A. LOPEZ.

SHUTTLE SHIELD FOR TYPE WRITING MACHINES.

APPLICATION FILED JULY 30, 1913.

1,097,553.

Patented May 19, 1914.

2 SHEETS—SHEET 1.

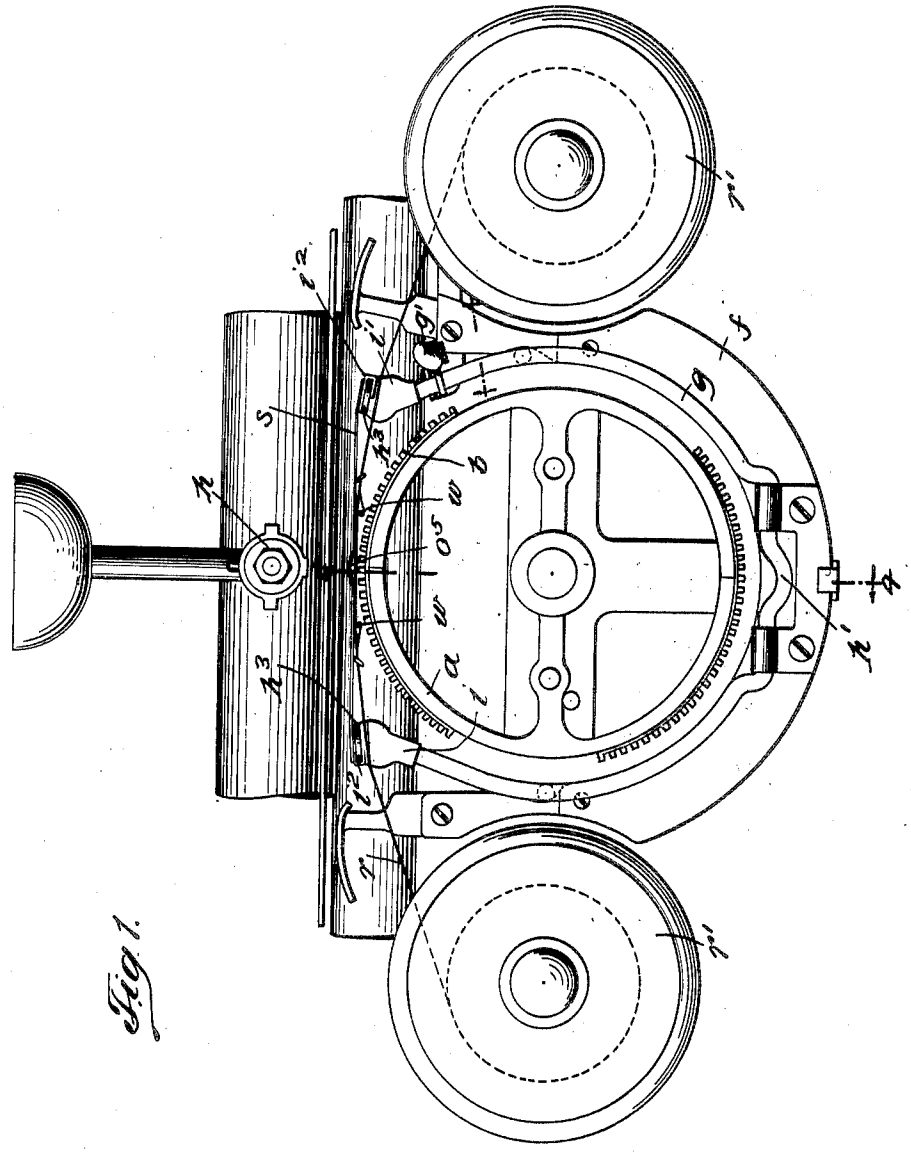


Fig. 1.

Witnesses:
John Montagh
F. Hogg.

Inventor
Arthur Lopez
By his Attorney
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2 SHEETS—SHEET 2.

Fig. 4.

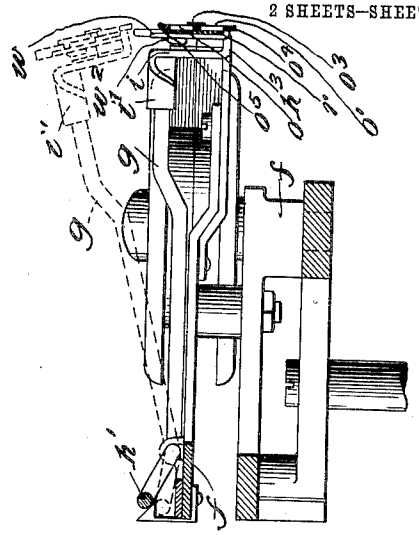


Fig. 7.

