

W. C. TYLER & E. NALL.
SPINDLE FOR STOCK ROLLS.
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1,055,576.

Patented Mar. 11, 1913.

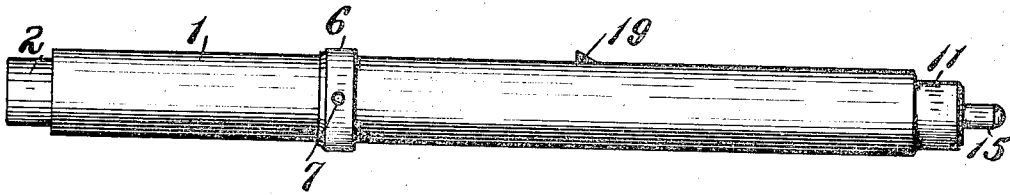


Fig. 1

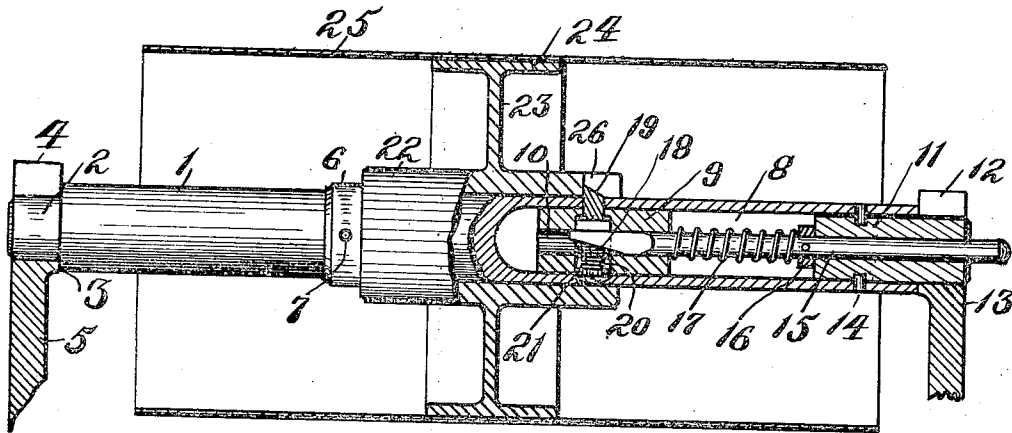


Fig. 2

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM C. TYLER AND EDWARD NALL, OF AKRON, OHIO. ASSIGNORS TO THE GOOD-YEAR TIRE AND RUBBER COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

SPINDLE FOR STOCK-ROLLS.

1,055,576.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed November 25, 1912. Serial No. 733,558.

To all whom it may concern:

Be it known that we, WILLIAM C. TYLER and EDWARD NALL, citizens of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Spindles for Stock-Rolls, of which the following is a specification.

This invention relates to spindles for holding stock-rollers and is especially adapted for use in connection with machines of the type shown in U. S. Patent 941,962, granted Nov. 30, 1909 to Will C. State.

The necessity for a construction of spindles such as is hereinafter described, arises from the fact that the machine described in the patent named originally had four stock-rollers arranged to form the four sides of an imaginary square, but now machines are being constructed with six stock-rollers, hexagonally-arranged and while the stock rollers could be positioned endwise on the fixed spindles of the machine shown in the patent, this is not possible in the machine having six rollers, and hence, experience has shown that in order to hold the stock-rollers the spindles must be removable and be lowered from above into suitable bearings in order to position them.

More specifically, the invention resides in providing a removable spindle on which a stock-roller can be placed, firmly locked and readily removed. The readiness of the placing of the stock-rollers on the spindle and the removal therefrom is one of the primary objects of this invention.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings in which similar reference numerals indicate like parts in the different figures, Figure 1, is a view in side elevation of a spindle embodying this invention; and Fig. 2, is a view in side elevation and partly in longitudinal central sec-

tion of the spindle shown in Fig. 1, with the stock roller in position thereon.

Referring to the drawings in detail, the reference numeral 1 denotes the main cylindrical body portion of the spindle which is provided at one end with a reduced portion 2 forming a shoulder 3 with the body portion 1. The reduced portion 2 is adapted to fit in a U-shaped open bearing or notch 4 in the frame or supporting arm 5 of the machine in connection with which the device is used. Mounted on the body portion 1 is a collar 6 constituting an abutment and held adjustably in position through the medium of a pin or hold-fast device 7. The opposite end of the spindle is provided with a longitudinally-extending and concentric recess 8 in which is positioned a member 9 provided with an aperture 10 arranged longitudinally and centrally thereof. The outer end of the recess is provided with a closure member 11 which projects outwardly beyond the end of the spindle body and serves to constitute a journal to rest in a U-shaped notch or bearing 12 in a supporting-arm 13 complementary to the arm 5. The closure member 11 is preferably held against independent movement by some means such for instance, as pins 14. Longitudinally shiftable in the aligned apertures in the members 9 and 11 is a releasing rod 15, provided with an adjustable collar 16 and inclosed by a coiled resilient element 17 the normal tendency of which is to shift the rod 15 to the right in Fig. 2. The inner end of the rod 15 is flattened and is formed with inclined under face 18 so that the inner end of this bar is approximately wedge-shaped in cross-section.

