

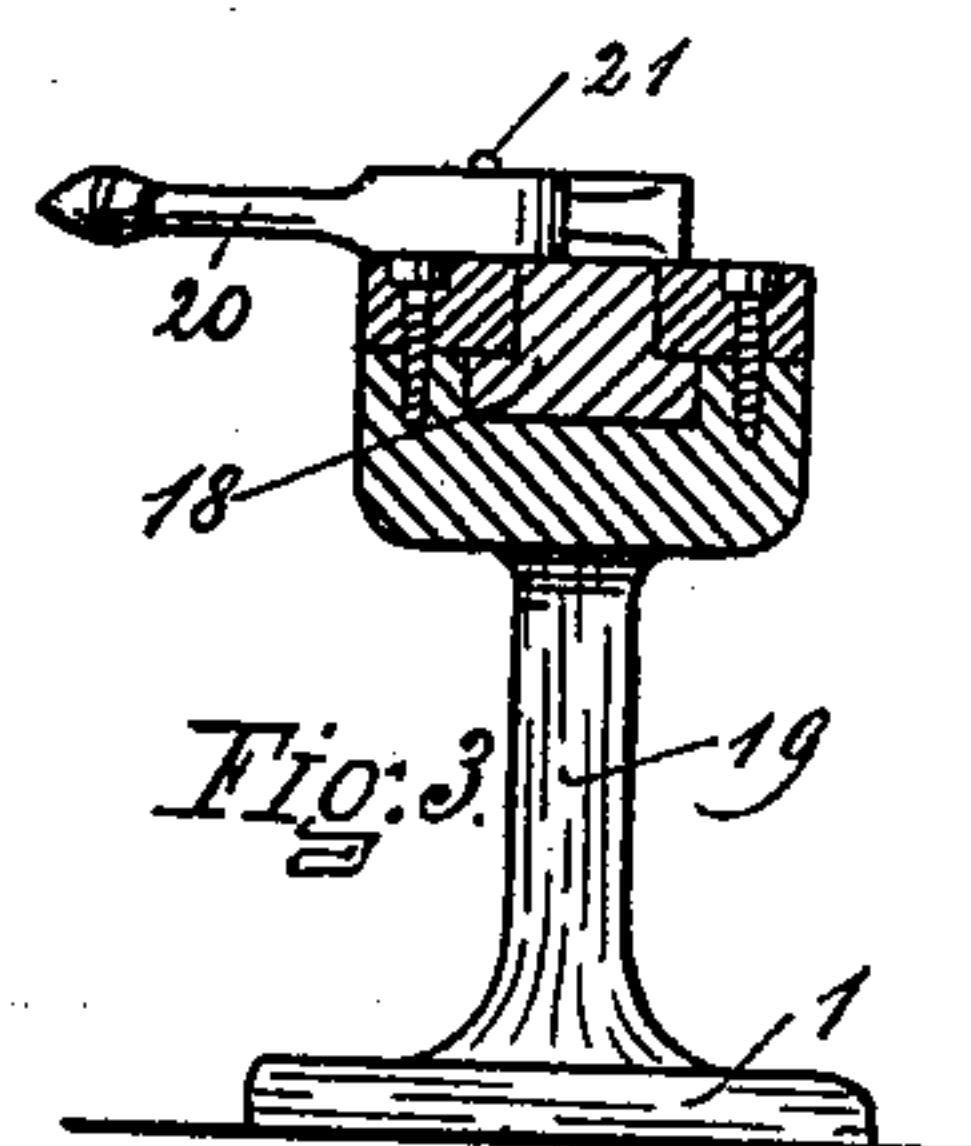
