C. GABRIELSON.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 27, 1907.

983,490.

Patented Feb. 7, 1911.

3 SHEETS—SHEET 1.

Fig. 1.

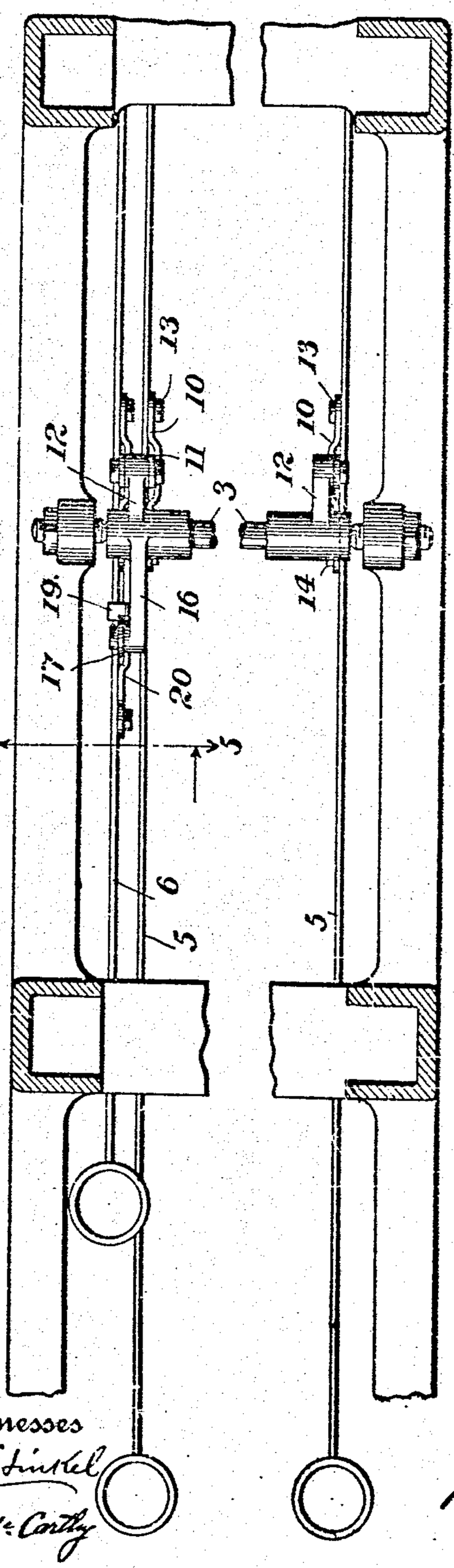


Fig. 6.

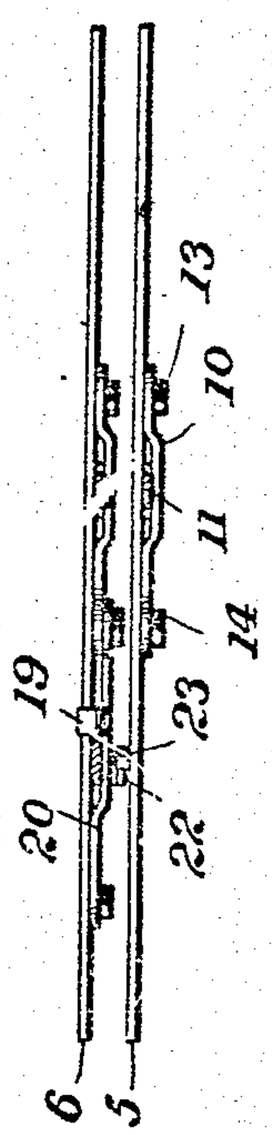
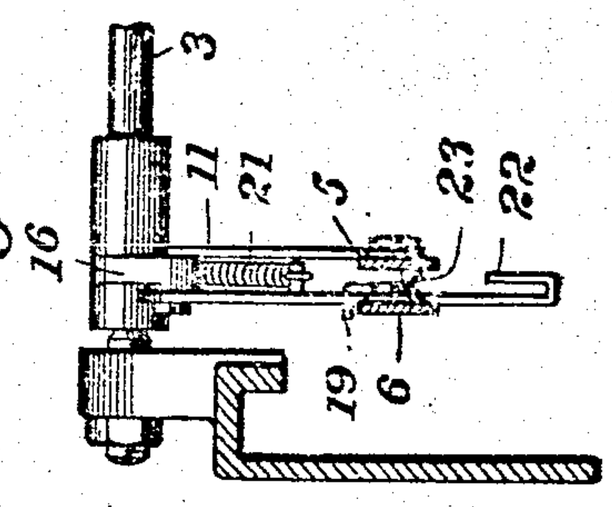


Fig. 5.



