

(No Model.)

E. G. SMITH.  
COLLAR OR CUFF SHAPING MACHINE.

No. 529,143.

Patented Nov. 13, 1894.

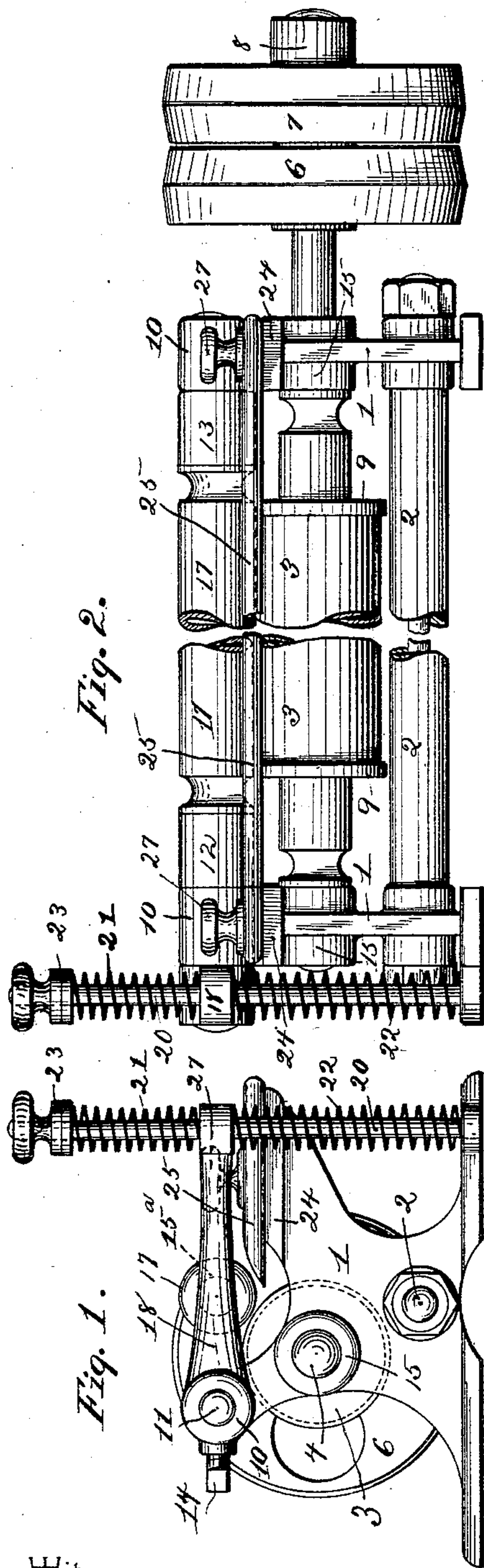


Fig. 1.

Fig. 2.

