J. V. CUNNIFF.

WINDING MACHINE.

APPLICATION FILED FEB. 10, 1920.

1,375,568. Patented Apr. 19, 1921.

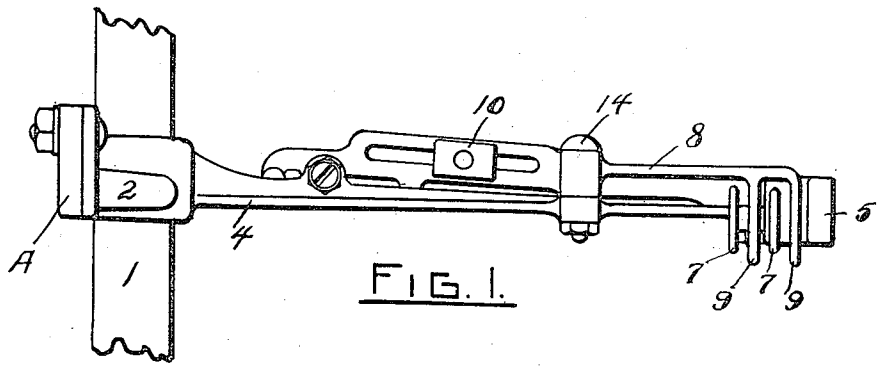


FIG. 1.

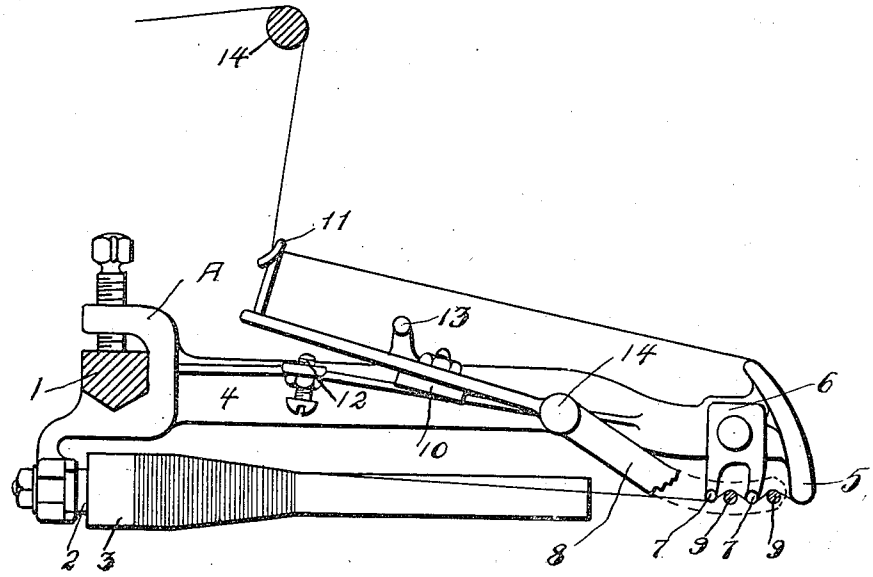


FIG. 2.

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JOHN V. CUNNIFF, OF FALL RIVER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO PATTEN BROS., INC., OF FALL RIVER, MASSACHUSETTS.

WINDING-MACHINE.

1,375,568. Specification of Letters Patent. Patented Apr. 19, 1921.

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To all whom it may concern:

Be it known that I, JOHN V. CUNNIFF, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Winding-Machines, of which the following is a specification.

This invention relates to certain new and useful improvements in winding machines and the primary object thereof is to provide a machine of this character which has novel means for maintaining an even tension as the diameter of the laid-on thread increases on the spool.

The invention further aims to provide a device for attaining the above object which is of simple and economical construction and positive and certain in its operation.

Further and other objects of the invention will be manifested and set forth in the following description.

In the drawings:

Figure 1 is a bottom plan view of the invention, and

Fig. 2 is a side elevation, parts being shown in section.

In proceeding in accordance with the present invention, any number of individual structures embodying the invention may be secured to the spooling bar 1 of the machine. Brackets A are employed which are attached to the bar 1 and which carry spindles 2 upon which latter the bobbin 3 is supported. The bracket A has a main arm 4 rigidly connected thereto, the outer or free end of the arm 4 being provided with a curved friction plate 5. Located adjacent to the friction plate 5 is an adjustable plate 6 having the spaced points or prongs 7.