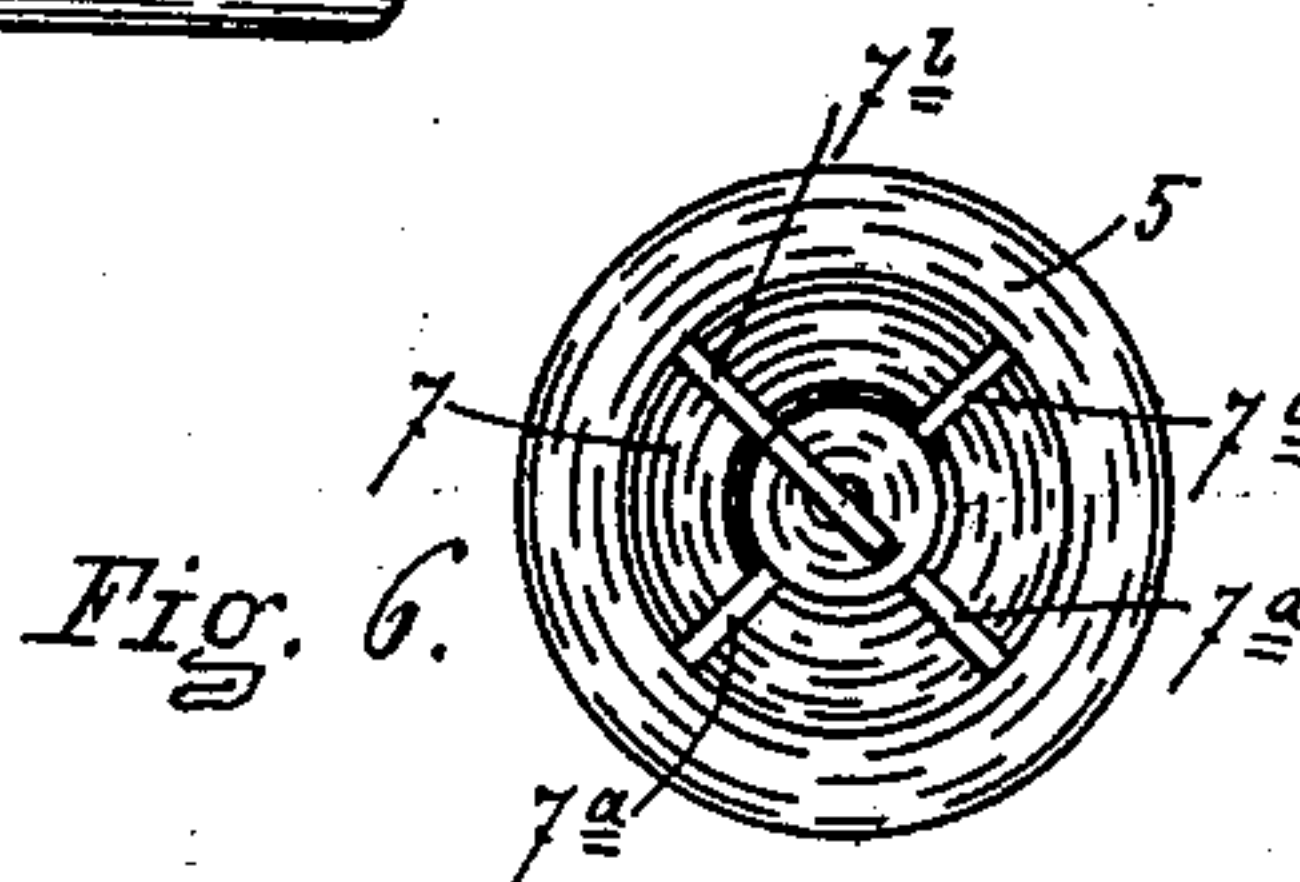
