

(No Model.)

C. T. PRATT.

MACHINE FOR MAKING RIM OR HUB BANDS.

No. 537,547.

Patented Apr. 16, 1895.

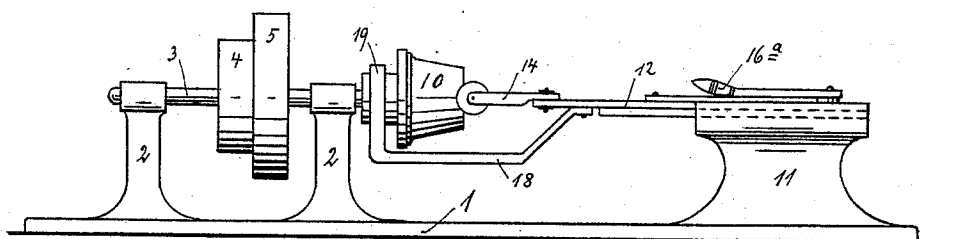


Fig. 1.

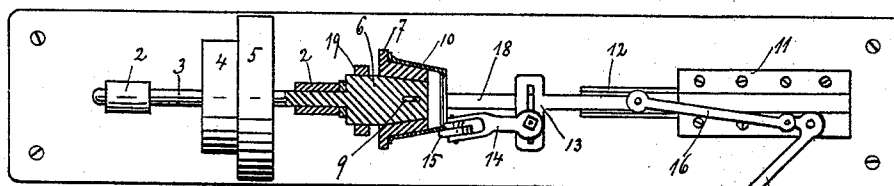


Fig. 2.

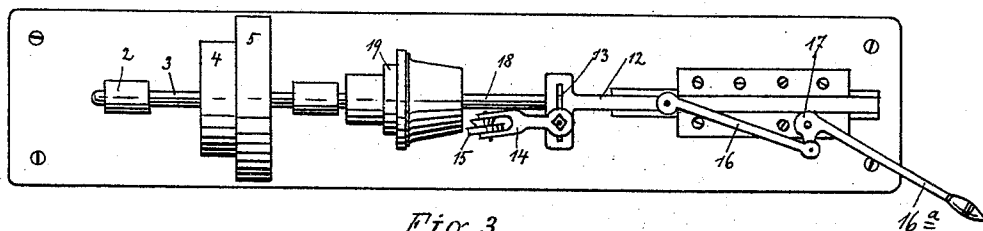


Fig. 3.

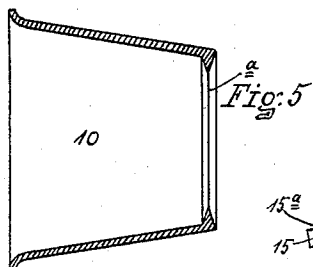


Fig. 5.



Fig. 6.

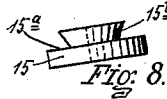


Fig. 8.

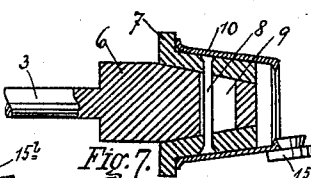


Fig. 7.

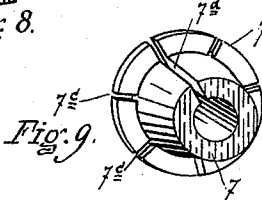


Fig. 9.

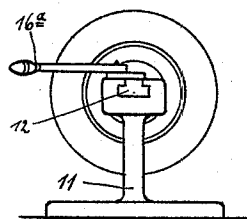


Fig. 4.

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MACHINE FOR MAKING RIM OR HUB BANDS.

SPECIFICATION forming part of Letters Patent No. 537,547, dated April 16, 1895.

Application filed November 9, 1893. Serial No. 490,487. (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 Rim-Bands and Machines for Making the Same; 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 numerals of reference marked thereon, which form part of this specification.

My invention relates to improvements in machines for making rim or hub bands.

In the drawings which accompany and form a part of this specification, Figure 1 shows in side elevation the mechanism for producing the band, or more properly, for placing the inwardly projecting flange or rim on the projecting end of the band. Fig. 2 shows a plan view of the same machine with a part in section and showing also the band in section in the machine. Fig. 3 shows a plan view of the machine with the parts in changed position. Fig. 4 shows an end view as seen from the right of either of the previous figures. Fig. 5 shows a longitudinal section of my improved rim or hub band, as formed (in part) by this machine. Fig. 6 shows on a broken section the band before being operated upon to produce the inwardly projecting flange shown in Fig. 5. Fig. 7 shows details of the parts of the machine on a section taken at right angles to the part shown in section in Fig. 2. Fig. 8 shows a roller for rolling down or upsetting the edge of the band. Fig. 9 shows an expansible bushing used in the machine.

