

No. 679,686.

W. S. SHIRK.

Patented July 30, 1901.

RIBBON FEED DEVICE FOR TYPE WRITING MACHINES.

(Application filed Nov. 4, 1899.)

(No Model.)

Fig. 1.

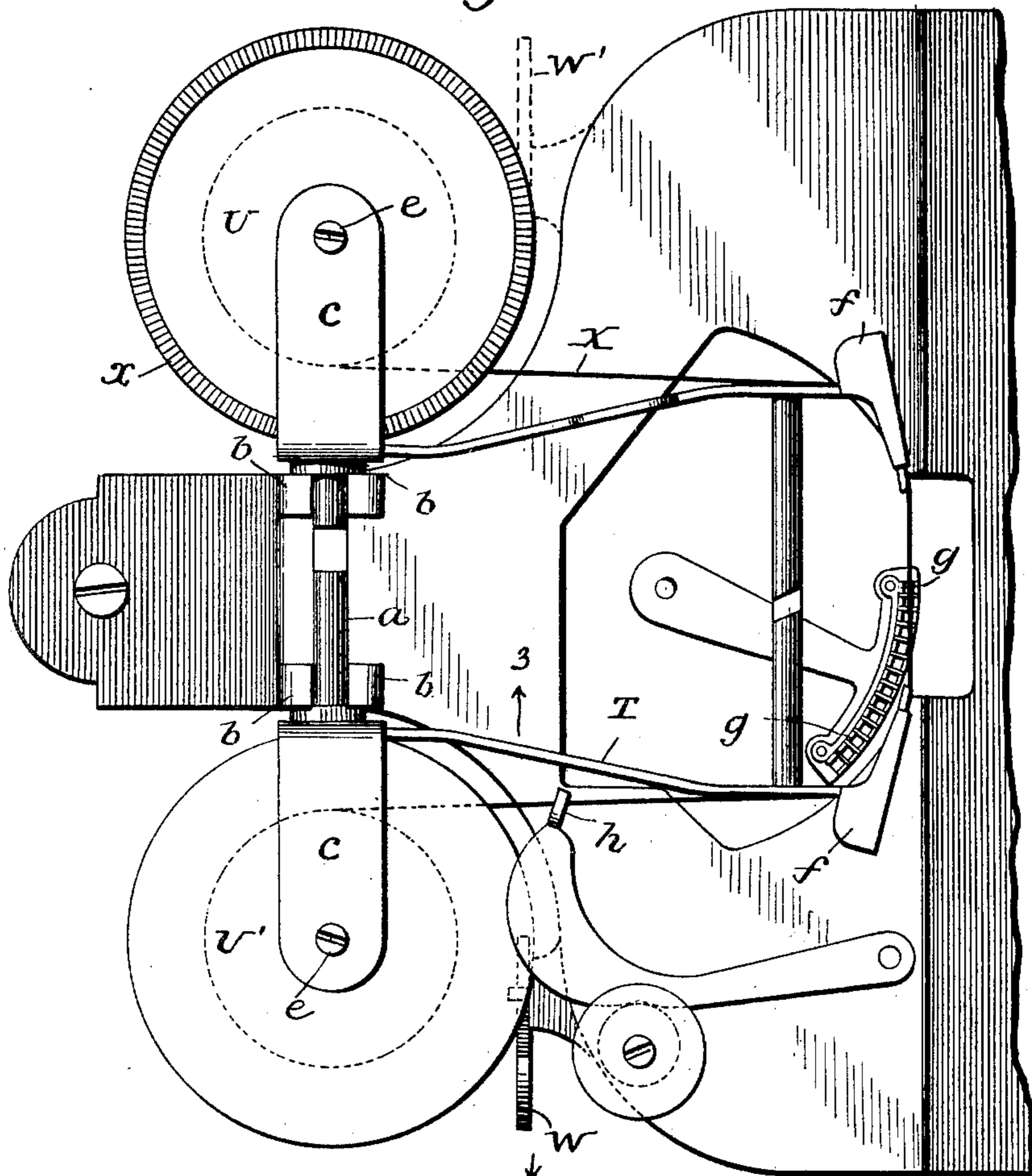


Fig. 2.