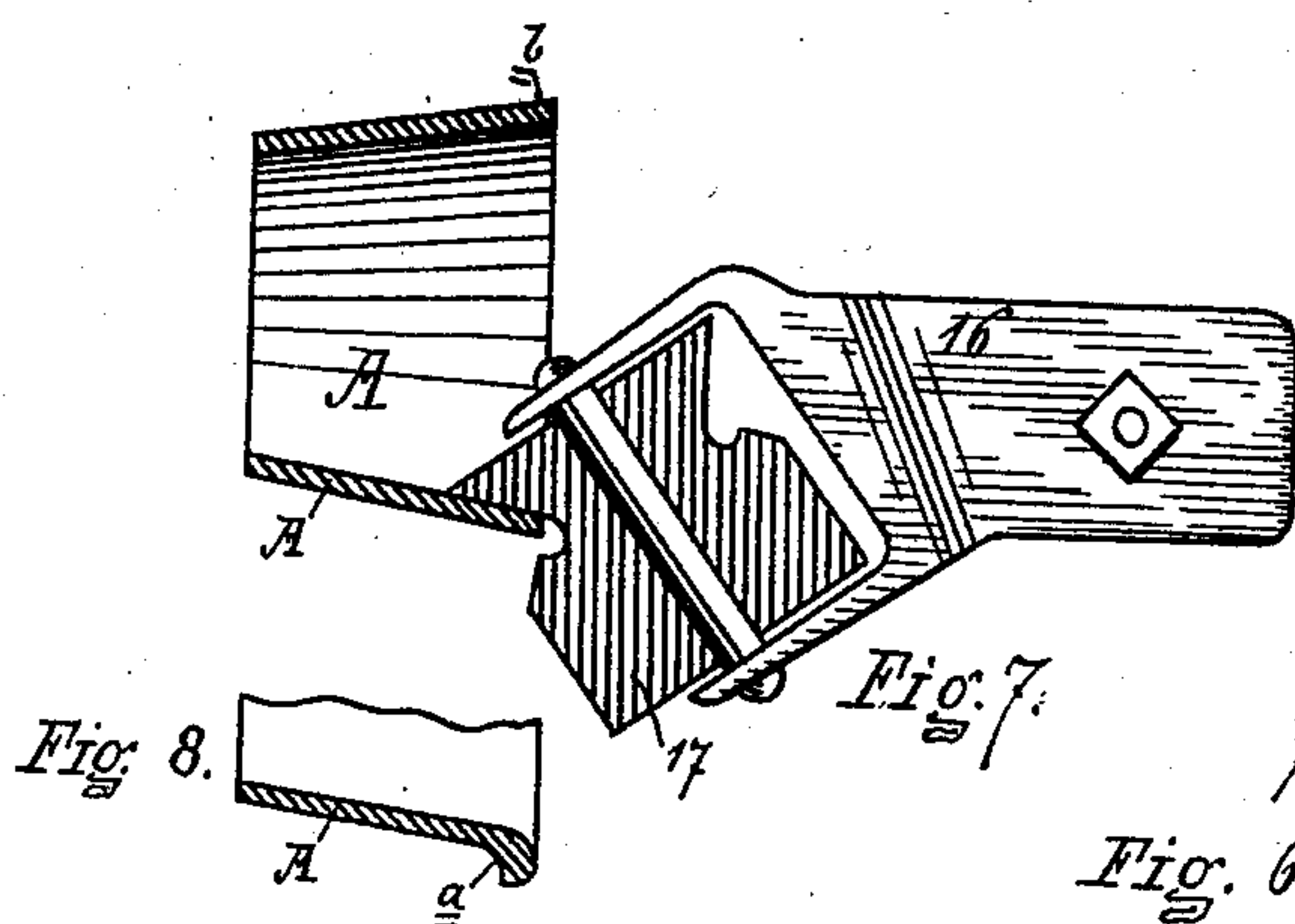
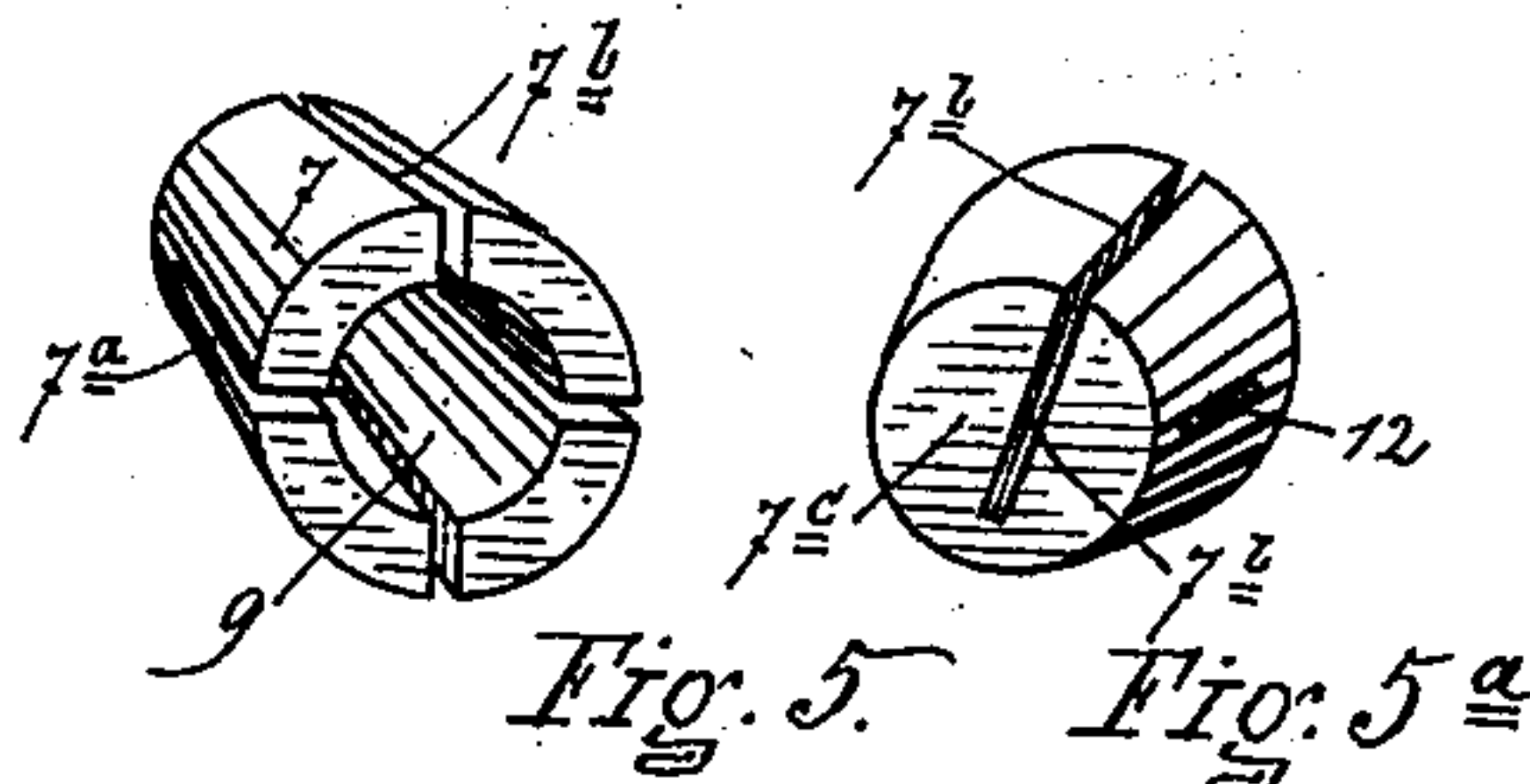
