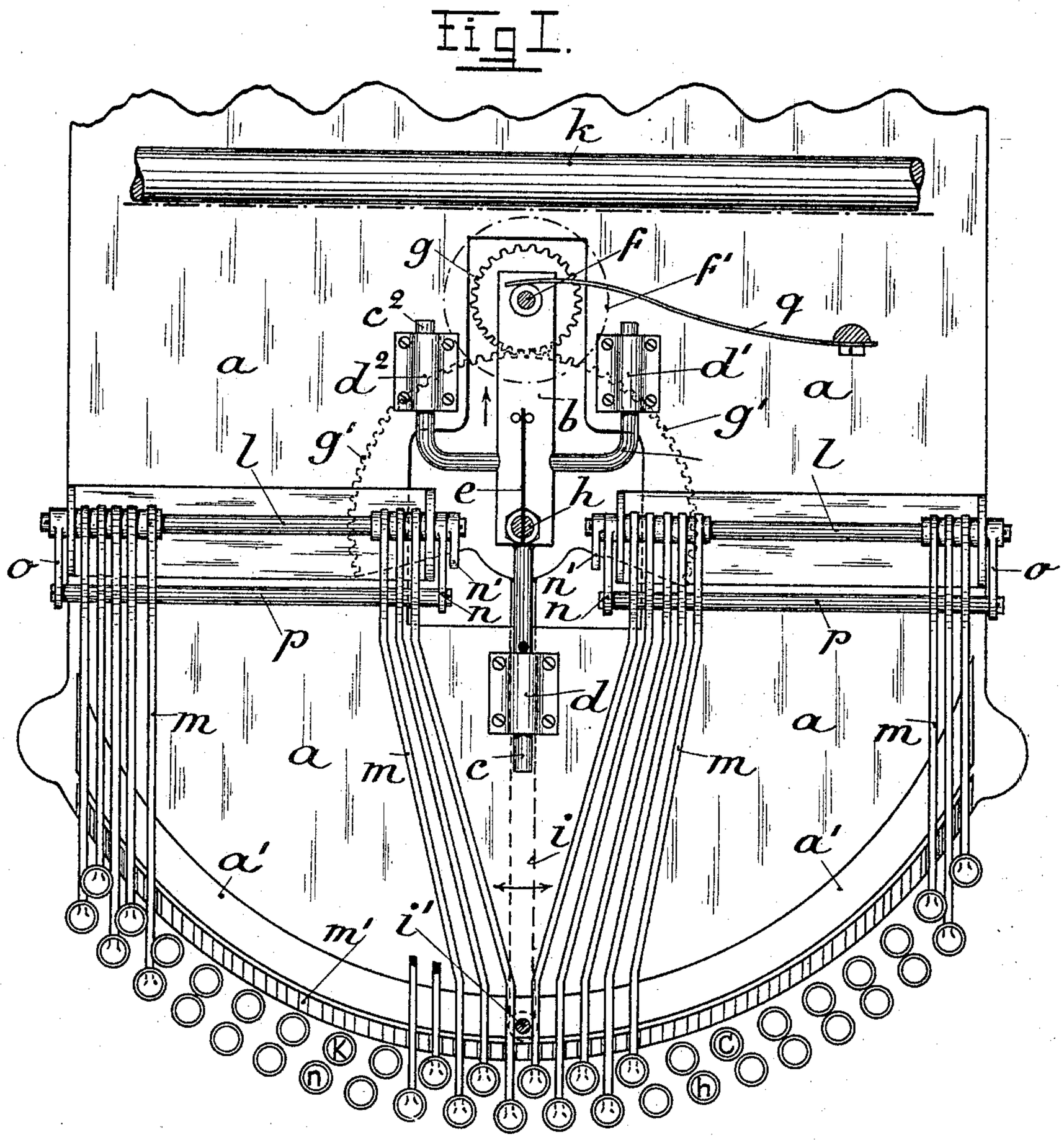
(No Model.) 2 Sheets—Sheet 1.

O. F. MAYER.

TYPE WRITING MACHINE.

No. 584,480. Patented June 15, 1897.