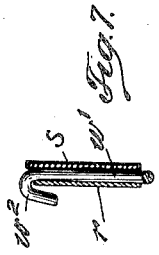


Fig. 6.

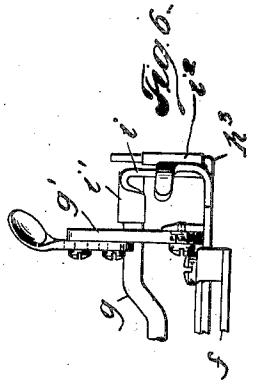


Fig. 2.

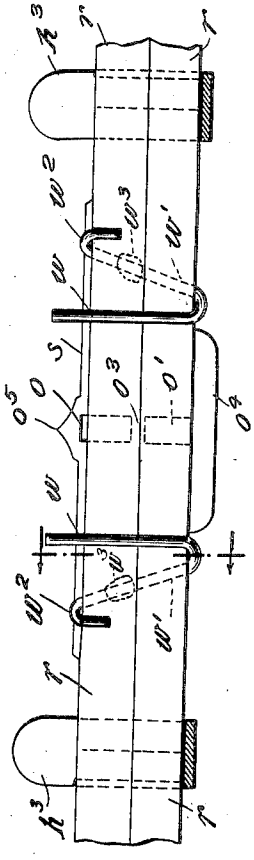


Fig. 5.

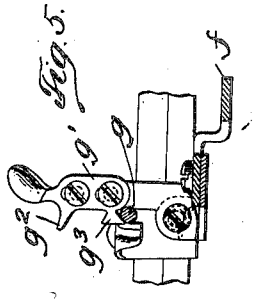
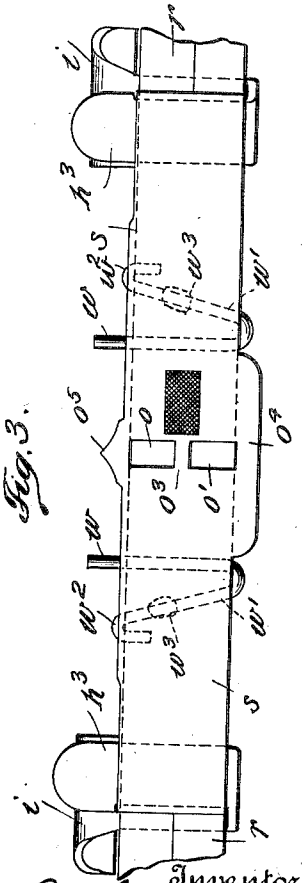


Fig. 3.



Witnesses:

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F. Hogg.

Inventor

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# UNITED STATES PATENT OFFICE.

ARTHUR LOPEZ, OF NEW YORK, N. Y., ASSIGNOR TO THE HAMMOND TYPEWRITER CO., A CORPORATION OF NEW YORK.

## SHUTTLE-SHIELD FOR TYPE-WRITING MACHINES.

1,097,553. Specification of Letters Patent. Patented May 19, 1914.

Application filed July 30, 1913. Serial No. 781,956.

*To all whom it may concern:*

Be it known that I, ARTHUR LOPEZ, a citizen of the United States of America, residing in New York, in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Shuttle-Shields for Type-Writing Machines, of which the following is a specification.

This invention relates to an improved shuttle-shield for typewriting machines, which is more especially intended to be used in connection with the Hammond typewriting machine, said shuttle-shield being so constructed that it can be easily detached from its supporting frame and applied thereto for guiding the ribbon and preventing the shifting of the same in upward or downward direction on the shield, so that the ribbon is held in the required position for printing in one or the other color of the same; and for this purpose the invention consists of a shuttle-shield provided with means for attaching it to the shuttle-shield frame, and with means arranged at the rear-side of the same for guiding the ribbon and preventing the shifting of the same on the shield while being passed across the printing type from one spool to the other. The invention consists further of certain details of construction which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a plan-view of my improved shuttle-shield and frame, showing the same in position surrounding the shuttle-carrying anvil of a Hammond machine, Fig. 2 is a detail front-view of the shuttle-shield, Fig. 3 is a rear-elevation of the same, Fig. 4 is a detail view, showing the shuttle-shield in position raised for removing it and placing the ribbon in position, taken on line 4—4, Fig. 1, and Figs. 5, 6 and 7 are detail views of parts of the mechanism.