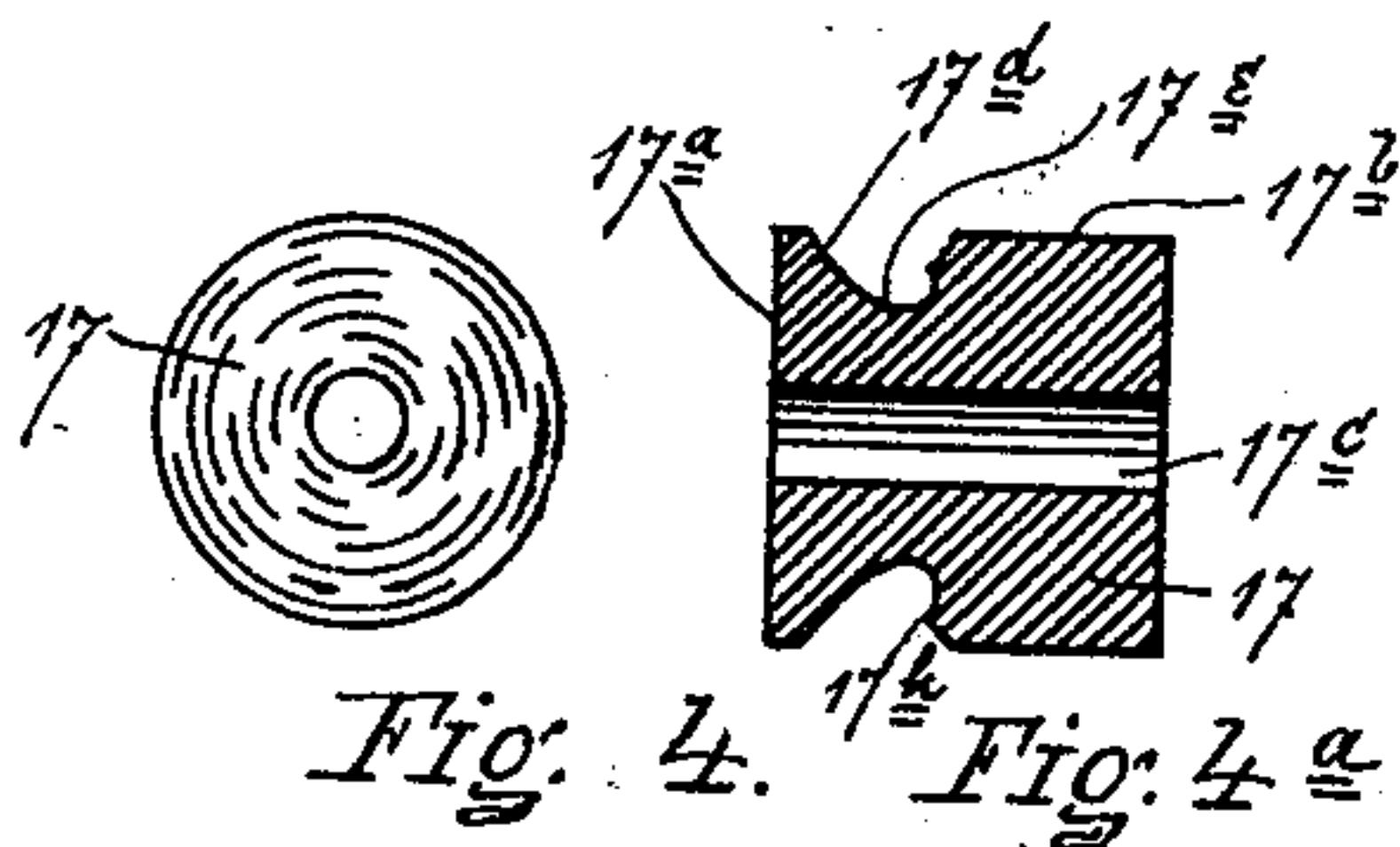
