Feb. 25, 1930. H. L. FIRTION 1,748,119

WINDER

Filed May 2, 1928

Fig. 1.

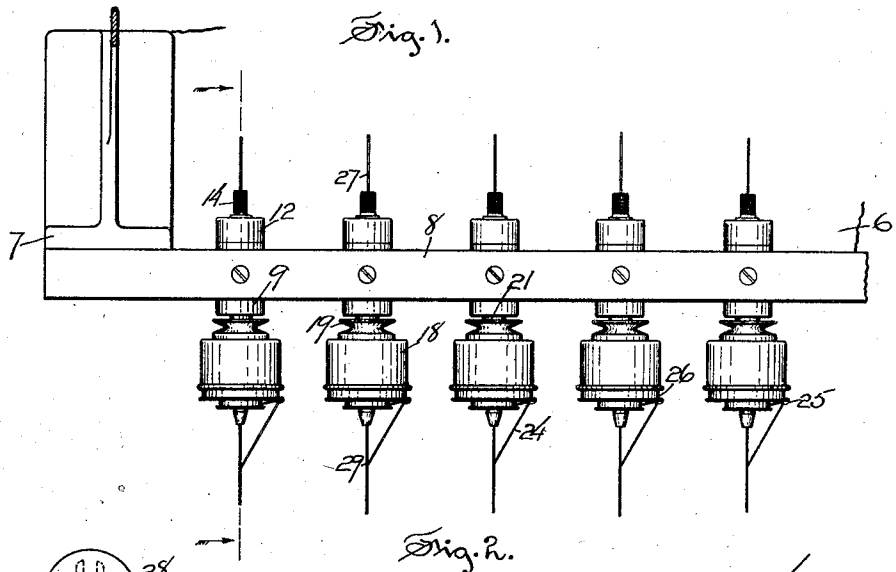


Fig. 2.

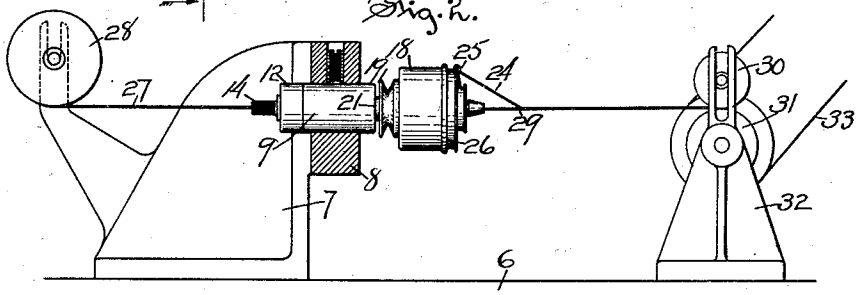


Fig. 3

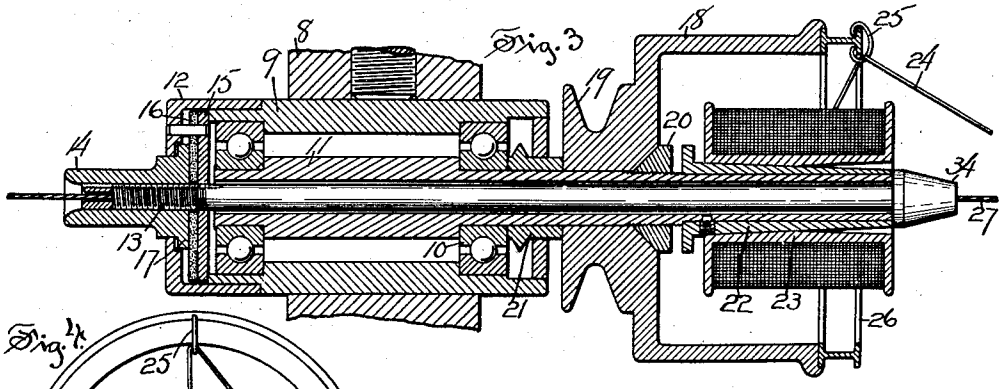


Fig. 4.

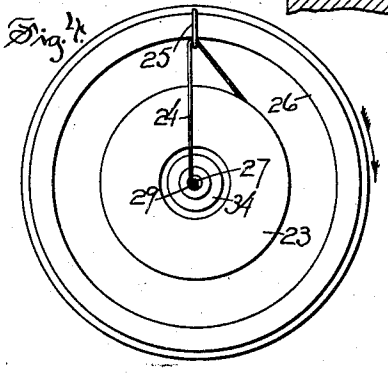
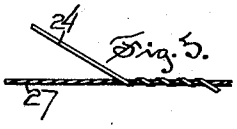


Fig. 5.



