(No Model.) 3 Sheets—Sheet 1.

O. F. MAYER.

TYPE WRITING MACHINE.

No. 565,482. Patented Aug. 11, 1896.

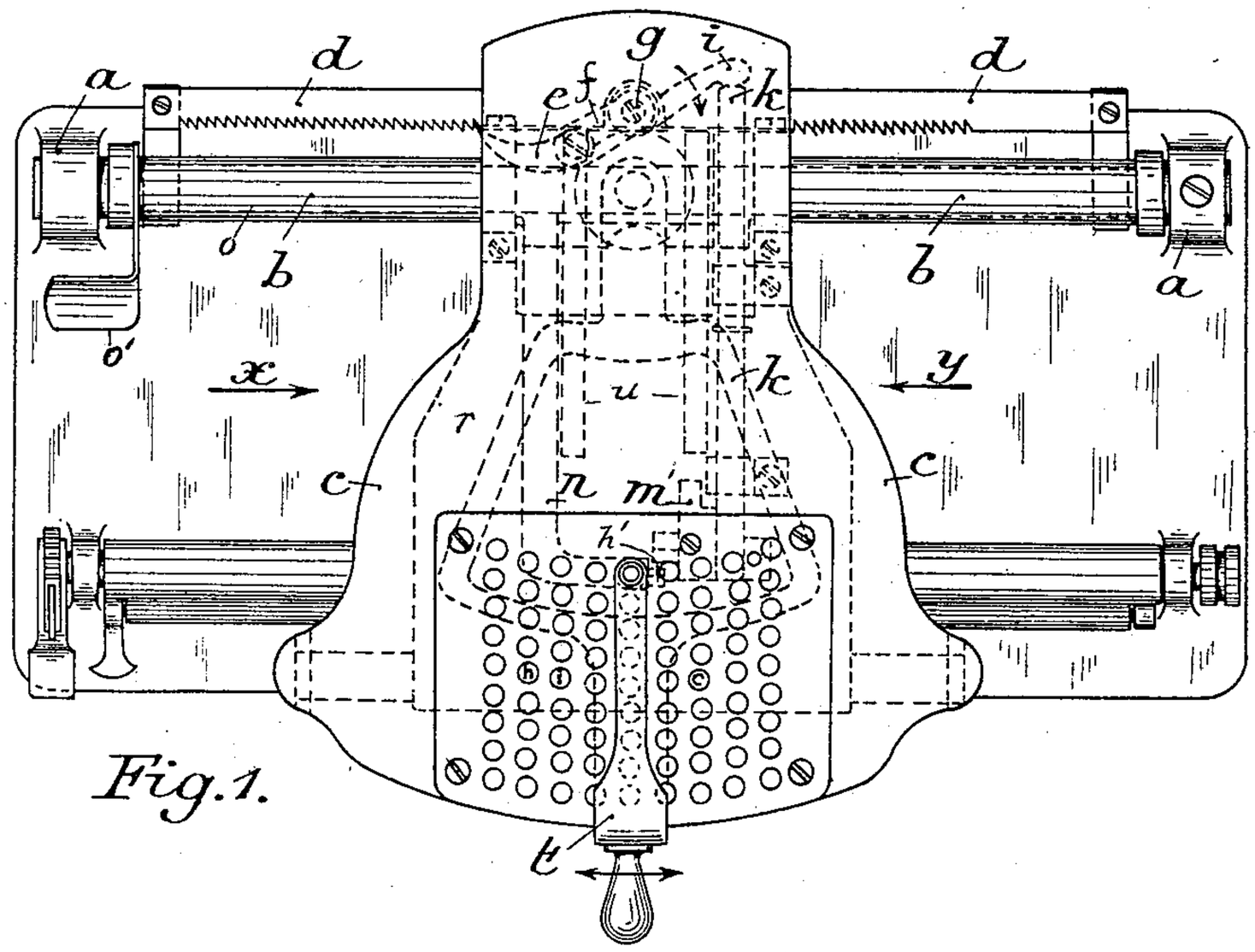

Fig. 1.