Fig I.



WITNESSES:
Max Mayer.
Carl Mayer

INVENTOR:
Otto Ferdinand Mayer
BY ATTORNEY: Franz A. Hopgood

(No Model.) 2 Sheets—Sheet 2.

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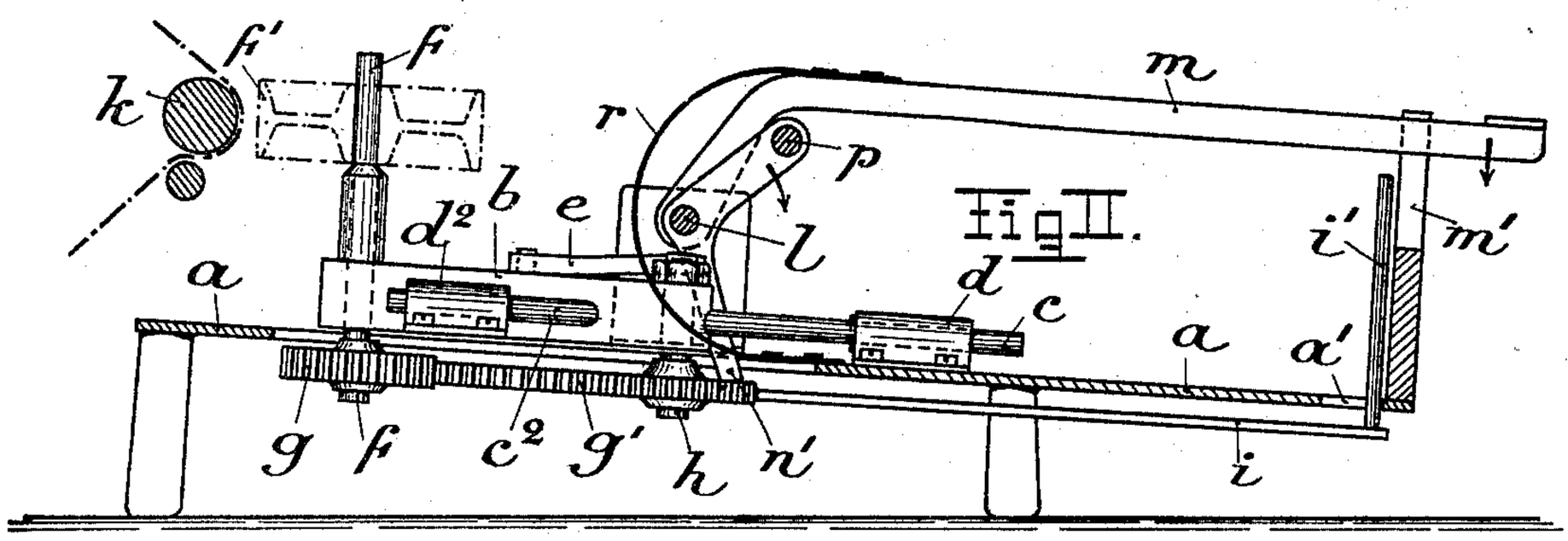

Fig. II.

