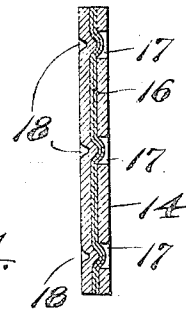
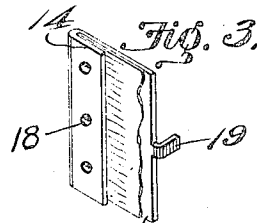
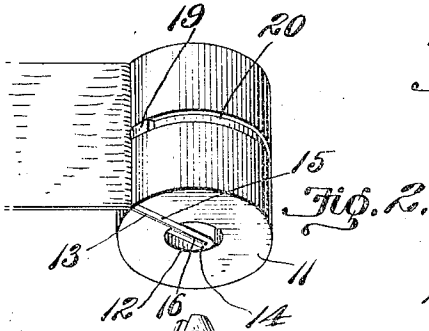
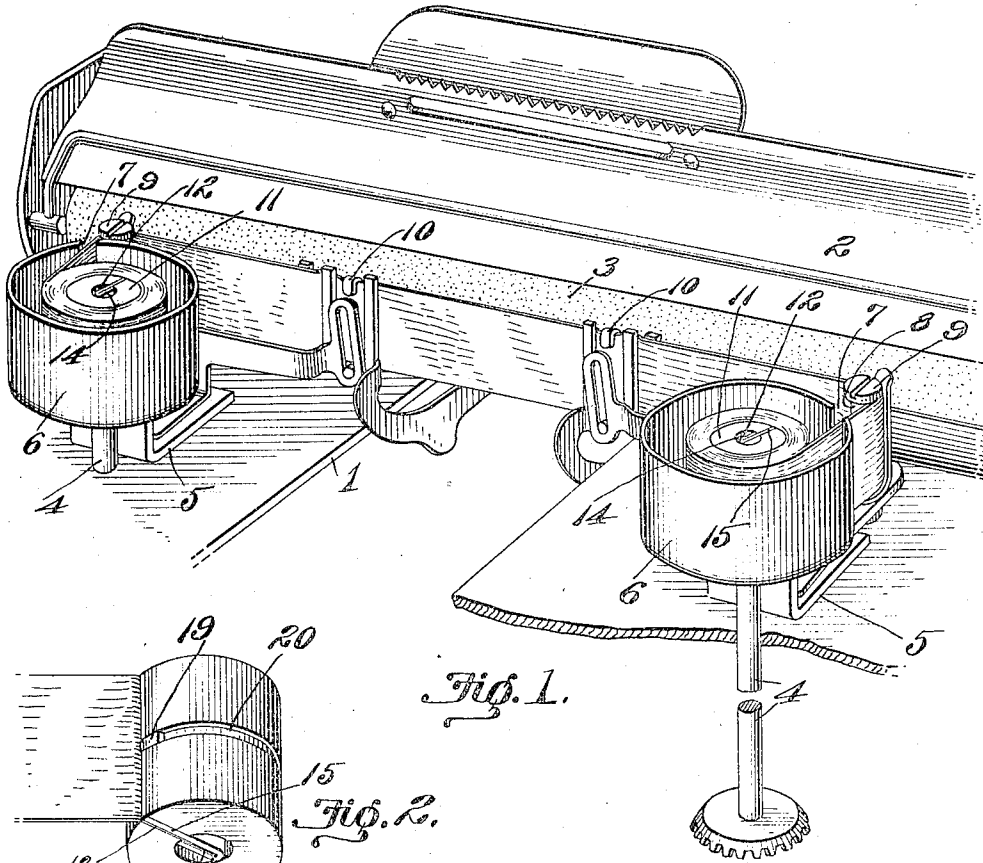


B. R. WEBSTER.
RECORDING MACHINE.
APPLICATION FILED AUG. 6, 1913.

1,131,808.

Patented Mar. 16, 1915.



WITNESSES

J. A. Bishop.
Wm. Scott.

INVENTOR

Bester R. Webster
BY J. D. Rippey
ATTORNEY

UNITED STATES PATENT OFFICE.

BESTER R. WEBSTER, OF POPLAR BLUFF, MISSOURI, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE DALTON ADDING MACHINE COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

RECORDING-MACHINE.

1,131,808.

Specification of Letters Patent.

