No. 752,793. PATENTED FEB. 23, 1904.

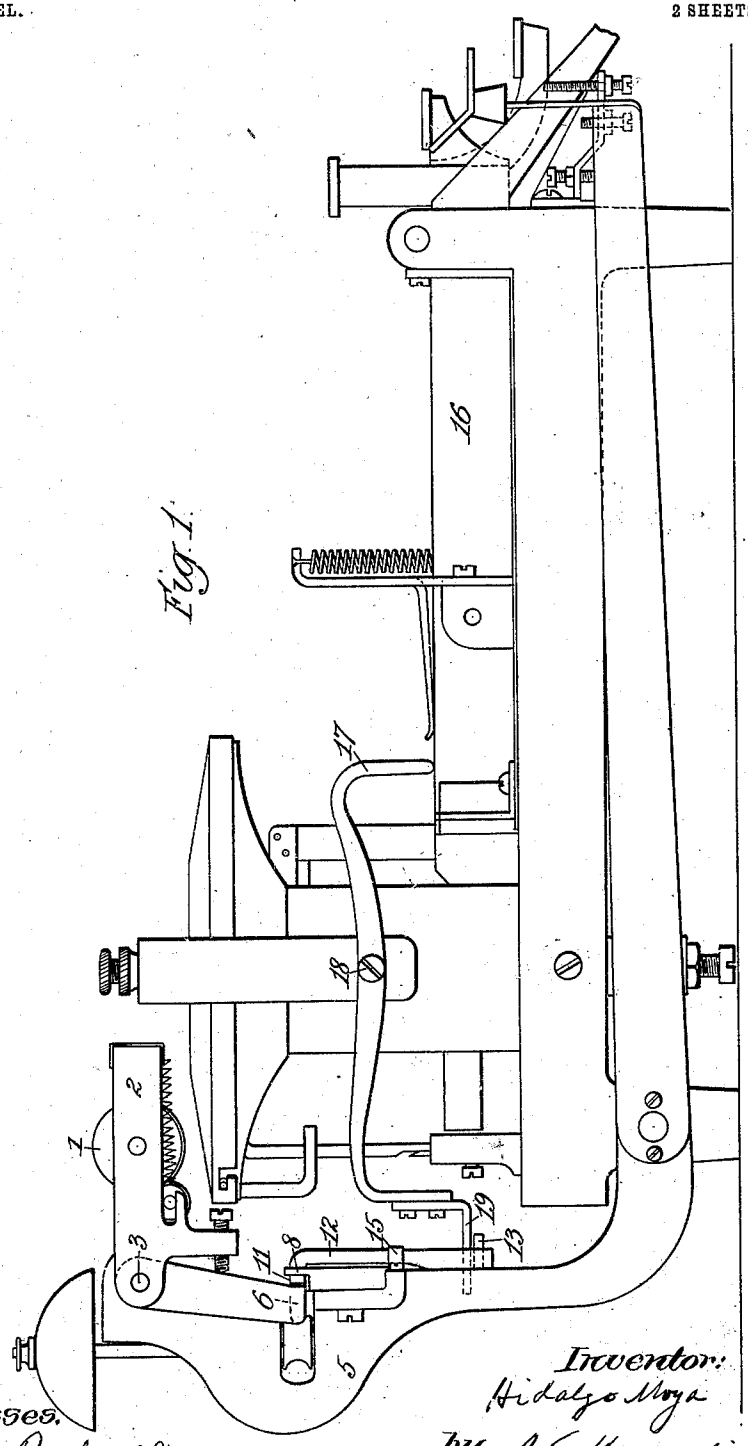
H. MOYA.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 16, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



Witnesses.
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TYPE WRITING MACHINE.