Witnesses

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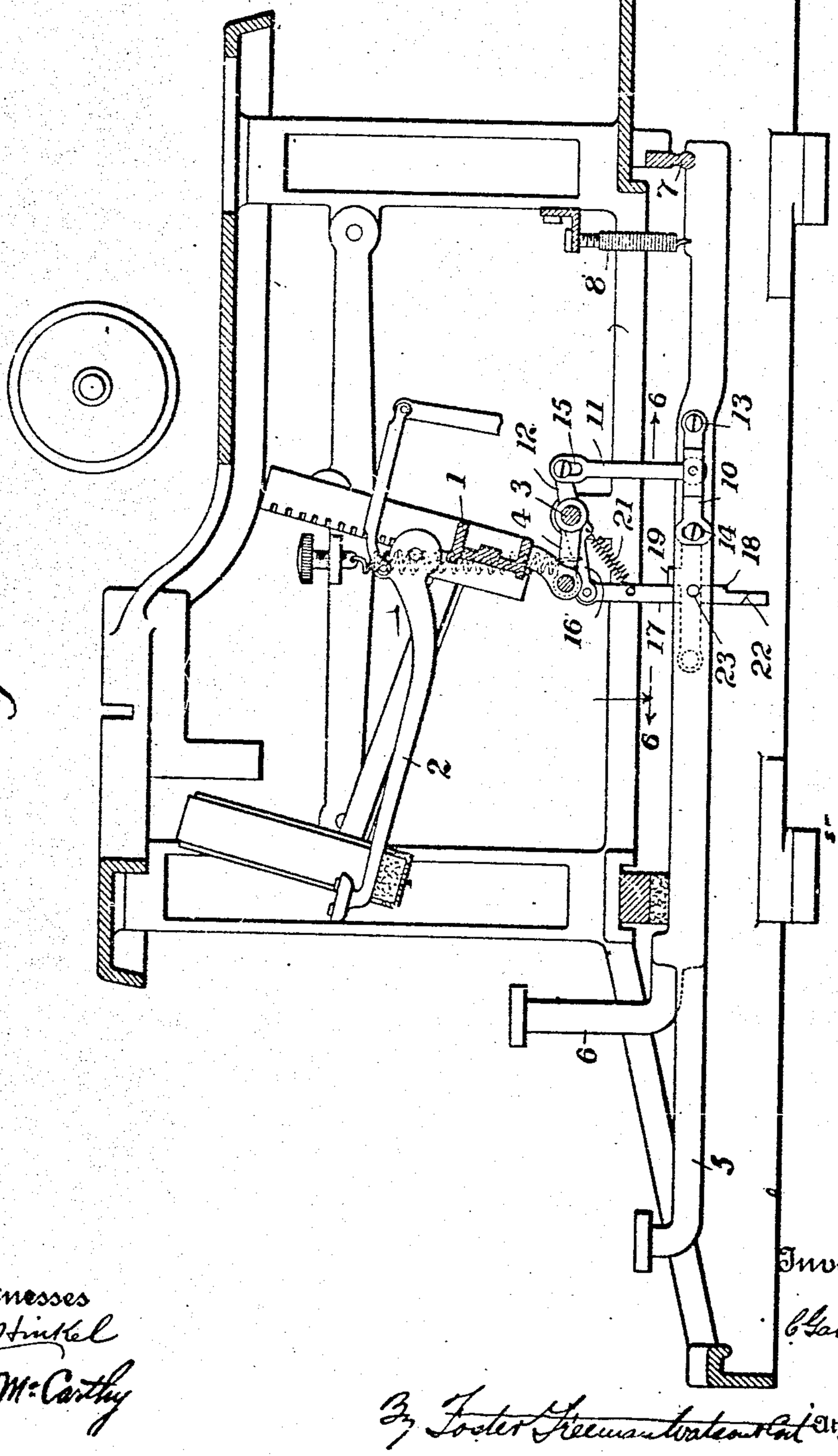
3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

