

No. 781,473.

PATENTED JAN. 31, 1905.

S. A. THOMPSON.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 21, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

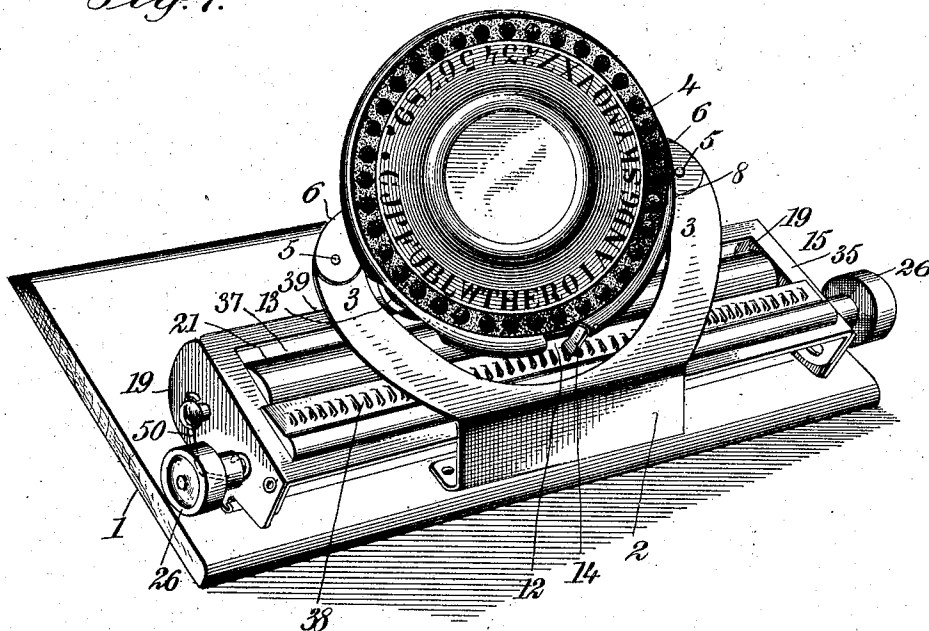
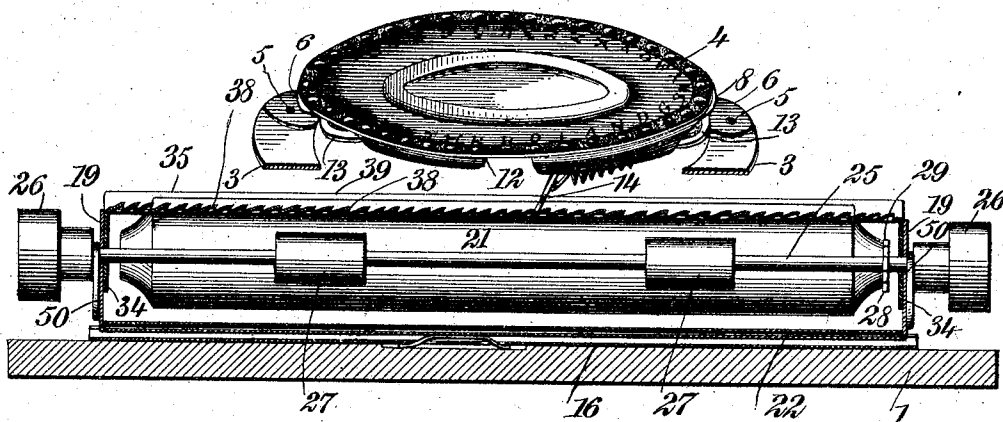


Fig. 2.



WITNESSES:

Geo. M. Nugent
E. E. Ellis

INVENTOR

Samuel A. Thompson

BY

Munn & Co.
ATTORNEYS.

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2 SHEETS—SHEET 2.

Fig. 3.

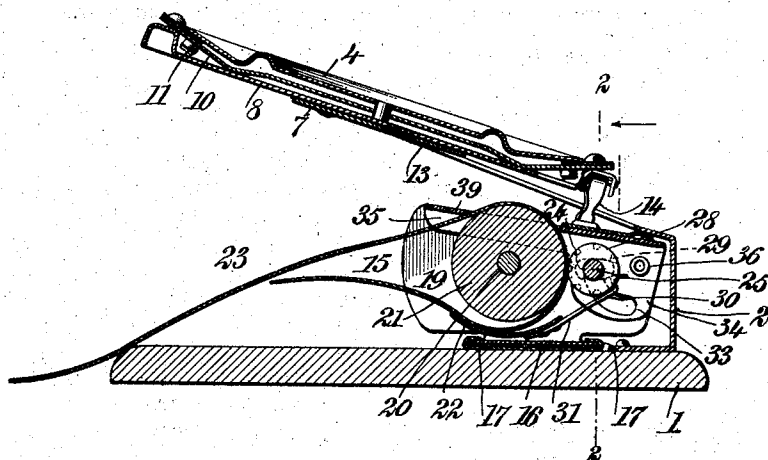


Fig. 6.

