(No Model.)

J. W. OSBORNE.

TYPE WRITING MACHINE.

No. 383,480. Patented May 29, 1888.

Fig. 1.

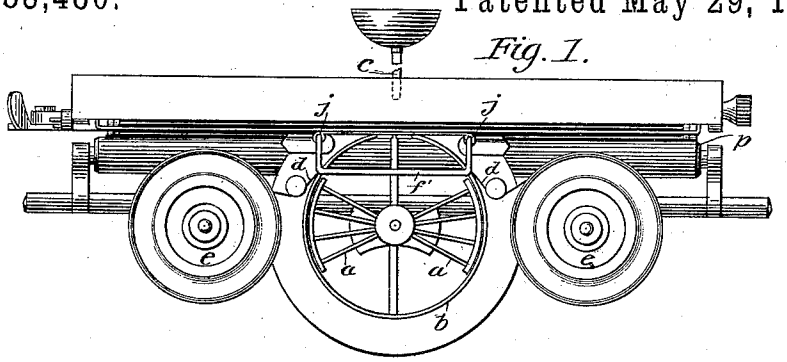


Fig. 2.

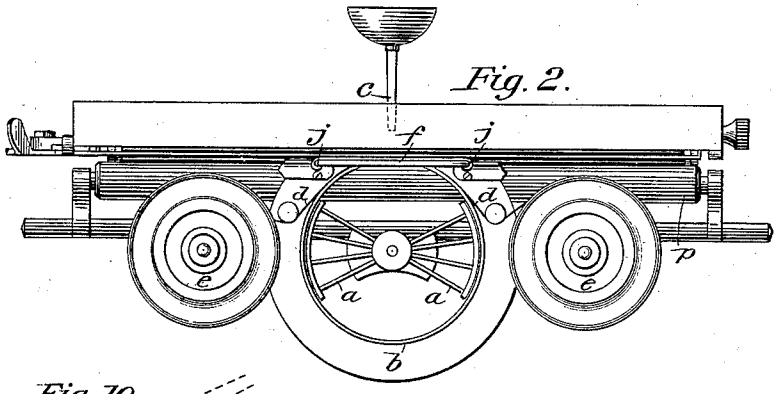


Fig. 10.

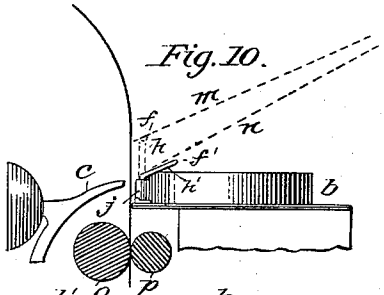


Fig. 5.

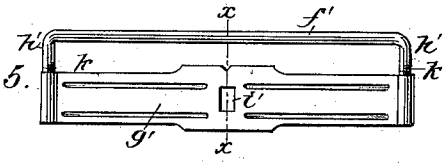


Fig. 6.

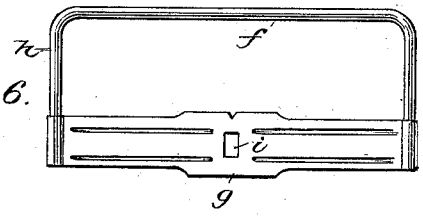


Fig. 9.

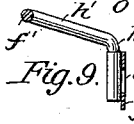


Fig. 7.



Fig. 8.



Fig. 3.

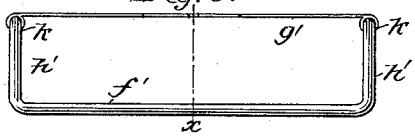


Fig. 4.



Fig. 12.

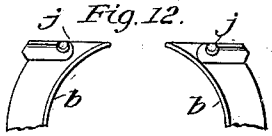


Fig. 11.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN W. OSBORNE, OF WASHINGTON, DISTRICT OF COLUMBIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 383,480, dated May 29, 1888.

Application filed September 22, 1886. Serial No. 214,291. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. OSBORNE, a subject of the Queen of Great Britain, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention is related to devices employed to prevent such contact of the ink-charged ribbon (common to many type-writers) with the paper which receives the writing as will prevent the smearing of the latter, and its special object is to provide an improved form of "ribbon shield" for the "Hammond" machine now in general use, and such others as do their work in like manner.

In the accompanying drawings, Figure 1 represents in plan the related parts of a type-writer of the class referred to and the improved ribbon-shield in position, all reduced in size. Fig. 2 represents the same with a ribbon-shield of the construction heretofore used in position. Fig. 3 shows in plan about natural size the improved ribbon-shield alone. Fig. 4 is a similar view of the unimproved ribbon-shield now in use. Figs. 5 and 6 are back elevations of the old and new shields, corresponding, respectively, to Figs. 3 and 4. Figs. 7 and 8 are end elevations corresponding, respectively, to Figs. 3 and 4. Fig. 9 is a cross-section on line *x x*. Fig. 10 illustrates parts of the instrument as seen from the side. Fig. 11 is an end elevation of the ribbon-shield, in which the limbs of the bow are bent to a curve. Fig. 12 shows in plan and on a reduced scale the sockets which receive the shield.

