(No Model.)
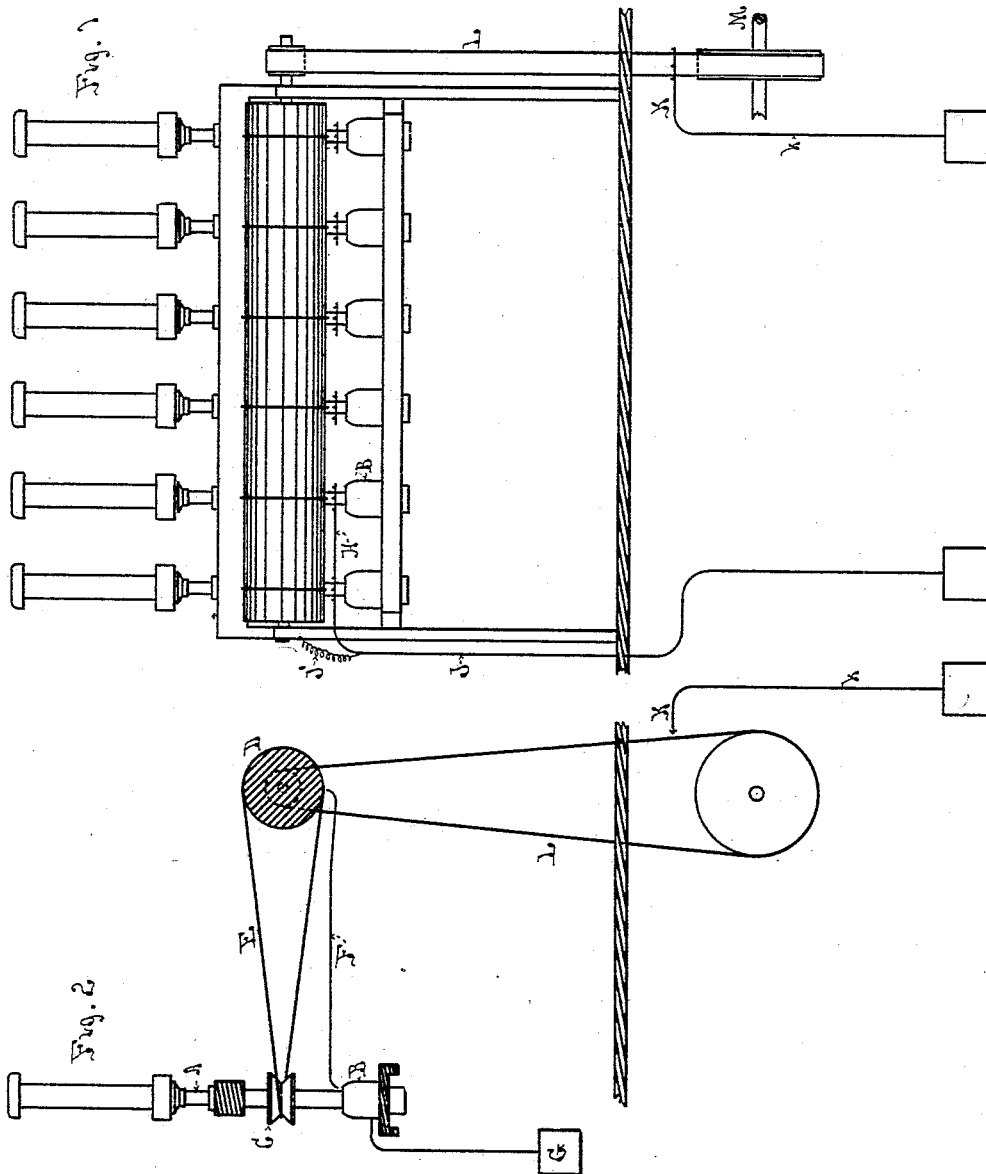
W. A. DELMAGE.
MACHINE FOR SPINNING FIBROUS MATERIAL.

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Fig. 1.

Fig. 2.

Witnesses   Inventor
Wm. S. Brown   Wm. A. Delmage.
N. P. Ockington   by his Atty
                                 Lepine C. Rice

UNITED STATES PATENT OFFICE.

WILLIAM A. DELMAGE, OF LOWELL, MASSACHUSETTS.

MACHINE FOR SPINNING FIBROUS MATERIAL.

To all whom it may concern:

Be it known that I, WILLIAM A. DELMAGE, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new
5 and useful Improvement in Machines for Spinning Fibrous Material, of which the following is a specification.

My improvement relates to machines for spinning fibrous material; and its object is to
10 prevent waste of oil from spinning machinery. I accomplish this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows a front elevation of a por-
15 tion of a spinning-frame provided with my improvement. Fig. 2 is an end elevation, partly in section, with the supporting-frame removed.

The operating parts of the machinery em-
20 ployed are similar to those heretofore used in spinning-machines. No extended description is therefore necessary.

I have discovered that the electricity generated by the friction of the belts and bands
25 upon the pulleys which they run over can be utilized to prevent the oil from leaving the points necessary to be lubricated.

I accomplish the object of retaining the oil upon the part requiring lubrication—as, for
30 instance, the spindle-step—by the device shown in Fig. 2, in which A is the spindle; B, the step; C, the whir, D the cylinder; E, the band driving the spindle, and F an accumulator, consisting of a metallic strip or wire provided
35 with one or more points placed close to the frictional surface of the cylinder and band, and terminating in a point brought close to the top of the step, and also close to the spindle at such place, and said step is also pro-
40 vided with the ground-connection shown. The strip or wire, being insulated at all points from metal contact, when the machine is started will accumulate and receive the electricity from the belt or band and convey it through
45 the step, to prevent the oil from being carried or rising up on the spindle and overflowing

the step, as it is demonstrated by observation is the case. I attribute this to the fact that, owing to the change in the electrical conditions of the step and spindle near it, the float-
50 ing fibers of cotton in the air cease to adhere to them as previously, and to carry or draw up the oil by capillary attraction out of the step-reservoir. The step may also be provided with a ground connection, G, independ-
55 ent of the ground-connection given other parts of the frame, if so desired. This connection is found to be of utility where a wooden step-rail is used—as, for instance, in mules.

As in other prior machines, I deem it also
60 advisable to employ accumulators H and K in proper electrical relations with the cylinder D and driving-belt, each having proper and direct ground-connections, J k. The ground-connections are easily made through
65 the gas or water pipes. The accumulators are provided with many teeth or points to readily attract and take up the electricity.

My invention, while applicable to different machines, is especially adapted for mule-spin-
70 ning or other frames on which a fine, smooth, and even thread is to be produced.

What I claim as new and of my invention is—

1. The combination, with the driving-belt
75 or band E, the wire F, and the lubricated bearing B, of the shaft or spindle A and an electrical ground-connection leading from said bearing, substantially as described.

2. The combination, in a machine for spin-
80 ning fibrous material, of a spindle, spindle-bearing, and belt-driving pulley or cylinder with an accumulator adapted to receive the electricity generated by one portion of the machinery and convey it to the spindle at a
85 point near the bearing, substantially as described.

WILLIAM A. DELMAGE.

Witnesses:
    LEPINE C. RICE,
    E. L. RICE.