

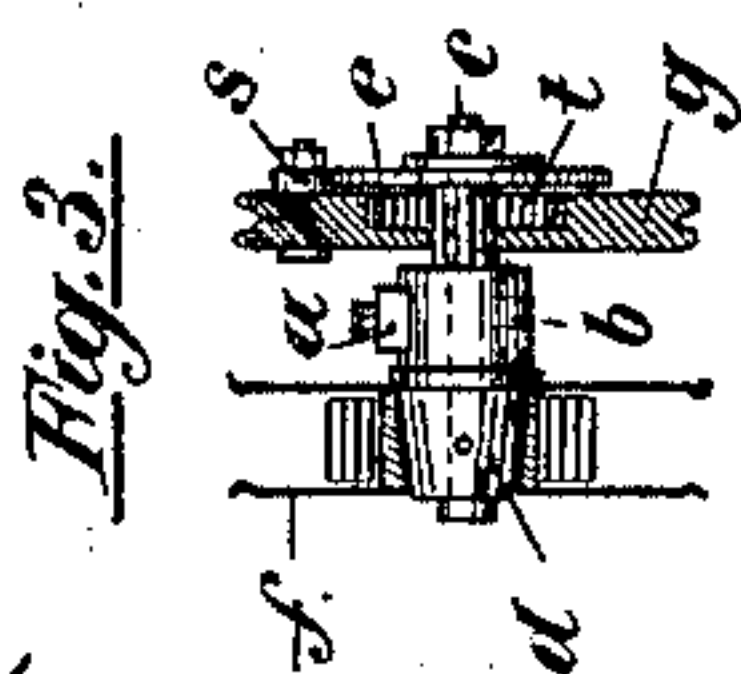
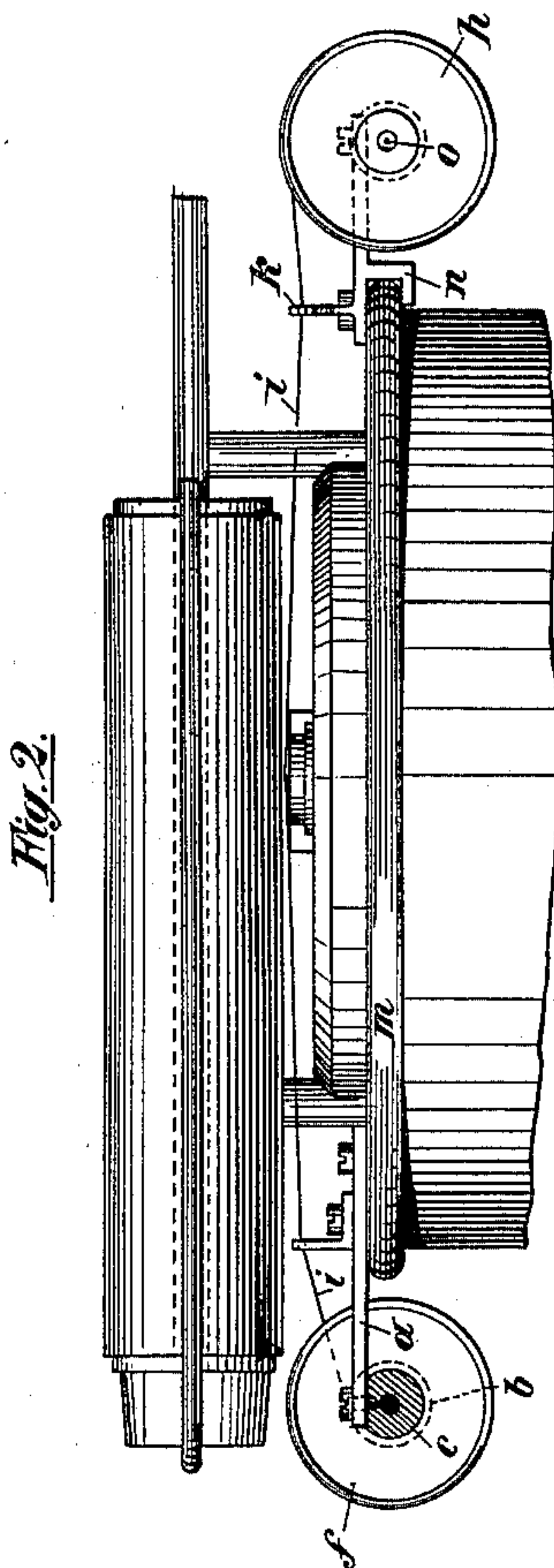
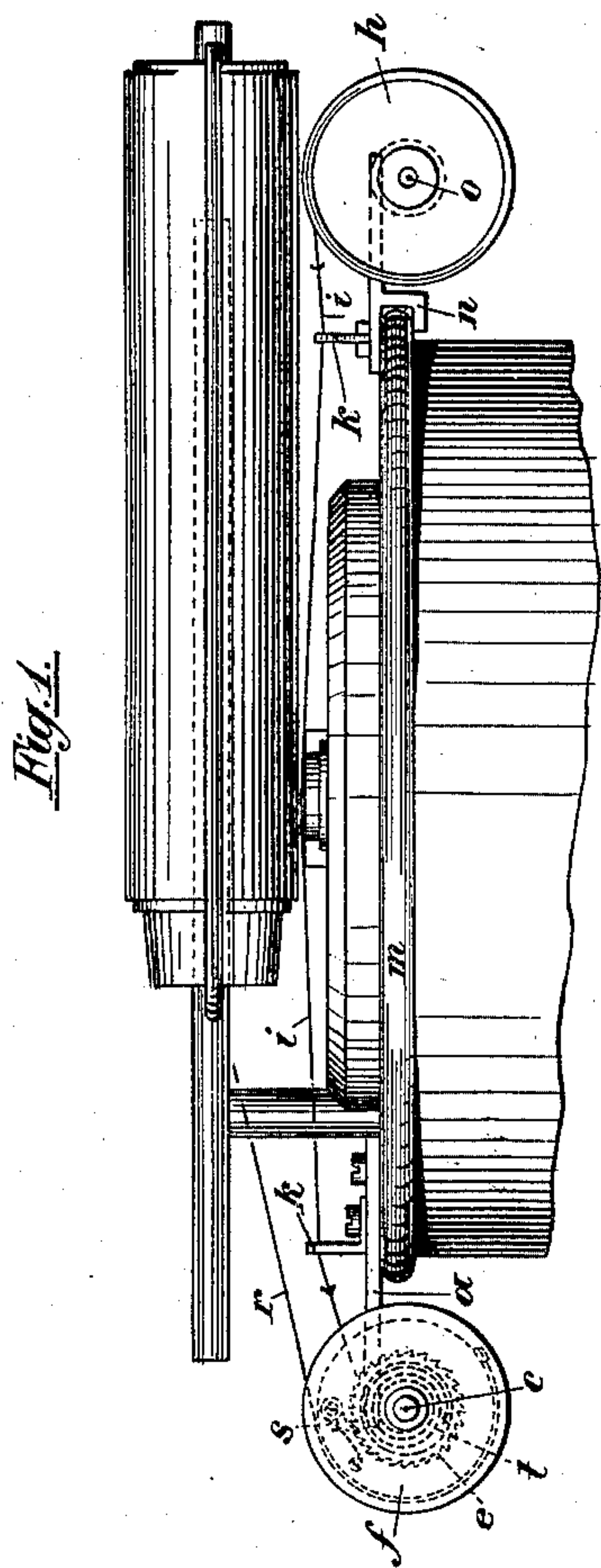