Patented Mar. 16, 1915.

Application filed August 6, 1913. Serial No. 783,290.

To all whom it may concern:

Be it known that I, BESTER R. WEBSTER, a citizen of the United States, residing at the city of Poplar Bluff, county of Butler, and State of Missouri, have invented a new and useful Recording-Machine, of which the following is a specification.

This invention relates to recording machines, and has specific reference to the ribbon and the ribbon spools, whereby the ends of the ribbon are connected to the ribbon spools so that rotation of the ribbon spools will wind the ribbon thereon.

An object of the invention is to provide ribbon spools adapted to be engaged with spools or shafts whereby the spools will be rotated, and novel engaging devices for connecting the ends of the ribbon with the spools.

Another object of the invention is to provide ribbon spools equipped with devices for engaging the ends of the ribbon and also for locking the spools in connection with the actuating spindles or shafts.

With these and other objects in view the invention consists of the novel construction, one embodiment of which is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a recording machine embodying my invention. Fig. 2 is a view of one of the spools detached from the actuating spindle or shaft, and illustrating the device which engages the ribbon and by which the spool is locked to the spindle or shaft. Fig. 3 is a perspective view of the ribbon clamp and spool lock detached from the spool. Fig. 4 is an enlarged vertical sectional view of the ribbon clamp and spool lock, illustrating the ribbon engaged thereby. Fig. 5 is a perspective view of the end of one of the spindles or shafts which is engaged by one of the spools and which rotates the spool in engagement therewith.

In the drawings 1 designates a portion of the frame of a recording machine upon which is mounted a paper carriage 2 containing a platen 3, which holds and feeds the paper. The spindles or shafts 4 are operatively mounted in the frame of the machine and, in the embodiment shown, extend upwardly in front of the platen. Brackets 5 are secured to the frame 1 of the machine and support the cylindrical cases 6, the up-

per ends of the spindles or shafts 4 extending into said cases.

The ribbon spools which are hereinafter particularly described, are mounted on the ends of the spindles or shafts 4 within the cases 6, and the ribbon passes through slots 7 in the sides of the cases 6, and thence against suitable guide rollers 8 supported on studs 9 extending from the brackets 5. Between the rollers 8 the ribbon is engaged by the ribbon guides 10 so that the ribbon will be guided properly close to the printing surface of the platen. Each spool consists of a cylindrical body 11 provided with a central bore 12 adapted to receive the upper end of one of the spindles or shafts 4. The spool body 11 is also provided with a radial slot 13 extending from the periphery into the bore 12. In the slots 13 in each spool a ribbon clamp is mounted, said clamp also extending into the bore 12 in order that it may be engaged with the upper end of the corresponding spindle or shaft 4. Each ribbon clamp consists of a metallic plate doubled upon itself to form a doubled clamp portion 14 and a wider portion 15 of single thickness. When mounted in connection with a spool the doubled portion 14 is contained entirely within the bore 12, while the portion 15 of single thickness extends through the slot 13 to the periphery of the spool. The slot 13 is of such a width that the doubled portion 14 will be prevented from being withdrawn, but will constantly abut against the wall of the bore 12, thereby firmly holding the ribbon clamp in connection with the spool. The ribbon is connected to the clamp preferably by placing a doubled portion of the ribbon between the two parts of the clamp, and clamping the two parts of the clamp upon the ribbon in the manner shown at 16 in Fig. 4. One side of the clamp is preferably provided with holes 17, and the other side with upset projections 18 which are arranged to extend into the holes 17 when the two sides of the clamp are clamped together upon the ribbon, thereby firmly engaging and holding the ribbon and preventing detachment of the ribbon by the ribbon feed devices. The outer edge of the portion 15 is formed with a projection 19 adapted to be bent over into a groove formed in the periphery of the spool 11. Thus the doubled portion of the clamp pre-

vents withdrawal of the said doubled portion through the slot 13, and the projection 19 locks the clamp against movement toward either end of the spool, thereby securely holding the ribbon clamp in proper connection with the spool.

