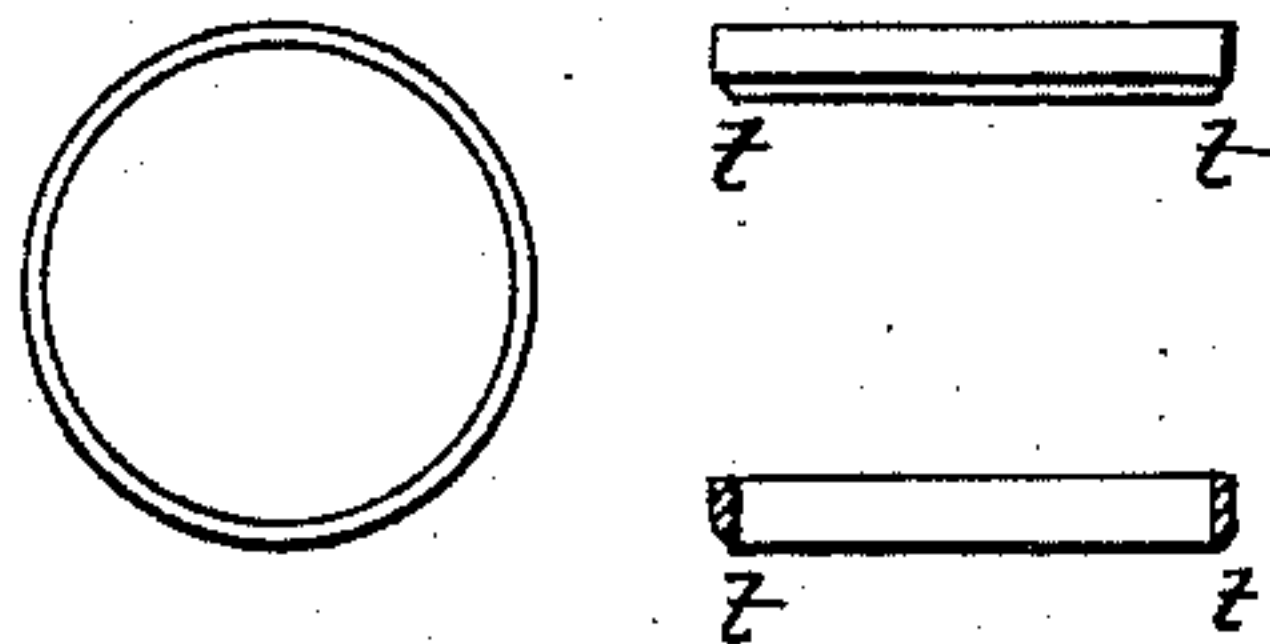


Fig. 6.

