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PATENTED APR. 4, 1905.

C. H. SHEPARD.  
TYPE WRITING MACHINE.  
APPLICATION FILED APR. 5, 1902.

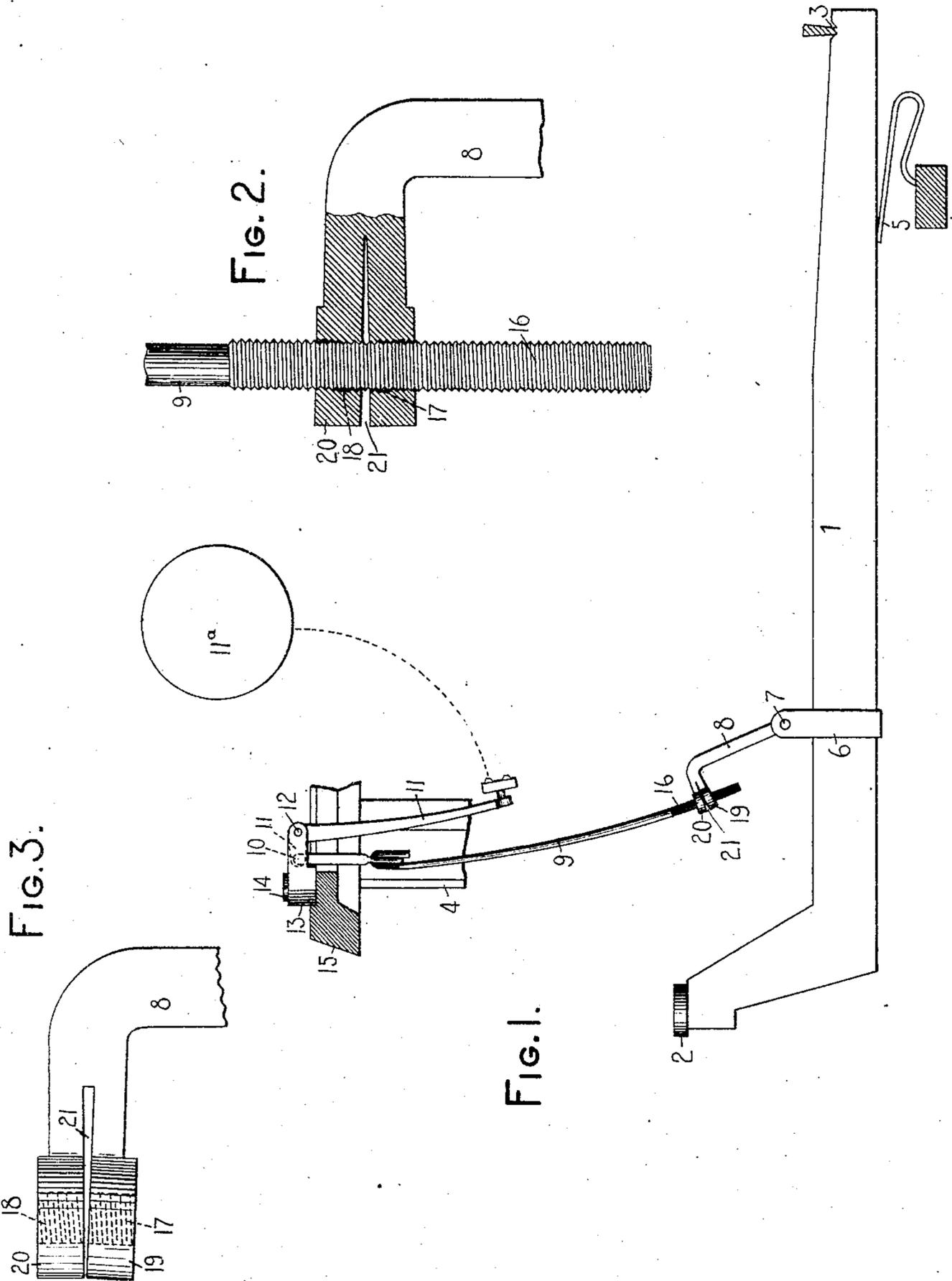


FIG. 3.

FIG. 2.

FIG. 1.

WITNESSES.

*K. V. Donovan*  
*Wm. E. Smith*

INVENTOR  
*Charles H. Shepard*  
by *Jacob Felbel*  
HIS ATTORNEY

# UNITED STATES PATENT OFFICE.

CHARLES H. SHEPARD, OF BROOKLYN, NEW YORK, ASSIGNOR TO  
WYCKOFF, SEAMANS & BENEDICT, OF ILION, NEW YORK, A COR-  
PORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 786,464, dated April 4, 1905.

Application filed April 5, 1902. Serial No. 101,446.

*To all whom it may concern:*

Be it known that I, CHARLES H. SHEPARD, a citizen of the United States, and a resident of the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to the two-part connecting links or rods of type-writing machines wherein the separate parts are united by screw-thread connections. It has been found impracticable to make the threaded connections between the members of each link of sufficiently snug a fit to prevent an accidental displacement of one member with relation to the other during the operation of the machine, and in order to overcome this defect it has been customary to employ a jam-nut on each link to hold the parts together; but considerable difficulty has been found in the use of these jam-nuts by reason of the fact that they do not efficiently provide against an accidental displacement of the parts, because it is impracticable to make the nuts fit their associated threads sufficiently snug, and in a short time the parts will work out of proper adjustment. Then, again, it frequently occurs that the tightening of the jam-nuts will start a fracture in the threads of the links, with the result that the threads will soon break when the machine is put into use, and, no matter how careful an inspection may be made, this imperfection will not be disclosed until the machine is in use on the market.

