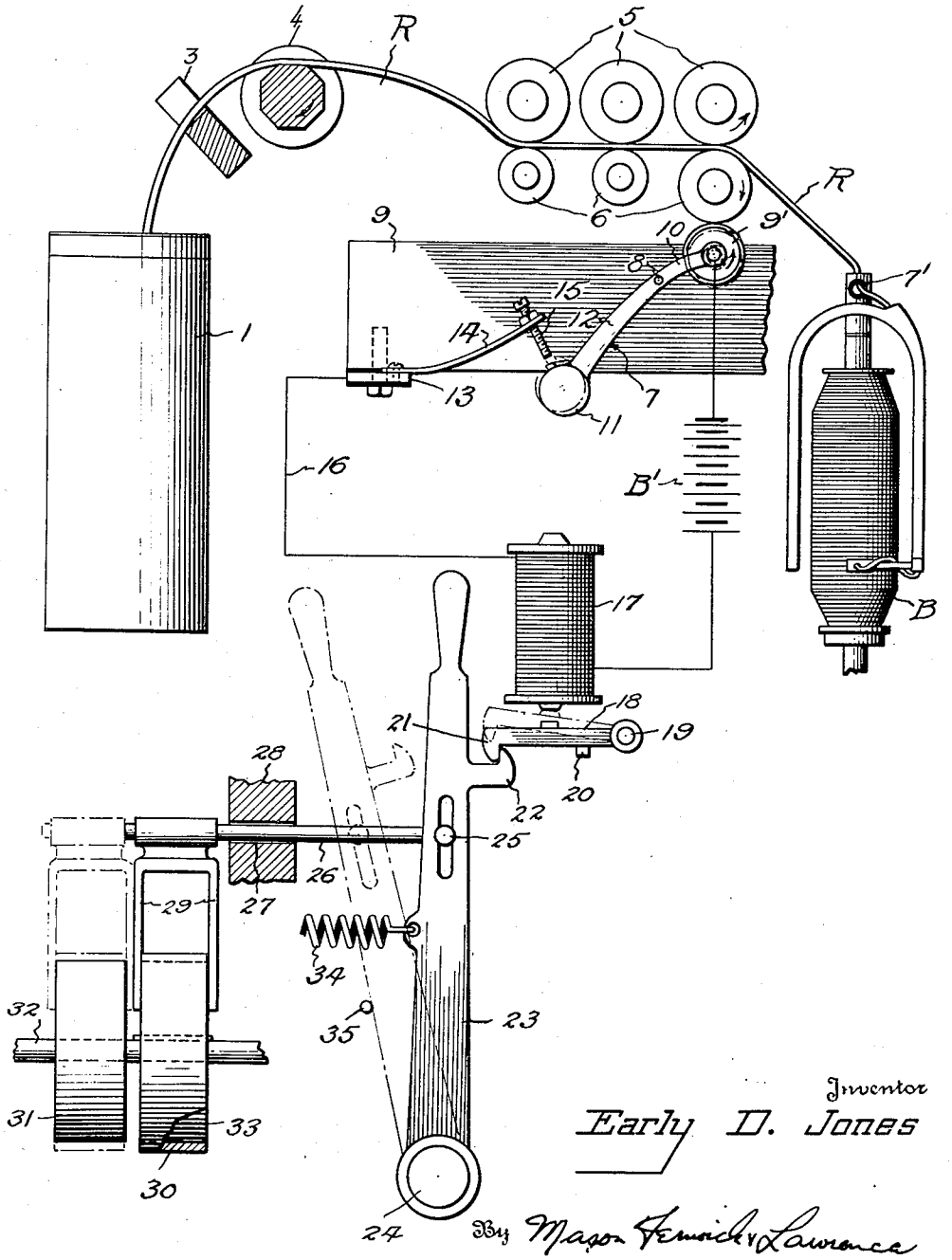
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ELECTRICAL STOP MOTION FOR ROVING FRAMES

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ELECTRICAL STOP MOTION FOR ROVING FRAMES

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2 Claims. (Cl. 19—165)

The invention forming the subject matter of this application is an electrical stop motion designed for use in roving machines.

The main object of the invention is to provide for roving machines, a stop motion, operable by a break in the roving, and without the imposition of any strain upon the roving or resistance to its movement from the can to the bobbin.

Other objects of the invention will become apparent as the detailed description thereof proceeds.

The figure of the drawing is a diagrammatic layout of the parts of this invention as applied to a roving machine.

