No. 654,028. Patented July 17, 1900.

E. S. SHIMER.

RIBBON FEEDING MECHANISM FOR TYPE WRITING MACHINES.

(Application filed Apr. 20, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

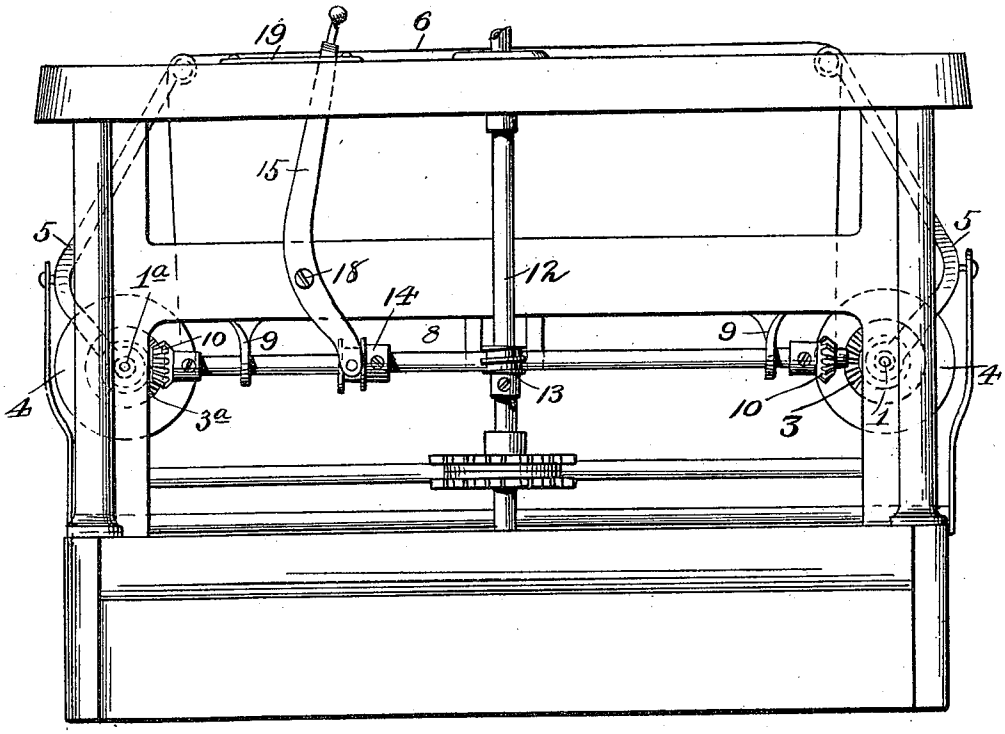
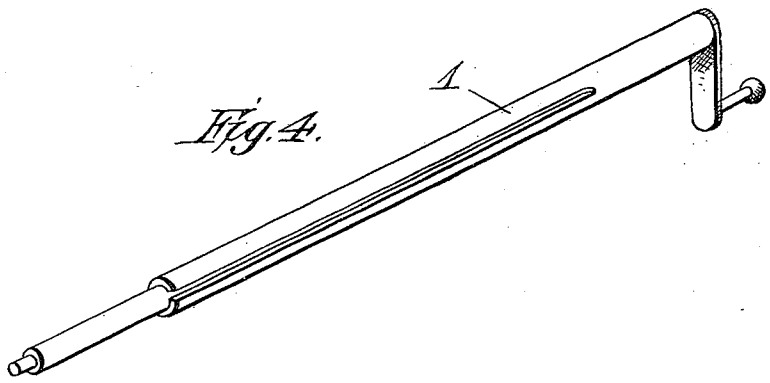


Fig. 4.