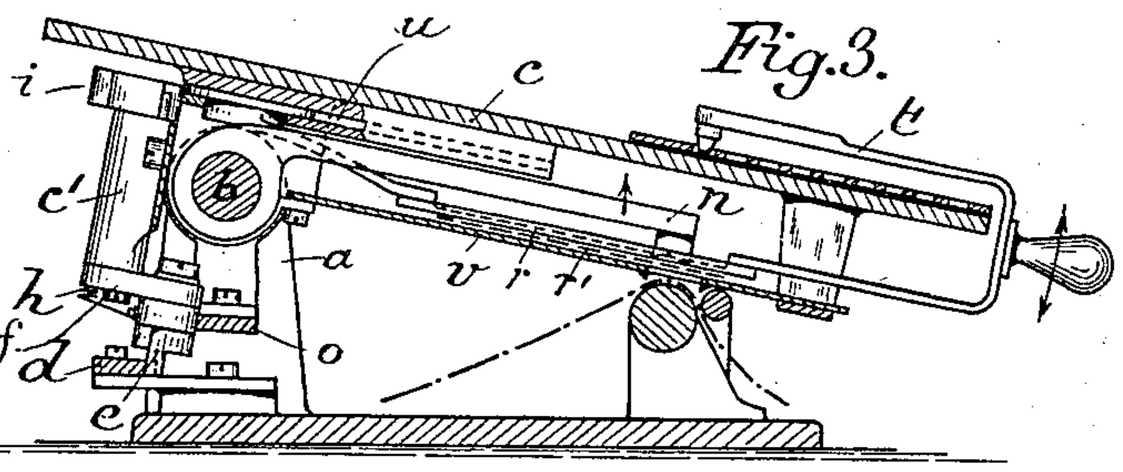

Fig. 3.

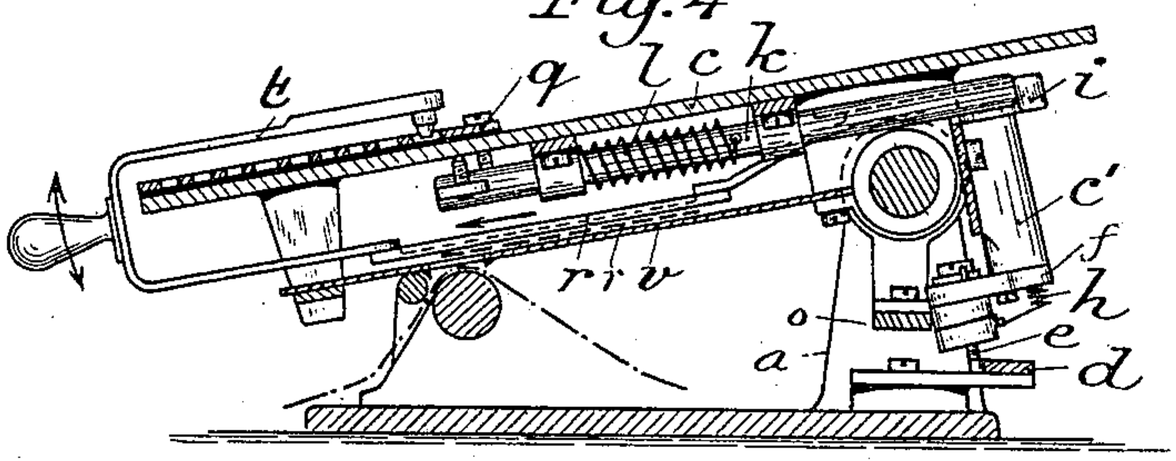

Fig. 4

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O. F. MAYER.

TYPE WRITING MACHINE.

No. 565,482. Patented Aug. 11, 1896.

Fig. 2.