APPLICATION FILED JUNE 16, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2

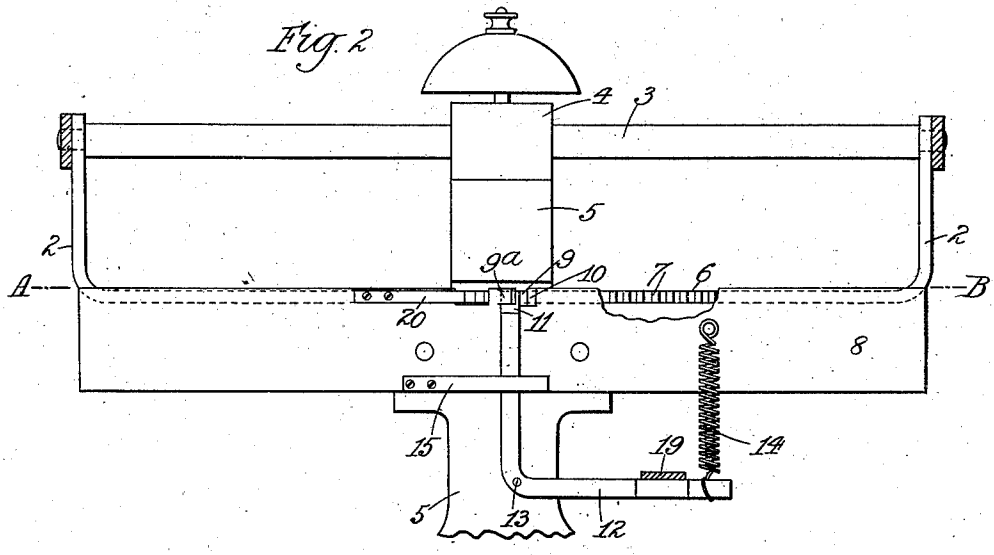


Fig. 3.

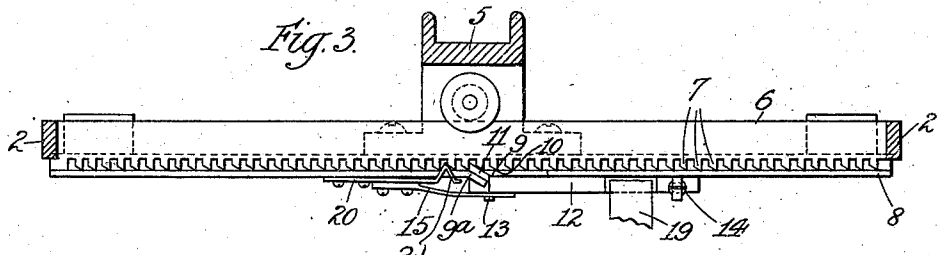


Fig. 4.

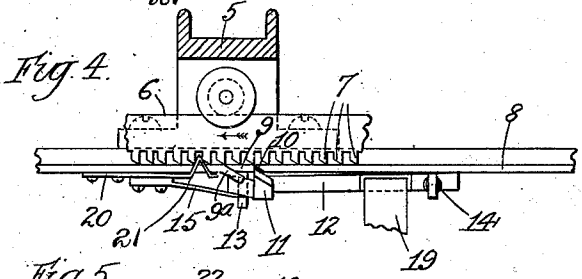
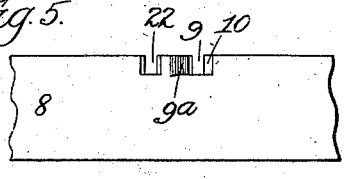


Fig. 5.



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THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 752,793. Patented February 23, 1904.

UNITED STATES PATENT OFFICE.

HIDALGO MOYA, OF LEICESTER, ENGLAND, ASSIGNOR OF ONE-HALF TO JOHN GORDON CHATTAWAY, OF LEICESTER, ENGLAND.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 752,793, dated February 23, 1904.

Application filed June 16, 1902. Serial No. 111,805. (No model.)

To all whom it may concern:

Be it known that I, HIDALGO MOYA, (commonly known as DALGO MOYA,) inventor, a citizen of the United States, residing at 67 Western road, Leicester, in the county of Leicester, England, have invented certain new and useful Improvements Relating to Type-Writing Machines, of which the following is a specification.

This invention relates to improvements in type-writing machines, and has for its object to devise simple, durable, and efficient mechanism which, while adapted to move the paper-roller carriage with a step-by-step movement as the type key-levers are operated, is capable of permitting the paper-carriage to be pushed rapidly by hand in both directions. Of course the pawl must be swung out of the way when the carriage is so pushed.

