

No. 706,858.

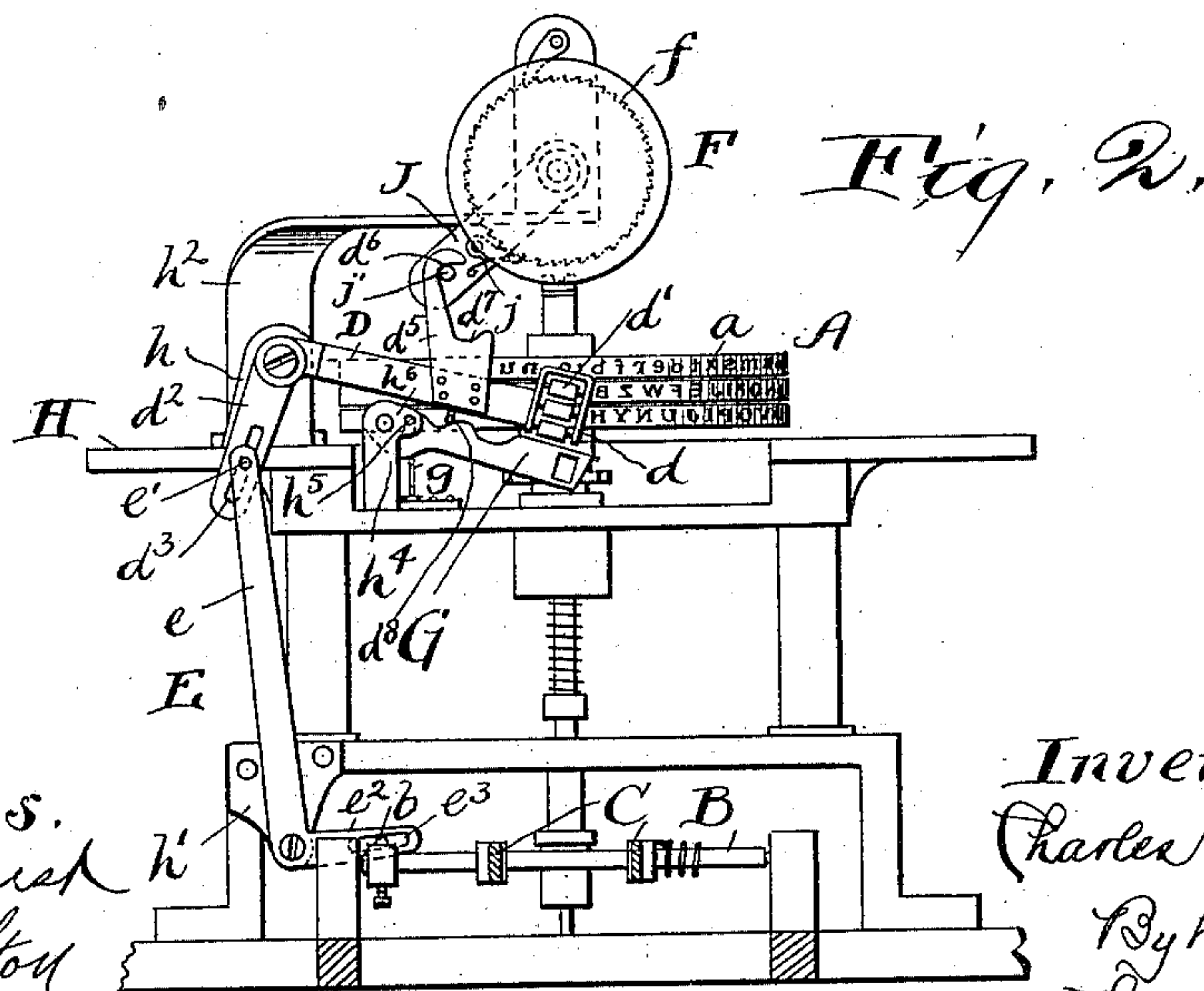