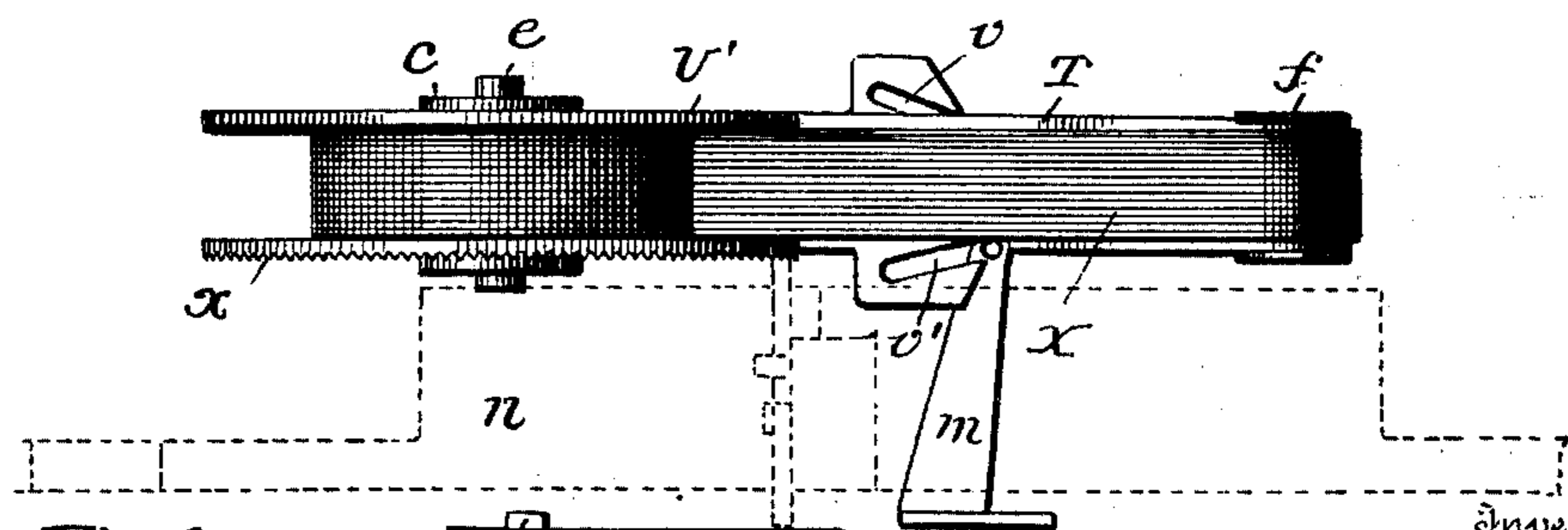
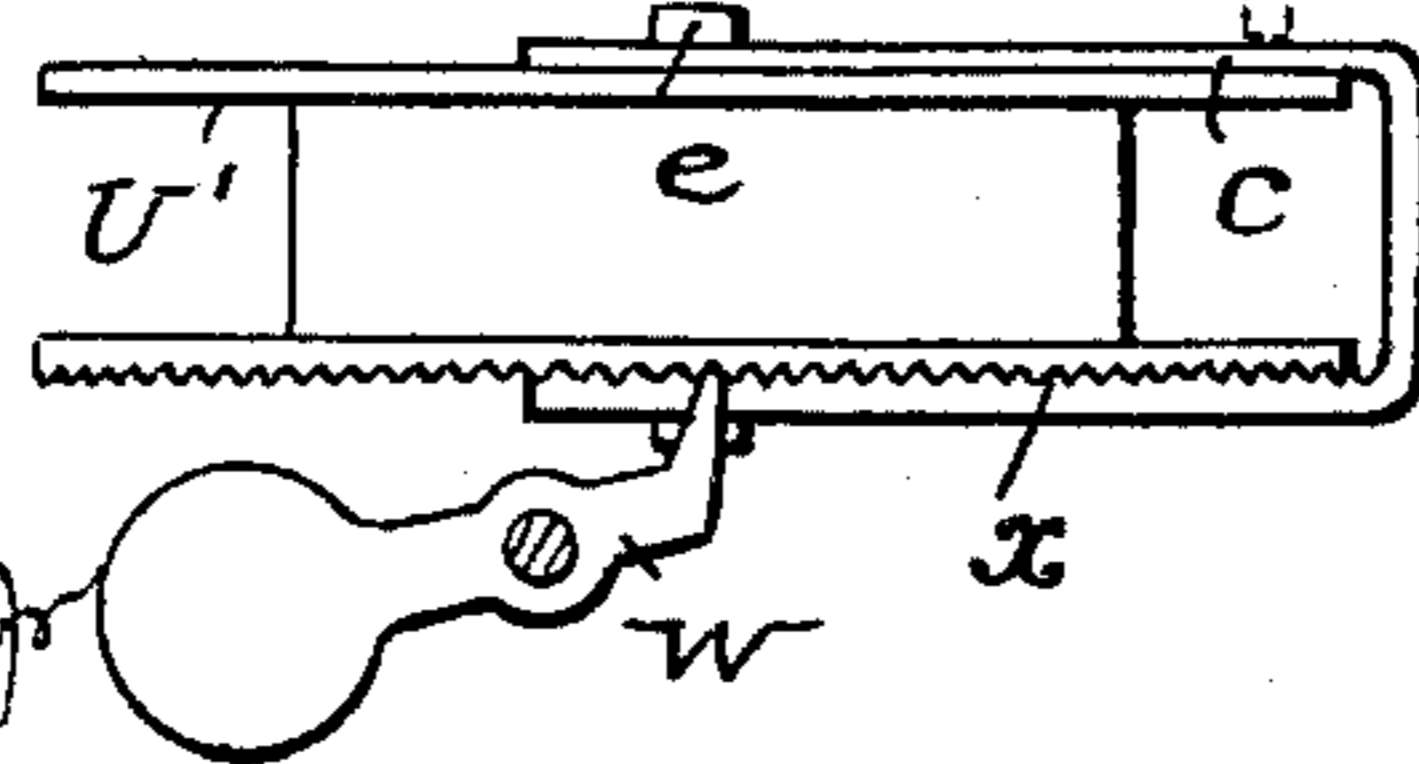


