W. A. ROTTER.

RIBBON SPOOL FOR ADDING MACHINES.

APPLICATION FILED APR. 24, 1907.

1,038,660. Patented Sept. 17, 1912.

Fig. 1

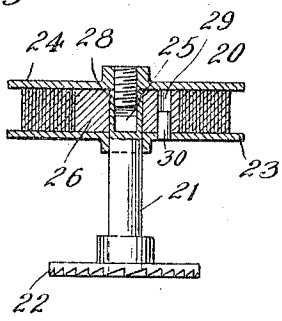


Fig. 2

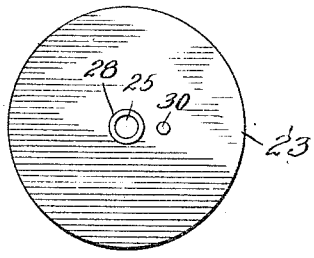


Fig. 3

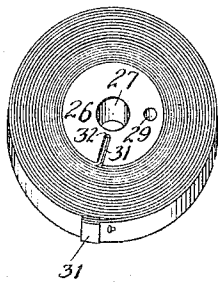


Fig 4

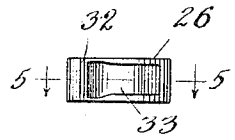
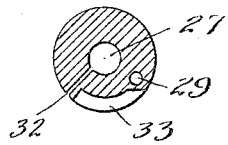


Fig. 5



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UNITED STATES PATENT OFFICE.

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RIBBON-SPOOL FOR ADDING-MACHINES.

1,038,660. Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed April 24, 1907. Serial No. 369,989.

To all whom it may concern:

Be it known that I, WILLIAM A. ROTTER, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Ribbon-Spools for Adding-Machines, of which the following is a specification.

My invention relates to printing adding machines, and the particular embodiment of it here shown is indicated as applied to the printing adding machine commonly known as the "comptograph," and generally shown in the various United States patents heretofore issued to Dorr E. Felt, for printing adding machines and their mechanism, and more particularly shown in the application of Felt & Wetmore, Serial No. 238,316, filed December 27th, 1904; and the object of my invention is to provide a ribbon-spool whereon the printing ribbon may be wound when made, and readily inserted in the adding machine without any necessity for unwinding.

My invention has for further objects the effecting of such other improvements in structure and function as may be found to obtain in the devices hereinafter described or claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical sectional view through the ribbon-spool holder; Fig. 2 is a top plan view of the lower member or flange-piece of said holder; Fig. 3 is a perspective view of the ribbon-spool or core with the ribbon wound upon it. Fig. 4 is a side elevation of the core to show the notch that coöperates with the reversing mechanism; and Fig. 5 is a section on the line 5—5 of Fig. 4.

20 is one of the two ribbon-holders of the adding machine, having the vertical pivot shaft 21 secured to and actuated through the ratchet wheel 22 to shift the ribbon in one direction across the printing-line of the machine. The lower flange 23 of the said holder is rigidly secured to the pivot shaft, but the upper flange 24, is made detachable and is secured to the top of the pivot shaft by being screwed into the socket 25. When the ribbon is manufactured, it is wound upon a core 26, preferably metallic, said core having a central hole 27 adapted to fit the hub 28 of the ribbon-holder, and also having a lateral hole 29 positioned and adapted to fit over the stud pin 30 that projects upward from the lower flange 23 of the ribbon-holder. The periphery of the core is provided with a socket 33 to coöperate with the ribbon-spool reversing mechanism of the machine. Said peripheral socket is adapted to be engaged by the ribbon spool reversing mechanism when the last turn of the ribbon has been unwound from the core, but is entirely covered and concealed by said ribbon in such manner that the ribbon passing over said socket will be supported by the peripheral edges of the core, on either side of the socket, so that there will be no irregularity or flattening of the portion of the ribbon coil over said socket. This form of peripheral socket thus permits the ribbon to be preserved in a perfect coil and permits said ribbon to be regularly unwound under constant tension. Each end of the ribbon is tipped with a preferably metallic tip 31, and the tip upon the inner end of the ribbon, when the latter is wound upon the core 26, is engaged in and held by the slit 32 in said core. To apply the ribbon to the machine the operator simply unscrews the removable flange 24 of the ribbon holder and slips the core over the hub 28 and stud pin 30 and then unwinds enough of the free end of the ribbon to permit the tip of such free end to be secured in the other ribbon-holder on the opposite side of the machine. The aforesaid removable flange of the ribbon-holder is then screwed down into position and the ribbon is ready for immediate use. This method of preparing and applying the ribbon does away with any necessity for unwinding more than just so much thereof as is required to stretch across the printing-line of the machine, and no further ribbon is unwound, or requires to be rewound, in the operation of replacing the ribbon in the machine, which is otherwise an operation requiring considerable expense of time and trouble for the complete unwinding and rewinding of an ordinary ribbon-roll.