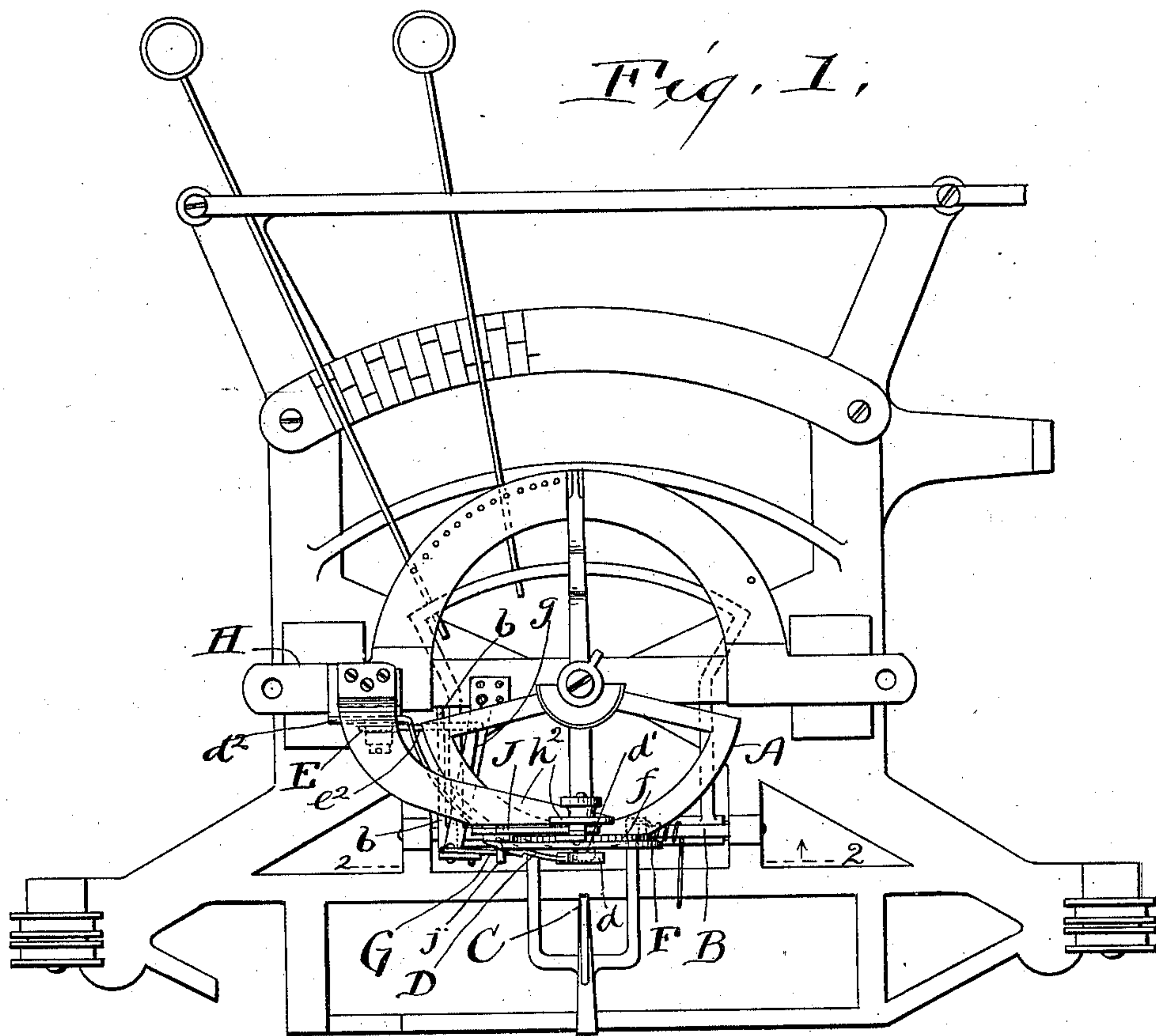
Patented Aug. 12, 1902.