Fig. 3.

Witnesses  
J. G. Hinkel  
H. M. Gillman, Jr.



Inventor  
William S. Shirk  
by Louis Freeman  
Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM S. SHIRK, OF ANDERSON, INDIANA.

## RIBBON-FEED DEVICE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 679,686, dated July 30, 1901.

Application filed November 4, 1899. Serial No. 735,765. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. SHIRK, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Ribbon-Feed Devices for Type-Writing Machines, of which the following is a specification.

My invention relates to means for carrying and feeding the ribbons of type-writers; and it consists of a frame, which may be of any construction suitable for the machine with which it is to operate, carrying two ribbon-spools, between which the ribbon extends, which spools have ratchets each adapted to engage a pawl which turns the spool as the frame oscillates, as fully described herein-after and as shown in the accompanying drawings, in which—

Figure 1 is a plan view of my improved device and part of the type-writing machine to which it is applied. Fig. 2 is an edge view of the device; Fig. 3, an edge view of one of the ribbon-spools and pawls for operating therewith.

The frame T is of any suitable construction and is provided with a suitable bearing by means of which it is supported upon the frame of a type-writing machine. As shown, this is a bearing-bar *a*, adapted to recesses in lugs *b b* on the machine-frame. In the frame T are supports for the two spools U U', upon which the ribbon X is wound. As shown, the frame has two forks *c c* in which the spools turn upon pins *e e*, and from these extend arms carrying guides *f f*, between which the ribbon crosses in proper position to be presented to the type. In the construction shown there are vertical type-bars *g g*, having type-forms on their faces, and these are driven against the ribbon by a hammer *h*, pivoted at one end, so that the other may be carried around to strike the back of the type-bar in proper position to print. After each impression the frame T is carried upward, (or it might be downward,) oscillating on the bearing *a* to expose the letter printed, and I make use of this movement to feed the ribbon without the

use of driving gears or shafts, as usual. To this end one head of each spool has near the periphery an annular ratchet *x*, adapted to engage the end of a weighted pawl W, pivoted to the frame of the machine, the spools so placed on the frame that the ratchet of one will be uppermost and the other beneath. As the frame T tilts in one direction, the pawl vibrates with the spool without effect, but as the frame moves in the opposite direction the end of the pawl catches one of the ratchet-teeth and the movement of the frame and spool results in a slight rotation of the latter, so that there is a regular intermittent motion of the ribbon during the printing.

When one spool is nearly exhausted, the frame T is lifted from its bearings, reversed, and the other spool brought into position above the pawl, when the ribbon will be wound onto this spool.

Any suitable means may be employed for vibrating the frame T. As shown, an arm *m* on a reciprocating slide *n* has a lug adapted to enter either of two slots *v v'* at opposite sides of the frame T, so as to engage and vibrate the latter whichever side is uppermost. I do not here show the other parts of the type-writer, as they form no part of this invention and may be of various constructions, but one arrangement adapted for use in this connection is shown in my application Serial No. 735,764.

Without limiting myself to the precise construction shown, I claim—

1. A ribbon-carrier for type-writers consisting of a frame having a bearing for resting detachably on supports of the type-writer frame and adapted for use in reversed positions on said bearing, and two ribbon-spools turning in the frame and provided with ratchets adapted to be engaged by a pawl on the frame when in either position, substantially as set forth.

2. The combination in a ribbon-carrier, of a frame having a bearing on which it can vibrate, two ribbon-spools supported to turn in the frame and provided with ratchets oppositely arranged on the different spools, and

guides for the ribbon extending between the spools, the whole detachable from supports of the type-writer frame and constructed for use in reversed positions, substantially as set forth.

5 3. A type-writer ribbon-frame having two similar U-shaped spool-supports, a cross-bar connected at the ends to said supports and adapted to a bearing on the machine, and

guides for the ribbon carried by the said supports, substantially as set forth.

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

WILLIAM S. SHIRK.

Witnesses:

CHARLES E. FOSTER,

PAUL W. STEVENS.