No. 849,339. PATENTED APR. 2, 1907.

A. SCHNEELOCH.

RIBBON MECHANISM FOR TYPE WRITERS.

APPLICATION FILED MAY 9, 1901.

2 SHEETS—SHEET 1.

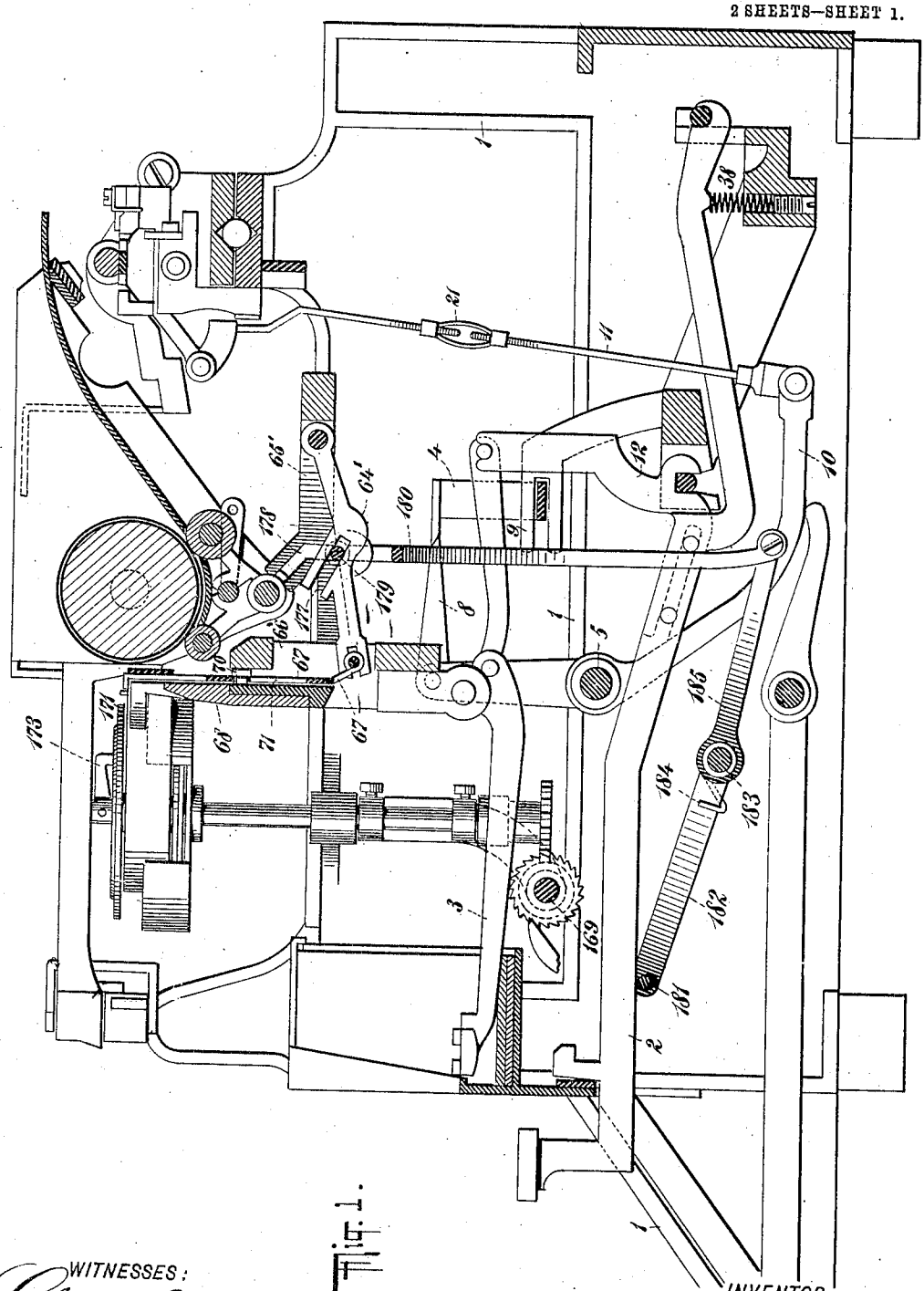


Fig. 1.

WITNESSES:

Gustave Dieterich.

John Teschenbrock.

INVENTOR

August Schneeloch

BY

Howson & Howson Philips

ATTORNEY

No. 849,339. PATENTED APR. 2, 1907.

A. SCHNEELOCH.

RIBBON MECHANISM FOR TYPE WRITERS.

APPLICATION FILED MAY 9, 1901.

2 SHEETS—SHEET 2.

Fig. 2.