As illustrated, the roving R is drawn from the can 1 through a guide 3 by the grooved roller 4. Thence it passes between the frictionally driven top carrier rolls 5 and positively driven bottom carrier rolls 6, the latter being driven at successively higher speeds from back to front. From the front carrier rolls the roving is conducted through an eyelet to the bobbin B.

As so far described, the mechanism is old and well known in this art. The present invention begins with a lever 7 fulcrumed between its ends on a pivot 8 secured to a fixed part 9 of the framework of the machine. A scavenger roll 9 is rotatably mounted on the arm 10 of lever 7, and is held in contact with the periphery of the front carrier roll 6 by means of the weight 11 on the outer end of the other arm 12 of lever 7.

The lever 7 is of electrically conductive material and is grounded through its pivot 8 and part 9 to the source of electrical energy B'. A bracket 13 extends from the part 9 of the framework, and has suitably secured thereto one end of a conducting leaf spring 14, having adjustably mounted at its other end a contact rod 15 extending toward the weighted end of lever 7. The bracket 13 is suitably insulated from the part 9 of the framework, but is in electrical contact with spring 14; and is connected by a wire 16 to the wiring of an electromagnet 17, which in turn, is connected to the source of electrical energy B'.

Directly below the magnet 17, an armature 18 is mounted to swing about a fixed pivot 19; and normally rests by gravity against a stop 20. The outer end of armature 18 is shaped to form a hook 21 adapted to engage a hook 22 projecting laterally from a shipper lever 23 which is mounted to swing about a fixed pivot 24 at the lower end thereof.

The lever 23 is provided with a slot to receive slidably a stud 25 projecting from the shipper rod 26 which is mounted to slide in an aperture 27 in a fixed guide 28. The usual bifurcated bracket 29 straddling the power belt 30 is fixed to the outer end of rod 26 to shift the belt from the pulley 31, loose on the driven shaft 32 of the machine, on to the pulley 33 keyed to said shaft, and vice versa.

A strong tension spring 34 normally holds the shipper lever 23 against the stop 35, with the bracket 29 holding the belt 30 on the loose pulley 31. Obviously, when the lever 23 is swung about its pivot 24 to the right, as shown in the drawing, the hook 21 will engage the hook 22 to hold the shipper lever in machine operating position, so long as the magnet 17 is deenergized.

It will be apparent from the drawing that so long as the scavenger roll 9 remains in contact with the front carrier roll, the circuit through the magnet 17 will be broken. When a break occurs in the roving R between the carrier rolls and the bobbin B, the loose end wraps around the carrier roll or scavenger roll and causes the heavy end of lever 7 to rise into contact with the contact rod 15, thereby completing the circuit through magnet 17. The energization of the magnet pulls the armature 18 upwardly to release the hooks 21 and 22, and the spring 34 pulls the shipper lever 23 against the stop 35 with the power belt 30 transferred to the loose pulley 31. This, of course, stops the machine, and permits the operator to tie up the broken ends without unnecessary loss of time.

It is to be understood that the invention is not to be considered as limited to the specific construction and arrangement described herein, since it is evident that many changes may be made without departing from the scope of the invention as defined by the claims appended hereto.

What I claim is:

1. In a roving machine, a frame having carrier rolls for feeding a roving to a bobbin, an electric circuit closer mounted on said frame to control the operation of said rolls and comprising: a lever of conducting material pivoted between its ends and grounded to said frame, a roll mounted to rotate on one end of said lever, the other end of said lever being weighted to hold said roll normally in contact with one of said carrier rolls, a source of electrical energy connected to said frame, a contact mounted on and insulated from said frame in the path of movement of said other end, wiring connecting said contact to said source, an electro-magnet interposed in said wiring and energized by the contact of said other end with said contact, mechanism controlling the rotation of said carrier rolls, means for holding said mech-

anism normally in inoperative position, and an armature for said magnet adapted to hold said mechanism in operative position only when the circuit through the magnet is broken.

2. In a roving machine: a frame having carrier rolls for feeding a roving to a bobbin, a source of electric energy grounded to said frame and controlling the operation of said rolls, a conducting lever pivoted between its ends to said frame, a roll mounted to rotate on one end of said lever, means on the other end of said lever to hold said roll normally in contact with one of said carrier rolls, and means fixed to said frame in the path of movement of and normally separated from the other end of said lever and operable by contact with said other end to close the circuit through said source and stop the operation of said carrier rolls.

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