April 25, 1933. C. W. HARRIS 1,905,464

JOURNAL BOX WASTE ROLL WINDING MACHINE

Filed Feb. 18, 1931 3 Sheets-Sheet 1

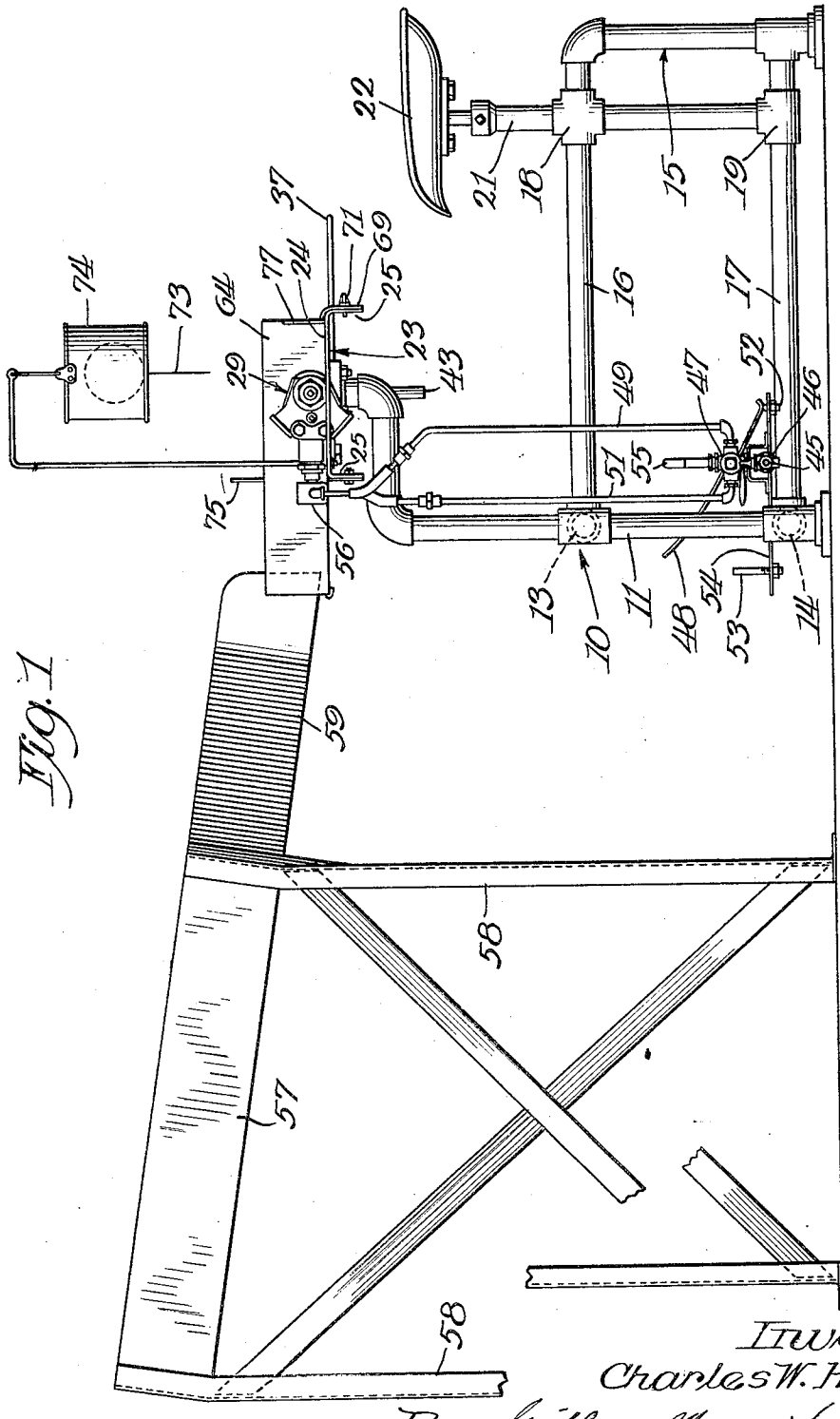


Fig. 1

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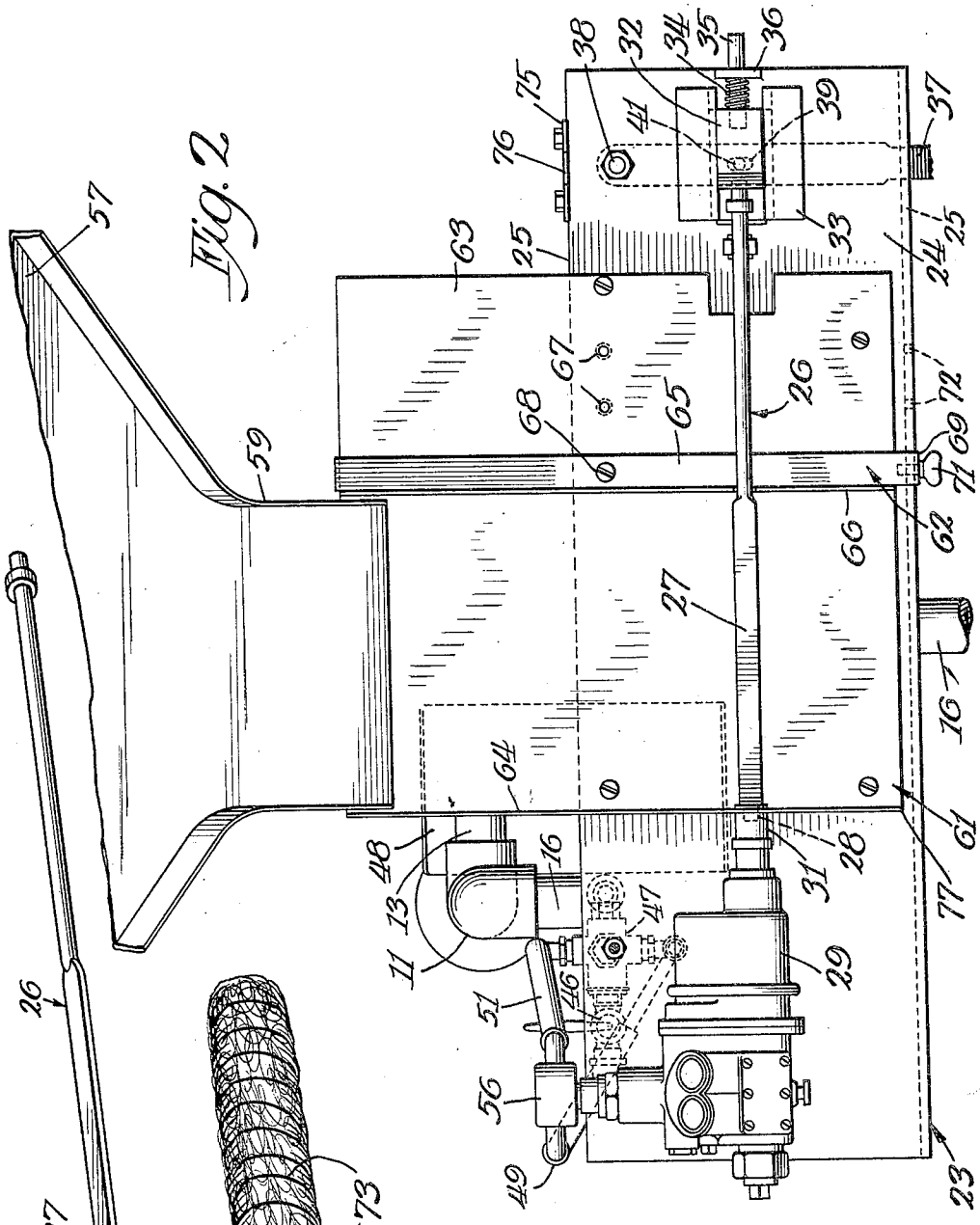