INVENTOR
Harold L. Firtion,
by
Arthur B. Jenkins,
ATTORNEY

Patented Feb. 25, 1930 1,748,119

UNITED STATES PATENT OFFICE

HAROLD L. FIRTION, OF WAREHOUSE POINT, CONNECTICUT

WINDER

Application filed May 2, 1928. Serial No. 274,634.

My invention relates to the class of machines employed for uniting a plurality of threads, cords, or similar material by a winding operation, and an object of my invention, among others, is the production of a machine of this type that shall be simple in construction and operation and particularly efficient in the results produced thereby.

One form of a machine embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a top view of my improved winder.

Figure 2 is a view in vertical cross section through the same.

Figure 3 is a view, scale enlarged, in lengthwise central section through a winding spindle.

Figure 4 is an end view of the same, looking at the front end thereof.

Figure 5 is a detail view illustrating the relative arrangement of threads as produced by the operation of my improved machine.

There is employed in the art at the present time for various purposes what is known as metallic thread, this, in a common form of construction, comprising a base of fibrous material having a thread or threads including metal in its or their structure usually wrapped around said base, and my improved machine illustrated and described herein is for the purpose of winding such outside thread or threads around the base or core that may be composed wholly or partially of fibrous material.

In the accompanying drawings the numeral 6 indicates a table that may be of any ordinary form and construction and to which brackets 7 are secured, rising therefrom, there being preferably such number of brackets as will be required for supporting a bar 8 secured to the brackets at or near their upper ends. This bar has a plurality of openings for bearing sleeves 9 within which my improved winders are rotatably mounted.

Ball bearings 10 of any suitable construction are located at each end of each bearing sleeve and a hollow spindle 11 is rotatably mounted in said bearings and as shown in Figure 3 of the drawings. A cap 12 is secured to one end of the sleeve 9 to close this end and also to serve as a support for a thread tube 13, in the construction herein shown the end of said tube threadedly engaging a nipple 14 secured to the cap 12 as by means of discs 15—16, one of which may be of fibrous material, said discs being secured within the cap and to the bottom thereof by means of screws, and the nipple being secured as by means of a flange 17 thereon clamped between said discs and the bottom of the cap, as shown in Figure 3. A housing 18 and a whirl 19 are secured to the spindle 11 as by means of a clamp nut 20 located in a recess in the bottom of the housing on the inside thereof, the housing and whirl being preferably integrally formed and a spacer 21 positioning the whirl with respect to the sleeve 9.

A spool supporting sleeve 22, preferably tapered, is secured to the end of the spindle 11 for rotation therewith, said sleeve being adapted to receive a spool 23 to rotate the latter, said spool being adapted to receive a thread 24 that will be referred to herein as a metallic thread, although it may be, as it generally is, composed only partially of metal, and this usually being a very thin strip of metal combined with a thread of fiber. This metallic thread passes through a traveler 25 mounted to travel on a flanged guide rail 26 of circular form located at the end of the housing 18, the traveler and guide rail themselves being of any ordinary form of construction.

The base thread 27, usually of fibrous material, comprises a core that is extended as from a spool 28 through the tube 13 to a point, at which point, beyond the front end of said tube, the threads 24 and 27 are joined, and at which point 29 the winding takes place. The completed thread from this point is extended to any suitable place where it may be disposed of as desired, in the structure herein shown, the completed thread being wound upon a spool 30 rotatably mounted above a drum 31, said spool and drum being supported by a

standard 32 resting on the table 6, the spool resting in contact with the drum and the drum being driven as by means of a belt 33. Details of construction of this receiving mechanism are omitted herein as not being essential to a thorough understanding of the invention.

The tube 13 may be provided with a tip 34 for securing the sleeve 22 in place, and in a preferred form of construction the hole through the barrel of the spool 23 is tapered in opposite directions from about the lengthwise center thereof so that the spool may be placed upon the sleeve 22 either end first as for the purpose of removing a twist from the thread 24 which may have been produced therein in an extended operation.

The operation of the device will be readily understood it being noted that the housing 18 is rotated as by means of a belt passed around the whirl 19. This wraps the thread 24 around the base thread 27 at the point 29, the completed thread comprising the base thus wrapped being taken up by the spool 30.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof, but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim—

1. A winder comprising a tube through which a thread may be extended, means for supporting a spool upon said tube, a guide surrounding said tube, a traveler movably supported by said guide for movement concentrically thereof in a plane passing through the spool between its ends, means for rotating said guide, and means for supporting said tube.

2. A winder comprising a tube through which a thread may be extended, means for supporting a spool upon said tube, a housing surrounding said tube and spool support, a circular guide secured to said housing in a plane passing through the spool between its ends, a traveler engaged with said guide, means for rotating said housing, and means for supporting said tube.

HAROLD L. FIRTION.