

(No Model.)

R. T. SMITH.
CAN MAKING TOOL.

No. 559,955.

Patented May 12, 1896.

Fig. 2.

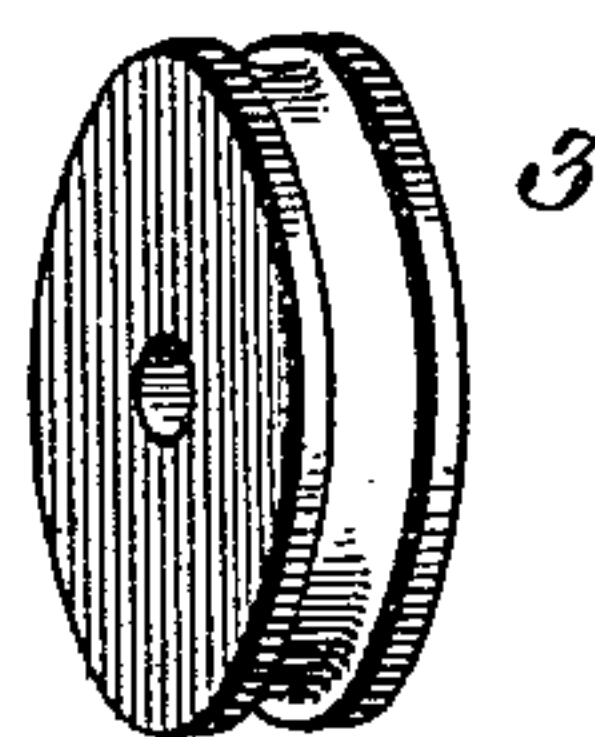


Fig. 3.



Fig. 4.