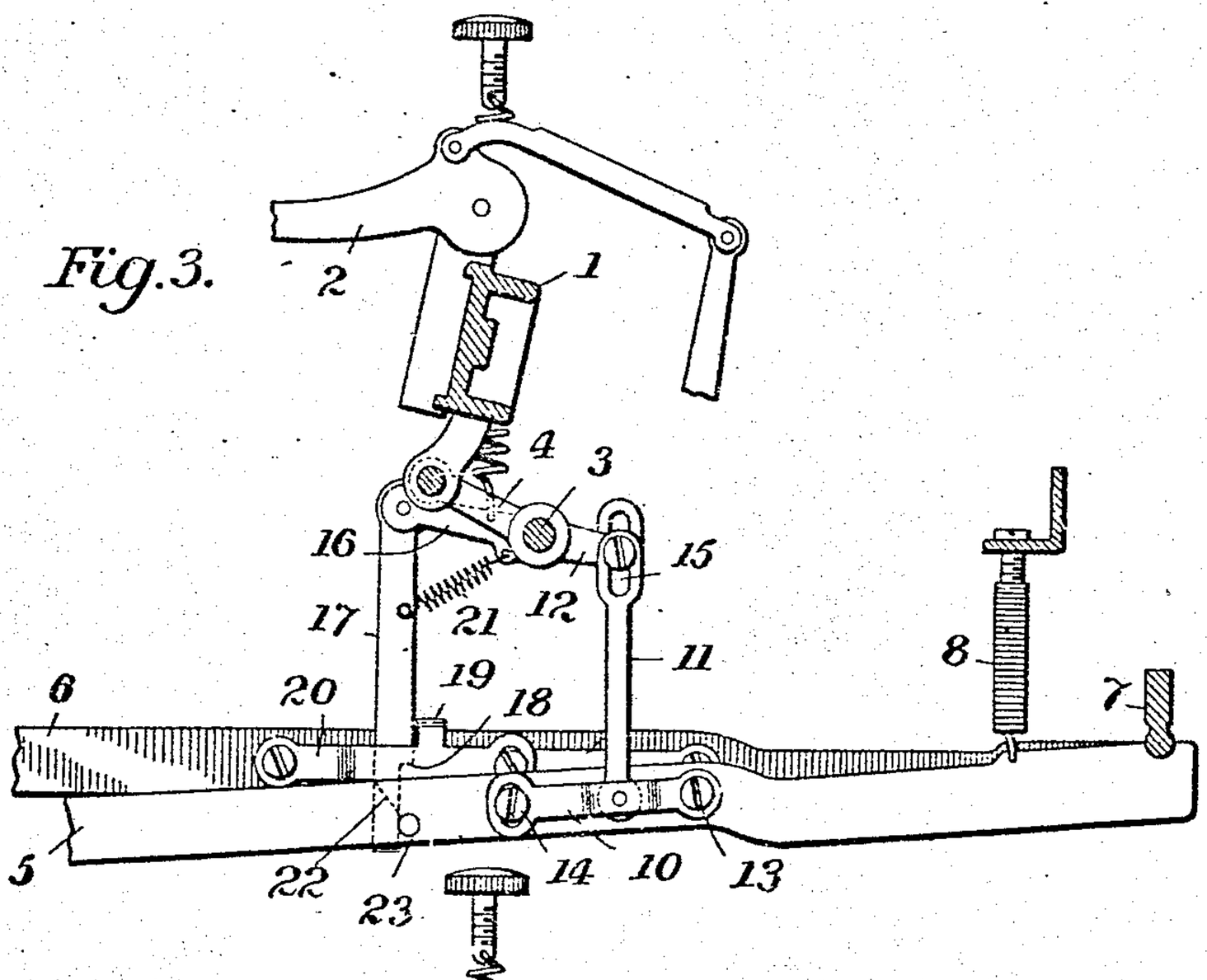
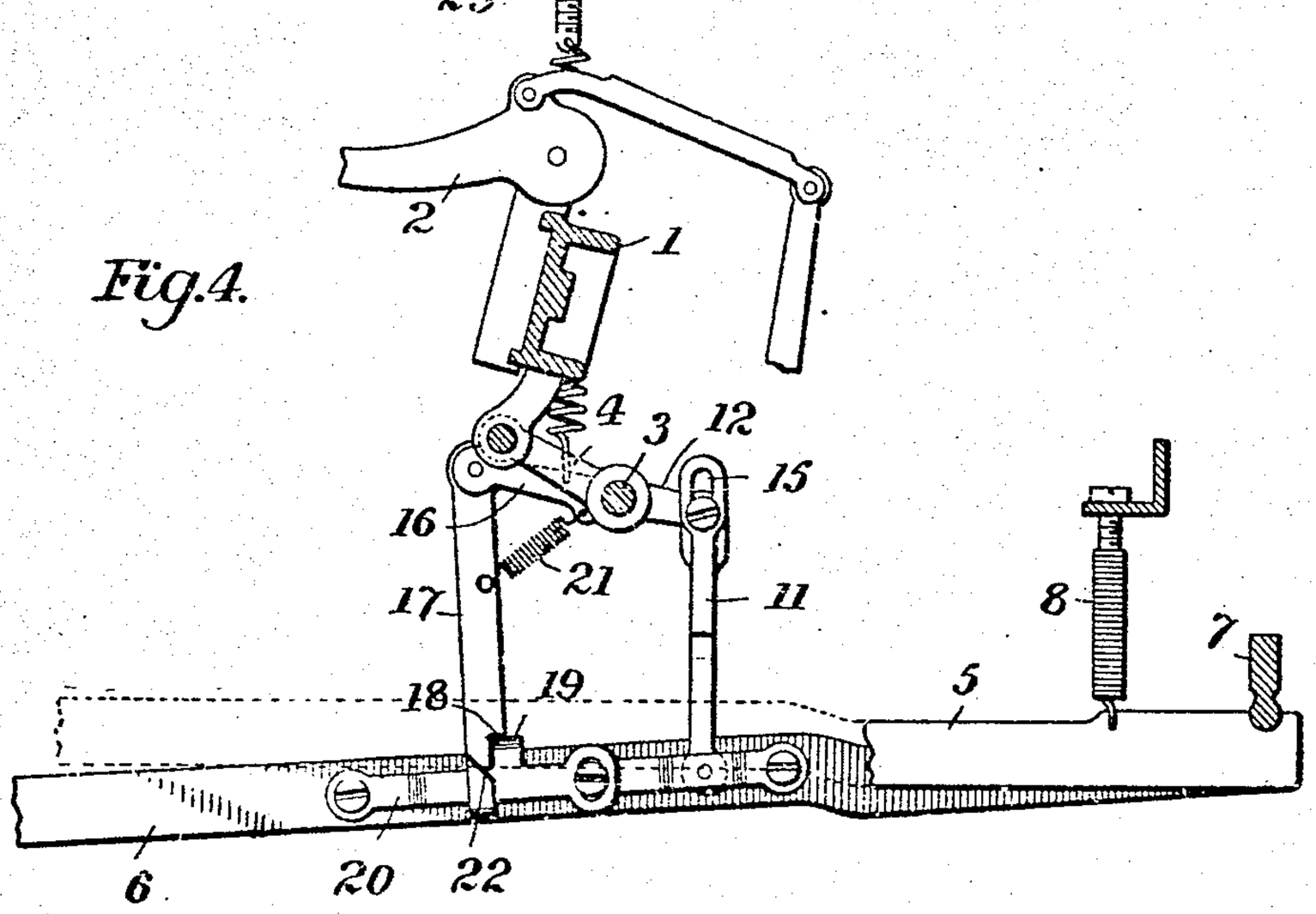