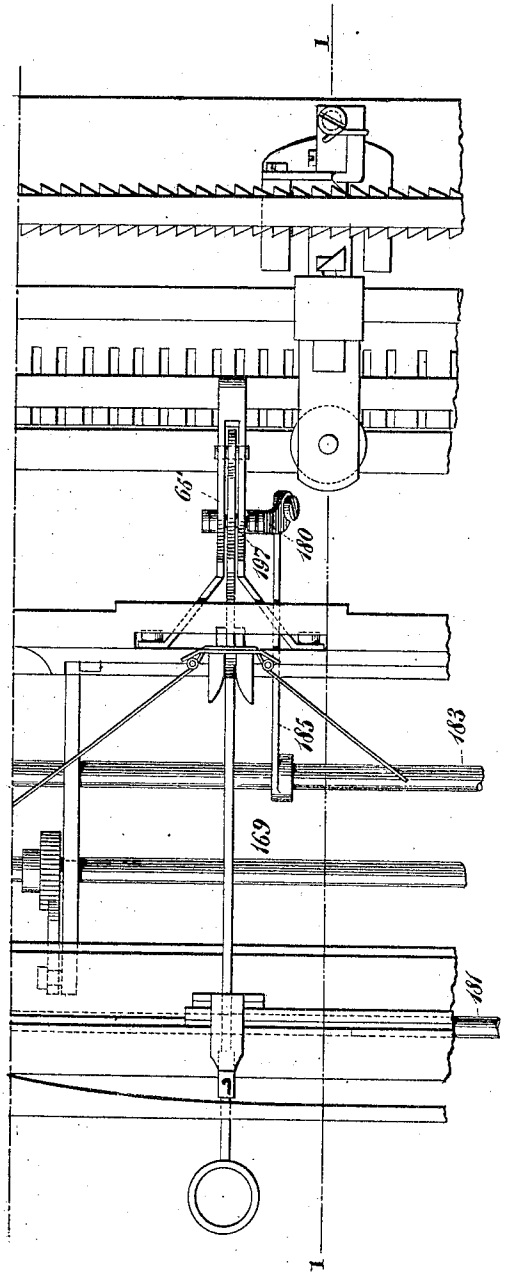


Fig. 5.

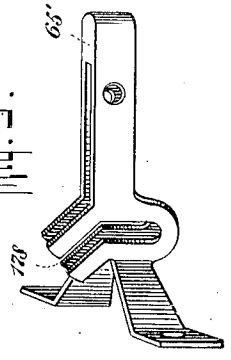


Fig. 4.

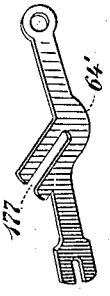
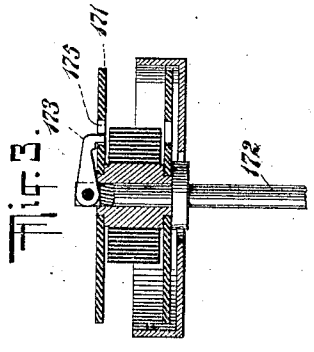


Fig. 3.



WITNESSES:

Gustave Dieterich.

John E. Schlumbick.

INVENTOR

August Schneeloch

BY

Harry Van Ness Philip

ATTORNEY

UNITED STATES PATENT OFFICE.

AUGUST SCHNEELOCH, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO E. C. STEARNS & CO., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK, AND ONE-HALF TO JOHN E. THOMAS, OF NEW YORK, N. Y.

RIBBON MECHANISM FOR TYPE-WRITERS.

No. 849,339. Specification of Letters Patent. Patented April 2, 1907.

Original application filed April 7, 1900, Serial No. 11,993. Divided and this application filed May 9, 1901. Serial No. 59,361.

To all whom it may concern:

Be it known that I, AUGUST SCHNEELOCH, a subject of the Empire of Germany, residing in the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Ribbon Mechanism for Type-Writers, of which the following is a specification, being a divisonal application of the application filed April 7, 1900, Serial No. 11,993, reference being had herein to the accompanying drawings.

My invention relates to type-writing machines; and its object is to provide an improved means of maintaining the ribbon in operative relation with the platen and type-bar, and I attain this object by the devices illustrated in the accompanying drawings, in which similar figures of reference indicate similar parts throughout the various views.

The device illustrated and described herein is shown adapted to the type-writing machine shown and described in said application for patent filed April 7, 1900, Serial No. 11,993.

Figure 1 is a longitudinal section on line 1 1 of Fig. 2. Fig. 2 is a partial plan view. Fig. 3 is a sectional view of the ribbon-spool. Fig. 4 is a detail perspective view. Fig. 5 is a detail perspective view.

Referring to Figs. 1 to 5, inclusive, 2 is one of the key-levers of the machine operatively connected with type-lever 3.

4 is the universal bar of the machine.

