

No. 665,421.

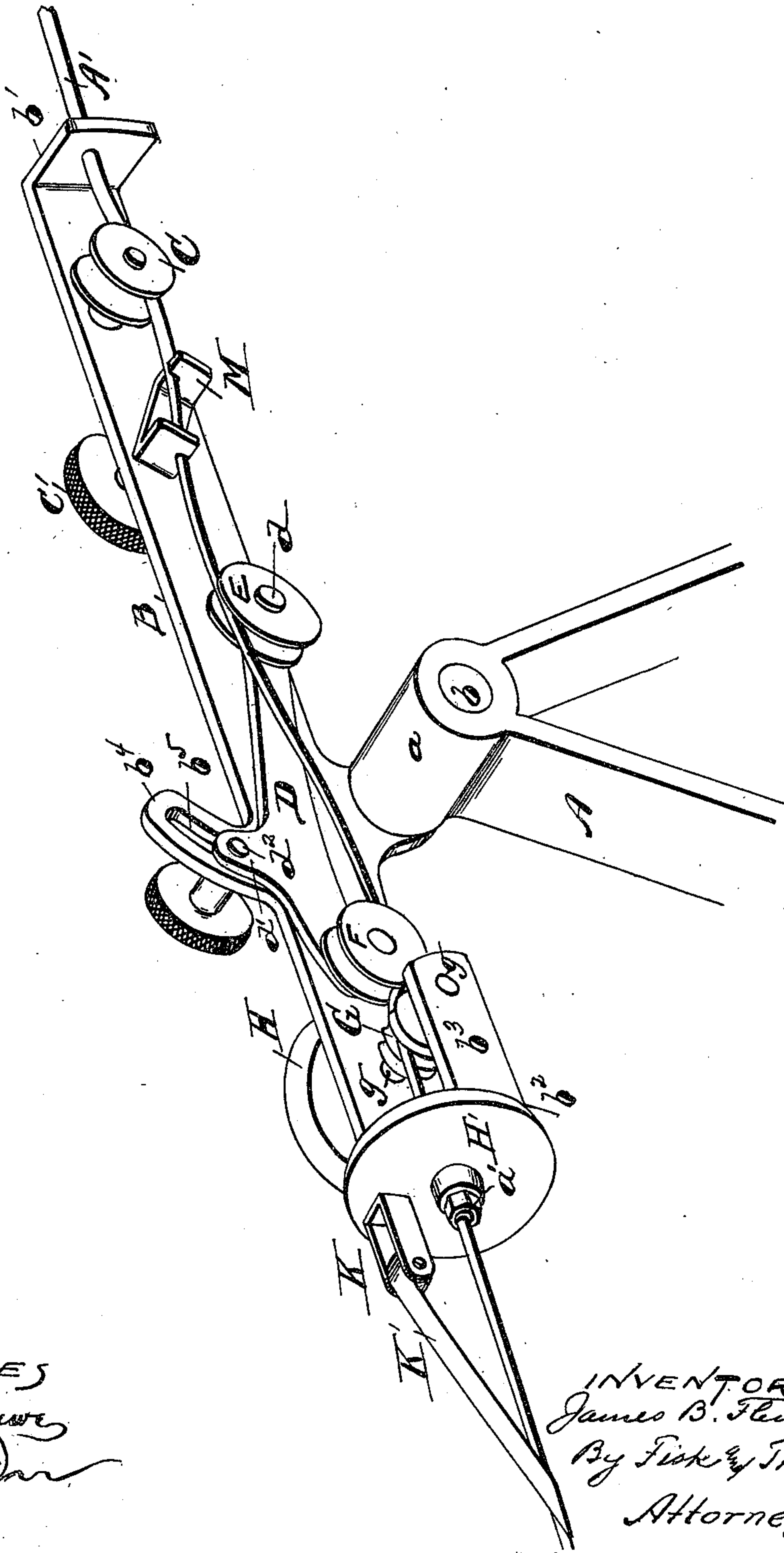
Patented Jan. 8, 1901.

J. B. FLEMING.

MACHINE FOR RESTORING INSULATED WIRE.

(Application filed Jan. 15, 1900.)

(No Model.)



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JAMES B. FLEMING, OF DETROIT, MICHIGAN.

MACHINE FOR RESTORING INSULATED WIRE.

SPECIFICATION forming part of Letters Patent No. 665,421, dated January 8, 1901.

Application filed January 15, 1900. Serial No. 1,443. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. FLEMING, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Machines for Restoring Insulated Wire; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, which forms a part of this specification.

My invention relates to improvements in machines for cleaning, straightening, and re-insulating old wire; and it consists in the improvement in details of construction over the construction shown in my application filed August 14, 1899, Serial No. 727,115, and in Patent No. 601,694, issued April 5, 1898, to Wilson.

My invention is shown in the accompanying perspective view of the apparatus, in which—

A represents a standard rising from and bolted to the floor. This standard is provided with the bearing *a*, in which the frame B is mounted on the trunnion *b*. The frame B is provided at the rear end with the right-angle extension *b'*, through which the old wire (represented by *A'*) passes, and at the forward end with a right-angle bend *b²* and a return-bend *b³*. The frame B is also provided with an upward extension *b⁴*, in which is a slot *b⁵*.