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

CARL GABRIELSON, OF SYRACUSE, NEW YORK, ASSIGNOR TO L. C. SMITH & BROS. TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

983,490. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed June 27, 1907. Serial No. 381,127.

To all whom it may concern:

Be it known that I, CARL GABRIELSON, a citizen of the United States, and residing at Syracuse, Onondaga county, State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to typewriting machines and more particularly to case shifting mechanism for such machines, that is, mechanism for shifting the type relatively to the platen to effect the printing of upper or lower case type, and in the following specification the invention will be described as applied to a machine in which the segment carrying the type bars is shifted vertically.

It will be understood that the invention is equally applicable to machines in which the platen is shifted and that it is immaterial in which direction the shifting movement takes place.

The invention will be described in connection with the accompanying drawing, in which,

Figure 1 is a plan view of the shifting key levers, their connections, and a sufficient portion of the typewriting machine to illustrate the manner of mounting them; Fig. 2 is a sectional elevation of the shift levers at the left side of the machine showing the segment in its lower position; Fig. 3 is a view similar to Fig. 2 but partly broken away and showing the segment raised by one of the shift levers; Fig. 4 is a view similar to Fig. 3, but showing the segment raised by the shift lock lever; Fig. 5 is a section on the line 5—5 of Fig. 1; Fig. 6 is a section on the line 6—6 of Fig. 2.