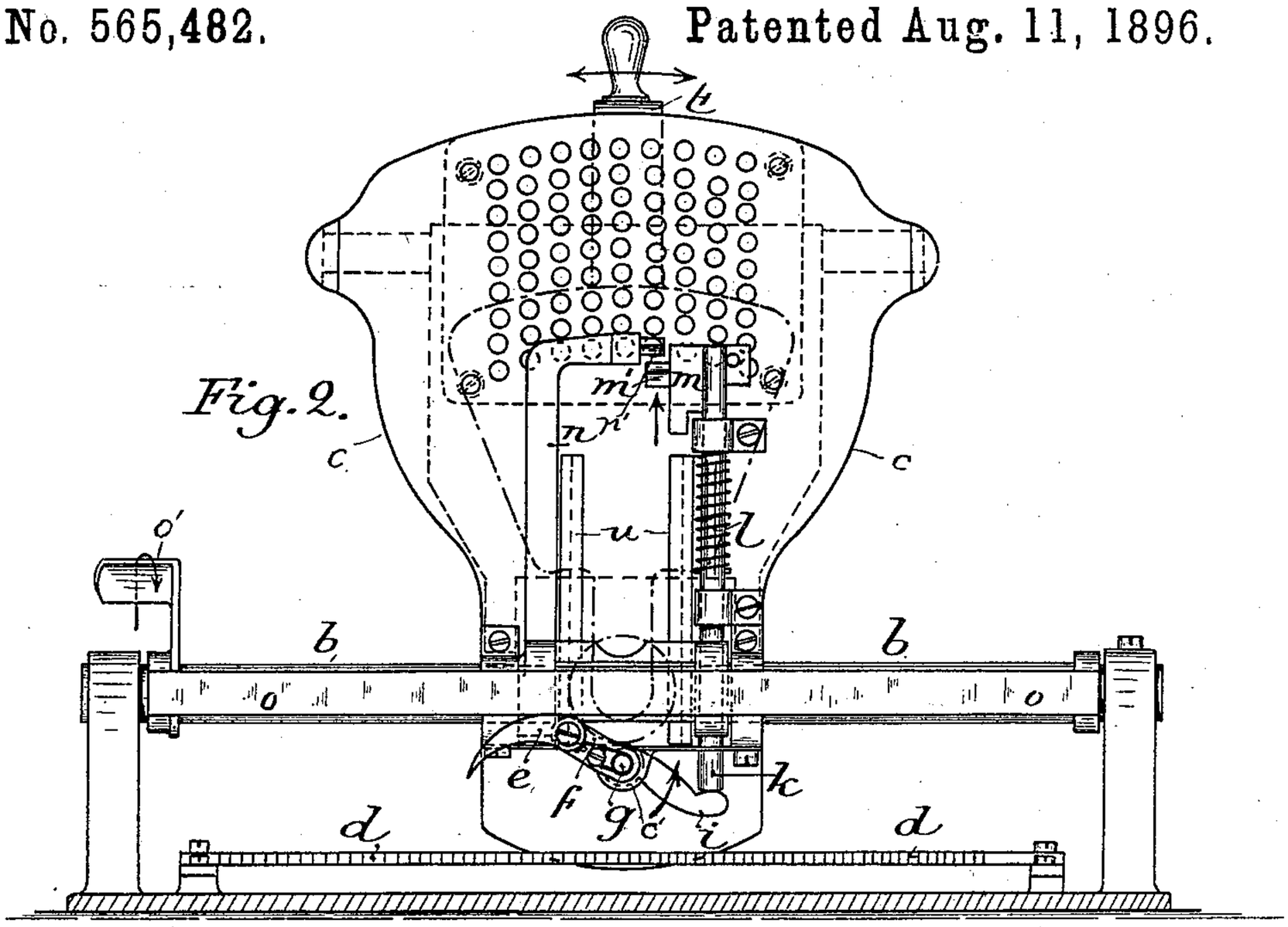
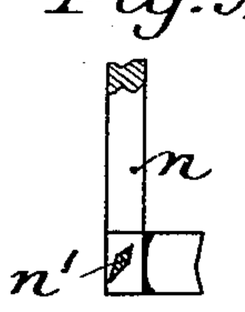


Fig. 9.