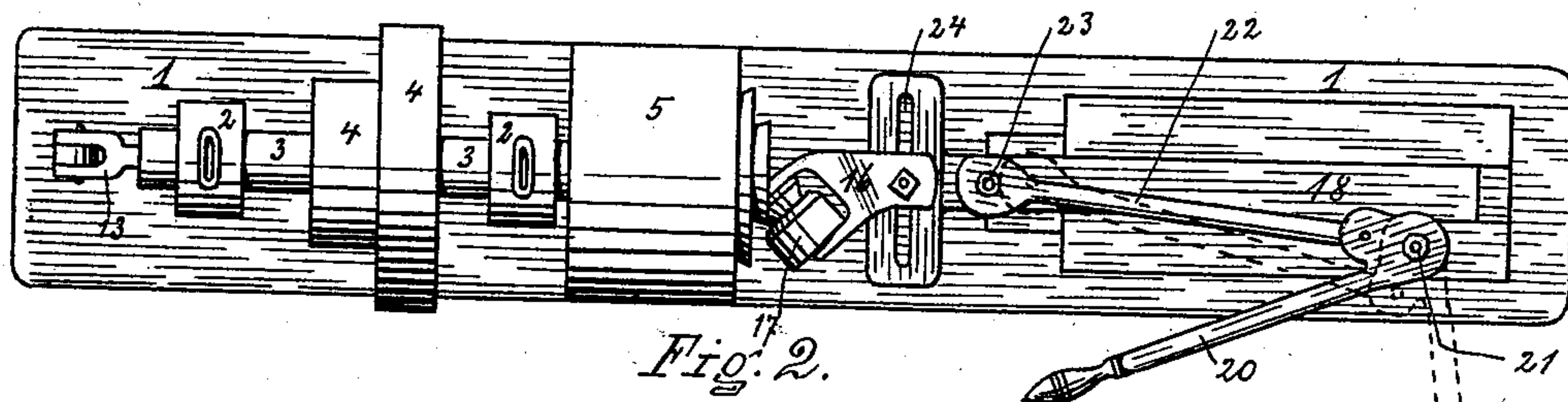
