No. 800,579. PATENTED SEPT. 26, 1905.

J. A. HORTON.

COILING APPARATUS.

APPLICATION FILED DEC. 31, 1904

Fig. 1.

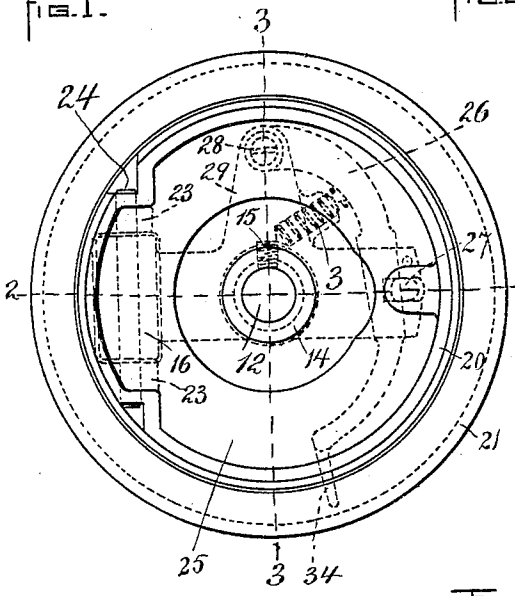


Fig. 3.

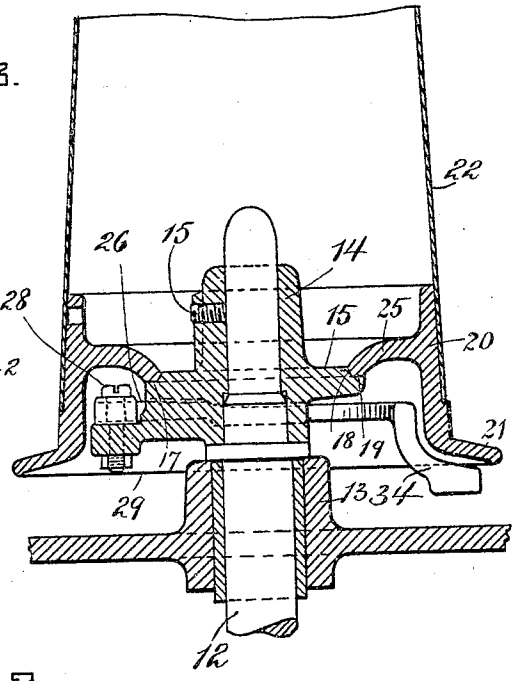
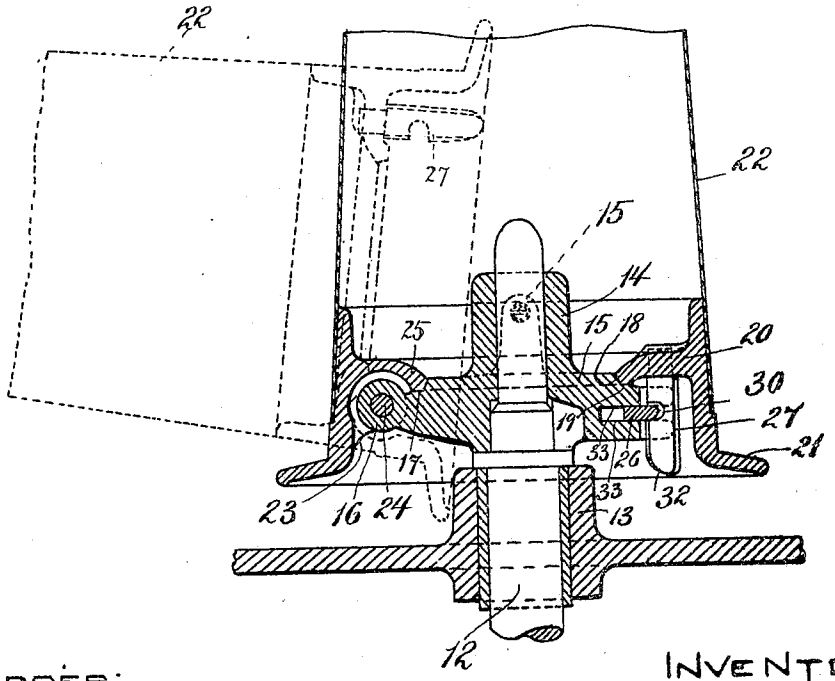


Fig. 2.



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COILING APPARATUS.

No. 800,579. Specification of Letters Patent. Patented Sept. 26, 1905.

Application filed December 31, 1904. Serial No. 239,072.

To all whom it may concern:

Be it known that I, JAMES A. HORTON, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Coiling Apparatus, of which the following is a specification.

This invention relates to means for use in wire-drawing machines and other like machines for reeling or coiling wire or other like material in indeterminate lengths, the invention being here shown as embodied in the storing-drum of a wire-drawing machine, which may be of the continuous type shown in Letters Patent of the United States No. 742,987, granted to me November 3, 1903. In machines of this type it is desirable, for reasons known to those skilled in the art, to rotate the storing drum or reel on a substantially vertical axis, the drum being attached to a vertical power-driven shaft or spindle. When the drum is rigidly or immovably connected to the driving-spindle, as is usually the case, the attendant has to remove the coil of wire from the drum by lifting the coil above the upper end of the drum. This operation involves severe muscular exertion and is very fatiguing to the operator, especially when heavy coils have to be handled.