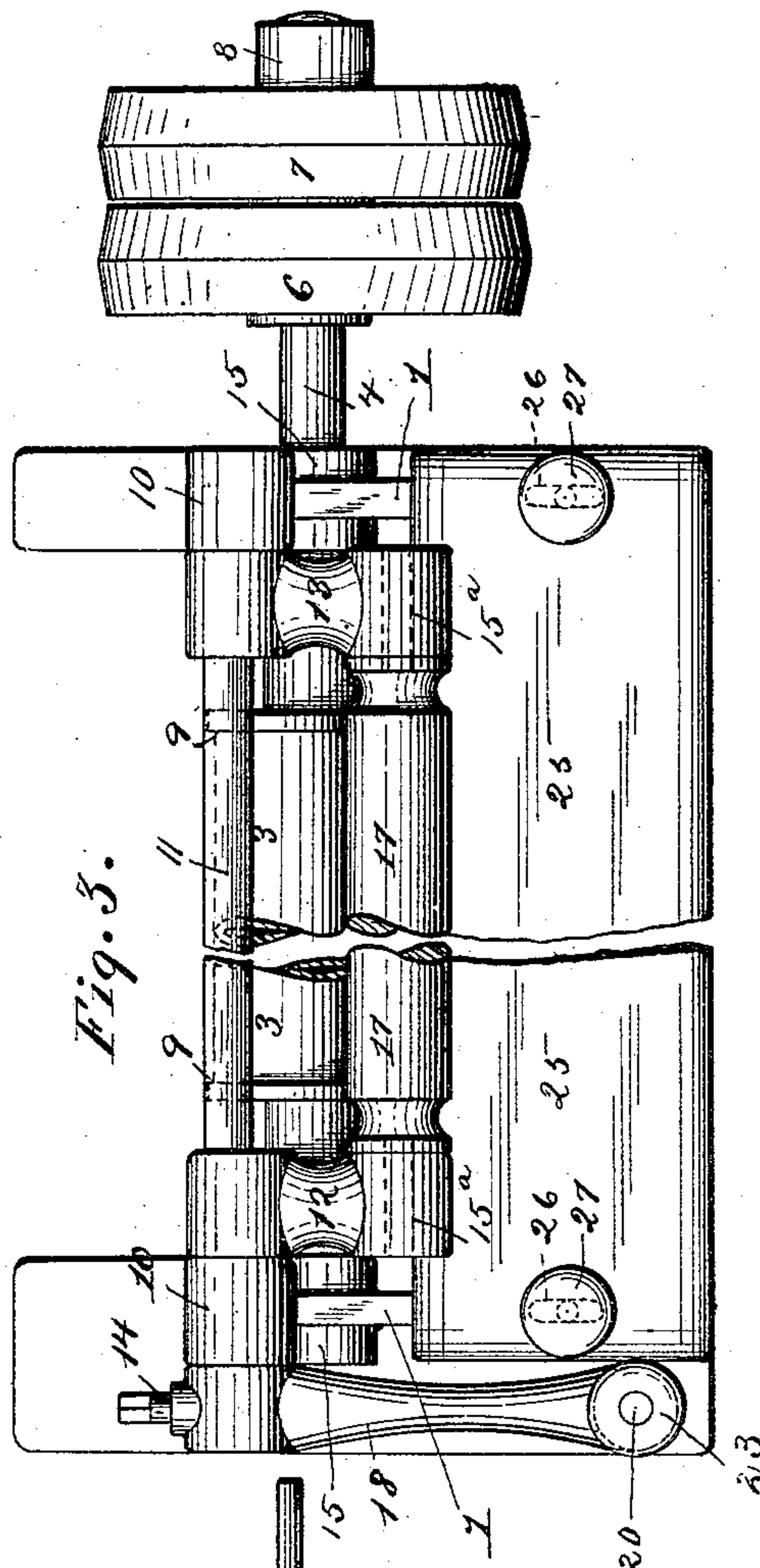


Fig. 3.

Fig. 4.



Fig. 5.