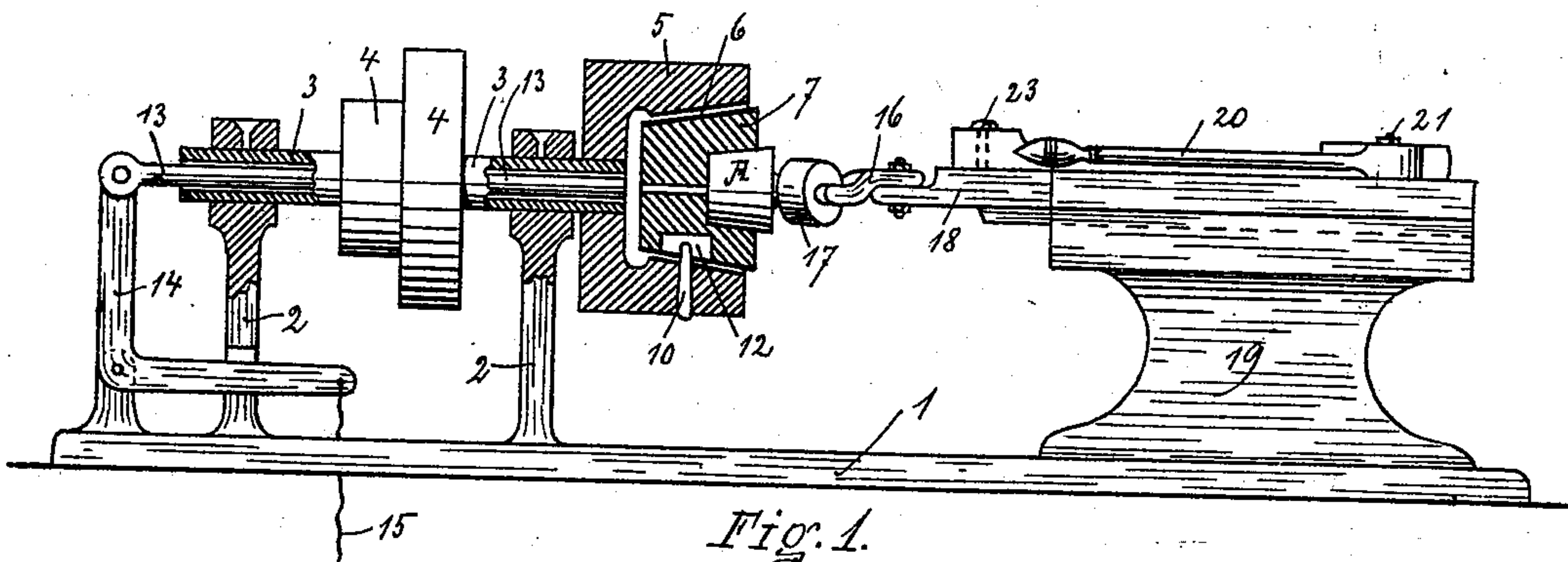
(No Model.)