C. SEARS.
TYPE WRITER.

(Application filed July 19, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.
E. B. Gilchrist
P. E. Knowlton

Inventor:
Charles Sears,
By his Attorneys
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Fig. 3.

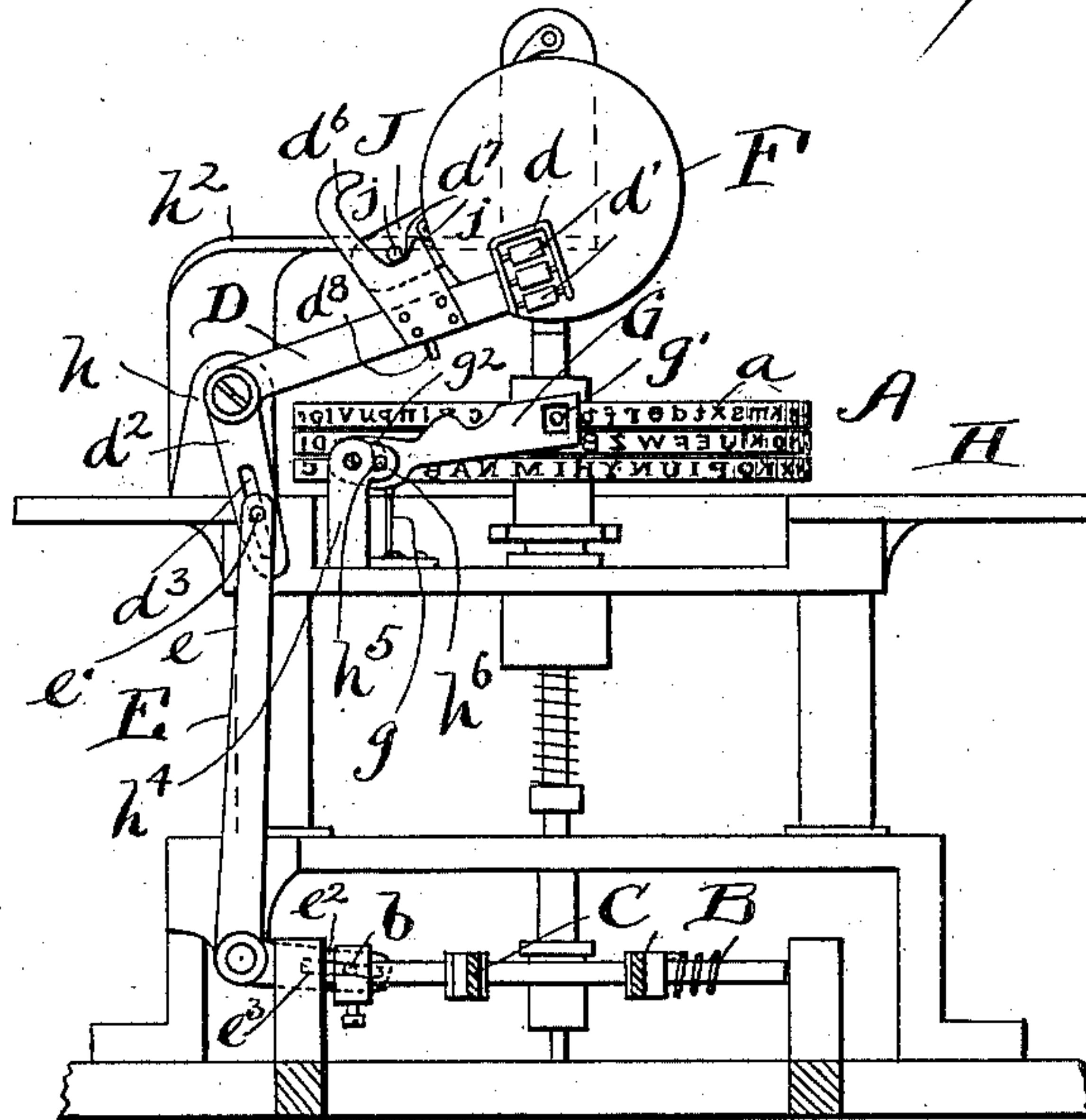
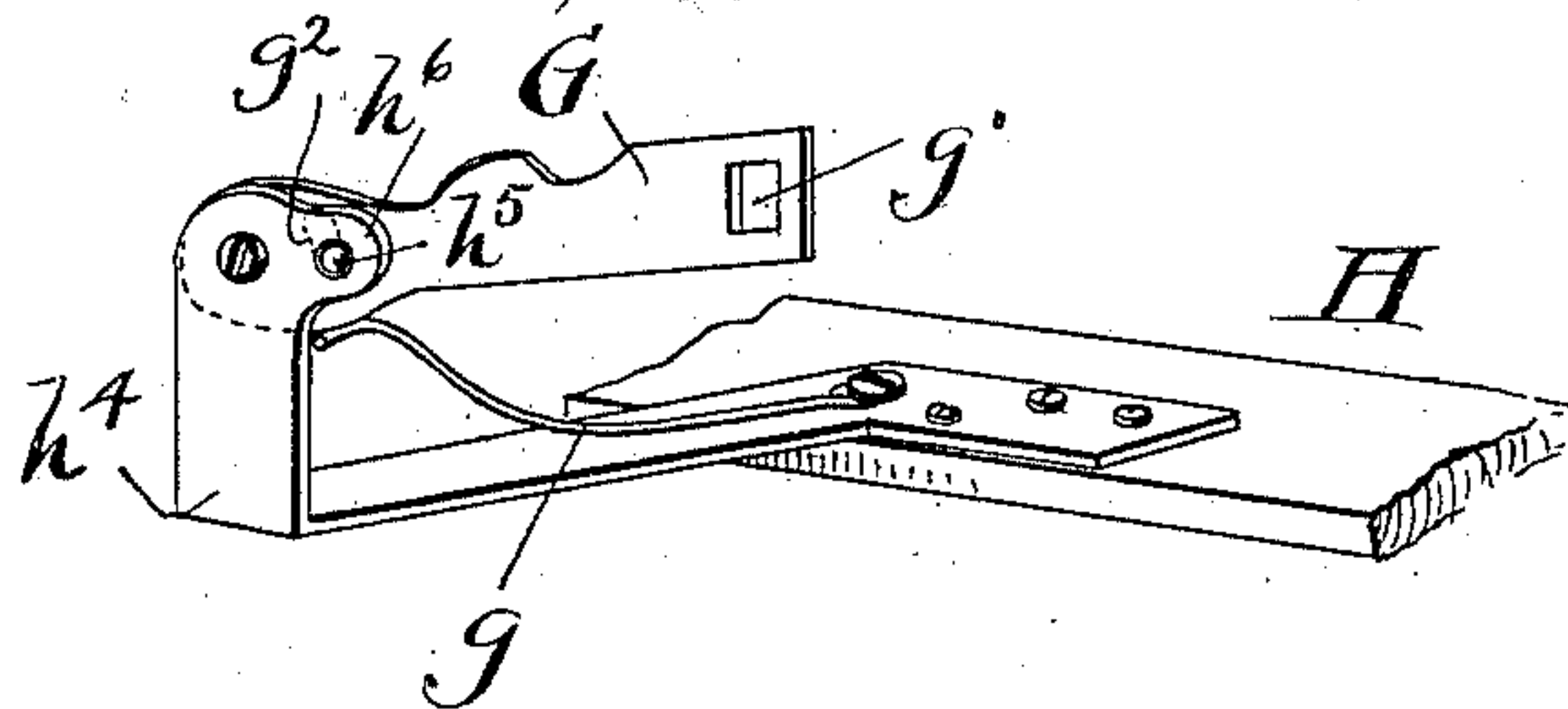


