

A. DE LASKI.
 APPARATUS FOR WINDING BOBBINS.
 APPLICATION FILED JAN. 5, 1911.

1,132,076.

Patented Mar. 16, 1915.

2 SHEETS—SHEET 1.

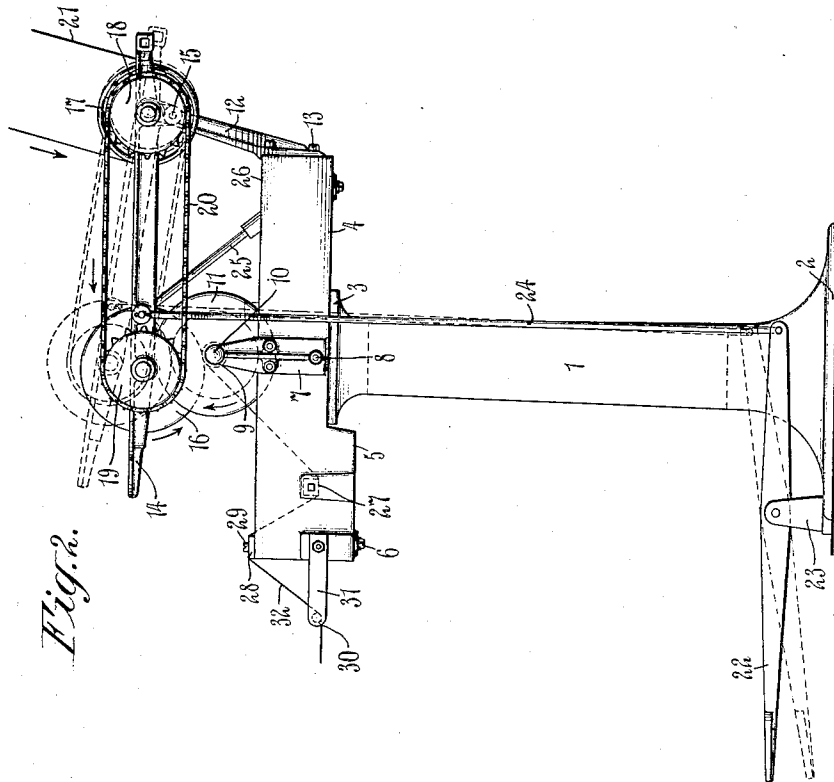


Fig. 2.

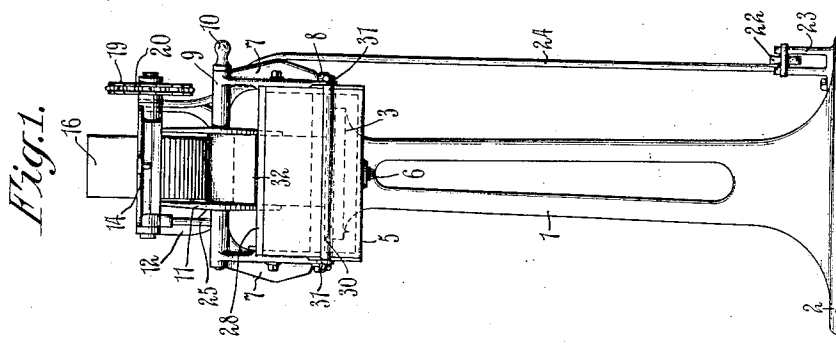


Fig. 1.