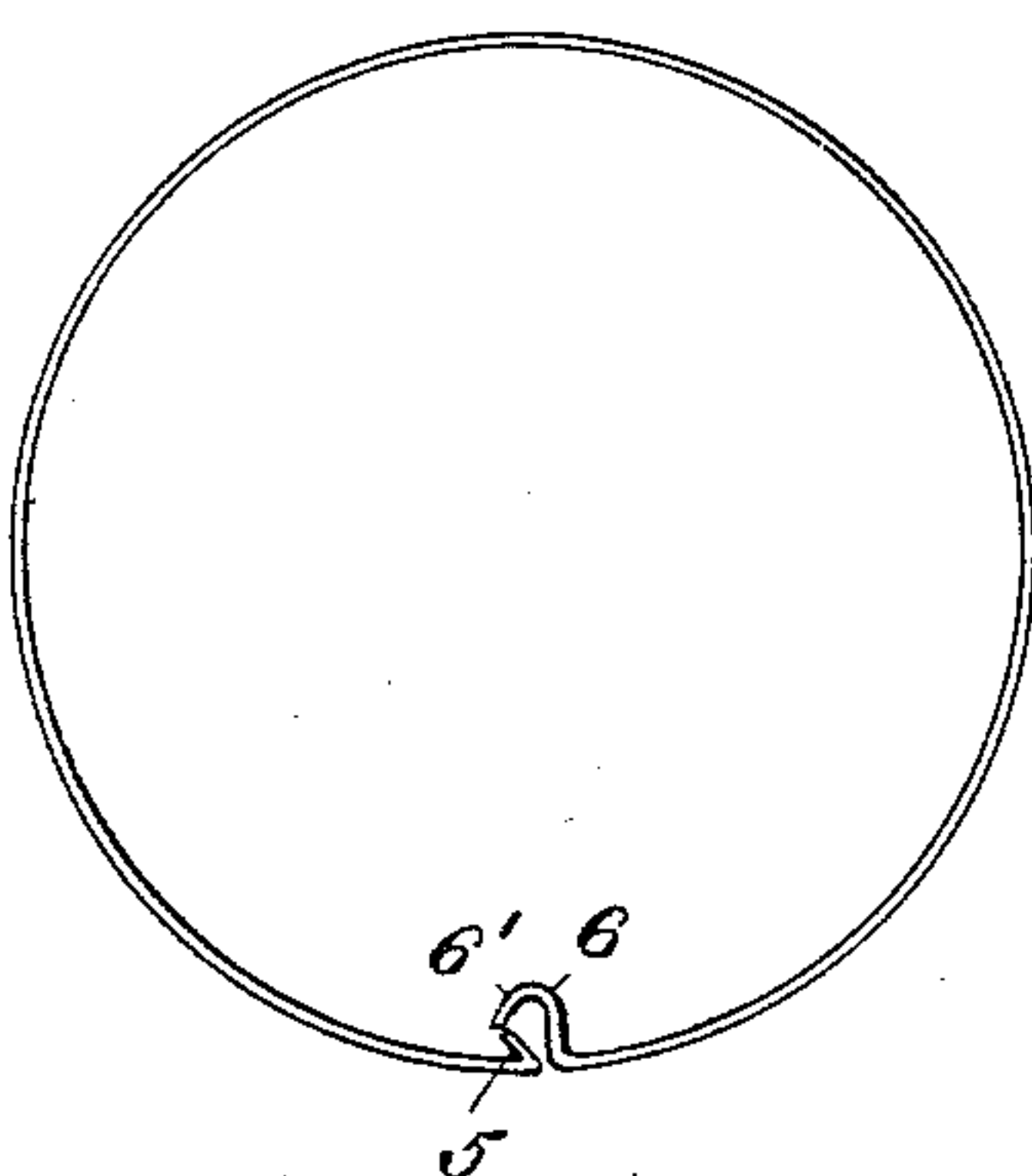


Fig. 5.