My invention is hereinbefore set forth as embodied in a particular form of construction, but I do not limit myself thereto or to less than all the possible forms in which the

said invention, as hereinafter claimed, may be embodied and distinguished from prior devices.

I claim:—

1. In an adding-machine, in combination, a ribbon-spool holder having a removable flange and a fixed flange with a hub and stud-pin, and a core adapted to hold the wound-up ribbon and to be removably placed upon the aforesaid hub and stud and held thereon by the aforesaid removable flange of the ribbon-spool holder, substantially as specified.

2. In an adding-machine ribbon-holding device, a ribbon spool holder having a removable flange and a fixed flange with a hub, a core adapted to hold the wound-up ribbon and having the center hole 27 and lateral means for engaging the non-removable member of the ribbon-holding spool of the adding-machine, substantially as specified.

3. In an adding-machine, in combination, a ribbon-spool holder and a ribbon-spool consisting in a core adapted to carry the wound-up ribbon and to be removably inserted in said ribbon-spool holder, said core having a socket within its peripheral edges and adapted to engage the ribbon-reversing mechanism of the adding-machine, substantially as specified.

4. In an adding-machine, in combination, a ribbon-spool holder having a removable flange and a fixed flange with a hub and stud-pin, and a core adapted to hold the wound-up ribbon and to be removably placed upon the aforesaid hub and stud and held thereon by the aforesaid removable flange of the ribbon-spool holder, said core having means adapted to engage the ribbon-reversing mechanism of the adding-machine, substantially as specified.

5. In an adding-machine, in combination, a ribbon-spool holder and a ribbon-spool consisting in a core adapted to carry the wound-up ribbon and to be removably inserted in said ribbon-spool holder, said core having a socket 33 within its peripheral edges and adapted to engage the ribbon-reversing mechanism of the adding-machine, substantially as specified.

6. In an adding-machine, in combination a ribbon-spool holder having a removable flange and a fixed flange with a hub and stud-pin, and a core adapted to hold the wound-up ribbon and to be removably placed upon the aforesaid hub and stud and held thereon by the aforesaid removable flange of the ribbon-spool holder, said core having a notch 33 adapted to engage the ribbon-reversing mechanism of the adding-machine, substantially as specified.

7. In an adding-machine ribbon-holding device, a core adapted to hold the wound-up ribbon and having the center hole 27, stud hole 29 and socket 33, said socket being within the peripheral edges of and narrower than the core and adapted to be entirely covered and concealed by the wound-up ribbon whose inner end is engaged by said core, substantially as specified.

8. In an adding-machine ribbon-holding device, a core adapted to hold the wound-up ribbon and having the center hole 27 and stud hole 29 and slit 32 and socket 33, said socket being within the peripheral edges of and narrower than the core and adapted to be entirely covered and concealed by the wound-up ribbon whose inner end is engaged by said core, substantially as specified.

9. In an adding-machine ribbon-holding device, a ribbon spool holder having a removable flange and a fixed flange with a hub, a core adapted to hold the wound-up ribbon and having the center hole 27 and notch 33 and lateral means for engaging the non-removable member of the ribbon-holding spool of the adding-machine, substantially as specified.

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