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Harry S. Fleischer
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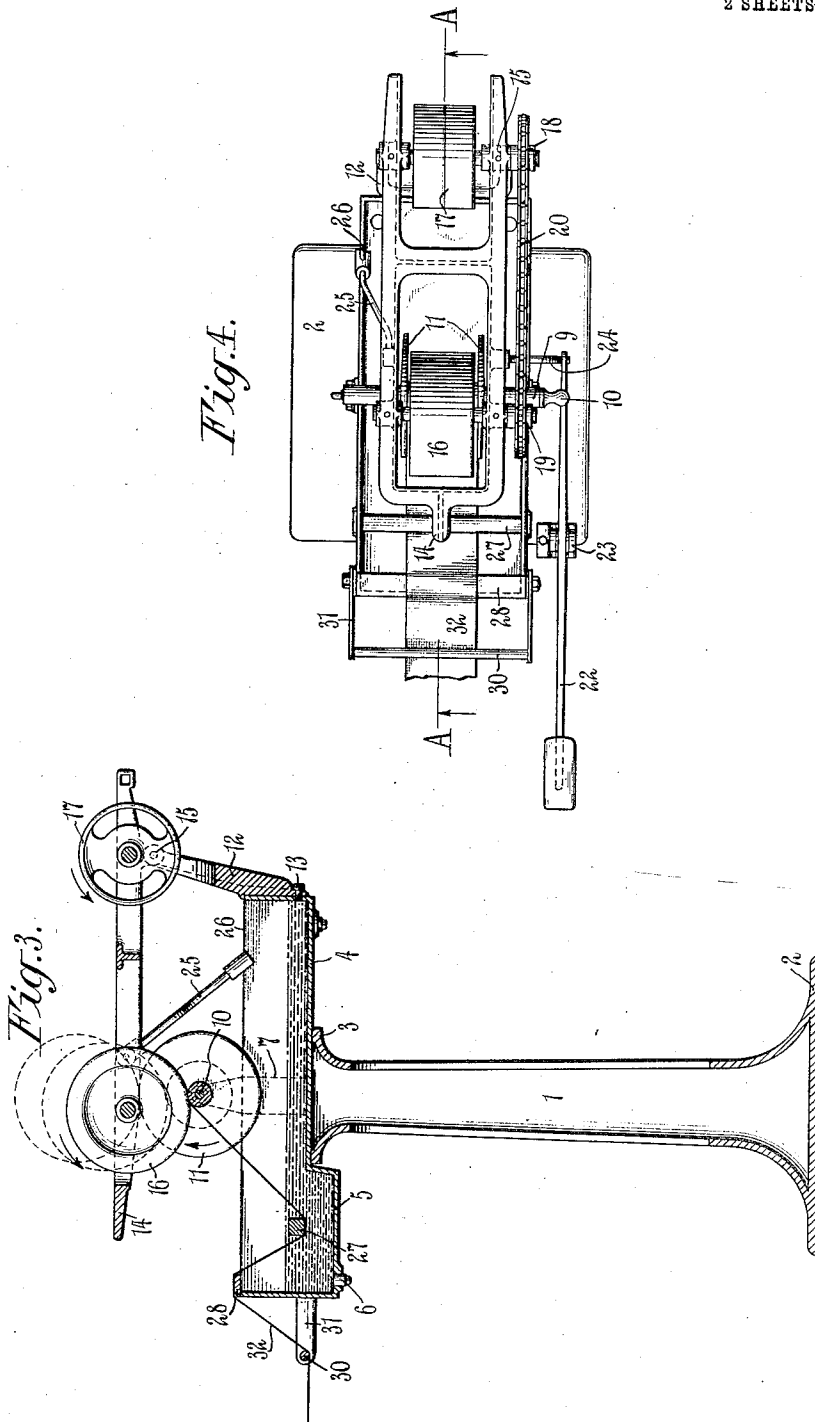
Inventor:
Albert de Laski
 by his attorneys
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UNITED STATES PATENT OFFICE.

ALBERT DE LASKI, OF WEEHAWKEN, NEW JERSEY, ASSIGNOR TO THE DE LASKI & THROPP CIRCULAR WOVEN TIRE COMPANY, OF TRENTON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

APPARATUS FOR WINDING BOBBINS.

1,132,076.

Specification of Letters Patent.

Patented Mar. 16, 1915.

Application filed January 5, 1911. Serial No. 600,938.