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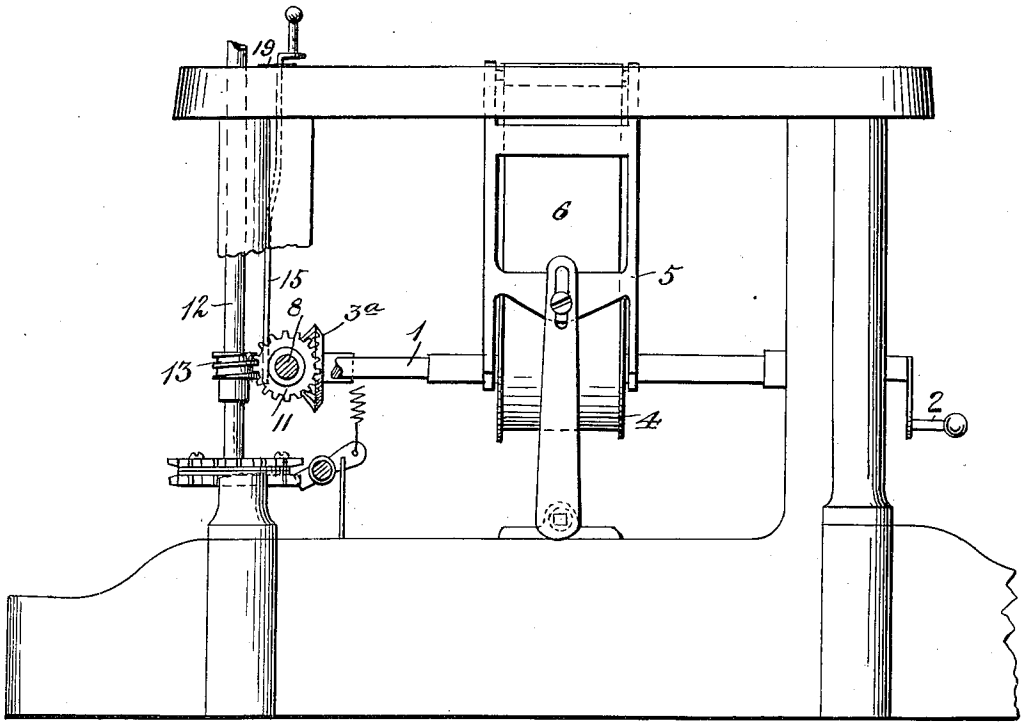


Fig. 2

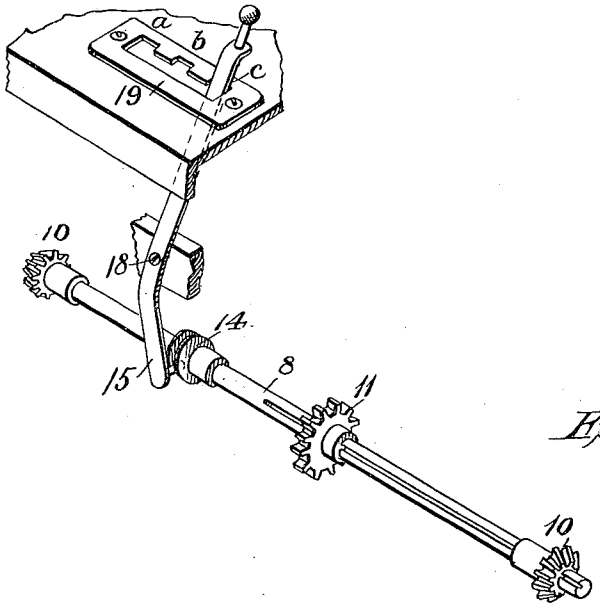


Fig. 3.

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UNITED STATES PATENT OFFICE.

ELMER S. SHIMER, OF MILTON, PENNSYLVANIA.

RIBBON-FEEDING MECHANISM FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 654,028, dated July 17, 1900.

Application filed April 20, 1900. Serial No. 13,618. (No model.)

To all whom it may concern:

Be it known that I, ELMER S. SHIMER, a citizen of the United States, residing at Milton, in the county of Northumberland and State of Pennsylvania, have invented new and useful Improvements in Ribbon-Feeding Mechanism for Type-Writing Machines, of which the following is a specification.