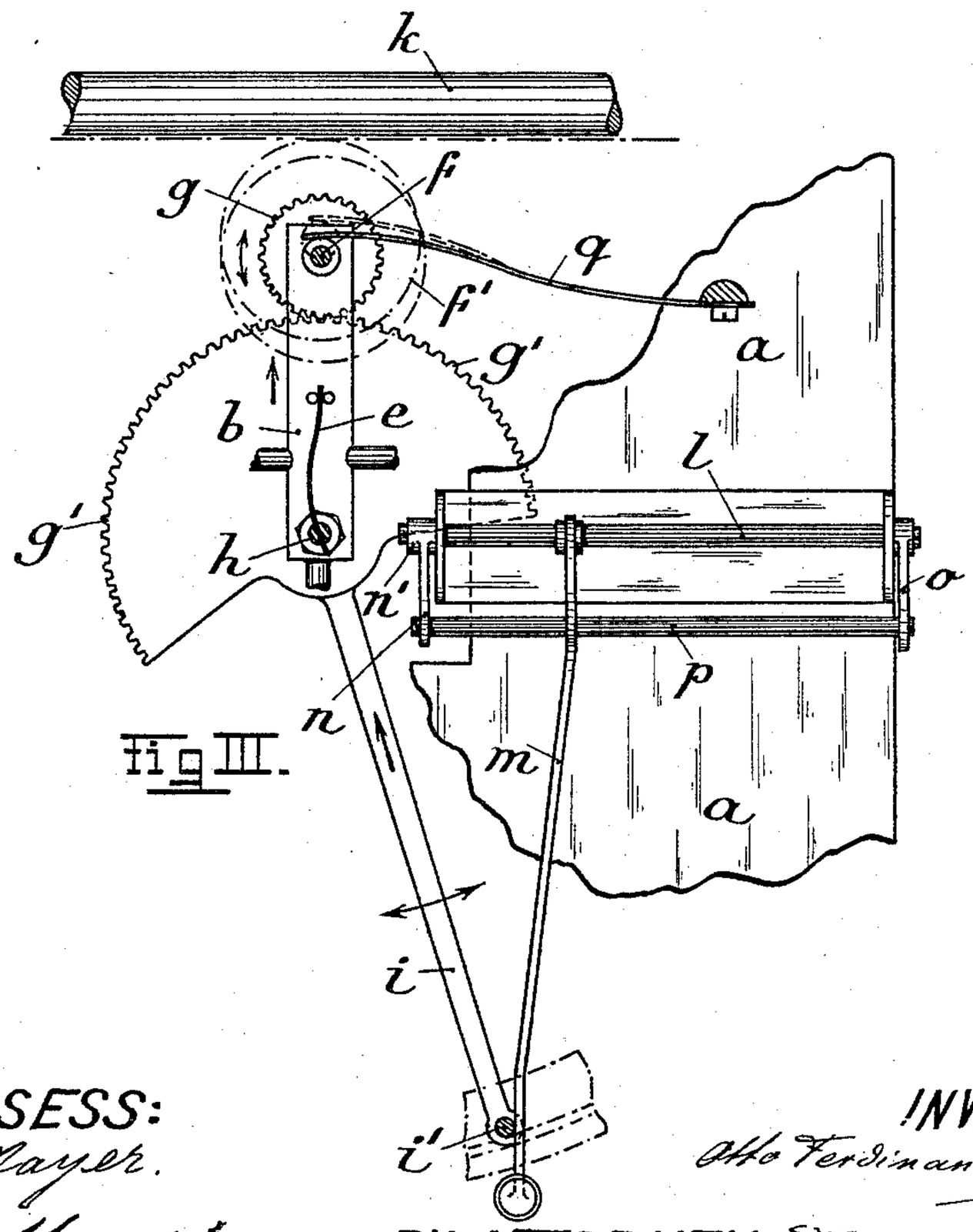

Fig. III.

WITNESSES:
Max Mayer.
Paul Mayer

INVENTOR:
Otto Ferdinand Mayer

BY ATTORNEY: Franz A. Hoppen

UNITED STATES PATENT OFFICE.

OTTO FERDINAND MAYER, OF BERLIN, GERMANY.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 584,480, dated June 15, 1897.

Application filed September 10, 1896. Serial No. 605,412. (No model.) Patented in England May 13, 1896, No. 10,241, and in Belgium May 16, 1896, No. 121,390.

To all whom it may concern:

Be it known that I, OTTO FERDINAND MAYER, a subject of the King of Prussia, Emperor of Germany, residing at Charlottenstrasse, 4, Berlin, Germany, have invented a new and useful Improvement in Type-Writing Machines, (for which I have obtained a British patent, No. 10,241, dated May 13, 1896, and a Belgian patent, No. 121,390, dated May 16, 1896,) of which the following is a specification.

This invention has for its object a type-writing machine in which the types are arranged on the periphery of a type-wheel and adjusted into the printing position by the rotation of said wheel, the impression of the type thus adjusted being then effected by a radial pushing forward of the type-wheel.