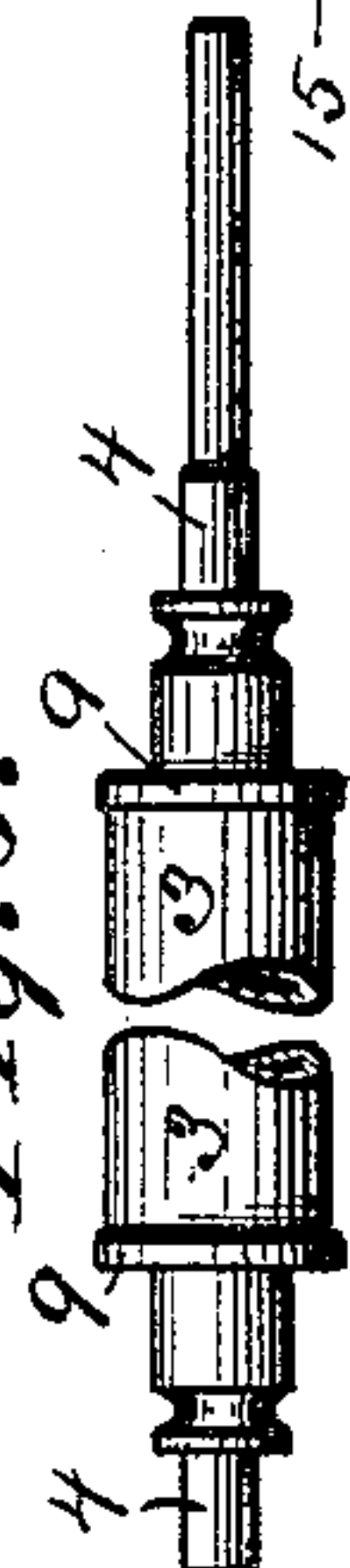
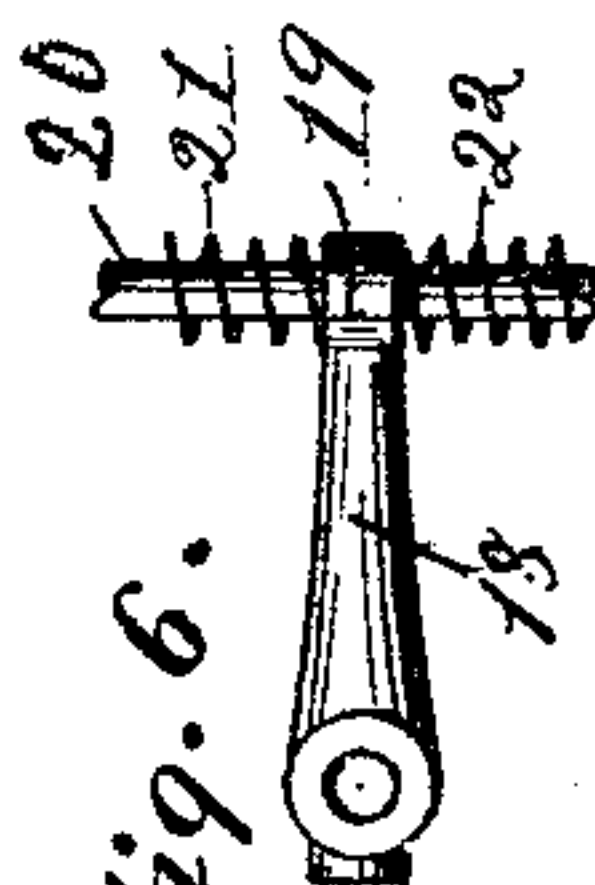


Fig. 6.



Witnesses

*Walter R. Marquis*

*D. B. Devereux*

By his Attorneys,

*C. A. Snow & Co.*

Inventor

*Ernst G. Smith.*



# UNITED STATES PATENT OFFICE.

ERNST G. SMITH, OF COLUMBIA, LANCASTER COUNTY, PENNSYLVANIA.

## COLLAR OR CUFF SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,143, dated November 13, 1894.

Application filed May 2, 1892. Serial No. 431,607. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST G. SMITH, a citizen of the United States, residing at Columbia, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Collar or Cuff Shaping Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the figures of reference marked thereon.

The object of this invention is to produce a machine capable of shaping collars and cuffs after they have been ironed, and so that they will assume the shape necessary to their use. This end I attain by certain peculiar features of construction and combination and arrangement of parts as will be more fully described hereinafter and finally embodied in the claims.

In the drawings: Figure 1 represents a side elevation of my improved machine; Fig. 2, a front elevation thereof; Fig. 3, a plan view; Fig. 4, a reduced detail of the movable roller; Fig. 5, a similar view of the stationary roller; Fig. 6, a reduced detail of the arm for the movable roller shaft.

The reference numeral 1 indicates the frame of my machine, which frame consists of two side pieces, duplicates of each other, and rigidly connected by the tie-rod 2, extending from one to another, and at the lower portion thereof. Revolvably mounted in the frame is the stationary roller 3, which is constructed with the journals 4 adapted to fit into the boxes 15, so as to effect the revoluble mounting of the roller.

One of the journals 4 is extended beyond its box and adapted for the reception of the drive-pulley 6, which is fixed thereto and which co-operates with the loose pulley 7, mounted upon the extended portion of the journal and held in place by the collar 8, fixed to the end of the journal. These pulleys are adapted to carry the driving-belt, and by shifting it from one to another the machine may be started or stopped, as will be understood.