Similar letters of reference indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, *a* represents the anvil, *b* the shuttle, *h* the hammer, *s* the shuttle-shield, *r* the ribbon and $r^1$ the ribbon-spools of a Hammond typewriting machine. To the upper part of the frame *f* of the machine, encircling the anvil, is applied a shuttle-shield frame *g*, which is hinged at its front-part of the frame *f* and provided at the hinge with an upwardly-projecting handle $h^1$ by which, on being pressed downwardly, the shuttle-shield frame can be lifted with the ribbon into upwardly-inclined position, as shown clearly in dotted lines in Fig. 4, said shuttle-shield frame being locked in lowermost position by means of a spring-catch $g^1$, which is attached at one side of said frame to the top-plate of the frame *f* of the machine and provided with a hook $g^3$ at its lower part which retains the shuttle-shield frame in lowered position, for using one part of the ribbon. The catch has an upper hook $g^2$ on which the frame *g* rests when the other part of the ribbon is used.

The shuttle-shield frame *g* is made of spring-metal, and is approximately U-shape, the main-portion of the arms being concentric with the anvil *a* and being provided at their front-ends with downwardly-bent hook-shaped plates *i* which are attached by means of sockets $i^1$ to the ends of the U-shaped shuttle-shield frame, said hook-shaped plates being first bent in downward direction and then in upward direction, forming hooks $h^3$, as shown clearly in Fig. 6. The shuttle-shield *s* is made of thin yielding sheet-metal and provided at its ends with inwardly-bent hooks $i^2$ which are placed in position over the hook-shaped front-portions of the shuttle-shield frame *g*. The tension of the frame *g* holds the shield taut. The shuttle-shield is provided in the usual manner at its center-portion with openings *o*, $o^1$ and a narrow connecting bridge $o^3$ between said openings, one opening serving for printing in one color and the other for printing in the other color when a two-colored ribbon *r* is used. The shuttle-shield is provided with a connecting bridge $o^4$ at the lower edge and with an index-point $o^5$ above the openings.

To the rear-side of the shuttle-shield are soldered or otherwise attached, symmetrically with the center-line of the shield passing through the printing openings *o*, $o^1$, two ribbon guides which are formed each of a V-shaped piece of which one leg *w* extends vertically across the rear-side of the shield and above the same, while the other leg $w^1$ extends at an inclination and is attached by solder $w^3$ to the shield and provided at its upper end with a downwardly-

bent hook-shaped portion $w^2$, as shown clearly in Fig. 2. The ribbon is introduced under the hook-shaped portions of the guide-wires and passed between the vertical cross-legs across the openings in the shield. The bend at the lower portion of the guide-wires serves for preventing the shifting of the ribbon in downward direction, while the inwardly-bent hook-shaped portions $w^2$ prevent the shifting of the ribbon in upward direction. The ribbon is thus guided with one color across the upper opening $o$, and with the other color across the lower printing-opening $o^1$ in the shield. From the guide-wires the ribbon extends through and is guided in the hooks $h^3$ of the shuttle-shield frame to the spools.

By the improved shuttle-shield the guide devices for the ribbon are considerably simplified and rendered more effective. The ribbon can be readily removed and replaced in the guide devices of the shuttle-shield after lifting the frame from its normal position into elevated position, so as to provide for the removal of a used-up ribbon and putting on of a fresh ribbon, also for the convenience of removing the shuttle-shield from time to time for wiping its rear-surface where it is in contact with the ribbon and removing any adhering ink from the same. The small contact-surface of the guide-wires $w$ requires for the fastening of the same to the shield, only a small quantity of solder, and thus the temper of the German silver shield is not injuriously affected, but the shield retains its strength and spring character substantially unaffected.

I claim:

1. In a typewriting machine having a shuttle-shield frame, a shuttle-shield supported by the frame, and ribbon-guiding members at each side of the central part of the shield and each having a leg secured in an inclined position to the shield and having one side of the ribbon passing over it, and having a second leg extending from one end of the inclined member and bent over to extend over one edge of the ribbon, and then in a vertical direction vertically along that side of the ribbon other than that in contact with the inclined leg and having its free end disengaged, and having a third leg extending from the other end of the inclined leg and bent over toward the same side of the ribbon as that which contacts with the vertical member and having its free end disengaged, the disengaged free ends of the bent-over members enabling the insertion of the ribbon at either end of the inclined member.

2. In a typewriting machine having a shuttle-shield frame, a shuttle-shield supported by the frame, and ribbon-guiding members at each side of the shield and each having a leg secured in an inclined position to the shield and having one side of the ribbon passing over it, and having a second leg at one end of the inclined leg extending around the lower edge of the ribbon and curved over to extend vertically along the side of the ribbon other than that in contact with the inclined leg and beyond the upper edge of the ribbon to enable the ribbon to be engaged on the insertion of the same, said vertical leg being arranged in close proximity to the shield, and having another leg at the other end of the inclined leg curved over the upper edge of the ribbon hook-shaped toward that side other than that contacting with the inclined leg and bent in a direction away from the central part of the shield.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

ARTHUR LOPEZ.

Witnesses:
JOHN MURTAGH,
F. HOGG.