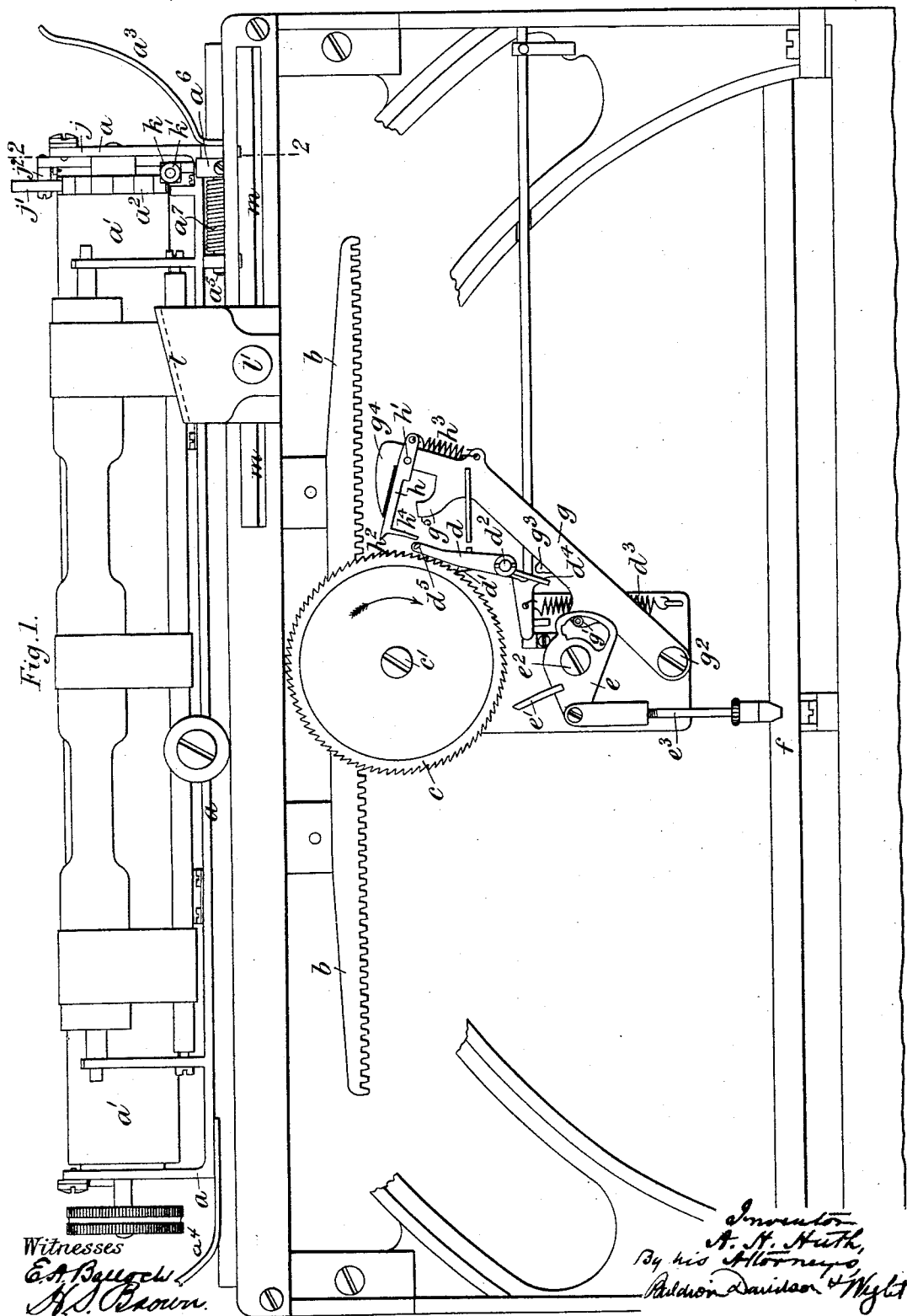


A. H. HUTH.
TYPE WRITING MACHINE.

No. 580,050.

Patented Apr. 6, 1897.



(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

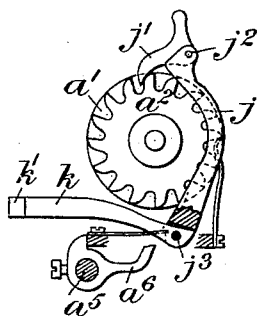


Fig. 3.

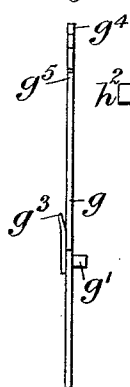


Fig. 4.

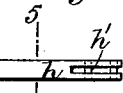


Fig. 5.

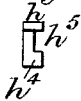


Fig. 6.