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES SEARS, OF CLEVELAND, OHIO.

TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 706,858, dated August 12, 1902.

Application filed July 19, 1899. Serial No. 724,379. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SEARS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Type-Writers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The invention relates to a type-writer of the kind which contains an oscillating type-carrier and a movable inking-roller for inking the type at the impression-point before the impression is made.

One object of the invention is to provide simple means whereby the inking roller or rollers are kept properly supplied with ink.

Another object of the invention is to provide means which operate in conjunction with said inking-roller whereby the paper is protected from contact with any type except that one which it is desired to print.

The invention consists in the combination of parts shown in the drawings and herein-after described, and pointed out definitely in the claims.

In the drawings, Figure 1 is a plan view of so much of a type-writer as is necessary to disclose the present invention. Fig. 2 is a rear elevation of the mechanism constituting the present invention when the same is in its normal position, the parts at the rear of the line 2 2 being omitted for clearness. Fig. 3 is a view of the same parts, showing their position at the instant the impression is made. Fig. 4 is a perspective view of the pivoted shield, its support, and spring.

The type-writing machine shown is in its general construction of a well-known form. Its characters *a* are arranged in rows upon the outer surface of one or more oscillating type-segments *A*. The characters in the upper row when the parts are in the position shown in Figs. 2 and 3 are in the impression-line. The type-segments are adapted to be turned in one direction or the other about their pivot by finger-keys and suitable intermediate mechanism, which may be substantially like the mechanism employed for this purpose in the Hammond type-writer. This mechanism, being well-known and forming no part of the

present invention, is not shown or specifically described.

B represents a convenient rock-shaft, which in the construction shown is the same rock-shaft to which the impression-hammer *C* is secured. This particular rock-shaft is utilized because it is conveniently placed and because it necessarily moves every time an impression is made. Any other rock-shaft having the characteristics stated may be employed in its stead.

D represents an inking-roller lever, which is pivoted to a convenient bracket *h* on the type-writer frame *H*. This lever has a yoke *d*, in which are mounted any desired number of inking-rollers *d'*. As will presently appear, these rollers are moved into contact with a device which supplies them with ink and which evenly distributes the ink upon them after each movement in which they ink the character at the impression-point. Consequently these rollers are made of well-known material adapted to transfer ink from its platen to the type. This arm is so shaped that as it is rocked upon its pivot the rollers contact with that character which is at the impression-point. This lever *D* is a bell-crank lever, having a depending arm *d*², in which is a longitudinal slot *d*³. Another bell-crank lever *E* is pivoted to a bracket *h'*, near the base of the machine-frame. Its upright arm *e* has a pin *e'*, which enters the slot *d*³. Its horizontal arm *e*² has a slot *e*³, into which projects the end of a lever-arm *b*, which is attached to the rock-shaft *B*. Normally the inking-rollers lie in the position substantially as shown in Fig. 2—that is to say, they are below the characters in the impression-line and far enough below them so as not to interfere with the free movement of the upper segment which carries said characters as it moves to bring the proper character to the impression-point. When the rock-shaft *B* oscillates, as it does when the hammer moves forward to strike the impression-blow and then rearward to assume its normal position, the roller-carrying lever is caused by the intermediate mechanism described to move up into the position shown in Fig. 3, where it is when the impression-blow is struck, and then down to its normal position, as shown in Fig. 2. So

much of the mechanism is substantially like that shown and described in my pending application No. 715,165.

On a standard h^2 a rotary inking-platen F is mounted on a substantially horizontal pivot, this platen being so placed above the type-segment that the inking-rollers will roll upon it when they are raised to the position shown in Fig. 3. Any suitable ink—as, for example, lithographic transfer-ink—may be supplied upon this platen by any suitable means. From the foregoing it will be understood that the function of the platen is to supply ink to the rollers and to properly distribute the ink upon said rollers, so that as they move across the printing-face of the character at the impression-point they will supply it with ink, just as the rollers of a printing-press supply the type therein with ink for making the impression. Attached to the rear side of this rotary platen is a ratchet f . A swinging pawl-carrier J is mounted on the same pivot which supports this platen. A spring-pawl j is mounted upon the carrier, and it engages with the ratchet f . An arm d^5 is attached to the lever D, and it has two shoulders d^6 d^7 , which lie, respectively, above and below a pin j' on the pawl-carrier J. When the lever D swings upward, the shoulder d^7 strikes the pin j' and moves the pawl-carrier upward, the pawl slipping over the ratchet. When said lever D moves downward, the shoulder d^6 strikes the said pin, moving the pawl-carrier downward, and thereby turning the platen to bring another part of its surface into the path of the inking-rollers.