To all whom it may concern:

Be it known that I, ALBERT DE LASKI, a citizen of the United States, and resident of Weehawken, in the county of Hudson and State of New Jersey, have invented a new and useful Apparatus for Winding Bobbins, of which the following is a specification.

This invention relates to an apparatus for winding bobbins and more particularly to a device for winding bobbins with the tape or fabric used in wrapping rubber tires and their molds when the tire is about to be vulcanized.

One of the objects is to provide an arrangement whereby the bobbin will be wound with tape at a uniform surface speed from beginning to end.

Another object is to provide means for moistening and straightening the tape as it is fed to the bobbin.

A further object is to provide an arrangement whereby the mechanism for rotating the bobbin will also assist in smoothing the tape being wound.

A still further object is to provide an arrangement whereby the bobbin winding means may be instantly brought into and out of engagement with the bobbin and a still further object is to provide certain improvements in the form, construction and arrangement of the various parts whereby the above mentioned objects may be effectively carried out.

In the accompanying drawings, Figure 1 represents a front elevation of the bobbin winding machine, Fig. 2 represents a side elevation of the same, Fig. 3 represents a vertical section taken in the plane of the line A—A of Fig. 4, looking in the direction of the arrows, and Fig. 4 represents a top plan view of the machine.

The stand or upright is denoted by 1 and is provided with an enlarged base 2 and an enlarged head 3. This head 3 supports an oblong liquid containing vessel 4, which has a deepened end 5 provided with a draw-off plug 6. A pair of bracket arms 7 are secured by means of bolts 8 to the sides of the vessel 4 about midway between its ends. These bracket arms 7 have at their upper ends laterally extending journals 9 fitted to receive a pin 10, which pin 10 is adapted to pass through both the journals 9 and the

bobbin 11 for rotatably supporting the bobbin between the bracket arms 7.

A stanchion 12 is bolted to the end of the vessel 4 opposite the deepened end 5 by means of bolts 13 and a rocking frame 14 is pivotally secured to said stanchion 12, as at 15, so as to permit the frame 14 to rock in a vertical plane toward and away from the vessel 4. A roller 16 is rotatably mounted in the frame 14 with its axis parallel to the axis of the bobbin 11, which roller 16 is of such size and so located in the frame 14 that it will rest upon the hub of the bobbin 11 when the frame 14 is in its lower position.

A belt pulley 17 is rotatably mounted in the frame 14 near the stanchion 12 and a sprocket 18 is mounted against rotation on the same shaft as the pulley wheel 17 but exterior to the frame 14. A second sprocket 19 is mounted against rotation on the same shaft as the roller 16, which sprocket 19 is thus also supported by the frame 14 but exterior thereto and in the same plane as the sprocket 18. A sprocket chain 20 serves as a driving connection between the sprockets 18 and 19, while a belt 21 is adapted to apply rotative force to the pulley wheel 17 from a source of power not shown.

A treadle 22 is mounted in an upright bearing 23 on the base 2 of the stand 1 and is connected to the frame 14 by a rod 24 in such manner that the depression of the treadle 22 will raise the frame 14 so as to remove the roller 16 from engagement with the bobbin 11. A strut 25 is pivoted, at its upper end, to the frame 14 and is fitted at its lower end to slidably engage one side of the vessel 4, as at 26, in Fig. 4. When the frame 14 is raised by the pressure on the treadle 22, the strut 25 will swing into a vertical position and hold the frame 14, raised, independently of any pressure upon the treadle 22.

A cross bar 27 is horizontally mounted in the deepened portion of the vessel 4, which cross bar is rectangular in cross section. This cross bar 27, together with a flat plate secured to the upper part of the deepened end 5 of the vessel 4 by screws 29 and a rod supported in a bracket 31 extending laterally from the deepened end 5 of the vessel 4 constitute means for guiding the tape to the bobbin 11. The reason for having the

cross bar 27 rectangular in cross section is in order that its lower edges may straighten out any wrinkles there may happen to be in the tape passing under it; and this cross bar is located in the liquid in the vessel 4 for the purpose of moistening the tape 32 before it is wound on the bobbin 11 in order that the tape will not stretch when it is used for the purpose of wrapping the tires and molds.