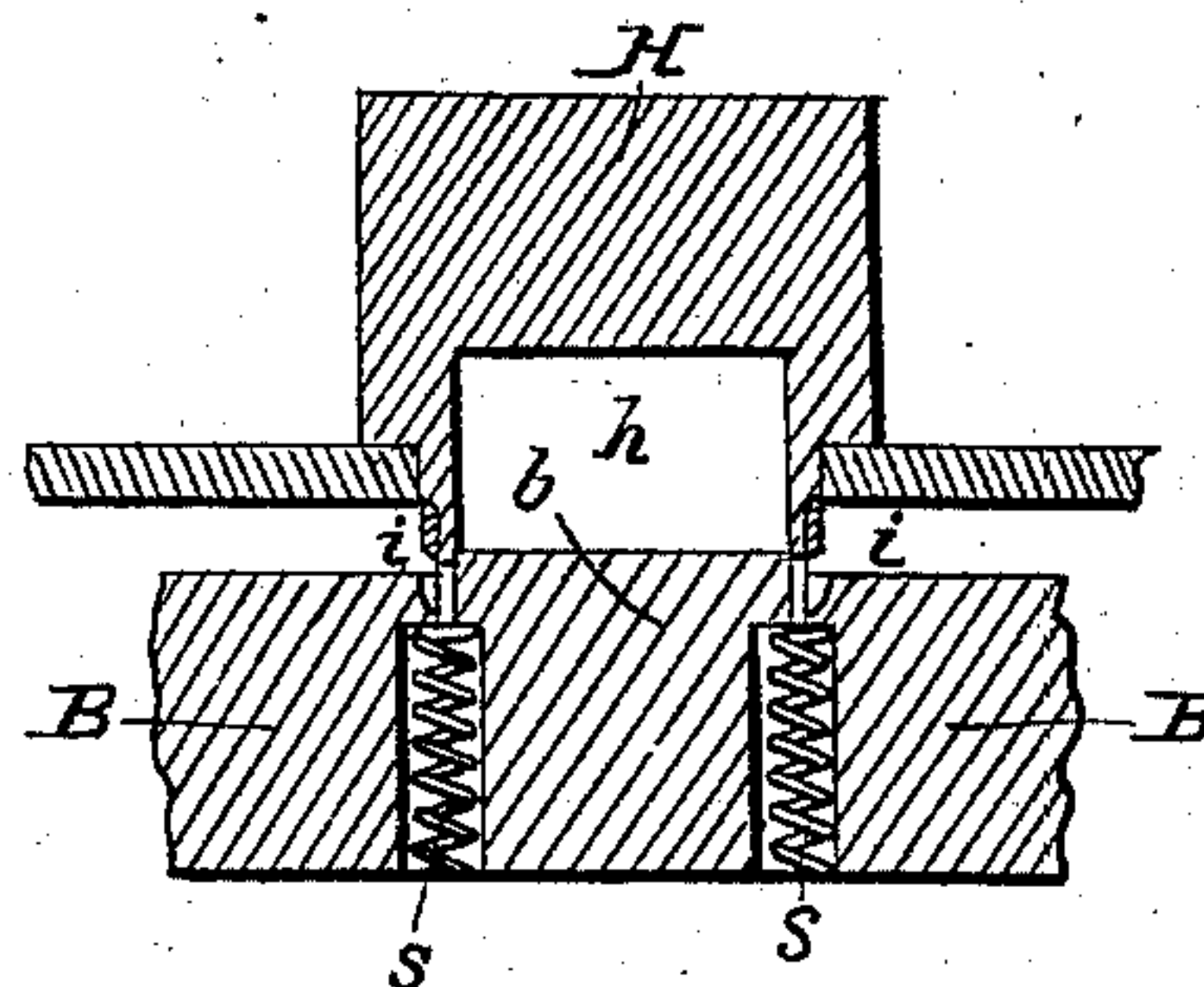


Fig. 5.