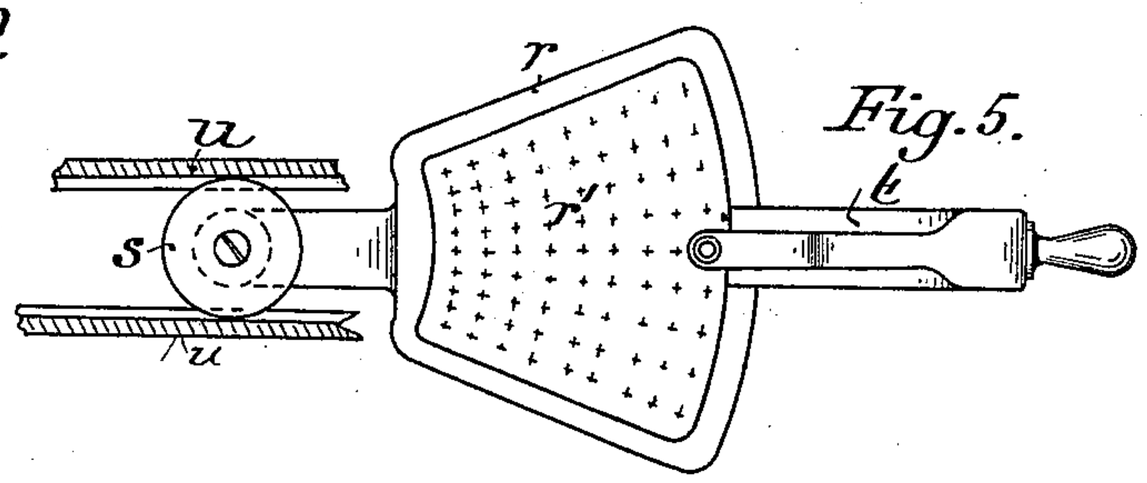


Fig. 5.

Fig. 6.

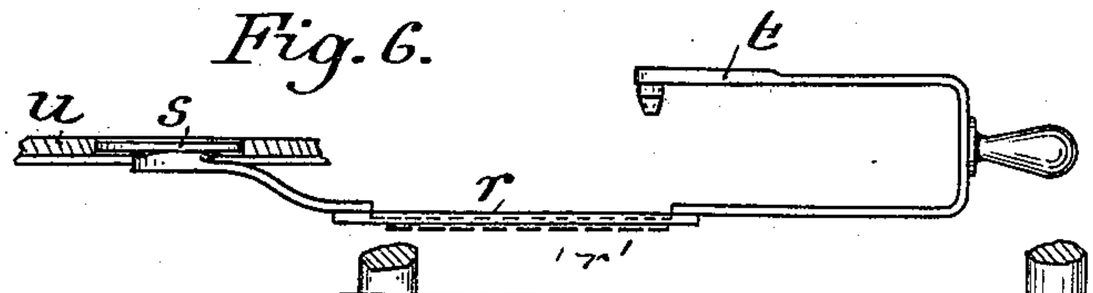


Fig. 10.

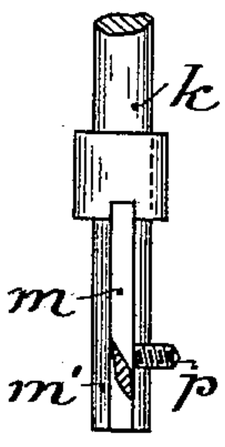


Fig. 7.

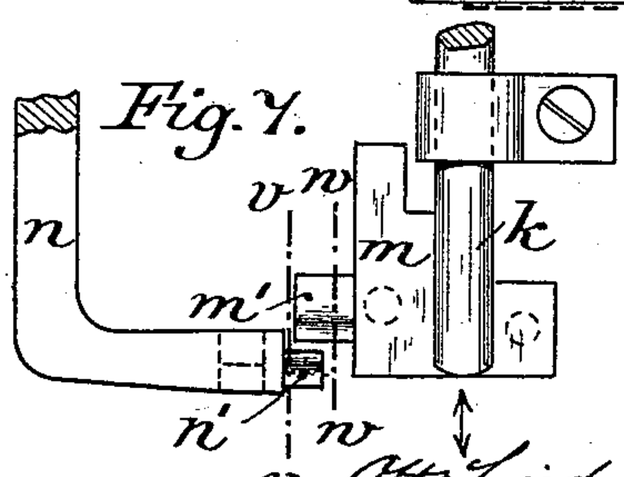
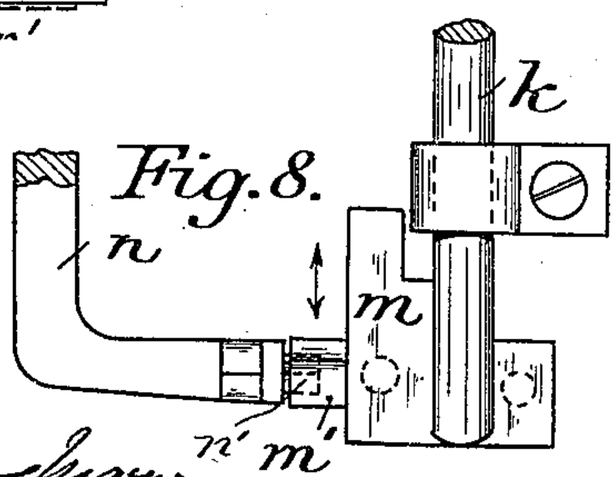