Fig. 2

Fig. 3

Fig. 4

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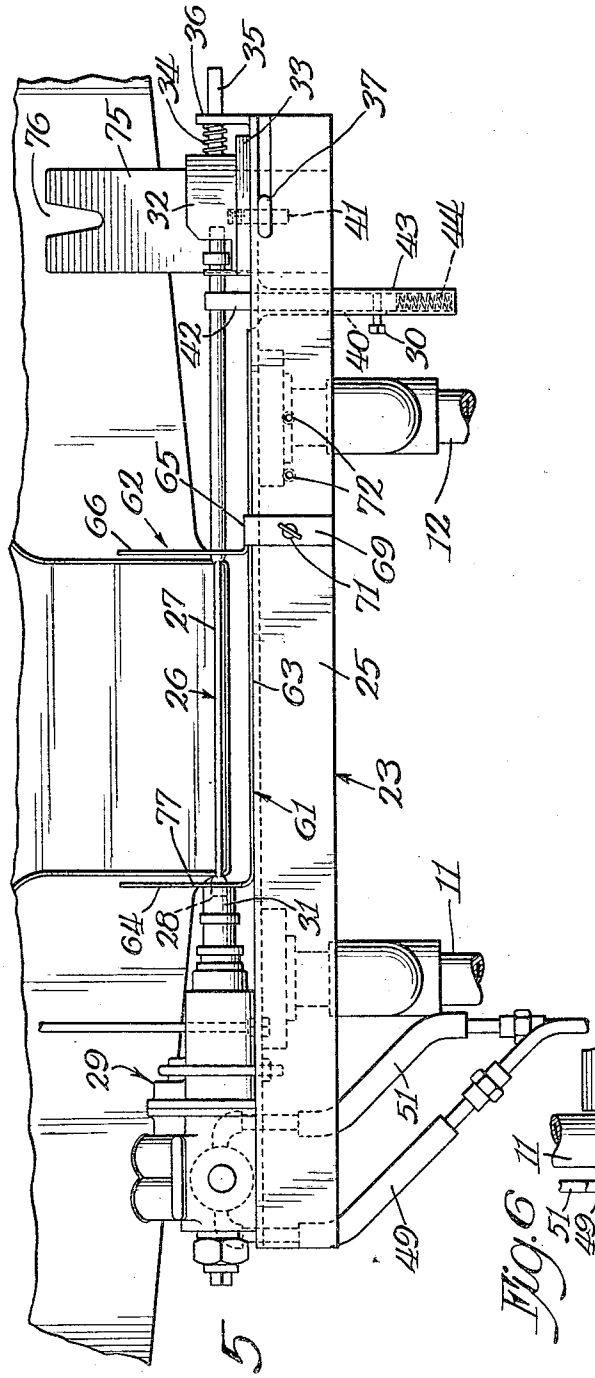


Fig. 5

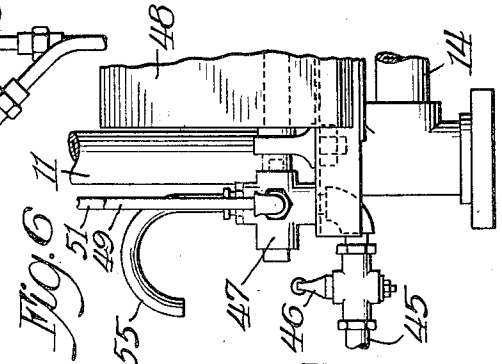


Fig. 6

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UNITED STATES PATENT OFFICE

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JOURNAL BOX WASTE ROLL WINDING MACHINE

Application filed February 18, 1931. Serial No. 516,765.

This invention relates to mechanism for manufacturing waste rolls for use in journal boxes for assisting in lubricating car axles.

One of the objects of the invention is the provision of a new and improved machine for winding waste rolls for use in journal boxes for railway cars.

Another object of the invention is the provision of a new and improved waste roll manufacturing device that is provided with novel winding and control mechanism.

A further object of the invention is the provision of a new and improved waste roll winding device that is inexpensive to manufacture, easily assembled and operated, that is efficient in operation and that is not likely to become broken or get out of order.

Other and further objects and advantages of the invention will appear from the following description taken in connection with the accompanying drawings, in which

Fig. 1 is a side elevation of the device, with parts broken away;

Fig. 2 is a plan view thereof, with parts broken away;

Fig. 3 is a perspective view of the spindle member;

Fig. 4 is a perspective view of the finished roll;

Fig. 5 is a front elevation of a portion of the device on which the winding mechanism is mounted; and

Fig. 6 is a front elevation of a portion of the machine on which the control valve is mounted.

Referring now to the drawings wherein one embodiment of the invention is disclosed, which is by way of example only, the reference character 10 designates generally the machine which comprises supporting standards or frame members 11 and 12, see Figs. 1 and 5, which are spaced apart and suitably connected together by the bars 13 and 14, see Figs. 1 and 6. The frame members or standards 11 and 12 are held in upright position by a brace member 15 which is connected to the bars 13 and 14 by the connecting members 16 and 17. Slidably mounted on the connecting members 16 and 17 are the sleeves 18 and 19 of a seat supporting standard 21 on the upper end of which is mounted a seat 22. Sleeves 18 and 19 may be slid along the members 16 and 17 to properly position the seat to suit the convenience of the operator.