According to this invention the paper-carriage is provided with a rack-bar having ratchet-teeth which are masked by a plate, which plate is carried by the paper-carriage support and has a gap situated about midway of its length, which gap exposes some of the ratchet-teeth. The nose of a spring-pawl pivoted to the paper-carriage support is adapted to enter said gap and engage with the ratchet-teeth. The nose of this pawl has a straight side which coöperates with the straight sides of the ratchet-teeth to feed the paper-carriage when the spring-pawl is rocked about its pivot and has also an inclined side which faces the inclined end of the gap in the mask-plate. The pawl when moved on its axis has thus a motion along that axis, so that its nose moves sidewise away from the rack and is automatically held clear of the rack by the mask-plate when the pawl is on its back stroke, so as to permit the paper-carriage to freely move to the right or to the left of the machine.

Referring to the drawings, Figure 1 is a side elevation of a type-writing machine provided with my invention. Fig. 2 is a front elevation of the rack-bar, mask-plate, spring-pawl, and part of the paper-carriage support. Figs. 3 and 4 are horizontal sections on the line A B of Fig. 2. Fig. 5 is a front elevation of part of the mask-plate clearly showing the gap.

1 is the paper-roller, of ordinary construction, journaled in a frame 2, having a bar or member 3 adapted to slide horizontally in a bearing 4, carried by the support 5.

6 is the rack-bar, carried by the support 5 and having ratchet-teeth 7, which are masked by a plate 8, carried by the support 5. About midway of its length the mask-plate 8 is provided with an opening or gap 9, which has an incline 10 at one end and which permits the nose 11 of a pawl 12 to pass through the mask-plate and engage with the ratchet-teeth 7, the straight side of the nose 11 facing toward the straight side of the ratchet-teeth and the inclined side of the nose 11 facing toward the incline 10 and toward the inclined sides of the ratchet-teeth. The pawl 12 is adapted to rock angularly about and also to move along a pivot 13, carried by the support 5. A spring 14 tends to hold the pawl in the position shown in Figs. 2 and 3, and a spring 15 tends to hold pawl 12 flat against plate 8.

When one of the type key-levers 16 is operated, as is well understood, it raises the inner end of a frame 17, pivoted at 18, thereby depressing a foot 19, carried by the frame 17. This foot 19 bears upon the lower arm of the pawl 12, thereby rocking said pawl about the pivot 13 and against the resistance of the spring 14, thus causing the inclined side of the nose 11 to bear against the inclined side of one of the ratchet-teeth 7, so as to move the pawl 12 outwardly along its pivot 13 against the resistance of the spring 15 until the nose 11 comes into contact with the incline 10 on the right of gap 9. When foot 19 is released, spring 14 rocks pawl 12 on its pivot 13, and spring 15 simultaneously moves pawl 12 toward plate 8, and nose 11 engages one of the ratchet-teeth and feeds the paper-carriage one step toward the left of the machine. When nose 11 of pawl 12 is in engagement with incline 10 of plate 8, the paper-carriage can be pressed by hand in either direction, for even

if nose 11 should not be entirely clear of the ratchet-teeth 7 when pushing the paper-carriage by hand toward the left of the machine the inclined sides of the ratchet-teeth 7 bear against the inclined side of the pawl-nose 11, and thereby throw the pawl out of engagement with the rack-bar against the resistance of the spring 15, and when the paper-carriage is pressed by hand toward the right of the machine, Figs. 3 and 4, the straight side of the ratchet-tooth 7, with which the nose 11 is in engagement, forces the inclined side of said nose against the incline 10, and thereby also moves the pawl against the resistance of the spring 15 and out of engagement with the rack-bar. It will thus be seen that by merely pressing on one or other end of the paper-carriage the said carriage may be readily shifted either toward the right or toward the left transversely of the machine by hand even if the nose 11 of pawl 12 be not wholly clear of the ratchet-teeth of the rack-bar, for the action of the straight sides of those ratchet-teeth when moved to the right will swing pawl on its axis 13, and thereby move the pawl sidewise along axis 13 until the nose 11 is carried clear of the ratchet-teeth, and the action of the inclined sides of the ratchet-teeth when moved to the left, with the nose of the pawl projecting slightly through gap 9, will move pawl 12 along its axis 13 against spring 15 when the nose 11 of pawl 12 is nearly in the position shown in Fig. 4, but not wholly clear of the ratchet-teeth 7.

