(No Model.)

W. T. HANSON.

MACHINE FOR WINDING YARN.

No. 353,745. Patented Dec. 7, 1886.

Fig. 1.

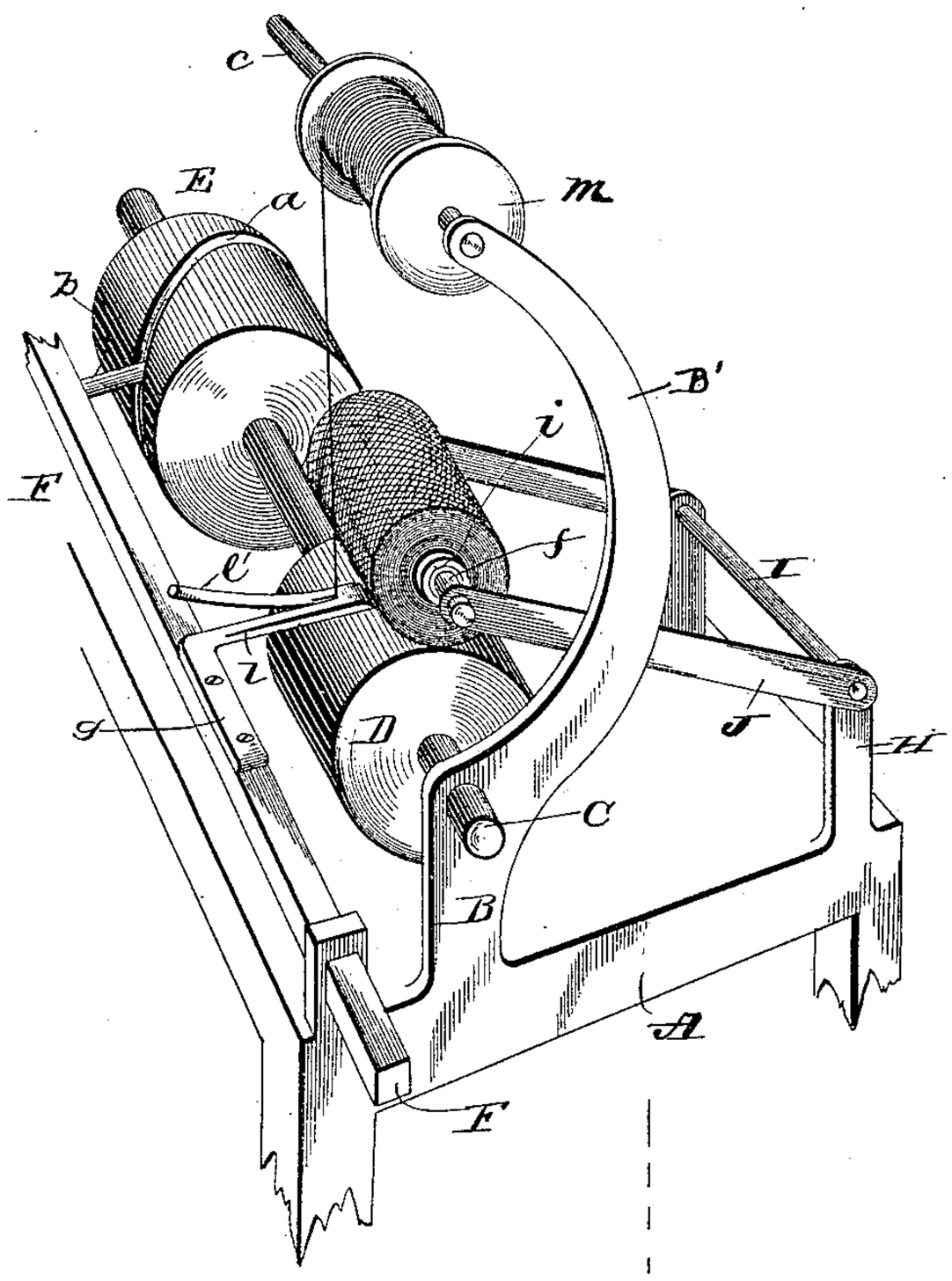

Fig. 2.