Mounted on the upper ends of the standards 11 and 12 is what for convenience will be termed a table 23 on which the winding mechanism is adapted to be mounted. This table comprises the top or horizontal plate member 24 and the side or vertically extending plate members 25.

The winding mechanism comprises a spindle 26 having its intermediate portion flattened as at 27 for causing the waste material when wound thereon to rotate with the spindle. Its inner end is angular as shown at 28 in Fig. 3. The outer end is extended to constitute a handle for holding the same while stripping the roll from the spindle, as will presently appear.

The spindle 26 is adapted to be operated by a motor 29 which is preferably though not necessarily a compressed air motor. The angular end 28 of the spindle 26 is adapted to engage in a corresponding recess in the power shaft 31 of the motor. The outer end of the spindle 26 is adapted to engage a bearing socket in the bearing plate or movable block 32. The block 32 is slidably mounted in the bearing block 33 which is rigidly connected to the top 24 of the table 23. The block 32 is normally resiliently held in advanced position by a spring 34, surrounding a stud 35 rigidly secured to the movable block 32 and extending outwardly through a guide 36.

Suitable means are provided for releasing the spindle 26 from the operating mechanism. As shown, a lever 37 is employed for this purpose. The lever 37 is fulcrumed as at 38 and is provided with an elongated slot 39 which is adapted to receive a pin 41 rigidly connected to the sliding block 32. Means are also provided for elevating the outer end of the spindle 26 when the block 32 is released from the outer end of the spindle 26. In the form of construction shown, this is accomplished by a spring-pressed bar 42 which is provided with a notch in its upper end for engaging the spindle 26 and has its lower por-

tion telescoped within a sleeve 43 which in turn is rigidly connected to the table 24. A spring 44 in the bottom of the sleeve 43 is adapted to force the bar 42 upwardly when the lever 37 is moved to the right for disengaging the outer end of the spindle. A set screw 30 secured to the plunger or bar 42 and extending through a slot 40 in the sleeve or socket member 43, limits the upward movement of the bar or plunger.

The motor 29 is operated by air which, in the construction shown, is conducted to the device by a conduit 45, see Fig. 6, which is provided with a hand operated valve 46. The air passes from the conduit 45 to the control valve mechanism 47. The control valve 47 is what is termed a four-way valve and is operated by the pedal 48 which has three positions. In one position the air is introduced through the conduit 49 and is released through the conduit 51 and in another position of the pedal the air enters through the conduit 51 and is discharged through the conduit 49, while in a third or neutral position the compressed air is cut off from the motor. Studs 52 and 53 are adjustably mounted on the control valve supporting plate 54 and are adapted to engage the ends of the pedal for limiting the movement of said pedal in either direction. The discharge conduit for the control valve mechanism is shown at 55.

The air motor 29 is provided with distributor valve mechanism 56 as is usual in such constructions. Since the operating mechanism of the distributor valve, the control valve and the motor are of the conventional or any well known type it is not thought necessary to further illustrate or describe the same.

A suitable receptacle is provided for containing waste material. As shown, this receptacle comprises the receptacle proper 57 which is supported in inclined position by the supporting members 58 in front of the machine. The receptacle 57 is provided with a chute 59 which constitutes a prolongation of the receptacle 57 but is considerably narrower than the same.

Suitable guides 61 and 62 are provided for guiding the material from the chute 59 to the spindle 26. As shown, the guide 61 comprises a plate 63 which is secured to the top of the table 23 and has one side edge turned upwardly as at 64. The other or movable guide 62 is formed by an angular plate having a horizontal flange portion 65 and a vertical portion 66.

Suitable means are provided for adjustably mounting the guide member 62 on the table 23. As shown, the plate 63 and table top 24 are provided with a plurality of threaded openings 67 and the horizontal flange 65 is provided with a set screw 68 which is adapted to engage any one of these openings for holding the guide 62 in adjusted position.