A spring 20, secured to the plate 8, carries a V-shaped tooth 21, which passes through an opening 22, Fig. 5, in the plate 8, and engages with the ratchet-teeth 7 in order to prevent the paper-carriage being accidentally shifted in the wrong direction when the key-levers are operated.

I preferably provide the mask-plate 8 with an inclined lug 9^a to serve as a guide to the pawl 11, for although the nose 11 is moved away from lug 9^a when the pawl 12 is swung on its axis (see Fig. 4) by sliding over the inclined end of the ratchet-tooth 7 and thereafter by sliding over the incline 10 at the end of gap 9, yet when pawl 12 is swung on its axis 13 by the force of spring 14 the incline on lug 9^a makes certain that nose 11 shall be always retained in proper contact with the straight side of that ratchet-tooth on which it is then acting, thereby aiding spring 15 to perform its function of pressing pawl 12 close against plate 8.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a type-writing machine, the combination with the key-levers and the paper-carriage, of a rack-bar carried by the paper-carriage, a fixed plate provided with an opening and masking the teeth of the rack-bar, a pivoted pawl which passes through the opening in the mask-plate and engages with the teeth of the rack-bar, means which tend to hold the pawl against one end of the opening in the mask-plate, and means operated by the key-levers for rocking the pawl about its pivot to feed forward the paper-carriage, substantially as described.

2. In a type-writing machine the combination of the pivoted key-levers, the paper-cylinder, the frame in which said paper-cylinder is journaled, a rack-bar carried by the paper-cylinder frame, a fixed plate provided with an opening and masking the teeth of the rack-bar, a pivoted pawl which passes through the opening in the mask-plate and engages with the teeth of the rack-bar, a spring which tends to hold said pawl against one end of the opening in the mask-plate, and means operated by the key-levers for rocking the pawl about its pivot to feed forward the paper-cylinder frame, substantially as described for the purpose specified.

3. In a type-writing machine, the combination of the pivoted key-levers, the paper-cylinder, the transversely-traveling frame in which the paper-cylinder is journaled, a rack-bar carried by the paper-cylinder frame and the teeth of which each have a straight side and an inclined side, a fixed plate which masks the teeth of the rack-bar and has an opening provided with a beveled side, a pawl having a nose provided with a straight side and an inclined side, the straight side of said nose engaging with the straight sides of the rack-teeth and the inclined side of said nose facing the beveled side of the opening in the mask-plate, a fixed pivot about which the pawl can both rock and move longitudinally, a spring which tends to hold the nose of the pawl against the mask-plate, and means operated by the key-levers for rocking the pawl about its pivot to feed forward the paper-cylinder frame, substantially as described for the purpose specified.

4. In a type-writing machine, the combination of the pivoted key-levers, the paper-carriage, the transversely-traveling frame in which the paper-cylinder is journaled, a rack-bar carried by the paper-cylinder frame and the teeth of which each have a straight side and an inclined side, a fixed plate which masks the teeth of the rack-bar and has an opening provided with a beveled side, a pawl having a nose provided with a straight side and an inclined side, the straight side of said nose engaging with the straight sides of the rack-teeth and the inclined side of said nose facing the beveled side of the opening in the mask-plate, a fixed pivot about which the pawl can both rock and move longitudinally, a spring which tends to hold the nose of the pawl against the mask-plate, a frame pivoted to the ma-

chine and adapted to be rocked by the key-levers, and a foot carried by said frame and engaging with one arm of the pivoted pawl for moving said pawl against the resistance of the spring, substantially as described for the purpose specified.

In testimony whereof I have hereunto set my hand, in presence of two subscribing witnesses, this 17th day of May, 1902.

HIDALGO MOYA.

Witnesses:
ISAAC ATKINS,
ARCHIBALD SMITH.