C. T. PRATT.

MACHINE FOR OPERATING ON HUB OR RIM BANDS.

No. 549,530.

Patented Nov. 12, 1895.



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MACHINE FOR OPERATING ON HUB OR RIM BANDS.

SPECIFICATION forming part of Letters Patent No. 549,530, dated November 12, 1895.

Application filed November 9, 1893. Serial No. 490,486. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. PRATT, of Clayville, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Hub or Rim Bands and Machines for Beading; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My invention relates to an improvement in machines for operating on hub or rim bands.

In the drawings which accompany and form a part of this specification and in which similar letters and figure-reference refer to corresponding parts in the several views, Figure 1 shows a side elevation, partially in section, of my improved machine for operating upon the hub-band. Fig. 2 shows a plan view of the same machine. Fig. 3 shows an end view as seen from the right of Fig. 1. Figs. 4 and 4^a show an end view and longitudinal section of the upsetting operating-roller used in my machine. Figs. 5 and 5^a show in perspective in two different positions the portion of the device which immediately holds the band being operated upon. Fig. 6 shows an end or face view of the chucking device for holding the band to be operated upon. Fig. 7 shows in detail in section the manner in which the roller operates upon the band, showing, also, the band in cross-section. Fig. 8 shows in section the band after being operated upon.

Referring to the reference numerals and letters in a more specific description, 1 indicates a base, on which is provided a pair of uprights 2 2, having boxes at their upper ends, in which is journaled the hollow shaft 3. On the shaft 3 is provided one or two driving-pulleys, as 4, of various sizes if desired to obtain a varying speed. On the end of the shaft 3 is provided a chuck-head 5, having a conical opening 6 in its face end for the reception of a conical-shaped chucking or holding piece 7. The chucking-piece 7 is provided with two or more slits, as shown at 7^a 7^a in Fig. 5, extending through the portion of the body of the piece

lying between the central opening therein and its periphery, and one slot or slit 7^b extending through the same portion and the rear head-like end 7^c. The object of these slits is to make provision for the chucking-piece 7 to close in as it is forced into the conical opening in the head 5 to cause it to close onto and securely hold the hub or rim band A, which is placed in the conical opening 9 in the chucking-piece 7. The parts of the chucking-piece 7 operate as so many jaws. The chucking-piece 7 is retained in position in the head by the pin 10, extending through the wall of the head and engaging in a suitable slot-opening 12 in the chucking-piece. Extending through the hollow shaft or spindle 3 is provided a sliding rod 13, connected to a bell-crank lever 14 or any other suitable device by which it can be reciprocated to and fro in the shaft. To the bell-crank lever 14 may be attached by a connection 15 a treadle for operating the sliding bar or rod 13.

The end of the bar at the head is adapted to strike on the inner head end of the chucking-piece 7 to force it out of the conical opening in the head when operated. In a suitable forked hanger, substantially opposite the edge of the opening 9 in the end of the chucking-piece 7, I provide a sidewise-adjustable forked holder 16, in which I mount in suitable position, and as shown in Fig. 7, the upsetting operating roller or tool 17. This roller is provided with a conical-shaped portion 17^a and a cylindrical portion 17^b, through both of which extends a central opening 17^c for the reception of the pin, by means of which it is mounted in the holder 16.

Between the face 17^a of the cone portion of the roller and the cylindrical body thereof I provide a shouldered groove 17^e, curved in cross-section substantially as shown, terminating on the cylindrical side of the roller in an overhanging edge 17^h.

