L. J. WARNER.

INKING ROLL TRUCK.

APPLICATION FILED FEB. 26, 1920.

1,350,127.

Patented Aug. 17, 1920.

Fig. 1.

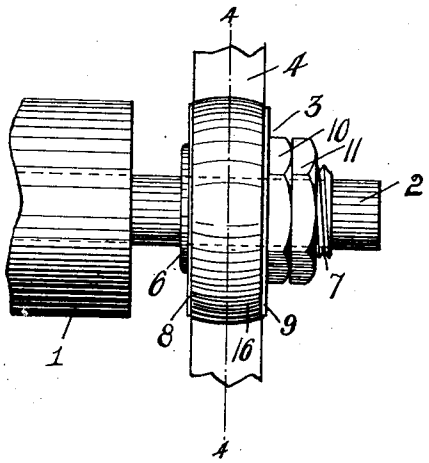


Fig. 2.

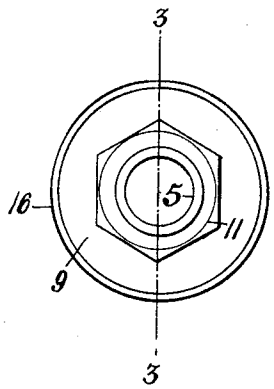


Fig. 3.

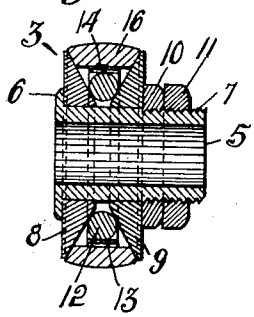
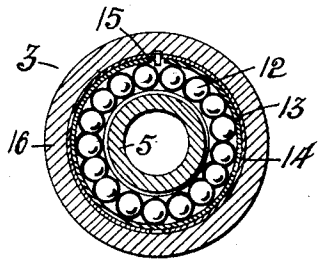


Fig. 4.



Inventor

Leroy J. Warner,

By Owen Owen & Crampton,

His attys.

UNITED STATES PATENT OFFICE.

LEROY J. WARNER, OF FOSTORIA, OHIO.

INKING-ROLL TRUCK.

1,350,127. Specification of Letters Patent. Patented Aug. 17, 1920.

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To all whom it may concern:

Be it known that I, LEROY J. WARNER, a citizen of the United States, and a resident of Fostoria, in the county of Seneca and State of Ohio, have made an invention appertaining to Inking-Roll Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 characters of reference marked thereon, which form a part of this specification.

This invention relates to radially expansible rollers and particularly to a roller of this type adapted for use as an inking roll truck.

The primary object of the invention is the provision of a simple, efficient and improved roller of the character described which has an expansible rim that is easily adjustable to increase the diameter of the roller to compensate for wear or for variance in size of the associated inking roll.

The invention is fully described in the following specification, and while in its broader aspect it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the truck applied to one of the trunnions of an inking roll. Fig. 2 is an end elevation of the truck removed from the trunnion. Fig. 3 is a section on the line 3—3 in Fig. 2, and Fig. 4 is a section on the line 4—4 in Fig. 1.

Referring to the drawings, 1 designates an inking roll, 2 an end trunnion thereof, 3 a truck embodying the invention, and 4 a rail on which the truck is intended to travel to maintain the inking surface of the roll in proper relation to a form over which it is adapted to pass to ink the same.

The truck 3 comprises a sleeve or hub member 5 with one end, in the present instance, provided with a radial flange 6 and its other end externally threaded for a distance lengthwise of the sleeve. Two collars, 8, 9 are mounted on the sleeve 5 and have their adjacent surfaces of conical form to provide a groove or space therebetween, which is substantially V-shape in cross-section. The collar 8 abuts at its outer side against the sleeve flange 6 and the other collar is in abutment at its outer side with a nut 10 threaded on the sleeve and adjustable to effect a varying of the space between the two collars, as is apparent. The nut 10 is locked in position by a jam nut 11 threaded on the sleeve therewith.

An annular set of balls 12 are disposed in the space between the collars 8, 9 in opposed contact with the conical surfaces thereof and are retained in said space by an expansible band which, in the present instance, comprises two split bands 13 and 14 of ring form disposed one within the other with the split of each out of register with the other. The purpose of the outer band is to close the split or opening in the inner band when expanded so that there is no possibility of a registering ball 12 passing therethrough. In order that the opening of the two bands may be permanently maintained out of register, one of the bands, the outer in the present instance, is provided with a stud 15 projecting into the opening of the other band.

The rim member 16 of the truck roller is of expansible material, preferably rubber, and closely encircles the bands 13 and 14, being carried thereby, with its inner side edges confined between the conical collars 8, 9. This provides a rim member for the truck which will not mar the track 4 in its passage thereover as is frequently the case with trucks of this character heretofore used.

It is evident that to adjust the truck roller to increase the diameter thereof or to compensate for wear of the peripheral surface thereof, it is only necessary to tighten the nut 10 to effect relative inward movement of the collars 8, 9, thereby forcing the balls 12 outward in uniform relation by reason of the contact of the conical surfaces of the collars therewith, and also effecting a corresponding expansion of the bands 13 and 14 and rim 16 by reason of the outward movement thereof with the balls.

It is found in practice that inking rolls when subjected to varying weather conditions are caused to swell or contract to a greater or less extent, and it is the primary purpose of the present invention to provide an inking roll truck which is easily adjustable to compensate for any variance in the siez of the roll, for it is evident that should a swollen inking roll be run over a form the surface of the roll would be cut and dam-

aged by sharp rulings or projections on the form. To compensate therefor it is only necessary to turn the nut 10 the desired extent to allow for the swelling of the roll.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claims.

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

1. An inking roll truck comprising a hub member, a pair of collars mounted for relative axial movements thereon and having their adjacent surfaces of opposed conical form, a set of balls encircling the hub member between the collars in opposed contact with their opposed conical surfaces, an expansible band encircling said balls and resting thereon, an expansible rim without the said band, and means coöperating with the hub member and operable to effect a relative axial adjustment of the collars and a consequent radial adjustment of the balls, band and rim members.

2. An inking roll truck comprising opposed collars having their adjacent faces of conical form to provide a substantially V-shaped space therebetween, means carrying said collars and adjustable to relatively move the same to vary the space therebetween, an annular set of balls disposed in the space between the collars in contact with the conical surfaces thereof, and an expansible rim member supported by the balls and expansible by an outward movement of the balls upon a relative inward movement of the collars.

3. An expansible rollers comprising a pair of collars having adjacent conical faces forming a substantially V-shaped space therebetween, means carrying the collars and adjustable to relatively move the collars to vary the space therebetween, an annular set of balls riding on the conical faces of the collars, a plurality of split expansible bands disposed one within the other and supported by said balls, said bands having their openings out of register, and an expansible rim member externally carried by said bands.

In testimony whereof I have hereunto signed my name to this specification.

LEROY J. WARNER.