Fig. 8.



Witnesses
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(No Model.) 3 Sheets—Sheet 3.

O. F. MAYER.

TYPE WRITING MACHINE.

No. 565,482. Patented Aug. 11, 1896.

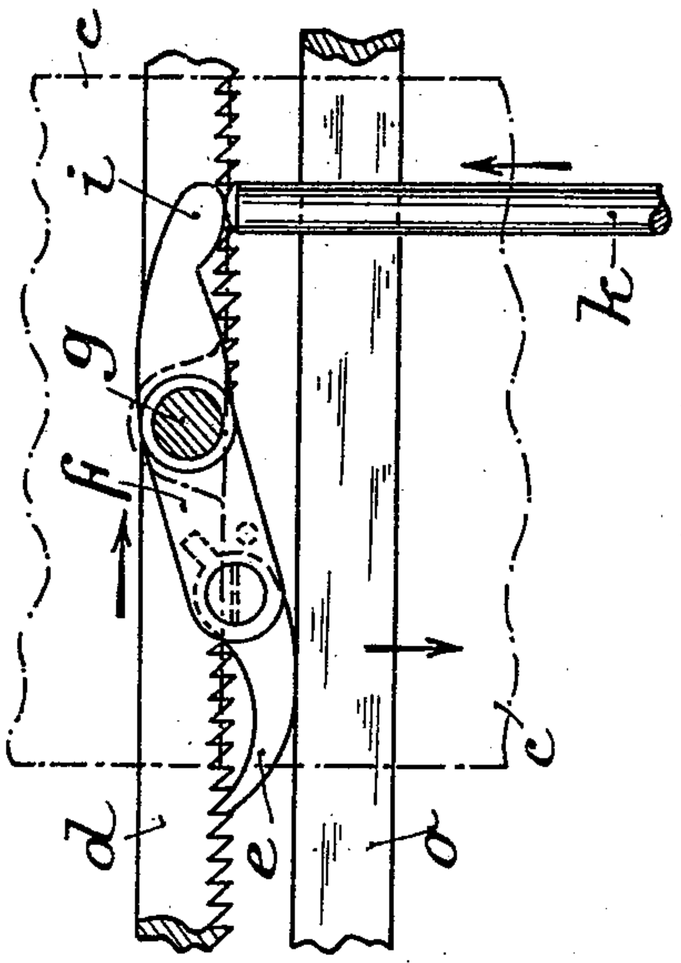

Fig. 12.