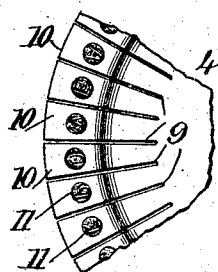


Fig. 4.

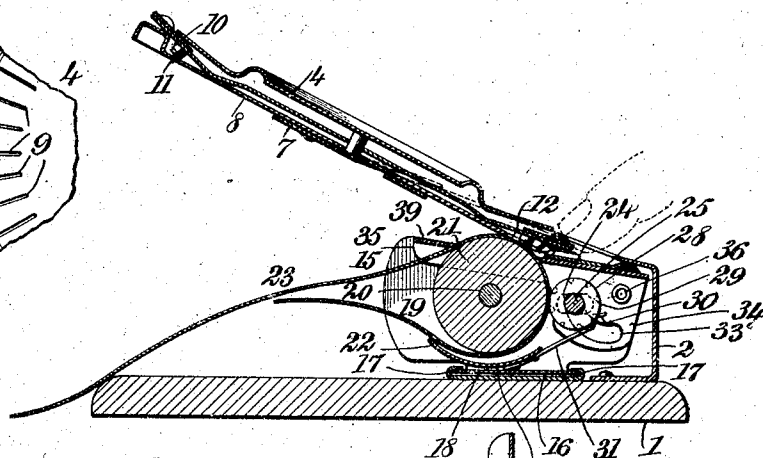
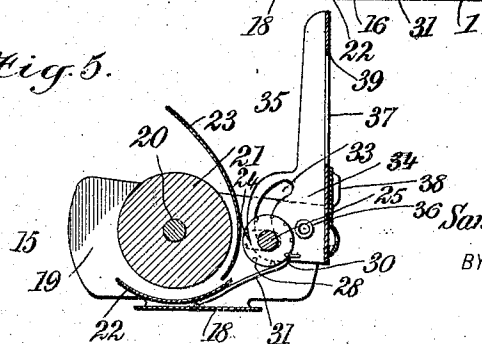


Fig. 5.



WITNESSES:

Geo. W. Maylot.
E. E. Ellis

INVENTOR

Samuel A. Thompson

BY

Munn &
ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL A. THOMPSON, OF NEW YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 781,473, dated January 31, 1905.

Application filed March 21, 1903. Serial No. 148,878.

To all whom it may concern:

Be it known that I, SAMUEL A. THOMPSON, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Type-Writing Machine, of which the following is a full, clear, and exact description.

This invention resides in the novel features hereinafter particularly described, and defined in the claims.

The principal object of the invention is to provide a type-writing machine of simple embodiment and one also which is reliable and thoroughly effective in operation, besides possessing the capacity for long and repeated service and comprising a comparatively limited number of elements or parts not liable to get out of order. These and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a type-writing machine embodying my improvements. Fig. 2 is a longitudinal sectional view thereof on the line 2 2 of Fig. 3, showing the construction and organization of some of the operative elements or parts more clearly. Fig. 3 is a transverse sectional view of the machine, showing the type wheel or disk in its normal position. Fig. 4 is a similar view showing the type wheel or disk as depressed or moved into contact with the platen for the purpose of effecting a type impression upon a paper or other sheet passing about and properly guided with reference to the platen. Fig. 5 is a transverse sectional view of the carriage, showing in raised or elevated position the movable member or paper-guard by the raising and lowering of which the paper-feed devices are operated in a special way; and Fig. 6 is a bottom plan detail view of a portion or section of the type wheel or disk.