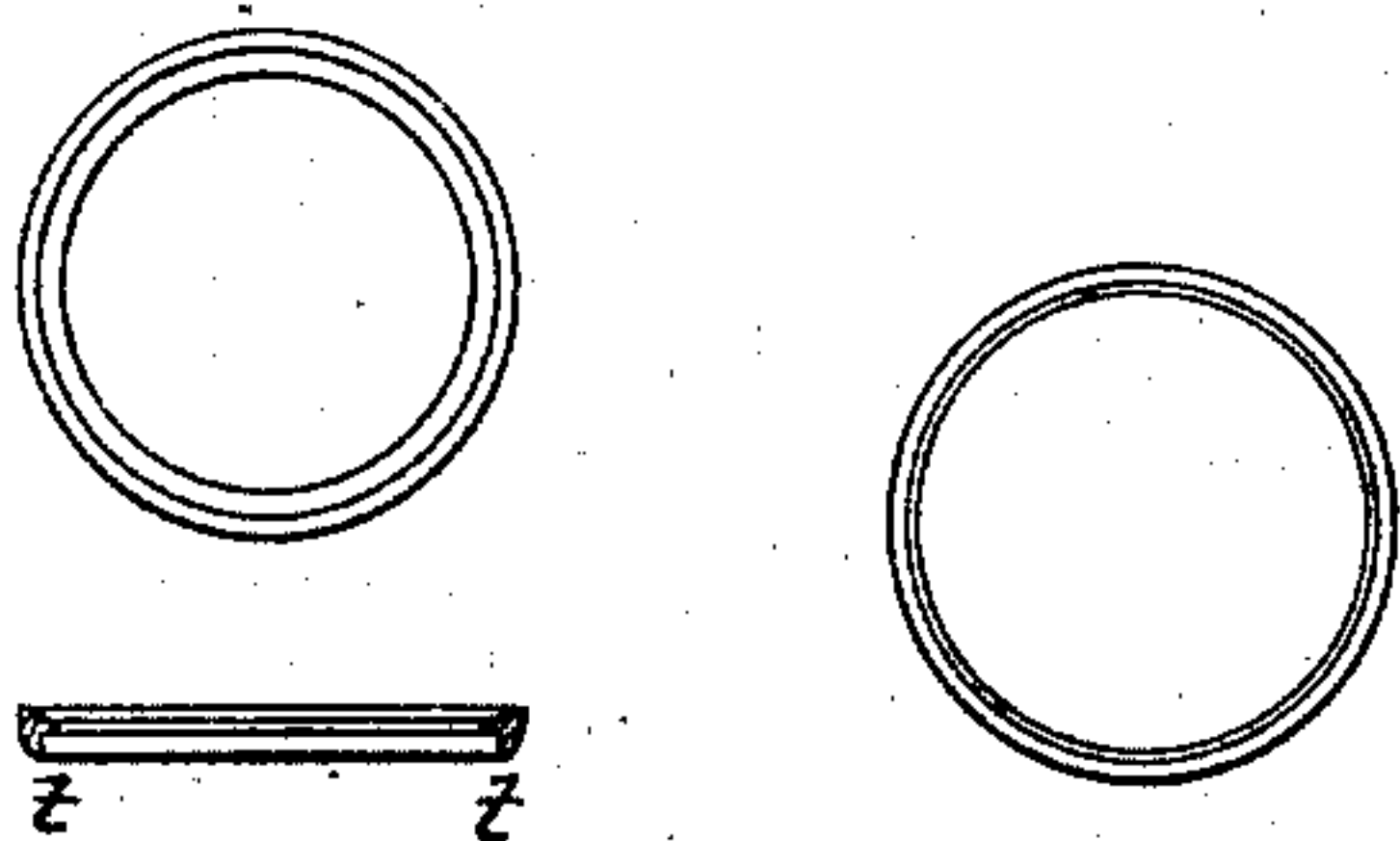
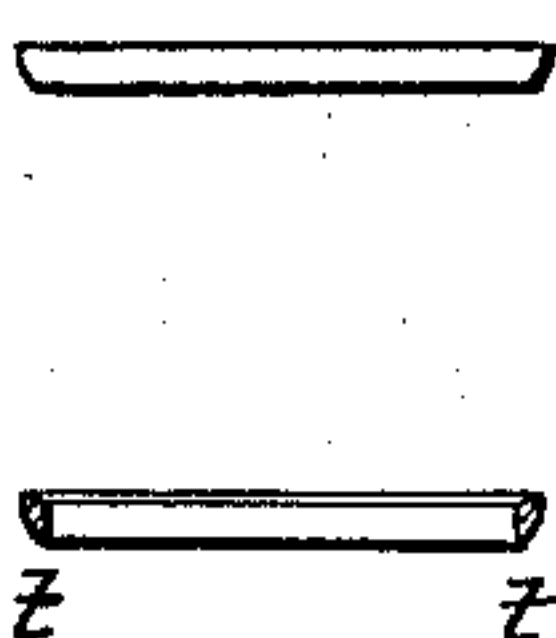


Fig. 4.



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MAKING WATCH AND LOCKET RIMS.

Specification of Letters Patent No. 32,159, dated April 23, 1861.

To all whom it may concern:

Be it known that I, DANIEL B. WAITE, of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Making Watch and Locket Rims; and I do hereby declare that the following specification, with the accompanying drawings, forming part of the same, is a full, clear, and exact description thereof.

Figure 1 of the drawing is a perspective view of a tube of metal. Fig. 2 is a plan of the tubing and the tools for cutting rings therefrom, in relative position as when placed in a lathe. Fig. 3, is a plan and section of the severed ring or section of tubing from which a locket rim is formed, in a die. Fig. 4, is a plan and section of the "snap" locket rim. Fig. 5, is a plan and section of the "spring" locket rim, and "field piece" in one piece. Fig. 6, is a vertical section of an improved former and die employed in forming rims from rings or sections of tubing.

Similar letters of reference denote like parts in all the figures.