Rigidly secured to, or formed integral with the ends of the roller 3, are the ribs or flanges 9, which are one for each end and which have for their purpose to engage the companion roller so that the body of the roller 3 will be

kept from engagement with the said companion roller. It is preferred to form the roller 3 of rubber, so that it will firmly engage the material passed by it, but this is not absolutely essential.

Revolvably journaled in the boxes 10, formed in an offset in the frame 1, is the shaft 11, which has the arms 12 and 13 fixed thereto. Both of the arms 12 and 13 are arranged between the parts of the frame and have their free ends formed with the openings 15<sup>a</sup> therein, in which the journals 16 of the roller 17 are revolvably mounted. Thus it will be seen that the roller 17 is revolvably mounted and is capable of oscillating with the shaft 11, and the roller is so arranged that it will be capable of engaging the roller 3 at the upper side and at a point just forward of the axis thereof. The roller 17 is of a diameter equal to a little less than one-half that of the roller 3, and is of a length about equal to that of the roller 3. One end of the shaft 11 is extended beyond the frame 1, and is there provided with the arm 18, fixed thereto by the set-screw 14. The arm 18 is extended out parallel with the other arms 12 and 13 and arm 18 is of a length greater than the length of the other arms, and has formed in its forward end the vertically-extending opening 19.

Rigidly secured to the base of one of the sections of the frame 1, and directly under the arm 18, is the vertical rod 20, which is fixed in place by screwing or otherwise, and which passes through the opening 19 in the arm 18. Located upon the rod 20, and embracing the same, are the springs 21 and 22, which are arranged one on each side of the arm 18, and each of which has a tendency toward the arm 18.

Operating upon the upper end of the rod 20 is the nut 23, which bears against the spring 21 and which has for its purpose to regulate the tension of the same, so that the roller 17 will be forced into engagement with the roller 3. By raising the nut 23, the spring 21 will be relaxed, thus permitting the spring 22 to raise the arm 18, and consequently the roller 17.

Formed integral with the sides composing the frame 1 are the forwardly-projecting offsets 24, which are one for each frame-section and which are formed with plane horizontal upper edges. Located upon these upper edges



is the table 25, which extends from one to another and which has its upper edge terminating at a point directly adjacent to the peripheral juncture of the rollers 3 and 17. This edge is formed slanting, or beveled downwardly, so that the work may be easily moved off the table and into engagement with the rollers.

Formed in table 25, and directly over the offsets 24, are the slots 26, which are arranged parallel with the said offsets. These slots are adapted for the reception of the set-screws 27, which are screwed into the offsets and have for their purpose to secure the table in whatever position it may be desired that it assume.

In the use of my invention the roller 3 is started to revolving, which will result in a similar movement of the roller 17. The articles to be shaped are now placed upon the table and passed into the rollers, whereupon they will be bent into a circular form, as desired. It will be seen that by my machine there is no possible chance of breaking the work, or of otherwise injuring it. Further, owing to the absence of gearing it will be possible to drive the machine at a very great speed without being annoyed by the noise usually attending such devices.

It will be understood that the function of the ribs on the roller 3 is to hold the body of the roller from direct engagement with its companion, and at the same time permit the

contact of the rollers so as to revolve the roller 17.

Having described the invention, what I claim is—

1. In a machine for shaping collars and cuffs, the combination of parallel rollers, one of which is journaled in movable bearings whereby it is capable of oscillating toward and from the other roller, means for pressing the movable roller toward the other, and means for communicating motion from one roller to the other, the same consisting of flanges on one of the rollers bearing against the surface of the other, whereby the body of one of the rollers is held from engagement with the other roller, substantially as specified.

2. In a collar and cuff shaping machine, the driving roller 3, provided with the flanges 9, the partially revolving shaft 11, provided with the arms 12 and 13; and the companion roller 17, journaled in the said arms and operated only by the flanges 9, combined with the arm 18, secured to one end of the shaft 11, the rod which passes through the end of the arm and is provided with a nut 23, and the springs applied to the rod upon opposite sides of the arm, substantially as set forth.

E. G. SMITH.

Witnesses:

HARRY B. CLEPPER,  
THOMAS C. SMITH.