Preliminarily to a more detailed description it may be stated that my improved type-writing machine comprises in the particular embodiment shown a suitable base upon which is mounted a fixed support for a type wheel or disk, said support being of special construction whereby the said type wheel or disk

is held at the proper inclination with reference to the platen and also whereby the same is returned to its normal position on each release of pressure applied thereto either for impression or spacing purposes. The platen and the paper-feed devices are suitably mounted in a traveling carriage therefor comprising a movable or swinging member constituting a guard for the paper or other sheet passing over the platen, said member being also of special embodiment whereby a longitudinal step-by-step movement of the carriage is effected and also whereby the paper-feed devices are operated in the manner and for the purpose more fully hereinafter explained. Other features of the improvement will also be explained hereinafter, and it may be stated that in practice I am not limited to the details of construction and organization of parts herein described and illustrated, since departure therefrom may be made coming within the scope of my invention.

Specific reference being had to the drawings, 1 represents a suitable base having secured to its upper surface, at or near one of the longitudinal edges thereof, an upright member 2 of any suitable material and which is formed or provided with upwardly and rearwardly inclined members 3 3, each of which is curved outwardly, as shown, the two said members constituting convenient means for the proper location and support of specially-constructed devices which are employed for effecting the desired operation of the type wheel or disk 4, to be again referred to. Thus attached to the ends of said inclined curved members 3 3 in any suitable way, as by riveting at 5, are the corresponding members or branches 6 6 of a reacting device or element 7, by which the type wheel or disk 4 and its immediate auxiliaries are restored to the normal positions thereof on each release of operative pressure applied to said wheel or disk, and while said device or element may be variously constructed and applied I preferably employ therefor a flat torsion plate or strip of resilient material, such as metal, and to the upper surface of said plate I secure the circularly-recessed holder and guide 8 for the type wheel or disk, this

latter element being mounted centrally of said holder and guide, so as to be rotatable thereupon in a manner well known. Said type wheel or disk is slitted radially all around at 9 (see Fig. 6) from the edge thereof, forming spring-arms 10, each having on its under side a type 11, and the holder and guide 9 is formed with an opening 12 at the front of the machine, through which protrusion of the different type takes place whenever the type wheel or disk is operated to make an impression. Suitable inking-pads 13 are also supported by the holder and guide in a manner well known, and beneath said latter element is a spring-actuated dog or pawl 14, which effects the longitudinal movements or travel of the carriage 15 of the machine, as will be presently explained.

As will be observed, the fixed support for the parts, as above described, overhangs the structure beneath, and which structure will now be referred to. Thus the upper surface of the base 1 of the machine is provided at or near the front of the machine with a plate 16, the longitudinal edges of which are turned inwardly at 17 to form guides for the corresponding edges of a plate 18, constituting practically a bottom for the said carriage 15. This carriage is formed or provided with end pieces 19, between which are supported the journals of a shaft 20 of a roller-platen 21, and also located between said end pieces is a transversely-curved guide-plate 22, for a paper or other sheet 23, passing about the platen, and on the surface of which sheet the type impressions are made. Having its bearings in transverse slots 24, formed in said end pieces 19 of the carriage, are the end portions of a rod 25 of the paper-feed devices, the said rod projecting beyond said end pieces and provided at the end thereof with buttons or knobs 26, by which the same may be partially rotated from time to time, as required, for the spacing between lines of impressions made on the sheet. Said rod is provided at different parts thereof with short circular sections 27, of rubber or other elastic material, and near one end of the rod, at the inner side of the adjacent end piece 19, is a circular disk 28, having notches 29 at intervals of its edge, which are entered by the bent portion 30 of a spring-arm 31, projecting from the forward edge of the guide-plate 22. (See Figs. 3, 4, and 5.) The distance between said notches corresponds to the width of line-spaces between impressions made by the type-wheel or disk, and from the construction described and shown it is apparent that the proper feed of the paper or other sheet may be readily effected in a manner to prevent slipping of said sheet. The end portions of the said rod 25 also pass through eccentric arc-shaped slots 33, formed in the end sections 34 of a movable member 35 of the carriage, said end sections being pivoted at 36 (forwardly of the platen and paper-