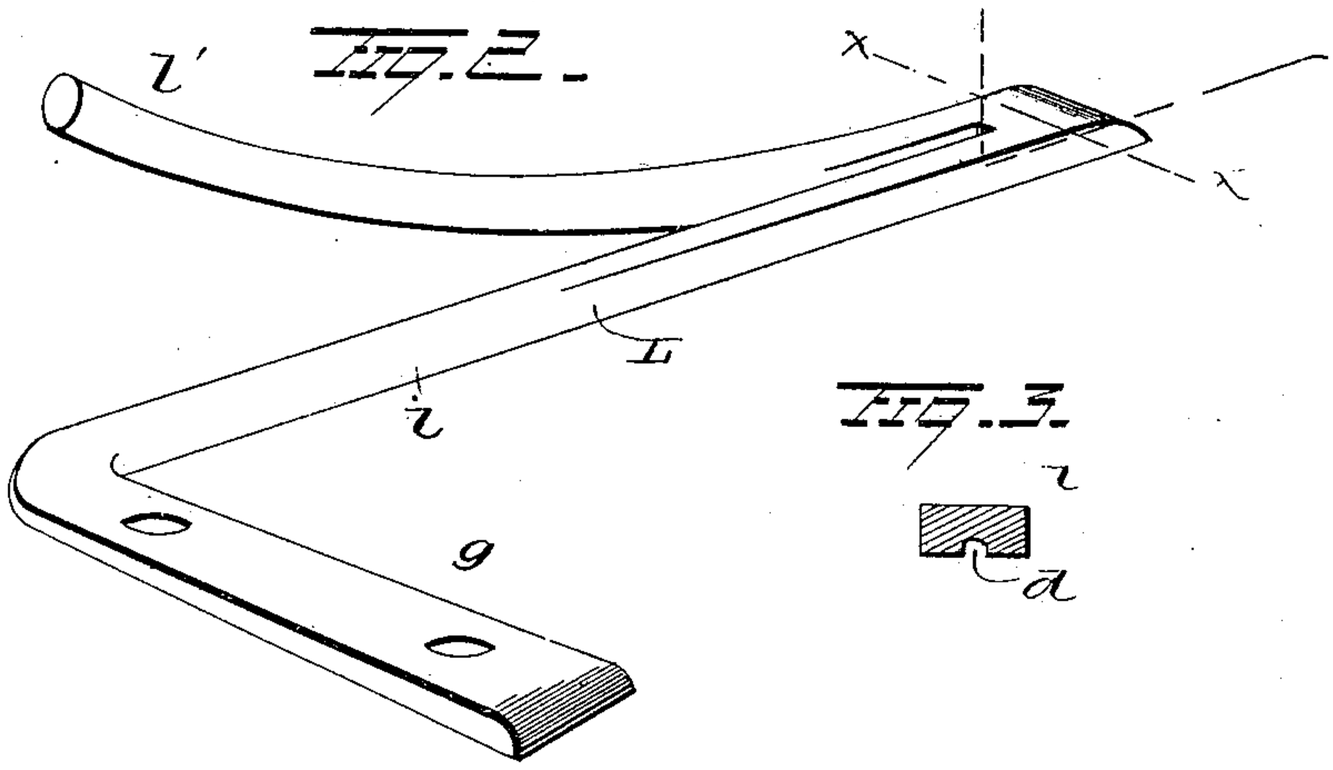

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER T. HANSON, OF MACON, GEORGIA.

MACHINE FOR WINDING YARN.

SPECIFICATION forming part of Letters Patent No. 353,745, dated December 7, 1886.

Application filed July 29, 1886. Serial No. 209,473. (No model.)

To all whom it may concern:

Be it known that I, WALTER T. HANSON, of Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Machines for Winding Yarn; and I do hereby 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 appertains to make and use the same.

My invention relates to an improved machine for winding or balling yarn, the object of the same being to provide devices for guiding the yarn during the operation of winding or balling the same; and it consists in the parts and combinations of parts, as will be hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of devices embodying my invention. Fig. 2 is a detached view in perspective of the guiding-finger, and Fig. 3 is a transverse sectional view on the line *x x* of Fig. 2.