The roller-holder 16, I mount on a sliding arm 18, working in a slide in the stand 19, secured on the base 1, which slide is lined up to move the roller 17 to and from the face of the chucking-head substantially in the same line with the operative side of the face 17^a of the conical portion of the roller. For operating the roller I provide, secured on the top of stand 19, a lever 20, pivoted at 21 to the

stand, which is provided with a short arm, to which is attached one end of the connecting-rod 22, the opposite end being secured on the pin 23, secured in and projecting from the slide bar or arm 18. The roller-holder 16 is adjustable sidewise by providing a head on the arm 18 with a transverse slot 24, through which the bolt passes that secures the holder on the arm.

The hub-band A, formed in part by this machine, has on the inner end of the hub-band an outwardly-flaring and upset bead or flange *a*, as shown in Fig. 8, and the mechanism herein shown is intended to place the upset bead or flange on the edge, upsetting it from the plain form shown at *b* in Fig. 7, when operated substantially as follows: With the operating-roller 17 withdrawn, by operating the lever-handle 20, into the position shown in dotted lines in Fig. 2, and the gripping chucking-piece 7 knocked out of the head toward the face as far as it will go, the operator places a hub-band, as A, into the opening 9 in the chucking-piece 7, with the larger end outward, (the hub-band being usually provided in a slightly-conical form.) Then by operating the lever-handle 20 the roller 17 is forced against the edge of the band, which forces it into its position in the opening 9 and forces the piece 7 into the head until the band becomes firmly clamped by the wedging action of the conical opening in the head. The head being in rotation by means of a belt applied on one of the pulleys 4 revolves the hub-band in contact with the roller, and the operator by continuing the pressure by means of the lever-handle 20, which at this point becomes a powerful toggle-joint, forces the roller against the edge of the rim as it revolves, upsetting it and forming it substantially in the form as shown at *a* in Fig. 8. In this operation the face 17^d of the cone portion of the roller presses against the inner face of the hub-band. The roller is capable of a slight lateral movement on its pivot, and the fact that the pivot of the roller is at an acute angle to the side of the band will cause the half of the roller immediately between the pivot and band to wedge between the pivot and the side of the band and roll out any wrinkles or unevenness of the band. The shoulder on the roller, so far as this action is concerned, prevents the wedge from flying out, and a square shoulder would serve this office as well as the curved shoulder 17^e. By the continued operation the end of the band is flared and comes into engagement with the overhanging edge 17^h of the roller, when the continued pressure upsets the edge and gives the desired form. When the

edge has been brought into the desired form, the roller is withdrawn by reversing the movement of the lever-handle 20, and by operating the treadle connected with the plunging-bar 13 the clamping or chucking piece 7 is knocked out and, springing into its normal position, with the slits therein opened, the band is released and is removed by the operator, replaced by another, when the operation may be repeated.

It is evident that changes or variations in the mechanism for producing the result herein set forth may be made without departing from the equivalents of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a rotary head mounted on a hollow spindle or shaft and having a conical opening in its face, a set of connected clamping jaws received within the conical opening, means for securing them in the head and a knocking out rod extending through the spindle, substantially as set forth.

2. The combination in a machine for forming an upset edge on a hub or rim band, a chuck having jaws gripping the band externally and mounted on a spindle to be rotated on the axis of the band and held firmly thereby against lateral movement, an upsetting tool consisting of a pivoted roller having a conical portion 17^a, an annular groove 17^c at the smaller end of the conical portion and an overhanging edge 17^h adapted to confine the edge while being upset, and mechanism for forcing the roller against the edge of the band, and carrying the roller on a bearing at an angle converging with the axis of the band, the conical face of the roller engaging on the inner surface of the band, substantially as set forth.

3. In a machine for upsetting a bead on the end of a hub band, a rotary chuck for holding the band against lateral movement and rotating it on its axis, a pivoted roller 17 having a conical portion 17^a, groove 17^c and narrow overhanging edge 17^h and a roller holding and operating mechanism having means for engaging the conical face of the roller with the inner surface of the band and forcing the grooved and overhanging edge portion against the edge of the hub band by moving it in the direction of the length of the working face of the conical portion, combined, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

CHARLES T. PRATT.

Witnesses:

WM. J. PUGH,
H. LEE BABCOCK.