feed devices) to the said end pieces 19, and said member 35 is open at 37 for practically the full length of the platen 21, while the upper surface of this member is also formed or provided with a longitudinally-disposed ratchet 38, the teeth of which are engaged by the dog or pawl 14 referred to. The paper or other sheet passes beneath the portion 39 of said movable member 35 of the carriage, and thus the member is both a guide and a guard for such sheet, as is apparent. On lowering said member 35 to the position indicated in Figs. 3 and 4, for instance, the edges of the arc slots 33 of the end sections 34 so ride upon the rod 25 of the feed devices as to cause said rod to move rearwardly of the machine in the slots 24 of the end pieces 19 of the carriage, and thus the sections 27 on said rod will be made to press corresponding portions of the sheet against the platen, said sheet being thereby firmly held in proper position. At this time the upper edges of the arc slots are about in contact with parts of the upper surface of the rod 25; but on raising or elevating the movable member 35 the edges of said arc slots ride upon the rod in a reverse manner, thereby causing said rod to move forwardly of the machine in the said slots 24, the lower edges of the arc slots now being in contact with the under side of adjacent portions of said rod. When the carriage and its appurtenances are in operative positions beneath the overhanging support for the type wheel or disk and its auxiliaries, the said movable member 35 is capable of being raised a sufficient height for all ordinary purposes, and by removing the carriage endwise from its guides on the base it is apparent that a paper or other sheet may be quickly inserted in place about the platen.

The device 7 consists, preferably, of a flat resilient strip, as before stated, said strip being substantially parallel with the longitudinal edges of the base 1, and in operation this device or plate operates by its torsional reaction to restore the type wheel or disk to its normal position each time the same is operated in the manner already described. Thus a paper or other sheet having been properly placed within the carrier and laid on the platen, as indicated, the type impressions on the said sheet may be rapidly made by moving the type wheel or disk on its axis to bring the proper type thereof to position before the opening 12 in the holder and guide 8, whereupon by depressing the said type-wheel and holder the said type will be carried down to make the desired impression. On this operation the dog or pawl 14 starts to engage one of the ratchet-teeth of the carriage, and immediately preceding the full depression of the type-wheel the said carriage is caused to be moved the required distance for the impression to be properly received on the sheet. As soon as pressure is taken from the type-wheel the reaction of the said reaction device

7 causes the said type-wheel and holder to be restored to their first position, to be depressed again and again in the same way as may be required in use. For the purpose of placing
 5 a tension upon both the platen and the rod of the paper-feed devices I may employ a spring
 50 at each end of the carriage, said spring having its one extremity bent and passing around the projecting end of the journal of
 10 the platen and its other extremity similarly bent and passing around the projecting end portion of said rod. (See Fig. 1.) This spring also assists in maintaining the paper-feed devices in contact with the platen, as is
 15 apparent.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a type-writer, the combination with printing devices, of a platen, a paper-feed
 20 roller adjacent to the platen, said roller being mounted to be rotated and to slide in the carriage-frame, a swinging paper-guard movable relatively to the platen and relatively to the paper-feed roller, and an operative connection
 25 between the said guard and paper-feed roller.

2. In a type-writer, the combination with printing devices, of a paper-feed roller adjacent to the platen, the said roller being mounted
 30 to be moved toward and from the platen, a spring tending to press the said roller toward the platen, and a swinging paper-guard acting to move the said roller away from the platen, the said swinging paper-guard extending approximately horizontally over the platen and
 35 formed with an elongated opening through which the printing devices have access to the paper.

3. A type-writing machine comprising a removable carriage having a member adapted
 40 to be raised and lowered with respect thereto, a platen and paper-feed devices, each supported by the carriage, and intermediate connections

between said carriage and member, whereby said paper-feed devices are carried
 45 into and out of contact with said platen, accordingly as said member is lowered or raised, the said paper-feed devices having support at the ends of the carriage and having guided
 50 sliding movement in said end supports.

4. A type-writing machine comprising a removable carriage having end pieces formed therein with rearwardly-extending horizontal slots, a platen supported by said end pieces,
 55 a movable carriage member having end sections pivoted to said end pieces, and having eccentric arc slots therein, and paper-feed devices including a rod passing through both said horizontal and arc slots.

5. A type-writing machine comprising a removable carriage having end pieces formed therein with rearwardly-extending horizontal slots, a platen supported by said end pieces,
 60 a movable carriage member having end sections pivoted to said end pieces and having eccentric arc slots therein, paper-feed devices having a rod passing through both said horizontal and arc slots, a depressible type-wheel,
 65 and a reacting device for restoring the latter to position after each depression thereof.

6. A type-writing machine, comprising printing devices, a traveling carriage, a platen-roller, a paper-feed roller having guided sliding movement in the ends of the carriage, and
 70 a swinging paper-guard having a connection with the said sliding paper-feed roller to shift the position of the roller when said guard is swung.

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

SAMUEL A. THOMPSON.

Witnesses:

J. L. McAULIFFE,

EVERARD BOLTON MARSHALL.