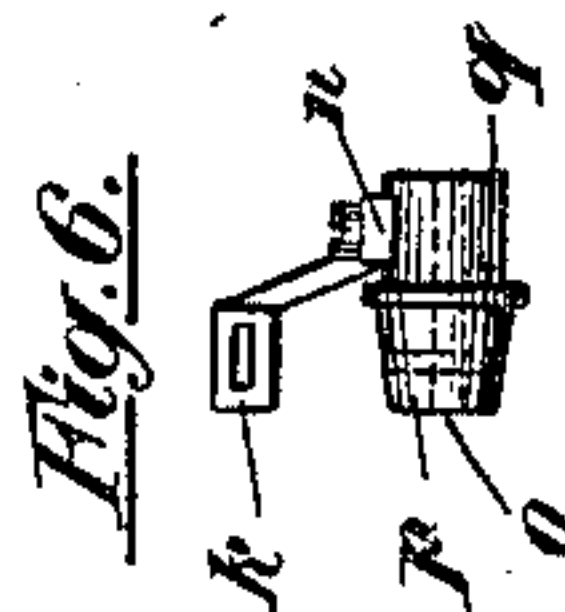
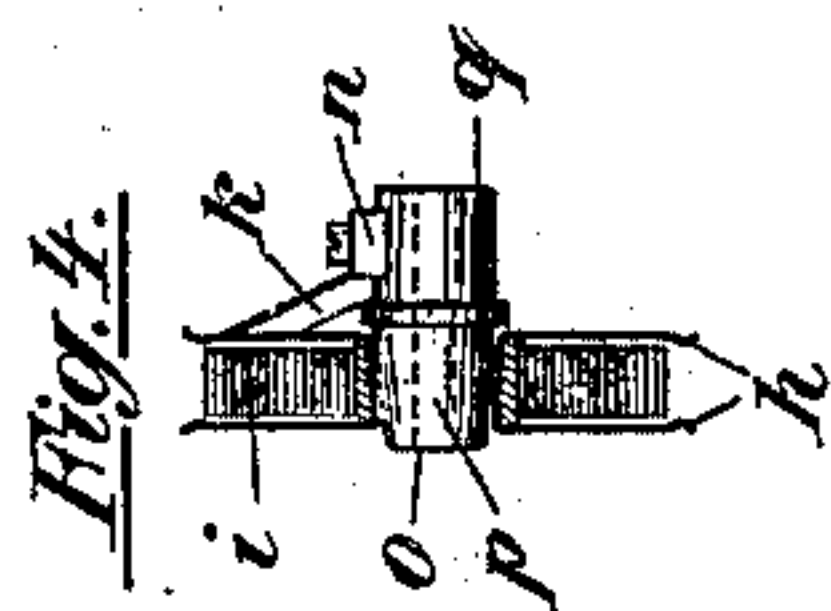
No. 668,155.