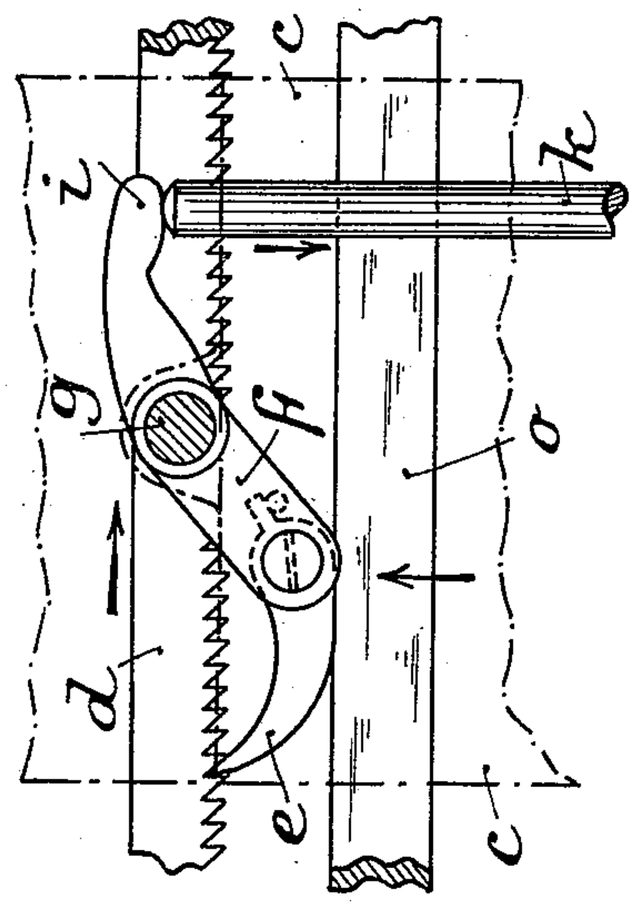

Fig. 11.

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INVENTOR:
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BY ATTORNEY: Max Mayer

UNITED STATES PATENT OFFICE.

OTTO FRIEDRICH MAYER, OF BERLIN, GERMANY, ASSIGNOR TO C. F. KINDERMANN & CO., OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 565,482, dated August 11, 1896.

Application filed November 15, 1895. Serial No. 569,123. (No model.) Patented in Germany March 15, 1895, No. 12,709; in England June 29, 1895, No. 12,587, and in Belgium July 29, 1895, No. 116,740.

To all whom it may concern:

Be it known that I, OTTO FRIEDRICH MAYER, a subject of the King of Prussia, Emperor of Germany, residing at Charlottenstrasse 4, Berlin, in the Kingdom of Prussia, Germany, have invented new and useful Improvements in Type-Writing Machines, (for which I have obtained German patent, No. 12,709, dated March 15, 1895; British patent, No. 12,587, dated June 29, 1895, and Belgian patent, No. 116,740, dated July 29, 1895,) of which the following is a specification.

This invention has for its object an improved type-writing machine having an elastic type-plate.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a front view with the carriage raised. Fig. 3 is a vertical section viewed in the direction of arrow *x* of Fig. 1. Fig. 4 is a vertical section viewed in the direction of arrow *y* of Fig. 1. Figs. 5 and 6 show a plan view and side view, respectively, of the adjusting-lever carrying the elastic type-plate. Figs. 7 and 8 show, on enlarged scale, the mechanism operating the impression-hammer. Fig. 9 is a section in line *v v* of Fig. 7 and showing the left-hand part of this latter. Fig. 10 is a section in line *w w* of Fig. 7 and showing the right-hand part of the same. Fig. 11 is an upper view of the device for feeding the carriage, and Fig. 12 shows the same parts in another position.

The arrangement of the machine is essentially as follows: A carriage *c* is adjustably arranged on a spindle *b* in supports *a*. A pawl *e* engages in a fixed rack-bar *d*, said pawl being movably arranged on a short lever *f*, which in turn is firmly connected with a spindle *g*, mounted on the strengthened rear part *c'* of the carriage *c*. A spiral spring *h*, Fig. 4, presses in such a way on the pivot of the pawl *e* that the double hinge formed by this pawl and the lever *f* always assumes the position shown in Figs. 1 and 2. A bar *o* oscillates the spindle *b* and by means of a key *o'* may be pressed against the double hinge *e f* in such a way that the latter is expanded. As by this means the pawl *e* engages in the rack-bar *d*, the carriage *c* must be moved to the right, the movement being so regulated as to be always to the extent of the width of a tooth, that is to say, the width of a letter.

By the opening or expansion of the double hinge *e f* the spindle *g* is turned and with it the lever *i*, mounted on the upper end of this spindle *g*. The lever *i* thereby presses forward, against the action of a spring *l*, a bar *k*, adjustably arranged under the carriage *c*. The bar *k* has on its front end *m*, which has the form of a plate, a wedge-piece *m'*, which, on the bar *k* being moved forward, engages with a wedge-surface *n'* of the impression-hammer *n*, which latter rocks on the spindle *b*. By this means the impression-hammer *n* is pressed down and brings the required type of the elastic type-plate *r'* onto the paper which lies beneath it. When the wedge-surface *m'* has passed completely off the wedge-surface *n'* of the hammer *n*, the latter is thrown upward by the elasticity of the type-plate *r'*, so that the wedge-surface *m'* on its return movement slips away under the wedge-surface *n'* without exerting any pressure on the same. By this arrangement an equally strong impression is obtained on the paper, it being immaterial whether the operator presses heavily or lightly on the key *o'*.