In the Hammond type-writer the ribbon-shield as at present constructed (shown in Figs. 2, 4, 6, and 8) performs its essential function well, which is the protection of the paper written upon from the smearing action of the inked ribbon as it is drawn past it from one spool to another. In Fig. 2 those parts of a type-writer of this kind are shown in plan, which stand in close relation with the ribbon-shield. The "type-wheel" or segments *a*, being encircled, except in front, by the type-wheel guard *b*, is opposed by the hammer *c*, which strikes a blow in obedience to the depression of a key, (not shown,) when the desired character is brought opposite to it. Between the type-wheel and the face of the hammer the inked ribbon *d* passes from one spool *e* to another. Next comes the ribbon-shield at *f* or *f'*, and then the sheet of paper to be written upon, which receives the blow of the hammer *c*. The ribbon-shield at *f* in Fig. 2, in the form heretofore in use, is a movable attachment, which in Figs. 4, 6, and 8 is shown alone and about full size. It consists of a very thin plate or strip of metal foil, *g*, strained or supported stiffly between the parallel ends *h* of a metal bow, *f*. The plane of the plate *g* is parallel to that of the wire bow or fork *f*, its ends being lapped around the limbs *h* of the latter, so as to make it tangential to one surface of the wire, as will be seen in the figures. This thin plate is provided with a small rectangular hole, *i*, through which the force of the blow given by the hammer reaches the raised type on the type-wheel and reacts upon the paper. The two limbs or ends *h* of the bow *f* drop freely into the open tubular sockets *j*, attached to the flange of the type-wheel guard, where, while in use, the ribbon-shield remains by its own weight, and into and out of which it can be lifted at any time. The sockets here referred to, besides appearing in Figs. 1 and 2, are shown in plan in Fig. 12 without the ribbon-shield, and one of them is also seen in side elevation in Fig. 10. In this way the thin plate *g* is maintained perpendicular and in contact with the ribbon on one side and with the paper on the other, in which position it keeps the two sufficiently apart to prevent smearing, as the former cannot protrude through the little hole *i* to rub against the sheet of paper.

The improvement I have invented is shown in Figs. 1, 3, 5, 7, and 9. In this new ribbon-shield the parts marked *f'*, *g'*, *h'*, and *i'* correspond to those marked *f*, *g*, *h*, and *i*, already referred to, and they perform like functions, which need not be recapitulated; but the limbs *h'* are bent over at *k*, so as to form an obtuse angle, whereby the horizontal part of the bow *f'* is brought away from the paper and over the type-wheel, which it just escapes when the latter is moving at the highest position it is lifted to. The importance of this change

will be understood when it is remembered that it is desirable to read with the greatest readiness the last lines that have been written on the sheet of paper in the machine. This is done with some delay when the ribbon-shield as heretofore constructed is used, because the horizontal part of the bow intercepts invariably a part of a line of writing equal to its own length, and the upright limbs *h* cover each a letter where they cross a word. In the improved shield this evil is overcome, and the operator sees exactly as much as if the ribbon-shield were not used at all. Moreover, in the Hammond type-writer, to see the word that has been last written, it is usual to press back the paper from the ribbon-shield, an operation which is more or less interfered with when the bow rises perpendicularly from the sockets, whereas every facility is offered when the improved form is employed.

Fig. 10, which is a diagrammatic view of the parts involved, will make clear what has been said. The two converging dotted lines *m* and *n* include what I will call for convenience the "plane of vision," meaning thereby the general direction of the operator's sight when he is observing the concluding lines which form the context with what he is writing at the time. In this figure *l* represents the sheet of paper as it rises from the feed-rolls *o* and *p*, and it will be seen that the position of the bow *f'* and its limbs *h'*, forming part of the improved shield, is such that they are entirely out of the plane of vision, whereas the corresponding parts *f* and *h*, (shown by dotted lines in the same figure, and forming part of the older device,) stand close before the writing on the paper, and are therefore a cause of continual delay and annoyance.

The construction of the movable attachment herein described, while it secures the advantages set forth, does not in any way fail in its essential function as a shield to prevent the smearing of the paper, nor is it in consequence of the changes made less easily placed in position or removed from the machine, or handled generally. The last-named is an important office performed by the bow, for the foil it is desirable to use for the plate is so thin and easily injured that without such support it would not stand wear and tear, and even protected as it is, it requires renewal from time to time.

In the foregoing the improved attachment described is adapted for the Hammond type-writer as at present made; but it is also applicable to any instrument of the kind which, by reason of its construction, requires a movable ribbon-shield under like conditions; and though in the foregoing I have departed in general outline and design as little as possible from the original device, it is evident that changes in form might be made without affecting the principles involved in my invention. I have, for instance, described the angle made by the bending of the two limbs at *k* as an obtuse angle; but this might be modified, as in Fig. 11, by bending at a higher point, as at *k'*, to a right angle, the indispensable conditions being that the bow of the ribbon-shield, or its equivalent, extending above the ribbon should escape both the plane of vision and at the same time contact with the type-wheel or other moving parts of the mechanism.

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

The combination, with a ribbon-shield for a Hammond type-writer, of a straining-bow having vertical supporting-arms bent forward at an obtuse angle, whereby the bow is out of the plane of vision of the operator, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN W. OSBORNE.

Witnesses:

PHILIP MAURO,

WILLIAM CAXTON.