C represents a pulley mounted on the frame, under which the wire passes as it enters the frame. Just beyond this pulley is swiveled a double scraper M. This scraper consists of a bar of steel bent outward at each end and is provided with a notch in the upper edge of one and in the lower edge of the other of the bent ends. These notches are surrounded by cutting or scraping edges adapted to remove the old insulation from the wire as it passes through the scraper. The scraper is swiveled on a bolt that passes through the frame, which is set tight by a clamping-nut.

C' is a hand-wheel fixed to the bolt, on which the scraper is mounted and by which it is turned and set to increase or decrease the tension of the wire and the force with which

the scraper comes in contact with it. The normal set of the scraper is such that the wire is bent as it goes over one end and under the other. As the wire is under some tension, the scraper straightens it or takes out the short kinks at the same time that it cleans it.

D represents a swinging arm, which is pivoted on the bolt *d*. This arm is provided with an extension *d'*, in which is set a clamping-bolt *d²*. This bolt passes through the slot *b⁵* in the frame and by means of which the arm is held in any desired position of adjustment within the limits of the slot *b⁵*. The bolt *d* forms a bearing for the pulley E, over which the wire runs after leaving the scraper.

F represents a pulley mounted on the outer end of the arm D, under which the wire runs after passing the pulley E.

G represents a pulley fixed to the shaft *g*, that has a bearing at both ends in the sides of the frame.

H is a friction-wheel fixed to the shaft G, and H' is a like friction-wheel mounted on a hollow journal *a'*, supported on the end of the frame, the two wheels H H' running in contact on bevel-faces.

The construction is such that the wire, traveling over the pulley G, causes it to turn and drive the shaft *g* and the friction-gear. The wire passes out of the frame through the hollow journal *a'*. The pulley F holds the wire down just back of the pulley G, and thereby increases the resistance to its passage through the machine, increases its tension and its driving friction on the pulley G, and at the same time acts to further straighten the wire. To increase or decrease the tension, the arm D and pulley F are adjusted up or down.

K is a tape-holder attached to the web of the wheel H' near its periphery.

K' represents the tape, which is wound on the wire *A'* as the wheel H' rotates. The relative speed of the winding devices and the wire is fixed by the size of the pulley G, and to provide for different relative speeds this pulley is, when desired, provided with two or more grooves of different lengths of circumference, and the pulley is so keyed to its shaft that it can be moved endwise to bring any desired groove under and in contact with the wire. To provide for covering the wire with

a fixed relation of speed, the tape is run on at a different angle, and if in the running of the machine it becomes necessary to change this angle the friction-wheels are adapted to be changed as to their relative positions of rotation, which would not be the case if gears were used in place of the friction-wheels.

What I claim is—

1. In a machine for restoring insulated wire, a combined straightening and stripping device consisting of a pair of scrapers through which the wire runs so located relative to each other as to cause the wire to bend between the scrapers, substantially as described.

2. In a machine for restoring insulated wire, a stripping device consisting of a pair of scrapers, one arranged to receive the wire on its upper edge and the other on its lower edge, substantially as described.

3. In a machine for restoring insulated wire, a stripping device consisting of a pair of scrapers one arranged to receive the wire on its upper edge and the other on its lower edge, and means for adjusting the relative position of the receiving edges of the scrapers, substantially as described.

4. In a machine for restoring insulated wire, a stripping device consisting of a pair of scrapers one provided with a notch in its upper edge and the other with a notch in its lower edge and means for adjusting the relative position of the notches, substantially as described.

5. In a machine for restoring insulated wire, a combined cleaning and straightening device consisting of the supporting-frame and a cleaner swiveled to the frame and having its ends turned outward and provided with notched scrapers one on the upper edge and the other on the lower edge, substantially as described.

6. In a machine for restoring insulated wire, a combined stripping and straightening device consisting of the combination of two or more scrapers so located relative to each other that the wire is forced to take a tortuous passage in passing through said several scrapers, substantially as described.

7. In a machine for restoring insulated wire, the combination of the frame, the stripping devices, the fixed carrying-pulleys, the tension-pulley and the arm carrying the ten-

sion-pulley pivoted to the frame, substantially as described.

8. In a machine for restoring insulated wire, the combination of the frame, the tension-pulley and the arm carrying the tension-pulley said arm having a slotted connection with the frame, substantially as described.

9. In a machine for restoring insulated wire, the combination of the open frame having the upward extension, the arm having an adjustable connection with said upward extension of the frame and the tension-pulley mounted on said arm, substantially as described.

10. In a machine for restoring insulated wire, the combination of the stripping device consisting of a pair of scrapers, one arranged to receive the wire on its upper edge, and the other on its lower edge, the tape-winding device, the driving means operated by the running-wire and friction-gear between the driving means and the tape-winding device, substantially as and for the purpose described.

11. In a machine for restoring insulated wire, the combination of the stripping device consisting of a pair of scrapers, one arranged to receive the wire on its upper edge and the other on its lower edge, the means for winding the tape the driving means operated by the running-wire and means for moving the winding device independent of the driving means, substantially as described.

12. In a machine for restoring insulated wire, the combination of the winding device, means operated by the running-wire for driving the winding device, and means for increasing or decreasing the speed of the winding device without changing the running speed of the wire, substantially as described.

13. In a machine for restoring insulated wire, the combination of the tape-winding device, and the driving-pulley operated by the running-wire, said pulley provided with two or more wire-carrying surfaces of different circumference, substantially as and for the purpose described.

In testimony whereof I sign this specification in the presence of two witnesses.

JAMES B. FLEMING.

Witnesses:

S. E. THOMAS,

M. E. THOMAS.