The distance between the plate *m* and the under side of the carriage *c* is regulated by means of a screw *p*. By turning this screw *p* to the right or left the pressure of the wedge-surface *m'* on the wedge-surface *n'* may be regulated at will and thereby the strength of the impression which is to be produced on the paper.

The type-plate *r'* is carried by a frame *r*, which is made in one piece with the lever *t*, by which the type-plate is adjusted to the desired letters. The rear end of the frame *r* is connected with a circular guide-disk *s*, Fig. 5, which moves freely in a straight guide *u*, arranged on the under side of the transport-carriage *c*. This arrangement of making the frame *r* of the type-plate *r'* in one piece with the lever *t* and the guide-disk *s* renders it possible to easily replace the type-plate by another having another pattern of type. In order to effect this change of type-plate, it is

merely necessary to remove the inking-plate *v*, on which the type-plate rubs, and to draw the frame *r*, together with lever *t* and disk *s*, out of the guide *u* and to replace it by another having another pattern of type.

The means for adjusting the lever *k* and for moving forward the paper are the usual ones, which being well known need not be here further described.

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

1. In a type-writing machine having a carriage adapted to be laterally displaced, the combination with a lever *f* secured to the rear part of said carriage, and with a pawl *e* attached to said lever, of a fixed rack *d* arranged to coöperate with said pawl, and a bar *o* parallel to the rack adapted to be moved against and from said rack, and arranged to act upon the said lever and the said pawl, for the purpose as described.

2. In a type-writing machine having a carriage adapted to be laterally displaced, an elastic type-plate held by said carriage, and a hammer adapted to act upon said type-plate, the combination with a shaft *g* arranged in the rear part of said carriage, a lever *f* secured to one end of said shaft, a pawl *e* attached to said lever, a fixed rack *d* arranged to coöperate with said pawl, a bar *o* parallel to the rack adapted to be moved against and from said rack and arranged to act upon the said lever and the said pawl, of a lever *i* secured to the other end of said shaft, and means for transferring the oscillations of said lever *i* upon said hammer as set forth.

3. In a type-writing machine having a carriage adapted to be laterally displaced, an elastic type-plate held by said carriage, and a hammer adapted to act upon said type-plate, the combination with a shaft *g* arranged in the rear part of said carriage, a lever *i* secured to one end of said shaft, and a rod *k* arranged in guides secured to the said carriage, and adapted to be displaced by said lever, of a wedge *m'* fixed to said rod, a wedge *n'* fixed to said hammer, and adapted to be operated by said former wedge and means for turning the said shaft simultaneously with feeding the carriage, substantially and for the purpose as described.

4. In a type-writing machine having a horizontal spindle, a carriage adapted to be displaced upon said spindle, an elastic type-plate held by said carriage, and a hammer adapted to act upon said type-plate, the combination with a shaft *g* arranged in the rear part of the said carriage, a lever *f* secured to the lower end of said shaft, a pawl *e* attached to said lever, a fixed rack *d* arranged parallelly to the said spindle below this latter, and adapted to coöperate with said pawl a bar *o* suspended from the spindle *b*, and adapted to be moved against and from said rack so as to cause the coöperation of the said lever and the said pawl with the said rack, of a lever *i* secured to the upper end of the shaft *g*, a rod *k* arranged in guides secured to the carriage, and adapted to be displaced by said lever *i*, a wedge *m'* fixed to said rod, and a wedge *n'* fixed to said hammer, and adapted to be operated by said wedge *m'*; the latter being adapted to depress the said hammer, and the type-plate being adapted to raise the hammer, substantially as described.

OTTO FRIEDRICH MAYER.

Witnesses:
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CHARLES H. DAY.