It has formerly been the practice to make watch and locket rims from wire, by winding it upon a mandrel, cutting into rings which are then soldered and afterward "struck up," in a die to impart the form of a locket rim. Another method is that described in the specification attached to the patent of Chas. W. Clewley of Sep. 6/59 and June 19th '60, which consists in forming the rim from circular plates of sheet metal, which are first formed into a dish shaped ring, which is afterward placed in a die and by means of a peculiar arrangement of plungers is turned and formed into a locket rim, in such a manner that one side or surface of the circular piece forms the entire inner and outer surface of the rim. Another method is that described in the specification of Henry A. Phillips' patent of June 9, '57, and consists in the use of a stationary former and a burnisher, for turning over the rim upon a disk of sheet metal, in a lathe, by the operation known as spinning. Another method is that described in the specification of James N. Allen's patent of June 28/59, which consists in forming locket rims from strips of sheet metal, by taking of a strip the length required for the diameter of the rim, bending the ends over and uniting the same in a soldered seam; this is next

formed into a ring by shaping it upon a mandrel, then one edge is turned over by rolling or otherwise, and the ring so formed is placed in a die beneath a proper shaped former in a common press, and thereby forced into the shape required for the rim.

The objection to making the rims from wire, or from strips of sheet metal as above referred to, is that the operation of shaping and soldering, must be performed separately upon each rim, by manual labor. The objection to making the rims from disks of sheet metal is the excessive waste attending the operation of cutting the disks, and the necessity involved, of working the disks which are punched out in making the larger size of rims into corresponding smaller rims, said disks being entirely useless for other purposes, and the size of rims which can be made therefrom are seldom those which trade demands. The same objection is applicable to the method employed by Phillips as described above, and from the fact that it is the general practice to form the back and rim of different grades of metal, and further and other reasons it is not always desirable to have the back and rim of the locket in one piece.

In my invention I effectually overcome the several objections mentioned above, and with a great saving of manual labor and fewer operations produce the locket rim in perfect form.

My invention consists in making watch and locket rims from metal tubing, as follows: I take a piece of tubing—formed by soldering together the side edges of a strip of sheet metal, or by casting the metal in the form of a tube without a seam, and by annealing and drawing the same through a graduation of holes in a draw-plate reduce the sheet or cast tube to the required diameter as shown in Fig. 1. I then place this tube in a lathe, and while revolving, by means of the half V shaped tool *d*, Fig. 2, cut the tube into rings formed as shown in Figs. 2 and 3. I then take these rings to a common press, and by means of a properly formed die, and former as shown in Fig. 6, press the rings of metal into the form desired for the rims shown in Fig. 4 for "snap lockets," and in Fig. 5 for "spring lockets."

Instead of forming the rims in a die, as just described, the rings may be turned into proper form and cut from the tube by one operation by means of the tool *g*, Fig. 2.

The peculiarity of the die and former in Fig. 6, is that the former H, has a hollow cylindrical recess *h*, to receive the hub or former *b*, of the die B, also the ring *i*, which
5 encircles the former *b*, and its being subjected to the action of the spiral springs *s, s*, which serve to lift the completed rim from the die when the former H is raised. This forms in part the subject of a separate
10 patent, for which application has been made, and is herein introduced in order that the entire process may be clearly understood.

It will be seen that the soldering is done at one operation for a great number of rings,
15 or in using cast tubing dispensed with altogether also that the shaping and forming of separate rings is dispensed with, both operations being accomplished in drawing the tube to the required size, and that of necessity the rings will be perfect circles and of
20 uniform size. Also that the operation of cutting the rings from the tube, by means of the tool *d*, bevels the edge of the ring which forms the thin edge of the locket rim, at *t*.
25 It should also be observed the tubing may be reduced in size by the operation of drawing to that required for the single size or those

sizes which are most salable, or when a sufficient number of one size has been made the tube may be drawn down and smaller sizes
30 produced therefrom, and that no material is wasted except what is cut away in severing the rings from the tubing. And from the form of the ring cut from tubing as shown in Fig. 3, it is obvious that comparatively
35 but little power is required to press it into the form shown in Figs. 4, 5.

Having described my invention I would say that the locket rim and "field piece" made from one piece of metal and in the
40 form shown in Fig. 5, has been previously patented by Charles G. Bloomer April 28th 1857, and I do not pretend is of my invention, but that such a locket rim and "field
45 piece" may be made with economy from tubing by the process described.

What I claim therefore and desire to secure by Letters Patent is—

The making of watch and locket rims from metal tubing substantially as described. 50

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