Dec. 6, 1932. A. R. ZACHERT 1,890,243

RIBBON TRANSFER MACHINE

Filed April 22, 1930

Fig. 1.

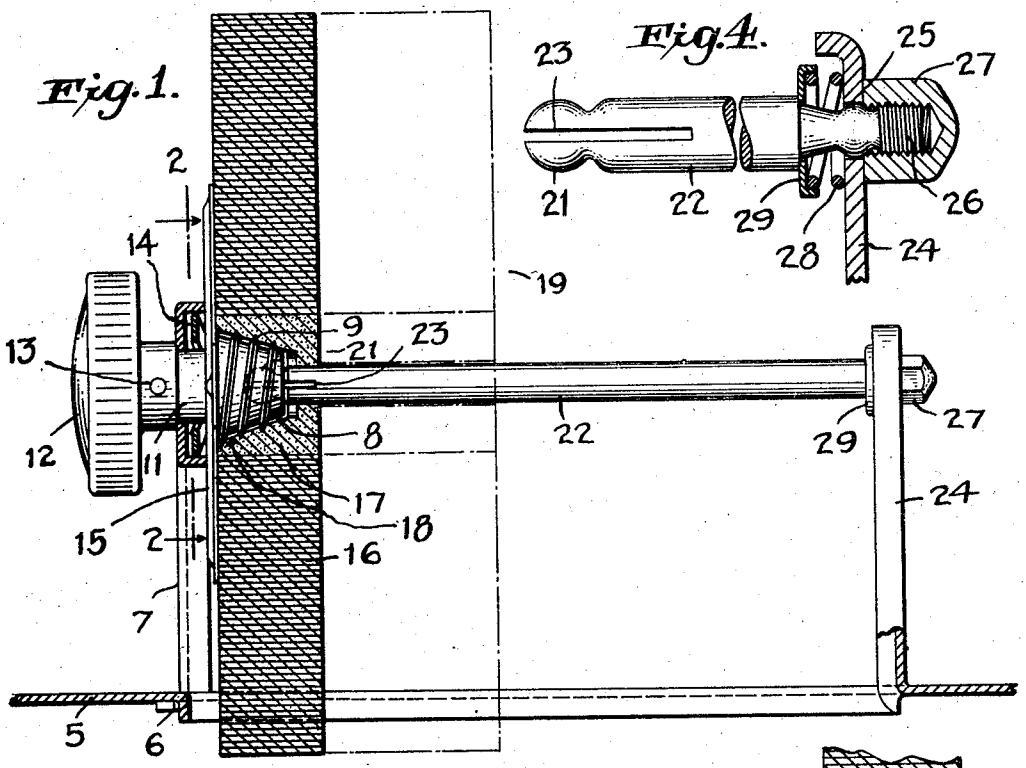


Fig. 4.

Fig. 2.

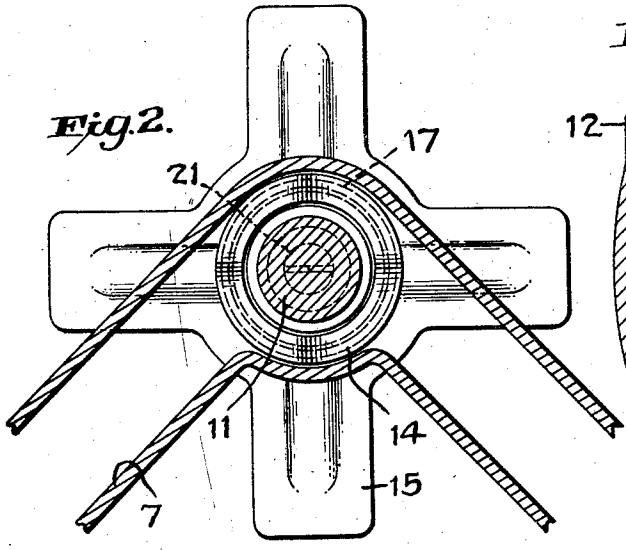
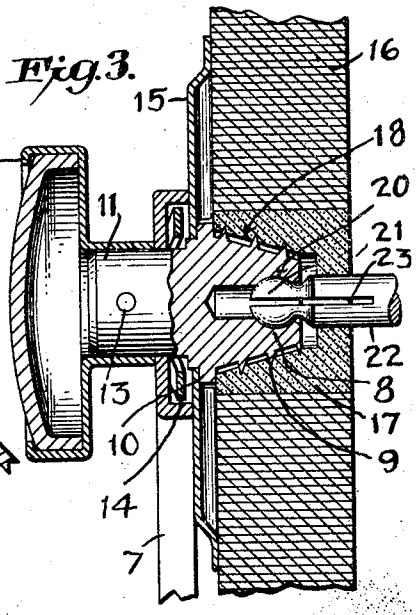


Fig. 3.



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UNITED STATES PATENT OFFICE

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RIBBON TRANSFER MACHINE

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The invention relates to improvements in ribbon transfer machines and has to do particularly with the means for positioning and supporting the roll of ribbon in such a machine.

One of the principal objects of the invention is to provide a roll-supporting means which will accommodate rolls of different widths, these widths varying, for instance, from the narrow ribbons used on typewriters to the wide ribbons used on billing machines or cash registers.

A further object is to provide means whereby the roll may be quickly and accurately positioned.