181 is a rod extending underneath the key-levers 2. Attached to each end of said rod 181 is arm 182. Journaled on frame 1 of the machine is shaft 183, to which said arm 182 is also attached, and by means of spring 184 said rod 181 is held in contact with the key-levers. Attached to said shaft 183 is connecting-arm 185, which at its other end is operatively connected with connecting-link 180.

Oscillating lever 64′ is fulcrumed on support 65′, extending from segment 66′. Said oscillating lever 64′ is connected by the ordinary fork-and-pin device with the ribbon-guide 67, said guide 67 working on type-bar guide 68 and being guided in its movement by screw and slot 70 71 so that with each movement of a type-key lever said ribbon-guide 67 is raised or lowered, as the case may be. Said lever 64′ is provided with a fork or inclined slot 177 and said support 65′ is provided with a bent fork or a bent slot 178. Said lever 64′ is operated by means of pin 179 on link 180 working in said inclined slot 177. Said pin 179 also works in bent fork 178, and it will be readily understood that when the slot 177 is brought to register with inclined upper portion of fork 178 the movement of pin 179 within the same will not operate so as to cause any further movement of lever 64′. The ribbon-guide will remain stationary whatever the motion of its operating device may be provided fork 177 and bent fork 178 register with each other. Shaft 169 may be connected to ribbon-spool shafts 172, each having at its upper end a hinged catch 173. The ribbon-spools are adapted to fit over the ends of said shaft 172, and it will be readily understood that by putting one of the catches 173 in its notch 175 in one of the spools and leaving the other catch free from the other spool that the ribbon 176 will be wound one way and upon reversing the arrangement of the catches the ribbon will be wound the other way.

What I claim, and desire to secure by Letters Patent, is—

1. In a type-writer, the combination with the frame, platen, keys, key-levers, types, type-bars, ribbon and operative connections between the respective key-levers and type-bars, of a ribbon-guide adapted to move rectilinearly and vertically, guiding mechanism positively to guide the ribbon-guide in said rectilinear vertical movement and connections operated by all the key-levers to raise the ribbon-guide in a straight line to a point immediately in front of the platen during the first portion of the downward movement of the key and to lock the ribbon-guide in said position during the continued downward movement of the key, until the type has struck.

2. In a type-writing machine, the combination with the frame, the platen, the key-levers, the type-bars and connections between the key-levers and the type-bars, of the support formed with bent forks or bent slots of which the upper portions are arranged at an angle to the lower portions, an oscillating lever formed with an inclined slot and journaled on said support, the

ribbon-guide suitably supported on the frame and connected to the oscillating lever, a link having a portion engaging with said bent slots and with said inclined slot, and connections between the key-levers and the link whereby the link is raised on the depression of each key-lever.

3. In a type-writing machine, the combination with the frame, the platen, the key-levers, and type-bars suitably supported on the frame, of connections between the key-levers and the type-bars, a support having forwardly-extending branches, both of said branches being formed with corresponding opposite bent forks or bent slots of which slots the lower portions are vertical and the upper portions inclined, an oscillating lever journaled on said support and having an inclined slot substantially corresponding to the upper portion of said bent slots, the ribbon-supporting mechanism suitably supported on the frame, operative connections between the ribbon-supporting mechanism and the oscillating lever, a link, a pin on said link engaging with said inclined slot and said bent slots and connections between the type-bars and the lower end of said link whereby the link is raised at the depression of each type-bar.

4. In a type-writing machine, the combination with the frame, the platen, the key-levers and the type-bars suitably supported on the frame, of a ribbon-guide, a ribbon-guide mechanism supported on the frame and fitted to the guide, a slotted support on the frame, a slotted oscillating lever journaled on the support and connected to the ribbon-guide mechanism, a link engaging with the slots in the support and in the oscillating lever, and connections between the key-levers and the link whereby the link and the oscillating lever are both raised during the first portion of the downward stroke of each key-lever, but during the last portion of the downward stroke the link only is raised, while the oscillating lever, and ribbon-guide mechanism are locked firmly in printing position.

5. In a type-writer, the combination with the frame, platen, keys, key-levers, types, type-bars, ribbon and operative connections between the respective key-levers and type-bars, of a fixed lever-support arranged adjacent to and below the platen, a ribbon-guide, guiding means in which the ribbon-guide moves in a straight line up and down, an oscillating lever journaled on said lever-support and connected to the ribbon-guide, an element fitted to move simultaneously in suitable slots in said lever-support and oscillating lever, and connections to said element operated by the depression of all the key-levers, operating to raise said element in said support-slot and thereby swing up the oscillating lever and raise the ribbon-guide to a point immediately in front of the platen during the first portion of the downward movement of the key and to lock the ribbon-guide in said position during the continued downward movement of the key, until the type has struck.

In testimony whereof I have hereunto set my hand this 8th day of May, 1901.

AUGUST SCHNEELOCH.

In presence of—

J. B. MAXWELL,

J. F. BOUDREAU.