My invention has for its object to reduce to the minimum the labor of removing a coil from a storing drum or reel which is mounted to rotate upon a vertical axis, and it consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top plan view of a coiling apparatus embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents a section on line 3 3 of Fig. 1.

The same reference characters indicate the same parts in all the figures.

In the drawings, 12 represents a vertical shaft or spindle which may be driven by power applied in any suitable way and is journaled in suitable bearings, one of which is shown at 13.

14 represents a hub rigidly attached to the reduced upper portion of the spindle 12 by a set-screw 15 or otherwise. The lower portion of the hub 14 has an enlargement 15, at one edge of which is formed an ear 16, constituting a hinge member. On the upper side of the enlargement 15 is formed a seat 17, which preferably surrounds the hub 14 and has two faces 18 and 19, as shown at the right-hand portion of Figs. 2 and 3.

20 represents the lower portion of a storage drum or reel, which in this embodiment of my invention is composed of two general parts—namely, the lower part 20, which is a stout metal casting having a flange 21, and an extension 22, which is preferably a tapered cylinder of sheet metal and is sufficiently elongated to hold a coil of the desired bulk. The drum is provided with a hinge member, complemental to the member 16, and in this case composed of two ears or projections 23 23, which overlap the ends of the member 16 and are engaged with the latter by a hinge pin or pintle 24. The drum is provided with a flange or base member 25, formed to bear on the seat 17 when the drum is in its operative position, or, in other words, when the coil-supporting surface of the drum is concentric with the shaft or spindle 12, the drum being in substantially axial alinement with the shaft when in its normal position.

The hub 14 and its enlargement 15 may be termed a "driver" for the drum, the said driver being rotated by the spindle 12 and in turn imparting rotary movement to the drum when the latter is in its operative or normal position relatively to the driver. The described hinge connection between the drum and the driver enables the drum to be tipped from its operative position to an approximately horizontal position, as shown by dotted lines in Fig. 2. When the drum is thus tipped, the coil can be removed therefrom in an approximately horizontal direction without requiring to be lifted by the attendant. It will be understood that the drum is tipped from its operative position after its rotary motion ceases.

I have provided means for locking the drum in its operative position, said locking means acting automatically when the drum is restored to its operative position after having been tipped to permit the removal of the coil. The said means, as here shown, comprise two locking members 26 and 27, one of which is affixed to one of the parts hereinbefore called the "drum" and the "driver," while the other is movably connected to the other part and

is acted on by a spring, which causes the engagement of the two members when the drum comes to a bearing on its seat. The movable member is preferably mounted upon the driver and, as here shown, it comprises an elongated curved latch arm or lever 26, which is pivoted at 28 to an ear 29 on the driver, the said latch being formed at a point between its ends to engage a notch 30, formed in the fixed locking member 27.

31 represents a spring arranged to press the latch outwardly into engagement with the member 27, the said spring being partially contained in a socket in the driver, its outer end bearing on the latch. The locking member 27 is preferably a stud rigidly affixed to the flange 25 of the drum and provided with a beveled lower end 32, formed to displace the latch when the drum is being moved back to its operative position, the latch being thus caused to press yieldingly against the inner edge of the member 27 until the notch 30 coincides with it, when the latch springs outwardly into the notch. The swinging movements of the latch are guided by the sides 33 of a slot formed in the driver, said sides constituting guides for the latch. The outer end of the latch is provided with a handle 34, which projects below the base of the drum, in position to be conveniently reached by the operator when the drum is to be unlocked from the driver and tipped to its discharging position.

It will be seen that the drum at all times has a swinging engagement with its driver, and that it is adapted to be quickly moved to and from its operative position.

I do not limit myself to the details of construction here shown and described, and the same may be variously modified without departing from the spirit of the invention.

I claim—

1. A coiling apparatus comprising a rotary driver, and a storing drum or reel normally in substantially axial alinement with the driver and rotative therewith, the drum having a swinging engagement with the driver.

2. A coiling apparatus comprising a rotary driver having a drum-seat, and a storing-drum hinged to the driver and normally bearing on said seat.

3. A coiling apparatus comprising a rotary driver, a storing drum or reel normally in substantially axial alinement with the driver and rotative therewith, the drum having a swinging engagement with the driver, and means for locking the drum or reel in its normal position.

4. A coiling apparatus comprising a rotary driver, a storing drum or reel rotative with the driver, and having a swinging engagement therewith, a spring-pressed locking member pivoted to one of said parts, and a fixed locking member on the other part.

5. A coiling apparatus comprising a rotary driver, a storing drum or reel rotative with the driver, and having a swinging engagement therewith, a spring-pressed latch pivoted to the driver and having an operating-handle projecting below the base of the drum, and a fixed keeper for said latch on the drum.

6. A coiling apparatus comprising a rotary driver having a laterally-projecting ear, a spring-pressed latch pivoted to said ear, the driver having guides for said latch, and a drum or reel hinged to the driver and having a notched stud or keeper adapted to engage said latch.

7. A coiling apparatus comprising a rotary driver having a seat, and a hinge member projecting outwardly from the seat, and a drum or reel having a base member formed to bear on said seat, and a hinge member engaged with the hinge member of the driver.

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

JAMES A. HORTON.

Witnesses:
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