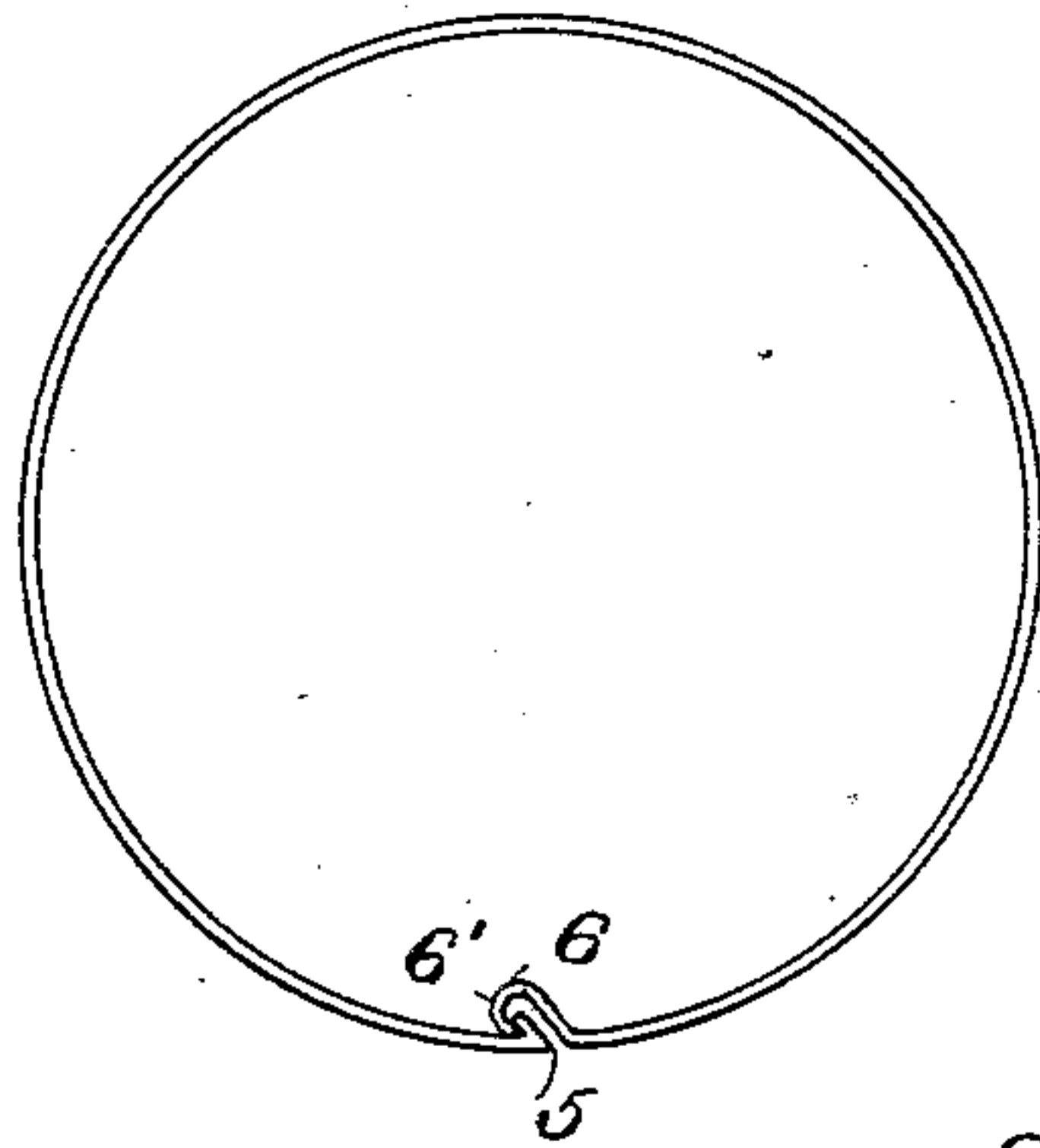


Fig. 6.