In addition to constituting a clamp for holding the ribbon in connection with the spool the ribbon clamp is also the medium whereby the spool is keyed upon its actuating spindle or shaft. As previously explained the bore 12 of each spool is arranged to receive the upper end of one of the spindles or shafts 4. Since the ribbon clamp extends into the bore in the spool provision must be made in the spool or shaft for receiving the ribbon clamp. This requirement is met by forming a slot 21 in the upper end of each spindle or shaft 4, of sufficient width and depth to receive and hold the corresponding ribbon clamp member. Therefore, when the ribbon spool is mounted in position upon the corresponding spool or shaft the doubled portion 14 of the clamp becomes seated within the slot 21, thereby keying or locking the spool upon said spindle or shaft. The spool may readily be removed by raising it out of the case, the ribbon clamp being freely movable for such purposes. It will be noted the edge of the portion 15 of the clamp and the projection 19 are flush with the periphery of the spool so that they will not wear and weaken the ribbon, but will permit the spool to be rotated in either direction without damage to the ribbon.

From the foregoing it will be seen that my improved clamp constitutes a connection for securing the ribbon to the spool and also a key for keying or locking the spool upon the actuating spindle or shaft. It will also be understood that various modifications may be employed without departure from the spirit of the invention. I do not restrict myself to specific features but

What I claim and desire to secure by Letters Patent is:

1. In a recording machine, the combination with a spool and a shaft for actuating said spool, of a device supported by said spool and engaging said shaft for preventing the spool from turning with respect to the shaft and adapted to be engaged with a ribbon, and means for preventing said device and spool from moving with respect to each other whether said spool be on or detached from said shaft.

2. The combination with a spool having a longitudinal slot therein, of a clamp device mounted in said slot and adapted to be engaged with a ribbon, means for preventing said clamp device from moving radially with respect to said spool, and means intermediate of the ends of said spool for preventing said clamp device from moving

longitudinally in either direction with respect to said spool.

3. The combination with a spool having a longitudinal slot therein and having a recess in its periphery, of a clamp device mounted in said slot and adapted to engage with a ribbon, means for preventing said clamp device from moving laterally with respect to said spool, and a projection on said clamp device engaged in said recess and preventing movement of said clamp device longitudinally with respect to said spool.

4. The combination with a spool having a radial slot therein, of a clamp device mounted in said slot and having a double portion preventing movement outwardly through said slot, and a projection on said clamp device engaging with said spool to prevent longitudinal movement of said clamp device.

5. The combination with a spool having a central bore adapted to receive a spindle and having a radial slot leading from said bore to the periphery of the spool, of a metallic clamp device having a doubled portion mounted in said bore and having a portion of single thickness mounted in said slot, and means preventing said clamp device from moving longitudinally with respect to said spool, substantially as described.

6. The combination with a spool having a central bore adapted to receive a spindle and having a radial slot opening from said bore to the periphery of the spool, of a metallic member having a portion of single thickness mounted in said slot and a doubled portion mounted in said bore, said doubled portion being adapted to engage with a ribbon and preventing outward movement of said member, and means for preventing longitudinal movement of said member with respect to said spool.

7. In a recording machine, the combination with a spool shaft having a longitudinal slot, and a spool having a central bore receiving said shaft and having a radial slot extending from said bore to the periphery of the spool, of a metallic element mounted in said slot in said spool and extending into the slot in said shaft, means for engaging said element with a ribbon, and means for preventing said element from moving with respect to said spool, substantially as described.

8. A device for connecting a ribbon with a spool and the spool with a shaft, comprising a plate having a wide flat portion and a narrow flat portion doubled upon the wide portion and adapted to clamp upon a ribbon, the wide flat portion being adapted to seat within a slot in the spool and the doubled portion being adapted to engage with the shaft to lock the spool thereon and to abut against the spool at the side of the slot to

hold said plate in engagement with the spool, substantially as described.

9. A device of the character described, comprising a flat sheet of metal bent backwardly on itself to form two clamping leaves disposed in adjacent parallel planes and being adapted to clamp a ribbon end therebetween, one of said leaves extending back on the other of said leaves less than the full width thereof, so that the remaining portion of the other leaf is of single thickness, the portion of single thickness being adapted to seat in a slot of a ribbon spool and the portion of doubled thickness being adapted to

engage a shaft upon which the spool is mounted, and thereby constitute a key for locking the spool to the shaft, and the edge of the smaller leaf being adapted to engage with the body of the spool to prevent withdrawal of the device from the spool, substantially as described.

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

BESTER R. WEBSTER.

Witnesses:

HARRY C. YAEGER,
BIRNEY DYSART.