Referring to the drawing, 1 indicates a segment which is movable in suitable guides in an up and down direction, 2 type bars pivotally carried by the segment, and 3 a rock shaft having arms 4 which support the segment. Beneath the rock shaft are two shift keys 5, one at each side of the machine for temporarily raising the segment to print upper case letters and at the left side of the machine there is a third key lever 6 which is adapted to raise the segment and lock it in its upper position, which lever is commonly called a "shift lock lever." The several key levers are pivoted at the rear of the machine upon a fulcrum 7 and normally held in their upper positions by springs 8 against a stop 9. Each of the shift levers 5 carries an adjustable piece or plate 10, which plate is connected by a link 11 with an arm 12 of the rock shaft 3. As shown the plate 10 is pivotally connected with the lever 5 at 13 and adjustably connected with the lever by means of a screw 14 passing through a slot in the free end of the lever. The upper ends of the links 11 have pin-and-slot connections 15 with the arms 12 which permit the shaft to be rocked by the shift-lock lever 6 without disturbing the levers 5 and their connections. By means of the adjustable plates 10, the links 11 may be properly adjusted with relation to the arms 12 to avoid lost motion when the shift levers 5 are operated. It will be seen that upon pressing either of the shift levers 5 the segment will be raised to print upper case letters. The shift lock lever 6 is also provided with one of the adjustable plates 10 and connected by a link 11 with one of the arms 12 of the rock shaft in the same manner in which the shift levers 5 are connected.

To effect the locking of the segment in its upper position the rock shaft 3 is provided with a forwardly extending arm 16 to which a depending latch 17 is pivotally connected. The latch 17 has a shoulder 18 which rests upon an adjustable step 19 connected with the shift lock lever, when the latter is depressed, thus locking the lever down and the segment up. The step 19 is carried by a plate 20 which, as shown, is adjustably connected to the shift lock lever in the manner in which the plates 10 are connected to the shift levers. A spring 21 connected with the latch 17 tends at all times to draw it into engagement with the step 19.

It will be evident that upon depressing the shift lock lever 6 the segment will be raised, and automatically locked in its raised position by the latch 17. I provide for releasing the latch 17 on the step 19 upon depressing the adjacent shift lever 5 as follows: The latch is provided with an inclined, or cam, surface 22 and the lever 5 is provided with a laterally projecting pin or part 23 adapted to coöperate with the incline 22 when the shift lever is depressed. By reference to Fig. 4 it will be seen that when the segment is locked in its upper position the pin or projection 23 lies directly over the

incline 22. Upon depressing the shift lever 5 the pin coöperates with the incline to throw the latch forward and disengage it from the step 19, thus permitting the shift lock lever to rise. Upon again releasing the shift lever the segment, which has been thus unlocked, will descend to its normal position.

Having described my invention what I claim and desire to secure by Letters-Patent is,

1. In a case shifting mechanism for typewriters, the combination with a rock shaft having an arm, of a key lever, a link connecting the key lever with the arm of the rock shaft, a latch connected with the rock shaft, and a step on said key lever with which the latch coöperates to lock the rock shaft against movement when the key is depressed.

2. In a case shifting mechanism for typewriters, the combination with a rock shaft having an arm, of a key lever, a link connecting the key lever with the arm of the rock shaft, a latch connected with the rock shaft, and a step on said key lever with which the latch coöperates to lock the rock shaft against movement when the key is depressed, said step being adjustably connected with the key lever.

3. In a case shifting mechanism for typewriters, the combination with a rock shaft having an arm, of a key lever, a link connecting the key lever with the arm of the rock shaft, a latch connected with the rock shaft, a step on said key lever with which the latch coöperates to lock the rock shaft against movement when the key is depressed, and a second key lever provided with means for disengaging the latch from the step.

4. In a case shifting mechanism for typewriters, the combination with a rock shaft having an arm, of a key lever, a link connecting the key lever with the arm of the rock shaft, a latch connected with the rock shaft, and a step on said key lever with which the latch coöperates to lock the rock shaft against movement when the key is depressed, said link being adjustably connected to said key lever and said step being also adjustably connected to the key lever.

5. In a case shifting mechanism for typewriting machines, the combination with a rock shaft having a plurality of arms, of a shift lock lever having a pin-and-slot connection with one of said arms, a shift lever having a like connection with one of said arms, a latch pivotally connected to one of said arms and provided with a shoulder adapted to coöperate with a projection on the shift lock lever, a cam or incline on said latch, and a pin or projection on the shift lever adapted to coöperate with said cam or incline.

6. In a case shifting mechanism for typewriting machines, the combination with a rock shaft having a plurality of arms, of two shift levers, adjustable pieces on said shift levers, and links connecting said adjustable pieces with said rock shaft arms by means of pin-and-slot connections.

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

CARL GABRIELSON.

Witnesses:

CHAS. F. PARSONS,

G. RAYMOND REED.