A still further object is to provide a roll positioning and supporting means which is extremely simple, efficient and economical to manufacture.

Other objects and advantages will become apparent as this specification proceeds. Referring to the drawing forming a part thereof and in which a preferred form of the invention is illustrated:

Fig. 1 is a view partly in elevation and partly in section showing a roll of ribbon positioned in the machine;

Fig. 2 is a cross sectional view on a larger scale and is taken on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary detail longitudinal sectional view taken in the same plane as Fig. 1; and

Fig. 4 is a fragmentary detail sectional view illustrating the method of supporting the horizontal shaft so that it may be angularly displaced.

As previously stated the machine to which the present invention relates is known as a ribbon transfer machine. In accordance with present practice inked ribbons for numerous types of machines are sold in individual spools. After the ribbon has outlived its usefulness both the spool and ribbon are thrown away and a new spool and ribbon inserted into the machine.

It is contemplated to provide the user with a simple machine on which he may position a master roll of ribbon of any desired width and wind his own spools of ribbon, thus making for a very substantial saving.

As heretofore stated the invention relates to that part of the machine which includes the means for positioning and supporting the master roll of ribbon and only that part of the machine has been illustrated.

Referring again to the drawing the reference numeral 5 designates the base or frame of the machine. Pivoted at 6 in said base is a supporting bracket 7. The upper part of this bracket is apertured and carries the chuck 8.

The chuck 8 is frustro-conical in shape and is provided with a spiral cutting thread 9 the purpose of which will be hereinafter explained. That part of the chuck adjacent the bracket 7 is provided with a shoulder 10 and the extension 11 from the chuck has its bearing in the bracket 7. A knob or handle 12 is secured by a pin 13 to the extension 11. A spring washer 14 is placed between the bracket 7 and a spider 15, the purpose of the spring washer being to interpose sufficient friction on the chuck to prevent overrunning or back lash of the roll of ribbon 16.

The roll of ribbon 16 is provided with a core 17 of yielding or semi-hard material. This yielding material might be wood, fibre, synthetic wood, or any suitable material which may be easily penetrated by the cutting thread 9. The core 17 is provided with a frustro-conical shaped bore 18 which cooperates with the frustro-conical shaped chuck 8 to firmly position and support the roll of ribbon. In a narrow roll of ribbon the frusto-conical shaped bore would be substantially coextensive with the axis of said roll; however in a wider roll such as is indicated in broken lines at 19 in Fig. 1 a substantial length of the bore could be of any desired shape in cross section and only that part adjacent to and cooperating with the chuck would be frustro-conical.

The chuck is provided with a socket 20 which frictionally cooperates with a ball 21 on the end of a horizontal shaft 22. The ball 21 and the end of the shaft 22 are preferably split as indicated at 23 so that the ball may be slightly compressed when being entered into the socket and thus insure it being maintained in proper position.

The opposite end of the shaft 22 is mounted so that the entire shaft may be angularly displaced. This end of the shaft is supported in an ear 24 struck up from the base 5 and that part of the shaft having its bearing in the ear is rounded as indicated at 25. The end of the shaft beyond the rounded part is screw threaded at 26 for engagement with a nut 27. A spring 28 interposed between a cup washer 29 and the bracket 24 insures the flattened face of the washer 27 bearing against the bracket 24 and maintaining the shaft 22 in a horizontal position. When inserting a new roll of ribbon in the machine, particularly a wide roll it is necessary to bend the shaft upward a few degrees from the horizontal and the structure just described permits of this. This construction permits of a lower and more compact machine.

The operation of positioning a new roll of ribbon on the machine will now be described. The bracket 7 is swung on its pivots 6, breaking the ball and socket joint 20—21. The roll of ribbon is then placed on the shaft 22 and the bracket 7 swung back to the position of Fig. 1. The roll of ribbon is moved onto the chuck 8 and due to the frustro-conical shape of the chuck 8 and bore 18 the roll will be moved a substantial distance into the chuck and thus initially positioned in an accurate manner. The knob 12 is then rotated and the spiral cutting thread 9 will engage the core and the roll will be advanced to its proper working position. The shoulder 10 will limit further inward movement of the roll.

Changes in details of construction and arrangements of parts may be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A device of the character described having in combination, a core for a roll of ribbon, said core being formed of a yielding material and provided with a frustro-conical shaped bore, a frusto-conical shaped chuck, a cutting thread on said chuck cooperating with said bore, a socket in said chuck, and a shaft having one end cooperating with said socket.

2. A device of the character described having in combination, a core for a roll of ribbon, said core being formed of a yielding material and provided with a frustro-conical shaped bore, a frustro-conical shaped chuck, a cutting thread on said chuck cooperating with said bore, a socket in said chuck, a horizontal shaft, and a ball formed at one end of said shaft, said ball and shaft being split so as to cooperate with said socket.

3. A device of the character described having in combination, a core for a roll of ribbon, said core being formed of a yielding material and provided with a frustro-conical shaped bore, a frustro-conical shaped chuck, a cutting thread on said chuck cooperating with said bore, a socket in said chuck, and a shaft having one end cooperating with said socket, the opposite end of said shaft being mounted so that said shaft is capable of angular displacement.

In testimony whereof I affix my signature.

ARTHUR R. ZACHERT.