A represents a table or frame of any size and shape, mounted upon legs or other supports and provided at its ends, near the front edge, with the uprights B, which latter support the shaft C, carrying the drum D and the wheel E. This shaft is revolved by any suitable mechanism, and the wheel E is provided on its periphery with a cam-groove, *a*, in which the free end of a pin, *b*, on the traverse-bar F rests. This pin is rigidly secured to the traverse-bar F, and hence when the shaft C is revolving the traverse-bar F is reciprocated, the speed of the bar being controlled by the speed of the shaft C, which also regulates or controls the speed of the spool or tube on which the yarn is being wound.

At the rear side of the table are formed or secured two uprights, H, which latter form bearings for the shaft I, carrying the arms J. These arms J extend forwardly and terminate over or approximately over the shaft C, and carry at their free ends a spindle or other device, *f*, adapted to support the paper spool or tube *i*, on which the yarn is to be wound. This spool, by means of the swinging arms J, is free to rise and fall, and consequently rests on the drum and is revolved thereby.

L is a guide-finger having a broad base, *g*, which latter is provided with screw-holes for its attachment to the traverse-bar F. The body portion of this guide-finger projects inwardly at right angles to the base to a point well over the drum D, and then turns abruptly and extends outwardly and curves upwardly and laterally away from the section *l* of the guide-finger, forming the prong or hook *l'*, under which the yarn passes. This guide-finger rests on a plane with the top of the roller D, and when the tube is in contact with the roller the inner end of the finger L rests approximately at the meeting line of the tube and roller. As the spool or tube *i* is being covered with yarn the tube is gradually moved away from the finger; but the arrangement of parts and the manner of pivoting the arms J are such that the spool or tube, before being covered or wound, and the partly or completed ball rest or bear at or approximately at the same point on the drum, and hence the inner end of the finger L is always in a position to deliver the yarn directly to the drum, thereby preventing any play of the yarn between the guide-finger and the ball.

The inner end of the guide-finger is provided on its lower face with the groove *d*, in which the yarn is held by the tension on the bobbin *m*. This bobbin is mounted on the spindle *c*, projecting from the arm B', which latter is merely an extension of the arm B.

In the operation of the device, the loose end of the yarn from the bobbin is wound or otherwise secured to a paper tube, *i*, which latter is then mounted on the spindle *f*. As the tube rests on the drum, it follows that the rotary motion of the drum causes a corresponding movement of the tube, which movement causes the yarn to be drawn off from the bobbin M. Before the machine has been started, or even after it has started, the guide-finger is threaded by simply passing the yarn under the free end of the prong or hook *l*. This finger moves back and forth a distance equal to the length of the ball and lays the yarn in position on the tube or partly completed ball even and regularly.

If, while the machine is in operation, the yarn should be broken, the two ends thereof can be quickly and easily united and the finger threaded after the two parts have been joined.

It is evident that numerous slight changes in the details of construction might be resorted to without departing from the spirit of my invention; hence I would have it understood that I do confine myself to the exact construction shown and described, but consider myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for winding yarn, the combination, with a swinging frame constructed to carry at its free end a tube or spool upon which the yarn is to be wound, and a spindle located above said tube or spool for carrying a bobbin, of the shaft, the drum and cam-wheel secured thereon, the traverse-bar operated by the cam-wheel, and the guide-finger secured to the traverse-bar and provided with a prong, the latter being integral with the free end of the finger and extending outwardly toward the traverse-bar and upwardly, forming a guide under which the yarn is passed, substantially as set forth.

2. The combination, with a traverse-bar and means for actuating the traverse-bar, of the guide-finger secured to the traverse-bar, and consisting, essentially, of a horizontal body or main portion, and an outwardly and upwardly projecting prong, the latter being integral with the main or body portion at the free or inner end of the latter, the said finger at the junction of the body or main portion and the prong being grooved on its lower face, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WALTER T. HANSON.

Witnesses:

A. CULBERSON,

W. R. WHITE.