Referring more particularly to the reference letters and numerals in a more specific description of the device, 1 indicates a suitable base on which is provided a pair of uprights 2—2 provided with bearings in their upper ends in which spindle or shaft 3 is mounted. On the shaft 3 are provided driving pulleys as 4 and 5, and the shaft is provided with a conical end or head 6. On the conical portion of the head 6 is provided an expansible bushing 7 which consists of a conical portion 7^a and a rim portion 7^b. The rim portion is provided with cuts or notches 7^c, and through both the rim

and body portions of the bushing is provided a cut 7^d. By this provision the bushing will expand when forced on the conical portion of the head 6. The bushing is held on the head 6 by means of a pin 8 passing through it and a slotted opening 9 in the head 6. On the bushing is adapted to be placed the hub-band 10 to be operated upon; and the length of the bushing is such that the edge of the hub-band will project beyond the end of the bushing and spindle head. On the opposite end of the base is provided a stand 11 in the upper end of which is provided a guide or ways in which slides a bar or arm 12 provided on its projecting end with a slotted head 13 on which is adjustably secured a forked holder 14 in which is mounted the operating roller tool 15. The roller 15 is provided with a wall or shoulder 15^a adapted to bear against the side or periphery of the rim when in operation, and a working face 15^b adapted to engage on the edge of the rim. The working face 15^b inclines toward the shoulder 15^a. The bar or arm 12 is operated by means of a connecting rod 16 attached at one end to the bar 12 and at the other to the crank portion of the operating lever 16^a which is pivoted at 17 on the top of the stand 11.

Connected with the arm 12 is a crooked arm or extension 18 which is connected with the knocking-off ring 19 which surrounds the rear end of the head 6 and is adapted to come in contact with the rear end of the bushing 10 and force it off or partially off of the tapered end of the head, and thereby releasing the hub band.

The operation of the device is substantially as follows: With the spindle 13 rotating by means of a belt applied to pulley 4 or 5 and the parts in the position shown in Fig. 3, or substantially that, a rim or band having a plain edge, as shown in Fig. 6, is slipped on to the bushing 7. The operator then by means of the handle 16 forces the roller 15 against the edge of the rim or band which crowds the bushing on to the tapered head and it is expanded so as to firmly hold the rim band which rotates with the shaft. By crowding up firmly on the roller 15 by means of the operating lever and connecting link, which then becomes a toggle joint, the edge of the band is rolled or upset into the form shown at *a* in

section in Fig. 5. When the rim *a* has become of sufficient size, the roller 15 is withdrawn by reversing the motion of the lever handle 16, and by the continued motion of the handle the knocker-off ring 19 is brought into engagement with the rear end of the ferrule 7 and it is forced off or partially off the tapered end of the spindle head 6, and it becomes relieved from the band or rim which may then be readily removed and be replaced by another, when the operation is repeated.

With reference to the rim *a* formed on the outer end of the hub-band, and projecting inwardly therefrom, it will be noted that it is beveled from the outside inwardly and from the inside outwardly forming substantially a V-shaped rim, making what is considered a desirable face end for a hub-band and free of any recess or notch or sharp corner for the lodgment of dirt and especially grease from the axle of the wheel to which the band is intended to be applied.

The blank band on which the machine herein shown is intended to operate, may be formed in any of the several well-known ways, but is preferably formed by drawing by means of a series of punch presses. In operating upon a band to produce the inwardly projecting rim *a*, the shoulder 15^a of the roller rubbing hard on the outside of the band prevents wrinkling while the incline of the operating face of the roller holds the edge firmly against the shoulder, thus rolling the rim on evenly and smoothly without wrinkles.

It is evident that by changing the angle of the face portion 15^b of the roller a different pitch can be given to the outer side of the rim of the band. It is also evident that the

mechanism might be modified so that in operating upon a band, the band would stand still while the roller traveled around the edge and accomplished the same end as is obtained in the mechanism described, and which would be an equivalent.

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

1. In a machine for forming a rim on the edge of a band, or circular shell, a conical spindle, an expansible bushing mounted thereon, a roller having a shoulder adapted to engage the side of the band, and a working face inclining toward the shoulder and adapted to engage the edge of the band, an arm on which the roller is mounted, and means for forcing it toward the edge of the band mounted on the spindle, substantially as set forth.

2. In a machine for upsetting an inwardly projecting rim on the end of a hub-band, means for holding and rotating the band on the line of its axis, a roller having a shoulder 15^a and a working face 15^b at an acute angle with the shoulder, a pivot on which the roller is mounted at substantially right-angles to the wall of the band in the machine, with the shoulder 15^a engaging on the outer side or circumference and the face 15^b engaging on the edge of the band, and means for forcing the roller against the edge of the band, substantially as set forth.

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

CHARLES T. PRATT.

Witnesses:

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H. LEE BABCOCK.