The front end of the guide 62 is provided with a depending portion 69 having a thumb or set screw 71 which is adapted to engage corresponding openings 72 in the side of the table 23, for assisting in holding the movable guide in adjusted position. The openings 67 and 72 are spaced apart to correspond with the length of rolls that are adapted to be used in journal boxes of different sizes.

In the operation of the device the waste material is fed by hand to the spindle and when the roll 70 is of sufficient size twine 73 from the container 74 supported above the device is wound on the roll as indicated in Fig. 4 for holding the material from becoming unwound from said roll. The pedal 48 is then moved to reverse the direction of rotation of the motor for loosening the spindle within the roll, after which the motor is stopped, the lever 37 is moved to the right, see Figs. 2 and 5, which releases the outer end of the spindle 26. The plunger or bar 42 will then automatically lift the spindle upwardly and permit the operator to release the spindle from the motor.

Suitable means are provided for stripping the roll 70 from the spindle. As shown, this comprises a plate 75 having a V-shaped recess 76 therein. The plate 75 is rigidly connected to the table and extends upwardly therefrom. When the operator removes the spindle and roll from the machine he removes the roll from the spindle by placing the latter within the recess 76 and stripping the roll from the spindle by pulling back on the spindle.

If desired, the upwardly extending member 64 may be provided with a sharp edge as at 77 for forming a knife for cutting the twine 73 when a sufficient amount has been used on the roll 70.

While a motor of any conventional type may be employed to rotate the spindle, a compressed air motor is preferred because any excessive strain on the spindle, as when the waste material is not properly fed thereto, will stop the motor without doing any damage thereto.

I claim as my invention:

1. A machine for winding waste material in rolls for use in journal boxes comprising a spindle, a support for said spindle, mechanism for rotating said spindle, a waste container, a passageway leading to said spindle from said container, means for retaining said spindle on said support, means for discharging one end of said spindle from said support when said first named means is released and means for stopping and starting said mechanism.

2. A machine for preparing waste material in rolls for use in railway journal boxes comprising a spindle, mechanism including a motor for rotating said spindle, a passage for conducting waste material to said spindle, means for retaining said spindle on said support, means for discharging one end of said

spindle from said support when said first named means is released and mechanism for controlling the operation of said motor, said mechanism comprising a control member and a pedal for operating said control.

3. In a machine for preparing waste rolls for use in railway journal boxes, a spindle, means for supporting waste material adjacent to said spindle, a slidable spring pressed block for engaging one end of said spindle, manually operated means for releasing said block, mechanism for operating said spindle, spring pressed means for forcing one end of said spindle upwardly when said last named means is operated and means for controlling the operation of said mechanism.

4. In a machine for winding rolls for use in railway journal boxes, a spindle, mechanism for rotating said spindle, fixed and movable bearings for said spindle manually operated lever, means for moving said movable bearing, and means for automatically displacing said spindle when said movable bearing is retracted.

5. In a machine for winding rolls for use in railway journal boxes, a spindle, mechanism for rotating said spindle, fixed and movable bearings for said spindle, said movable bearing comprising a supporting member, a bearing member slidable within said supporting member, spring means for normally urging said bearing member forwardly, and means for retracting said bearing member, and means comprising spring-pressed means engaging beneath said spindle for displacing the same when said bearing member is retracted.

6. In a machine for preparing waste material for use in lubricating railway car axles, a frame, a spindle rotatably mounted in said frame, means for rotating said spindle for winding waste material into rolls, said means comprising a slidable block engaging one end of said spindle, a manually operated lever for moving said block for releasing said spindle, spring pressed means for engaging said spindle to release one end of same when said lever is moved to release said spindle, and an adjustable guide for predetermining the length of said rolls.

7. In a waste roll winding machine, having a table, winding mechanism on said table, the combination of a spindle having a flattened portion on which waste material is adapted to be wound, and an extended portion for forming a handle, a stripping device comprising a member secured to said table adjacent to said mechanism and extending upwardly therefrom and having a notch in its upper end forming a recess for receiving said spindle for engaging the waste roll while the same is being stripped from said spindle.

8. In a machine for winding rolls from waste material for use in railway car journal boxes, a spindle, mechanism for operating said spindle in either direction, a pair of supports for said spindle, manually operated means for releasing one end of said spindle from its support and means for automatically moving said spindle to inoperative position when the same is released from one of said supports.

In testimony whereof I affix my signature.

CHARLES W. HARRIS.