The paper-carriage and the device for inking the type of the type-wheel are not within the compass of the present invention and are therefore not shown.

In the accompanying drawings, Figure 1 is a plan view of the machine, in which, for the sake of clearness, only a portion of the type-levers are shown. Fig. 2 is a vertical section of Fig. 1; and Fig. 3 is a partial view of Fig. 1, showing the position assumed by separate mechanisms when a key of the right-hand type group is depressed.

The arrangement and mode of action of this type-writer will now be described, taking, for example, the action when a given key—for instance, of the right-hand group of type—is depressed. If the key which is movable in guide-slots m' be depressed, this pressure is conveyed by the corresponding key-lever m to elbow-levers $n n'$, revolubly mounted on a spindle l. One arm n of this elbow-lever $n n'$ is formed as a universal bail $n o p$, which is operated by a given number of type-levers m, all revolubly mounted on the spindle l. On the key being depressed, the elbow-lever $n n'$ revolves on the spindle l and presses with its arm n' against the radial edge of a toothed sector g', which is revolubly mounted at h on a sliding frame b and which gears with a toothed wheel g, also carried by the said sliding frame b. By this pressure against the radial edge of the toothed sector g' this latter is rotated on its axis h (against the action of a spring e, firmly connected with said axis) until an arm i, firmly connected with it and having on its free end a pin i', which projects up through a slot a' in the frame-plate a, strikes laterally the depressed type-lever (see Fig. 3) and is thereby checked and limited in its movement. By the rotation of the toothed sector g' and the toothed wheel g a type-wheel f' on the spindle f of the latter is adjusted into the position for impressing the desired type. If then the key which has been struck be pressed farther downward, as the toothed segment g' and the type-wheel cannot farther rotate, the sliding frame b and all the mechanisms carried by it will be pushed backward onto the paper-roller k against the action of a spring q, being guided by guide-bars $c\ c'\ c^2$ in guides $d\ d'\ d^2$, so that an impression of the adjusted type is effected on the paper.

The depressed type-lever on being released springs back again into its uppermost initial position by the action of a spring r, connected therewith. (See Fig. 2.) The springs r are not shown in Figs. 1 and 3 for the sake of clearness. As the pressure on the elbow-lever $n n'$ is relieved by the key returning to its normal position the sliding frame b will be returned, by means of the spring q, into its initial position, which is determined by means of a fixed stop or contact piece. Simultaneously the arm i is returned to its middle position by means of the spring e on the spindle h and the toothed segment g', Fig. 1, and thereby also the gearing g and the type-wheel f' are all returned to their normal positions, so that a fresh key may then be struck for the purpose of impressing another type. The same action is repeated on striking of any of the other keys, whether the same belong to the right or left hand group of keys. A separate elbow-lever $n n'$ is, however, provided for each group of keys, and the direction of rotation of the toothed segment g' is different, according to which group the key belongs which has been struck.

Of course the elbow-lever $n n'$ of the one group of keys must remain without action when that of the other group is pressed against the toothed segment g'. This may be attained by the non-operated elbow-lever

$n\,n'$ being raised so far by means of a special spring that the toothed segment can travel unimpededly beneath it. If this special spring be omitted, the unoperated elbow-lever $n\,n'$ moves with its arm n' loosely over the surface of the toothed sector g' when the latter revolves, thus offering no special resistance. This latter case is assumed in the drawings.

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

In a type-writing machine having a rotatable type-wheel, a toothed wheel fixed to the shaft of the type-wheel and a toothed sector gearing with said toothed wheel, the combination with the latter and the sector, of a slide carrying the shafts of these two parts; key-levers arranged in groups; bars extending below said levers and being each adapted to be depressed by each lever of the respective group; elbow-levers holding said parts, and being adapted to rotate the sector, as well as to displace the slide by aid of the sector on the respective bar being depressed; an arm extending radially forward from the sector up to a plane shortly below the key-levers, and springs adapted to bring the movable parts of the type-writer back to their normal positions, for the purpose as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OTTO FERDINAND MAYER.

Witnesses:
W. HAUPT,
HENRY HASPER.