Extending transversely of the member 9 is a recess in which is mounted a transversely-movable catch 19 the outer end of which is truncated and adapted to project through a suitable aperture in the wall of the body portion 1 which surrounds the recess 8. The catch 19 is provided within the recesses 8 with a slot positioned in registering relation with the aperture 10 so that the rod 15 when pushed inwardly or to the left in Fig. 2, will be received therein. The lower face of the slot in the member 19 is inclined to engage the inclined face 18 of the rod 15. The transverse aperture in the member 9 in which the catch 19 is mounted,

is also provided with a coiled resilient element 20 the normal tendency of which is to hold the catch 19 in its outer or operative position, as shown in the drawings, and this element 20 is held in position by means of a cap or plug 21 which constitutes an abutment for its opposite end.

It will be obvious that the catch 19 may be forced inwardly by hand by pressing on the truncated end thereof or it may be drawn inwardly by shifting the rod 15 to the left.

Adapted to be mounted on the spindle is a stock-roller consisting of a hub 22 provided with an outwardly-projecting annular web 23 bearing a comparatively wide rim 24. Fixedly mounted on this rim 24 is a tubular stock-roller 25 the outer face of which constitutes means on which the stock prepared for use on the tire making machine is rolled. The hub 22 is also provided with a notch 26 into which the catch engages when the stock roller is properly positioned to thereby prevent independent rotation of the stock roller with respect to the spindle.

In practice, the spindle is stood on end on the floor adjacent to the tire-making machine with the end 2 downwardly and the stock-roller provided with its supply of stock is then slipped onto the upper end of the spindle in doing which the hub 22 engages the inclined face of the catch 19 and forces the same inwardly and holds it in this position until the hub abuts against the adjustable collar 6, after which the catch 19 springs outwardly into the notch 26 thereby fixedly locking the stock roller in position. The spindle and stock-roller are then lowered from above the machine into position with the ends of the spindle positioned in the U-shaped bearings 4 and 12 of the machine. When the supply of stock on the roller has been exhausted, the spindle and stock-roller are removed and the spindle is stood up endwise on the ground with the projecting end of the rod 15 downwardly which forces the latter inwardly, releasing the catch 19 and permitting the stock-roller to slide off from the spindle which is then removed and a stock-roller with a fresh supply of stock substituted.

We claim:—

1. An improved spindle for stock rollers embodying a body portion longitudinally recessed at one end, a pair of bearings positioned in said recess and provided with aligned apertures, a releasing rod longitudinally-shiftable in said apertures, a catch mounted in one of said bearing-forming members provided with one truncated end projecting outwardly through said body

portion and having a slot to receive said releasing rod and adapted to be forced inwardly thereby when the latter is shifted.

2. A spindle for stock rollers embodying a body portion longitudinally recessed at one end, an adjustable collar on said body portion constituting an abutment, a catch arranged transversely of the recessed portion of said body member and adapted to project outwardly therefrom, said catch provided with a transverse slot, one of the edges of said slot inclined, bearings in said recessed portion, a longitudinally-shiftable rod mounted in said bearings and with one end engaging the inclined portion of said catch and adapted to force said catch inwardly to its inoperative position when shifted, and a resilient element adapted to return said releasing rod to its normal inoperative position.

3. A spindle for stock rollers embodying a body portion provided with an adjustable collar on the outside thereof constituting an abutment, the opposite end of said body portion provided with a longitudinal recess, a longitudinally-shiftable rod mounted in said recess and suitably supported, resilient means for maintaining said releasing rod in its inoperative position, a transversely-arranged catch in said recess provided with a mechanism for engaging said releasing rod to be thereby shifted to its inoperative position when said rod is moved to draw said catch inwardly, and means to force said catch outwardly into its operative position.

4. The combination in a device of the class described comprising a spindle embodying a body member recessed at one end, an abutment on the outside of said spindle, a longitudinally-shiftable rod mounted in the recess portion of said spindle, a transversely-arranged catch adapted to be shifted to its inoperative position when said releasing rod is shifted, and to return to its operative position upon an opposite movement of said shifting rod, and a stock roller embodying a hub provided with a notch mounted on the said spindle and arranged to be held in position through the medium of said catch engaging in the notch in the hub of said stock roller.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM C. TYLER.
EDWARD NALL.

Witnesses:

R. M. LEMIEUX,
H. B. HAMLEN.