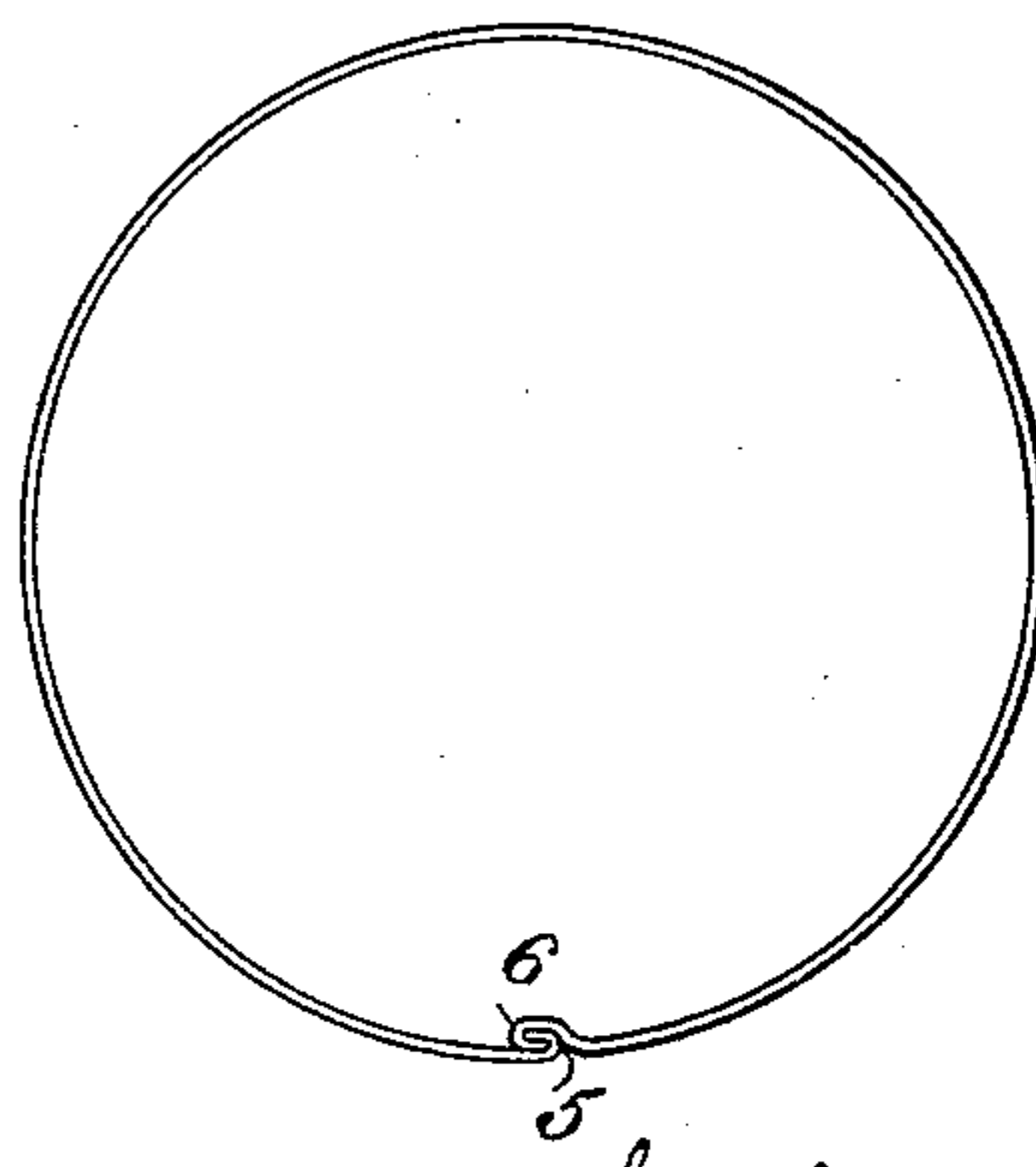
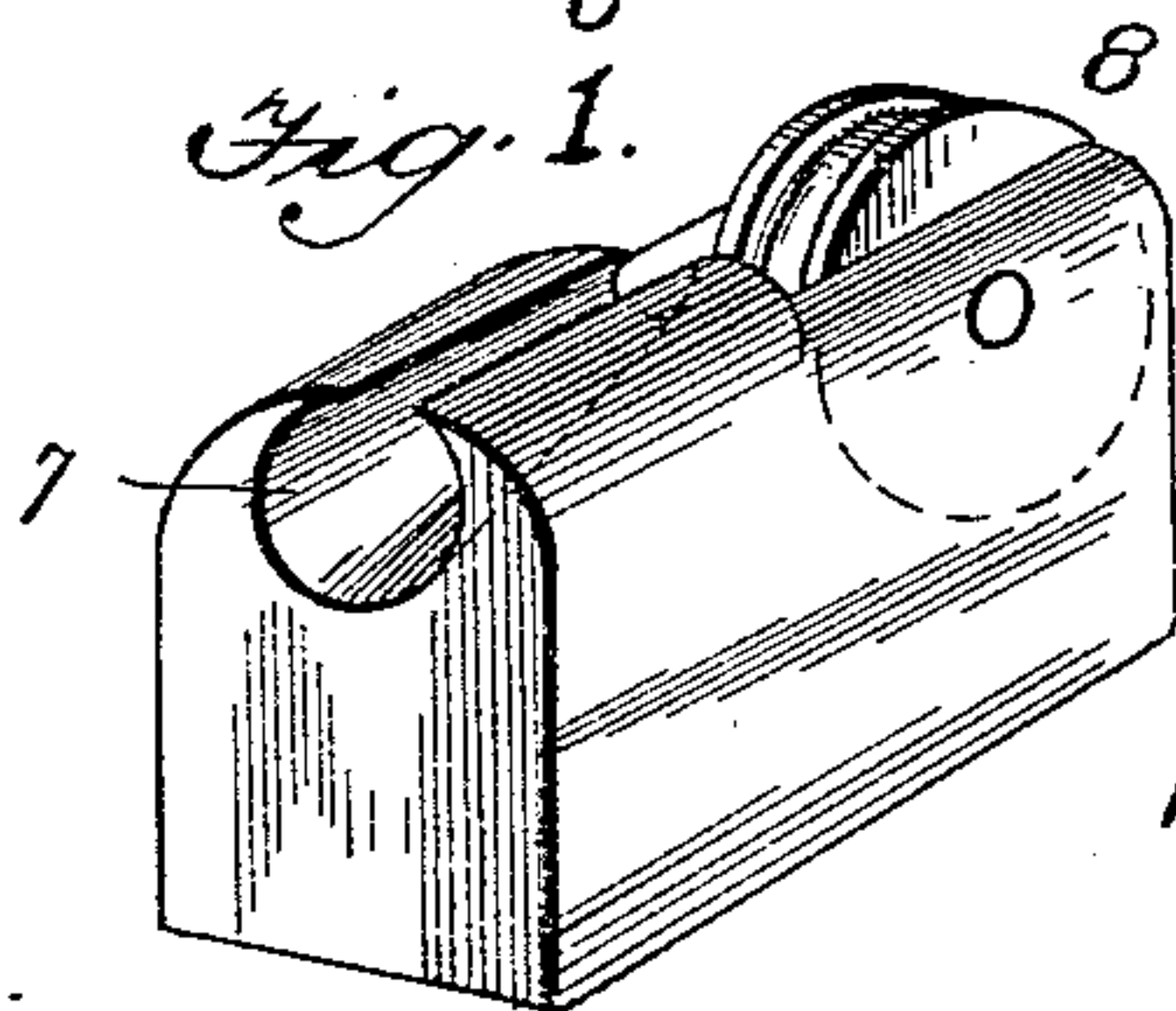


Fig. 1.



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ROBERT TYNES SMITH, OF BALTIMORE, MARYLAND.

CAN-MAKING TOOL.