Patented Feb. 19, 1901.

A. BEYERLEN.
TYPE WRITER.

(Application filed Aug. 5, 1899.)

(No Model.)



Witnesses:
N. Mitchell.
M. C. Massie.

Inventor:
Angelo Beyerlen
by *Max Thöni*
Attorney

UNITED STATES PATENT OFFICE.

ANGELO BEYERLEN, OF STUTTGART, GERMANY.

TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 668,155, dated February 19, 1901.

Application filed August 5, 1899. Serial No. 726,297. (No model.)

To all whom it may concern:

Be it known that I, ANGELO BEYERLEN, a citizen of the German Empire, residing at Stuttgart, in the Kingdom of Württemberg, Germany, have invented a certain new and useful Improvement in Type-Writers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the ribbon mechanism of type-writers.

The object of the invention is to provide a readily-detachable ribbon device, so that another spool can be easily and quickly substituted whenever desired to use another ribbon for any reason.

My invention consists in such construction and arrangement of parts, either separately or in combination, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 shows in elevation a Yost type-writing machine having my device in my preferred form attached thereto, showing certain details in section-lines. Fig. 2 is a similar view, the details being omitted. Fig. 3 shows details of the winding mechanism. Fig. 4 shows the mounting of the spool from which the ribbon is unwound. Fig. 5 shows the mounting of the winding mechanism. Fig. 6 shows the ribbon-guide.

A bracket *n* is clamped to the projecting edge *m* of the machine by screws or other suitable manner. A hub *q* is secured to the bracket *n* and serves as a journal for the pinion *o*. A conical hub *p* is secured to the pinion *o* and is thus rotatably supported. The ribbon-spools *h* and *f* have a bore corresponding to the cone *p*, so that they can be removably secured thereon. A suitable slotted guide-arm *k* is secured to the arm *n*, which serves to guide the ribbon as unwinding from the spool that is mounted on the hub *p*.