In operation, after the bobbin 11 has been rotatably mounted in the journals, 9, of the bracket arms 7 by means of the pin 10, an end of the tape to be wound is passed under the rod 30 over the plate 28 and under the cross bar 27 to the hub of the bobbin 11 around which hub it is passed once or twice. During this operation, as during the mounting of the bobbin in the brackets, the frame 14 may be raised to its upper position and held there by the strut 25. As soon as the tape has been secured to the bobbin 11, the strut 25 is knocked out from its vertical position and the frame 14 allowed to descend until the roller 16 bears upon the tape on the hub of the bobbin 11. Power may then be applied through the belt 21, which will cause the roller 16 to rotate in the direction indicated by the arrow on Fig. 2, through the medium of the sprockets 18 and 19 and the sprocket chain 20. This rotation of the roller 16 will cause the bobbin 11 to rotate in the direction indicated by the arrow on Fig. 2 because of the frictional engagement between the surface of the roller 16 and the tape on the hub of the bobbin 11. The operator merely feeds the tape to the rod 30 and the plate 28 and cross bar 27 will straighten out any wrinkles there may be in the said tape while the fact that the cross bar 27 is immersed in the liquid will cause the tape to be moistened on its way to the bobbin. As the cop or roll of tape on the bobbin becomes larger, the frame 14 will yield in a vertical plane away therefrom, the roller 16 still resting on the tape on the bobbin and hence continually winding it until the bobbin is completely filled or filled to the desired point.

The manner in which the roller 16 yields away from the bobbin 11 is indicated in dotted lines in Fig. 3, and the position that the frame and the parts carried thereby assume when raised by the treadle 22 is indicated in dotted lines in Fig. 2. The fact that the bobbin is wound by means of a roller engaging the tape on the bobbin causes the winding to be at a uniform surface speed from beginning to end and hence the tape is wound upon the bobbin under an equal tension throughout. This is an im-

portant point in view of the use to which the tape is intended to be put, as it is necessary in winding the tires and molds that the tape be applied under the same strain at all times.

When the bobbin is filled, it may be removed by first raising the frame 14 to the position indicated in dotted lines in Fig. 2, and then withdrawing the pin 10. Another empty bobbin may then be inserted in the machine and wound as indicated above.

While this apparatus is especially adapted for winding bobbins with tape to be used in connection with the manufacture of vulcanized tires, I do not intend that it shall be limited to that use as it is adapted to be used for winding anything of the nature of a bobbin without material change.

It is to be understood that various changes might be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the form and arrangement herein shown and described, but

What I claim is:—

1. Apparatus of the character described comprising a liquid containing vessel, means for rotatably supporting a bobbin thereon, means for guiding the tape to the bobbin, a frame pivoted at one end of the vessel to swing in a vertical plane, a driven roller mounted in said frame and adapted to engage the tape on the bobbin for winding it, means connected to said frame for swinging it vertically so that the roller is out of engagement with the bobbin, and a strut carried by the frame for maintaining it in such raised position.

2. Apparatus of the character described comprising a liquid containing vessel, means for rotatably supporting a bobbin thereon, means for guiding the tape through the liquid to the bobbin, a frame pivoted at one end of the vessel to swing in a vertical plane, a driven roller mounted in said frame and adapted to engage the tape on the bobbin for winding it, a rod and treadle connected to said frame for manually swinging it vertically so that the roller is out of engagement with the bobbin, and a strut carried by the frame for automatically maintaining it in such raised position.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 31st day of December 1910.

ALBERT DE LASKI.

Witnesses:

F. GEORGE BARRY,
C. S. SUNDGREN.