The object of my present invention is to overcome the difficulties hereinbefore referred to and to provide a simple, inexpensive, and efficient means for uniting the threaded members of each link and wherein there is little or no liability of the parts becoming displaced, deranged, or broken; and to these ends my invention consists in the construction, arrangement, and combinations of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view of sufficient number of parts of a type-writing machine to illustrate my inven-

tion. Fig. 2 is an enlarged detail side view, partly in section, of one form of the connecting means between the members of a link embodying my invention. Fig. 3 is a detail fragmentary side view of a portion of the link connection, the view illustrating a different disposition of the parts to secure them in the adjusted position.

I have illustrated my invention in its application to a No. 6 Remington type-writing machine, wherein the key-levers 1 are provided with finger-keys 2 and are fulcrumed at 3 in the frame 4 of the machine, each key-lever having an associated restoring-spring 5. Each key-lever 1 is provided with a surrounding U-shaped strap 6, to which is pivoted at 7 one member, 8, of a two-part connecting-link, the other member, 9, of the link carrying the usual "Remington" coupler, by which the link is pivotally connected at 10 to the type-bar 11, which latter is pivoted at 12 to a hanger 13, secured by a screw 14 to the top plate 15 of the machine. Each type-bar 11 coöperates with a platen, which is diagrammatically illustrated at 11<sup>a</sup>. The member 9 of the connecting-link is in the nature of a rod, which at its lower end is externally screw-threaded, as at 16, to take into internal screw-threads 17 and 18 in a divided socket formed by the parts 19 and 20, respectively, and which extend at substantially right angles to the body portion or shank of the member 8. The parts 19 and 20 are formed and threaded in the following manner: Those portions of the member 8 which constitute the parts 19 and 20 are preferably made of spring or resilient metal and are first made and drilled through where the internal screw-threads are to be formed. The piece or socket is then divided at 21 to form the separated parts 19 and 20, and the hole extending through the two parts is threaded by a single tapping operation, which also clears away any bur that may have been formed in the hole by the splitting process. The two parts 19 and 20 are now forced away from each other, as represented in Fig. 2, or toward each other, as shown in Fig. 3, so that the parts are at

an angle to each other to change the relative positions of the threads or to effect a lateral displacement of the threads 17 relative to the threads 18, and when the threaded portion 16 of the member 9 is screwed into the parts 19 and 20 a spring tension is produced on the parts 19 and 20 as soon as the threaded end of the member 9 enters part 19 after passing through part 20, and the friction on the engaging threads is produced by the tendency of the parts 20 and 19 to move to their original positions, thus maintaining the two members 8 and 9 of the link securely united, though permitting a relative adjustment and disconnection when desired. It will be understood that the spring tension of the parts 19 and 20 is uniform under all relative adjustments of the members 8 and 9.

While the preferred manner of constructing one form of link embodying my invention is that shown in Fig. 3, it is obvious that various changes in the construction and operation of the device may be made without departing from the spirit of my invention. Thus, for instance, instead of the member 8 or the parts 19 and 20 thereof being made of spring metal it or they may be made of non-resilient metal and the parts bent toward or away from each other, as indicated in the drawings, so that threads 17 and 18 will bind against the threads 16. In either case it will be seen that there is produced a relative displacement of the threads 17 and 18, which results in an effective engagement between the threads on the two members 8 and 9 of the link.

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

1. In a type-writing machine, a connecting-link comprising a rod having an externally-screw-threaded portion, and an internally-screw-threaded socket, which is split through the threaded portion thereof.

2. In a type-writing machine, a connecting-link comprising a rod having an externally-screw-threaded portion, and an internally-

screw-threaded socket, one portion of the threads of which is displaced with relation to another portion of said threads:

3. In a type-writing machine, a connecting-link comprising one member having an externally-screw-threaded portion and another member having two internally-screw-threaded parts for the reception of the threaded portion of the other member, the internal thread of one of said parts being displaced with relation to the internal thread of the other part.

4. In a type-writing machine, a connecting-link comprising one member having an externally-screw-threaded portion and another member having two internally-screw-threaded resilient parts for the reception of the threaded portion of the other member, the internal thread of one of said resilient parts being displaced with relation to the internal thread of the other part.

5. In a type-writing machine, a connecting-link comprising one member having an externally-threaded portion and another member having an end portion which is bent at an angle to the body thereof, the bent end being divided into two parts that are at an angle to each other and provided with transverse screw-threaded openings extending therethrough for the reception of the externally-threaded portion of the other member.

6. In a type-writing machine, the combination with a type-bar and a key-lever, of a connecting-rod comprising a member 8 having two integral threaded nuts arranged at an angle to each other, and a member 9 having an exteriorly-threaded portion to engage said nuts.

Signed in the borough of Manhattan, city of New York, in the county of New York and State of New York, this 4th day of April, A. D. 1902.

CHARLES H. SHEPARD.

Witnesses:

K. V. DONOVAN,  
E. M. WELLS.