An arm 8 is pivotally supported at 14 on the main arm 4 and has at its outer end spaced prongs 9 engaging between and on opposite sides of the prongs 7 so as to alternate therewith. The pivoted arm 8 has an adjustable weight 10 between its ends, and at its inner end has a guide eye 11. The main arm 4 is provided with a top stop 13 and an adjustable stop 12, one for limiting the upward and the other the downward movement of the pivoted arm 8.

In operation the thread passes from the bobbin 3, under the adjacent prong 7, over the prong 9 between the prongs 7, thence under the other prong 7 and up over the other prong 9, thence over the curved friction plate 5 through the guide eye 11, over the guide rod 14 and thence to the spool which may be operated in any manner.

It will be noted from the foregoing that as the diameter of the thread wound on the spool increases it will be necessary to feed this thread more freely, and accordingly the pull on the thread will lift the guide eye 11 of the pivoted arm 8 just sufficient to permit free movement of the thread for winding purposes, by slackening the tension on the thread as it comes from the bobbin 3. This is obviously due to the fact that the prongs 7 and 9 are brought nearer to the same plane, so that the thread has a straighter draw instead of a tortuous one, the latter depicted in Fig. 2.

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

1. In a winding machine, a bracket for attachment to the spooling bar having a main arm formed with a curved friction plate, a bobbin spindle carried by the bracket, an arm pivoted to the main arm and having a thread eye at one end, a weight adjustable on the pivoted arm, stops for the pivoted arm borne by the main arm, a plate on the main arm having spaced prongs and prongs carried by the pivoted arm and arranged to alternate with the prongs of the plate.

2. In a tension device, a bracket provided with a friction plate, a series of spaced prongs on said bracket arranged to the rear of the friction plate and approximately alined with the lower end of said plate, an arm pivoted to the bracket, spaced prongs carried by one end of said arm and arranged to alternate with the bracket prongs, a thread eye on the opposite end of the arm, and a horizontal bobbin support carried by the bracket and substantially alined with the prongs.

3. In a tension device, a bracket provided with a friction plate, a series of spaced prongs on said bracket arranged to the rear of the friction plate and approximately alined with the lower end of said plate, an arm pivoted to the bracket, spaced prongs carried by one end of said arm and arranged to alternate with the bracket prongs, and a thread eye on the arm above the plate, said plate being arranged to guide the thread from the prongs upwardly to the thread eye.

4. In a tension device, a bracket having a friction member thereon, thread tension means on the bracket, an arm pivoted to the bracket and having thread tensioning means coöperating with the first named means, and a thread eye on the arm, the friction member being formed and arranged to engage the thread after the same leaves the tensioning means and to then guide the thread directly to the eye.

5. In a tension device, a bracket having means for attachment to the spooling bar of a winding machine, a bobbin support carried by the bracket, thread tensioning means on the bracket, a pivoted arm on the bracket having thread tensioning means coöperating with the first named thread tensioning means, and an eye on the pivoted arm arranged to receive the thread directly from said friction member so as to move the arm upwardly at its rear end by a direct pull thereon.

6. In a tension device, a bracket having means at one end for attachment to the spooling bar of a winding machine, a friction plate on the opposite end of the bracket, a horizontal bobbin carrier on the bracket arranged to lie below the spooling bar, an arm pivoted on the bracket and having a thread eye on one end for disposition adjacent to the spooling bar, and coöperating thread tensioning means between the opposite end of the lever and the bracket and arranged to the rear of and adjacent the friction plate.

7. In a tension device, a bracket, a friction plate on the bracket, a pivoted arm on the bracket having a thread eye on its rear end, and coöperating thread tensioning means between the front end of the arm and the bracket, said eye being located above the plate and the latter being formed to guide the thread vertically and upwardly after same leaves the said tensioning means.

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

JOHN V. CUNNIFF.

Witnesses:
BESSIE P. TOOMEY,
J. A. MILLER.