A swinging shield G is provided to prevent the paper from contacting with any but the proper character—to wit, the one at the impression-point. This shield is pivoted to a bracket h^4 and is made of very thin metal. It is pressed upward by means of a spring g , when permitted so to move, to a position substantially as shown in Fig. 4, where an opening g' in said shield is directly behind the character at the impression-point. This movement upward is limited by the engagement of the pin h^5 , which is fixed to the bracket h^6 in a slot g^2 in the shield. A pin d^8 or some other suitable projection on the under side of the lever D is adapted to engage with the top edge of the shield, whereby said shield is moved down by the lever into the position shown in Fig. 2, which is its normal position.

It will be understood from the drawings and the foregoing description that when the hammer begins its impression-blow the lever D and the shield-lever G begin their upward movement and that when the impression-blow is struck the parts are in the position shown in Fig. 3—that is to say, the inking-rollers are elevated and out of the way of the paper and the shield is protecting the paper from contact with any of the characters except that one directly behind the opening g^2 .

The type-writing machine described is

adapted to be used as a substitute for the composition of type. The machine will print with transfer-ink, and it will print on transfer-paper, such as lithographers use. The product of the machine, if the machine is supplied with type having proper printing-faces and is also supplied with differential feeding mechanism—such, for example, as is described in my application, No. 707,866, filed March 6, 1899—will resemble letter-press printing. This product can be transferred to stone or aluminium plates just as such printed matter can. Such use of the product of a type-writer is not possible unless such transfer-ink is used, and such ink cannot be used unless the characters are inked by means of rollers such as are herein described and to which ink is supplied by a platen or some equivalent device. The impressions of the several characters, when inked as herein described, are sharp and distinct, and the matter printed on such a machine, if the proper ink is used, can be reproduced as an entirety by the photo-engraving process or by any other process familiar to the printing art.

Having described my invention, I claim—

1. In a type-writing machine, the combination of a pivoted type-carrier, and means operated by finger-keys for bringing any character on said carrier to the impression-point with a rotatable inking-platen, an arm carrying an inking-roller, mechanism for swinging said arm to carry said roller into contact with the character at the impression-point and with said inking-platen, a ratchet secured to the platen, and a pawl operated by said arm, substantially as specified.

2. In a type-writer having a pivoted type-carrier, the combination of an inking-platen located above the type-carrier, with an oscillating pivoted lever carrying an inking-roller which is adapted to contact with the character at the impression-point and with said platen, the impression-hammer and mechanism, which moves synchronously with the impression-hammer, for moving said roller-carrying lever up whereby the roller contacts with the character at the impression-point and with said platen, and then down again to its normal position, substantially as and for the purpose specified.

3. In a type-writer the combination of a movable shield having an opening which permits the paper to contact only with the character at the impression-point, and mechanism for moving said shield with a roller-carrying device, an inking-platen, and mechanism for moving said roller across the face of the character at the impression-point, and into contact with the inking-platen, substantially as and for the purpose specified.

4. In a type-writer having a pivoted type-carrier, the combination of a pivoted lever carrying inking-rollers, the impression-hammer and means which operate synchronously with the impression-hammer for moving said lever to carry the inking-rollers across the

face of the character at the impression-point, with a movable shield having an opening through which the character may be printed which movable shield lies in the
5 path of said inking-roller lever whereby it is moved in one direction, and a spring for moving it in the contrary direction, substantially as and for the purpose specified.

10 5. In a type-carrier, having an oscillating type-segment, the combination of a pivoted lever carrying inking-rollers, the impression-hammer and mechanism operating synchronously with the impression-hammer for moving said lever to carry the rollers across
15 the face of the type at the impression-point, with a shield-lever having an opening through which the character at the impression-point may be printed, and mechanism for moving said shield, substantially as and for the purpose specified.
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6. In a type-writer having an oscillating type-carrier, the combination of a rotary inking-platen located above the type-carrier, a ratchet-wheel secured thereto, a pawl-carrier mounted adjacent to and concentric
25 with said ratchet, and a spring-pawl on said carrier, with an oscillating lever carrying inking-rollers which are adapted to move across the face of the character at the impression-point, and an arm attached to said
30 lever and having two shoulders d^6 d^7 , and a pin on the pawl-carrier with which said shoulders are adapted to engage, substantially as and for the purpose specified.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses. 35

CHARLES SEARS.

Witnesses:

A. T. OSBORN,
R. H. SEARS.