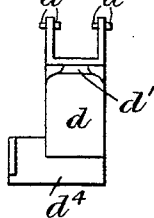
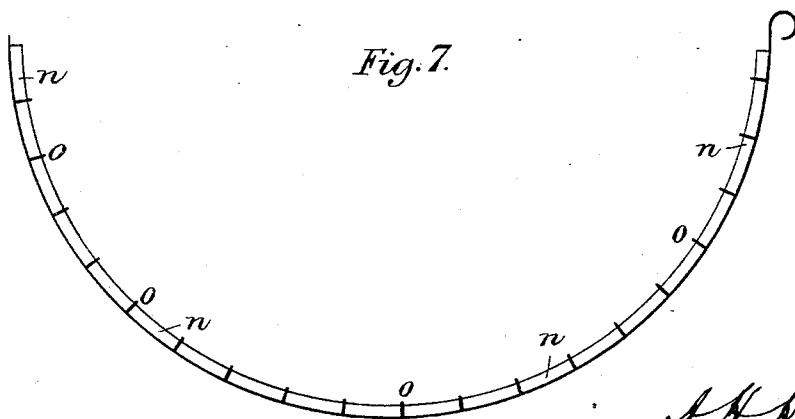


Fig. 7.



Witnesses
E. A. Belloc.
A. S. Brown

A. H. Huth,
Inventor
By his Attorneys,
Baldwin, Danderson & Melt.

UNITED STATES PATENT OFFICE.

ALFRED H. HUTH, OF LONDON, ENGLAND.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 580,050, dated April 6, 1897.

Application filed August 15, 1896. Serial No. 602,846. (No model.)

To all whom it may concern:

Be it known that I, ALFRED HENRY HUTH, a subject of the Queen of Great Britain, residing at Bolney House, Ennismore Gardens, London, in the county of Middlesex, England, have invented a certain new and useful Type-Writer, of which the following is a specification.

This invention relates to improvements particularly applicable to the machine described in the specification of my patent of the 4th of September, 1894, No. 525,345, but they can also be used with other machines.

Figure 1 is a back elevation of the improved machine. Fig. 2 is a local section on the line 2 2, Fig. 1. Fig. 3 is an edge view, looking from the left of Fig. 1, of the lever *g*. Fig. 4 is a plan of the lever *h*; and Fig. 5 is a section on the line 5 5, Fig. 4. Fig. 6 is a left-hand elevation of the lever *d*. Fig. 7 is an elevation of the inking-pad.

a is the paper-carriage, to which is fixed the rack *b*, gearing with a pinion on the front of the ratchet-wheel *c*. The ratchet-wheel and pinion are pivoted on a stud *c'*, fixed to the frame of the machine, and the ratchet-wheel, which is hollow, contains a helical spring having one end fixed to the stud and the other to the wheel, so that the latter tends to turn in the direction of the arrow.

d' is a retaining-pawl on a lever *d*, pivoted at *d''* and held in gear with the wheel *c* by the spring *d''*.

e is a lever having fixed to it a retaining-pawl *e'* and being pivoted at *e''*. It has one end connected by the rod *e'''* to the pivoted frame or stepping-lever *f*, which is caused to rise in the usual way by the depression of the keys of the machine. The other end of the lever *e* has a cam-slot in it to receive a pin or roller *g'* on the lever *g*, which is pivoted at *g''*. The lever *g* has fixed to it a projecting stud *g'''*, and pivoted to it at *h'* is a lever *h*, whose end forms a retaining-pawl *h''*. The lever *h* is normally held up by a spring *h'''* against the under side of an arm *g''* on the lever *g*.

As in the former machine, several levers *f* may be employed, in which case there are a corresponding number of levers *e* and *g*.

The action of the apparatus is as follows: On a key being put down the lever *f* is raised,

turning the lever *e* about its pivot, which in its turn draws the lever *g* by the pin *g'* from right to left of Fig. 1. The result of this is that the pawls *e'* and *h''* are almost simultaneously put into gear with the ratchet-wheel *c*. The stud *g'''*, also coming against a projection *d'* on the tail end of the lever *d*, lifts the pawl *d'* out of gear. When the key is released and the lever *f* begins to fall, the first effect is to draw the pawl *e'* out of gear, and the wheel *c* thereupon begins to turn, carrying with it the pawl *h''* on the lever *h*, which is turned about its pivot *h'* against the action of the spring *h'''*. After a time, however, the lever *h* comes against the arm *g''* on the lever *g* and is arrested, thus stopping the wheel *c*. The number of teeth through which the wheel *c* turns is determined by the space between the arms *g''* and *g'''*, and where several levers *f* are employed, as in the former machine, the corresponding levers *g* have different spaces between their arms *g''* and *g'''*. The lever *h* has a plate *h''* projecting downward from it, and when the pawl *d'* is out of gear and the lever *h* is being pulled downward by the wheel *c*, as above described, the plate *h''* comes between the wheel *c* and a pin *d''* on the lever *d*, so preventing the pawl *d'* from prematurely arresting the wheel *c*. The spring *d''* also causes the pin *d''* to press on the plate *h''* and so hold the pawl *h''* in gear after the cam-lever *e* (by reason of the descent of the lever *f*) has ceased to act on the lever *g*, the cam-groove being sufficiently wide to prevent the return of the lever *e* from forcing the lever *g* back from left to right. The plate *h''* has, however, a notch *h'''* (see Fig. 5) in it, and when the pin *d''* reaches this it passes through, and the pawl *d'* goes into gear and the pawl *h''* comes out of gear. However many levers *f* (and *h*) are employed, there is preferably only one lever *d*; but this is provided with as many pins *d''* as there are levers *h*. Thus Fig. 6 shows four.