My invention relates to ribbon-feeding mechanism for type-writing machines; and the objects of the same are to provide simple, efficient, reliable, and easily-operated means for feeding the ribbon step by step in either direction upon either spool by the operation of the keys, and to provide for disconnecting the ribbon-feed, so that the ribbon may be run back and forth, and to facilitate the operation of putting a new ribbon on the machine. I attain these objects by means of the construction shown in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a rear view of a ribbon-feeding mechanism made in accordance with my invention. Fig. 2 is a side view showing the worm-gearing and the shifting devices for sliding the shaft for connecting with either ribbon-spool shaft. Fig. 3 is a detail perspective view of the shifting shaft. Fig. 4 is a detail view of one of the spool-shafts.

Like characters of reference designate like parts wherever they occur in the different views.

Referring to Fig. 1 of the drawings, the numeral 1 designates one of the ribbon-spool shafts, having a crank 2 at one end, a beveled gear 3 at the opposite end, and a spool 4 fixed centrally to said shaft. The ends of this shaft are shown journaled in the frame of the machine. The other ribbon-spool shaft 1^a is substantially identical in construction and in its manner of mounting in the machine. The ribbon 6 is wound upon the spool 4, and the mechanism for automatically feeding the ribbon from one spool to the other in either direction will now be described.

A shaft 8, journaled in hangers 9, depending from the framework of the machine, is provided with a beveled gear-wheel 10 at each end and is designed to be shifted endwise to connect either of the gear-wheels 10 with either of the spool-shaft gear-wheels 3 and 3^a to wind the ribbon in either direction. A spur gear-wheel 11 is connected centrally to the shaft 8 by a spline, which will permit the shaft to slide independently of the spur-wheel 11, but will rotate with said wheel 11. The vertical escapement-shaft 12 has a worm 13 keyed thereto, and the spurs of the wheel 11 engage the spiral groove in the worm, and by this means the shaft 8 is slowly rotated during the operation of the type-keys, and thus the ribbon is fed in one direction or the other automatically. To shift the shaft 8, a grooved collar 14 is keyed thereto, and a spring-metal lever 15 is provided with a stud or pin 16, which fits in the groove 17 of the collar 14, said lever being curved, as shown, and pivoted on a pin or screw 18, connected to the frame of the machine. The upper end of the lever 15 passes through a rack-plate 19, secured to the top of the table of the machine, and is provided with a knob or handle 20 for operating it. The rack-plate 19 has three recesses *a*, *b*, and *c*. When the lever 15 occupies the recess *a*, the beveled gear 10 is in mesh with the gear 3 on one of the ribbon-spool shafts. When the lever is shifted to the recess *c*, the opposite gear 3^a is engaged by the wheel 10. When the lever 10 occupies the central recess *b*, the ribbon-feed is thrown off and either of the cranks 2 and 2^a may be actuated to run the ribbon from one spool to the other or to facilitate putting a new ribbon on the spools.

The operation of the device will be obvious from the foregoing. The mechanism is simple in construction, reliable and positive in action, and with slight modification may be used upon any type-writing machine.

Certain changes in the details of construction may be resorted to without departing from the spirit and scope of my invention. Hence I do not wish to be limited to the exact structure shown.

Having thus fully described my invention, what I claim is—

A ribbon-feeding mechanism for type-writing machines comprising the ribbon-spool shafts having bevel-gears on the rear ends, the transversely-sliding shaft provided with a centrally-located spur-wheel thereon, the

vertically-journaled spacing-shaft having a worm thereon in mesh with the spur-wheel, the lever for shifting the sliding shaft to run the ribbon from one spool to the other, and a rack for the free end of said lever having three recesses for the different positions of said lever, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ELMER S. SHIMER.

Witnesses:
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C. F. BALLIET.