On an opposite part of the machine is a bracket *a*, secured to the part *m* by screws or in any other suitable manner. On the bracket is secured a hub *b*, having a reduced portion *b'*, on which is loosely mounted a disk-pulley *g*. In a recess in this pulley is a helical spring *t*, having one end secured to the pulley and the other end secured to the hub *b'*.

A pinion *c* is journaled in the hub *b* and has a conical hub *d* secured to it at one end, while the other end has a disk *e*, having ratchet-teeth on its perimeter. A pawl *s*, pivoted on the pulley *g*, engages the teeth of the disk *e*, and thus when rotating in one direction the pulley *f* will carry the disk *e* and also pinion *c* and hub *b* with it.

The hub *d* is similar to the hub *p*, so as to fit the bores of the spools *f* and *h*. The ribbon is wound on one of the spools, as *h*, and this spool fitted tightly on the hub *p*. Then the ribbon is passed through a guide *k* across the machine under the platen, then through another guide *k''* and the end secured to the spool *f*.

A cord *r* has one end secured to a part of the carriage or platen and the other end wound around the pulley *g* and secured thereto. Consequently when the carriage is moved from left to right, as seen in Fig. 1, the cord *r* will be unwound from the pulley *g*, rotating it in a direction that will cause the helical spring that is connected between it and the stationary hub *b'* to be wound up and put under tension; but this movement of the pulley will not disturb the ratchet-wheel *e*, as the pawl does not engage in this direction of rotation; but when the carriage is moved in the opposite direction across the machine the helical spring being put under considerable tension will cause the pulley *g* to rotate in the opposite direction as fast as the carriage will allow the cord *r* to be wound upon the pulley. This rotation of the pulley will cause the pawl to engage the ratchet-wheel and revolve it and with it the hub *d* and spool *f*, which will result in causing the ribbon to be wound upon the spool *f*, and consequently moved across the machine under the platen and unwound from the spool *h*. This will take place during the entire movement of the carriage from right to left. Upon the return movement of the carriage the pawl and ratchet will not engage and the ribbon will be stationary, but the spring again put under tension, as before, that will again actuate the ribbon on the next movement of the carriage from right to left. When the ribbon is entirely wound onto the spool *f*, this spool is removed from the hub *d* and the now empty spool *h* put thereon, while the spool *f* is put

on the hub *p* and its end carried across and secured on the spool *h*, now transferred to the winding-hub *d*, and the ribbon is actuated, as above described, until the ribbon is again wound from one spool to the other, when the spools are again interchanged.

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

1. The combination in a type-writer, of a rotatable shaft mounted on each side of the machine, a tapered hub mounted on each of said shafts, a pair of similar ribbon-spools each arranged to be removably secured on either of said hubs, and means for actuating one of said hubs from the carriage of the type-writer.

2. The combination in a type-writer, of a rotatable conical hub mounted on the machine, another similar rotatable conical hub mounted on the opposite side of the machine, a pair of ribbon-spools each having a conical bore corresponding to said conical hubs and arranged to be removably secured on either of said hubs, and means for actuating one

of said hubs from the carriage of the type-writer.

3. The combination in a type-writer, of a rotatable hub mounted on the machine, a journal secured to the opposite side of the machine, a pinion rotating in said journal, a hub similar to said hub secured to said pinion, a pair of ribbon-spools each arranged to be removably secured to either of said hubs, a pulley loosely mounted on said journal, a cord having one end secured to the periphery of said pulley and its other end secured to the carriage of the type-writer, a helical spring having one end attached to said pulley and its other end attached to said journal, a ratchet-wheel secured on said pinion, and a pawl pivoted on said pulley and engaging said ratchet-wheel.

In testimony whereof I affix my signature in presence of two witnesses.

ANGELO BEYERLEN.

Witnesses:

WM. HAHN,
OTTO BAUM.