The method of feeding the paper is as follows: At the end of the paper-roll *a'* is a ratchet-wheel *a''*, operated by a pawl *j'*, pivoted at *j''* to the lever *j*, which is pivoted at *j'''*. *k* is another lever, also pivoted at *j'''* and having at its other end a roller *k'*. *l* is an inclined plate secured by a nut *l'* in any desired position in a slot *m* in the frame of the

machine. When the carriage is moving from left to right, the roller k' rides up this incline, and the lever k simply turns up about its pivot and does not move the lever j and pawl j' . When, however, the carriage a is being drawn or pushed back from right to left by one of its handles a^3 a^4 , the roller k' passes beneath the incline l and is forced down by it, and the levers j and k , owing to the forms of their ends, (clearly shown in Fig. 2,) move together and the paper-roll is turned. In some cases, however, it is desirable to move the carriage a from right to left without turning the paper-roll. To enable this to be done, the handle a^3 is not rigidly fixed to the carriage, but is mounted on a longitudinal spindle a^5 , working in bearings in it. Fixed to the spindle a^5 is an arm a^6 , and when the handle a^3 is turned to the rear this arm comes beneath and lifts the lever k , so that if the carriage be moved from right to left with the handle in its position the roller k' passes above the incline l and the paper-roll is not turned. a^7 is a spring which normally tends to keep the handle a^3 vertical.

When using very fluid ink with the semi-circular inking-pad described in my former specification, I find that the ink tends to run down to the middle. According to this invention I prevent this by dividing the pad into a number of pieces n , separated by partitions o , as shown in Fig. 7.

What I claim is—

1. The combination of a paper-carriage, a ratchet-wheel operatively connected with it which revolves when the carriage advances, a retaining-pawl normally engaging with the ratchet-wheel, a retaining-pawl and an operating-pawl adapted to engage but normally out of gear with the ratchet-wheel the operating-pawl having a certain freedom of movement and connections between these pawls and the finger-keys whereby the depression of a key puts the second and third pawls into gear and the first pawl out of gear and the release of the key successively puts the second pawl out of gear, the first pawl into gear and the third pawl out of gear.

2. The combination of a paper-carriage, a

ratchet-wheel operatively connected with it which revolves when the carriage advances, a retaining-pawl normally engaging with the ratchet-wheel, a retaining-pawl and an operating-pawl adapted to engage but normally out of gear with the ratchet-wheel, the operating-pawl having a certain freedom of movement, a projection carried by the first retaining-pawl, a notched plate carried by the operating-pawl and adapted to come between the ratchet-wheel and the projection when the first retaining-pawl is out of gear and the operating-pawl is in gear and connections between these pawls and the finger-keys whereby the depression of a key puts the second and third pawls into gear and the first pawl out of gear and the release of the key successively puts the second pawl out of gear, the first pawl into gear and the third pawl out of gear.

3. The combination of a paper-carriage, a ratchet-wheel operatively connected with it which revolves when the carriage advances, a retaining-pawl normally engaging with the ratchet-wheel, a lever having a cam-slot in it, a retaining-pawl fixed to the cam-lever, connections between the finger-keys and the cam-lever whereby the cam-lever is turned on the depression of a key, a second lever, a pin or roller on the second lever engaging in the slot in the cam-lever, a projection on the second lever adapted to press on the tail end of the first retaining-pawl and lift it out of gear, an operating-pawl pivoted to the second lever, stops limiting the movement of the operating-pawl, a projection on the first retaining-pawl and a notched plate carried by the operating-pawl and adapted to come between the ratchet-wheel and the projection when the first retaining-pawl is out of gear and the operating-pawl in gear.

4. The combination with an inking-pad curved in a vertical plane of transverse partitions dividing the pad into a number of strips.

ALFRED H. HUTH.

Witnesses:

PERCY G. MATTOCKS,
WM. O. BROWN.