SPECIFICATION forming part of Letters Patent No. 559,955, dated May 12, 1896.

Application filed May 8, 1895. Serial No. 548,591. (No model.)

To all whom it may concern:

Be it known that I, ROBERT TYNES SMITH, a citizen of the United States, and a resident of the city of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Can-Making Tools, of which the following is a specification.

My invention relates to an apparatus for making can-bodies. It is designed to be used for a peculiar form of blank, which is made the subject-matter of a concurrent application, Serial No. 539,085. Can-bodies have been heretofore made somewhat in the manner of my invention, but employing a tapered draw-die by which the edges of the blank were curled onto one another in such a manner as to form a union. This form of die has many disadvantages. The friction developed by the drawing of the edge of the tin or other thin metal through the die is so great as to heat and wear the die very rapidly and to cause it to become destroyed in operation. I accomplish a result somewhat similar to that accomplished by the draw-die by employing a draw-die so constructed as to give the edge of the metal an initial bend sufficient to permit it to be clenched by a roller and having mounted in the same block with the draw-die, but beyond it, a roller provided with a groove on its periphery so formed as to bend and interlock the edges of the blank already curled by the draw-die, so as to make a secure and tight joint.

The patent to E. Small, No. 355,108, dated December 28, 1886, is an example of the draw-die method of forming can-bodies. In that patent the edges of the can-body blank are described as bent at right angles with the body, and when folded together, as shown in Figure 2, these edges are radial to the circle of the can-body. The die is compelled to bend over first the higher of the two edges and then both together. I have found that even when using a tool like that of E. Small great advantage is derived in the reduction of friction and also in the facility of handling the blank and turning it around the mandrel on which it is bent by bending the turned-up edges of the blank back toward the center of the blank at an angle of about fifty degrees, and in addition to that bending the edge of the higher of the two turned-over

edges of the blank in a reverse direction, so as to give the blank the shape shown in Fig. 5 of the drawings shown in this case. In using the Small tool it has been found, as would be expected, that the principal wear of the tool is at the narrow throat of the groove. I have designed my new form of tool to employ the tapered groove of the Small draw-die to the extent of about half its length, using the larger portion of the groove and performing the work of the smaller throat of the groove by introducing the roll to clench the seam.

In the drawings, Fig. 1 is a perspective view of a tool combining a tapering groove and a roll. Fig. 2 is a perspective view of the second roll, being the one by which the edges are clenched into a tight joint. Fig. 3 is an edge view of a can-body blank, showing the form in which the edges are bent. Fig. 4 is an edge view of the can-body blank bent in circular form, but before the tool has begun to work. Fig. 5 is an edge view of the can-body blank, showing the position of the edges after the roll shown in Fig. 3 has passed over the higher edges of the blank. Fig. 6 is an edge view of the can-body blank when finished, showing the final position of the edges produced by the clenching-roll shown in Fig. 4.

In the drawings, 4 is a can-body blank having a turned-over edge at each side.

5 is a short edge turned over and backward to an angle of about fifty degrees to the plane of the blank.

6 is the other edge turned backward like the first one at an angle of about fifty degrees, but somewhat longer than the first, and then reversed or turned outward, as shown at 6' in Fig. 5.

Referring to Fig. 1, 7 is a tapered groove in one end of the draw-die block of such a size as to fit the curve 6' of the edge of the can-body blank and turn it into a position where the roll 8, which is the same shape as the roll 3, may clench it into a tight joint. It is not essential that a can-body blank having its edge turned over in the manner shown in Fig. 6 should be employed with this tool, as it may be used with efficiency upon a can-body blank having vertical edges, as shown in the Small patent, but the bending of the

edges of the can-body blank reduces the friction and facilitates the operation of making a tight joint.

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

1. A tool for seaming can-bodies consisting of a block having in its face a tapering groove partly circular in cross-section and
10 extending through a part of said face adapted to engage and curl the edges of the blank, and a roller adjacent to the mouth of the groove which compresses the seam as set forth.

2. A tool for seaming can-bodies consisting 15 of a block having in its face a tapering groove partly circular in cross-section and extending through a part of said face adapted to engage and curl into interlocking engagement the edges of the blank and a roller adjacent to 20 the mouth of the groove which compresses the seam as set forth.

Signed at Baltimore, in the State of Maryland, this 4th day of May, A. D. 1895.

ROBERT TYNES SMITH.

Witnesses:

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