

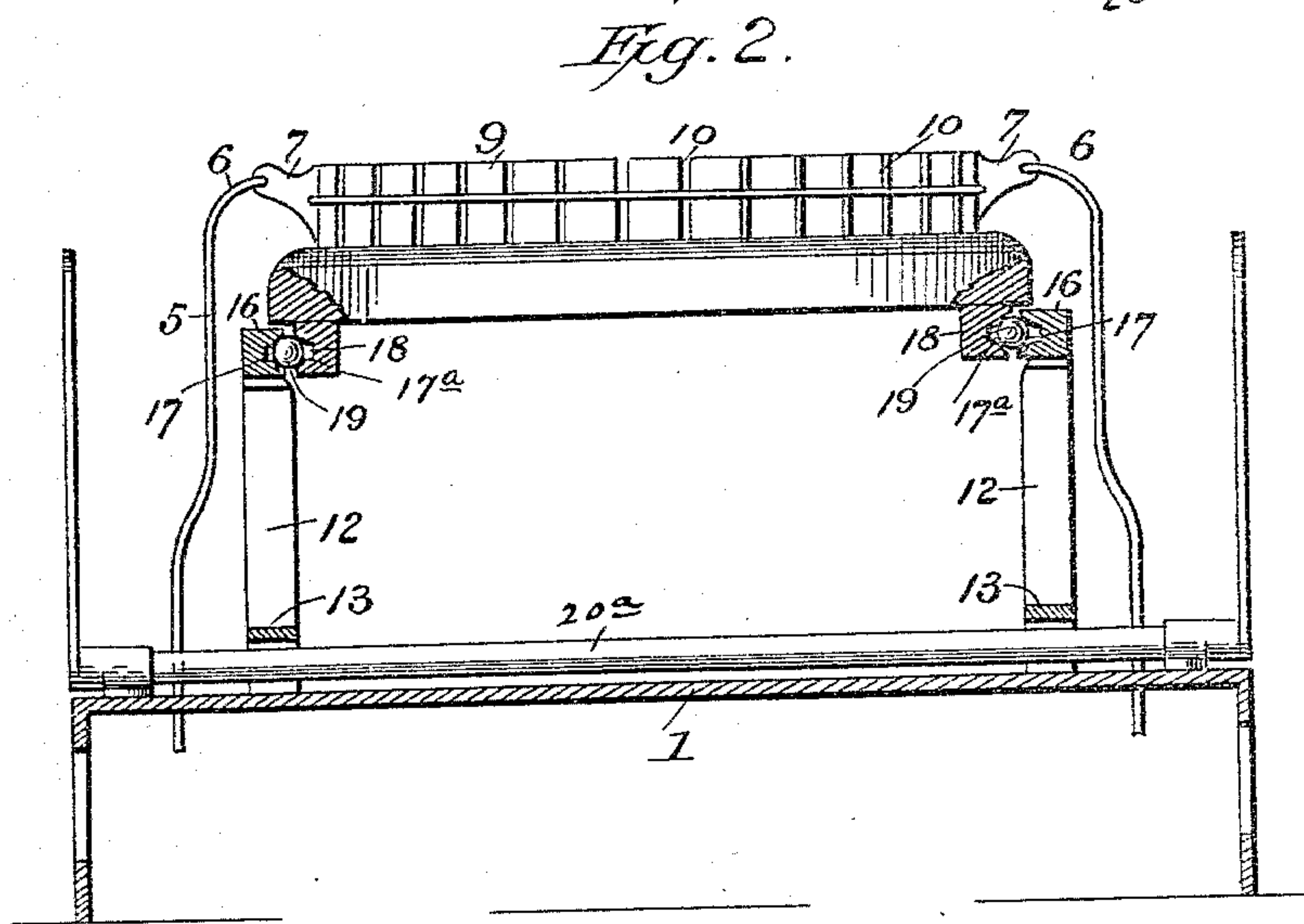
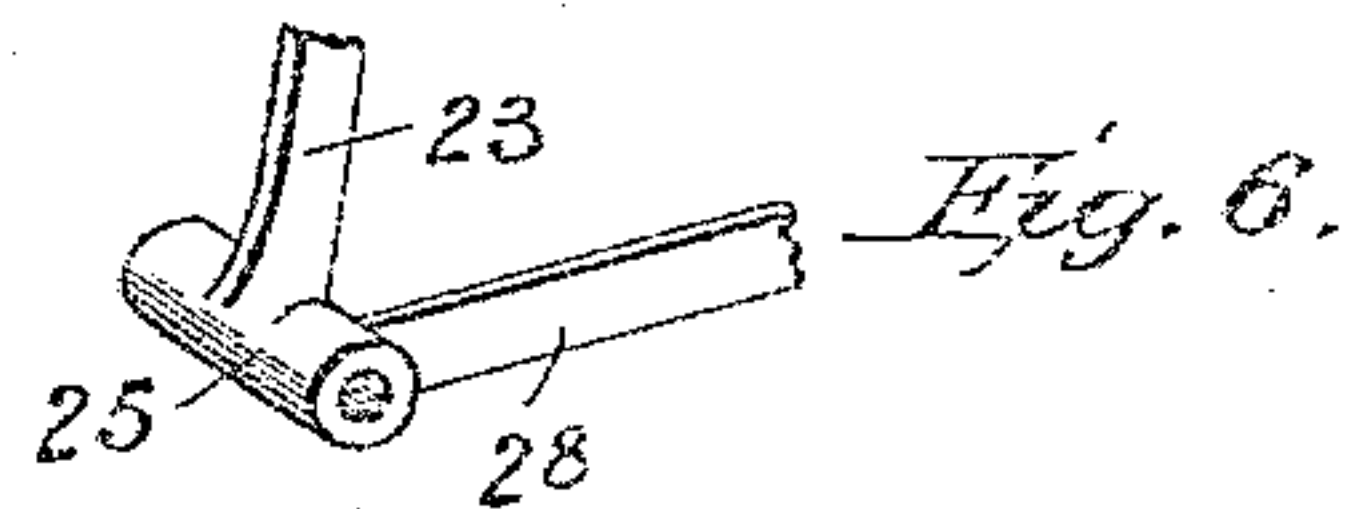
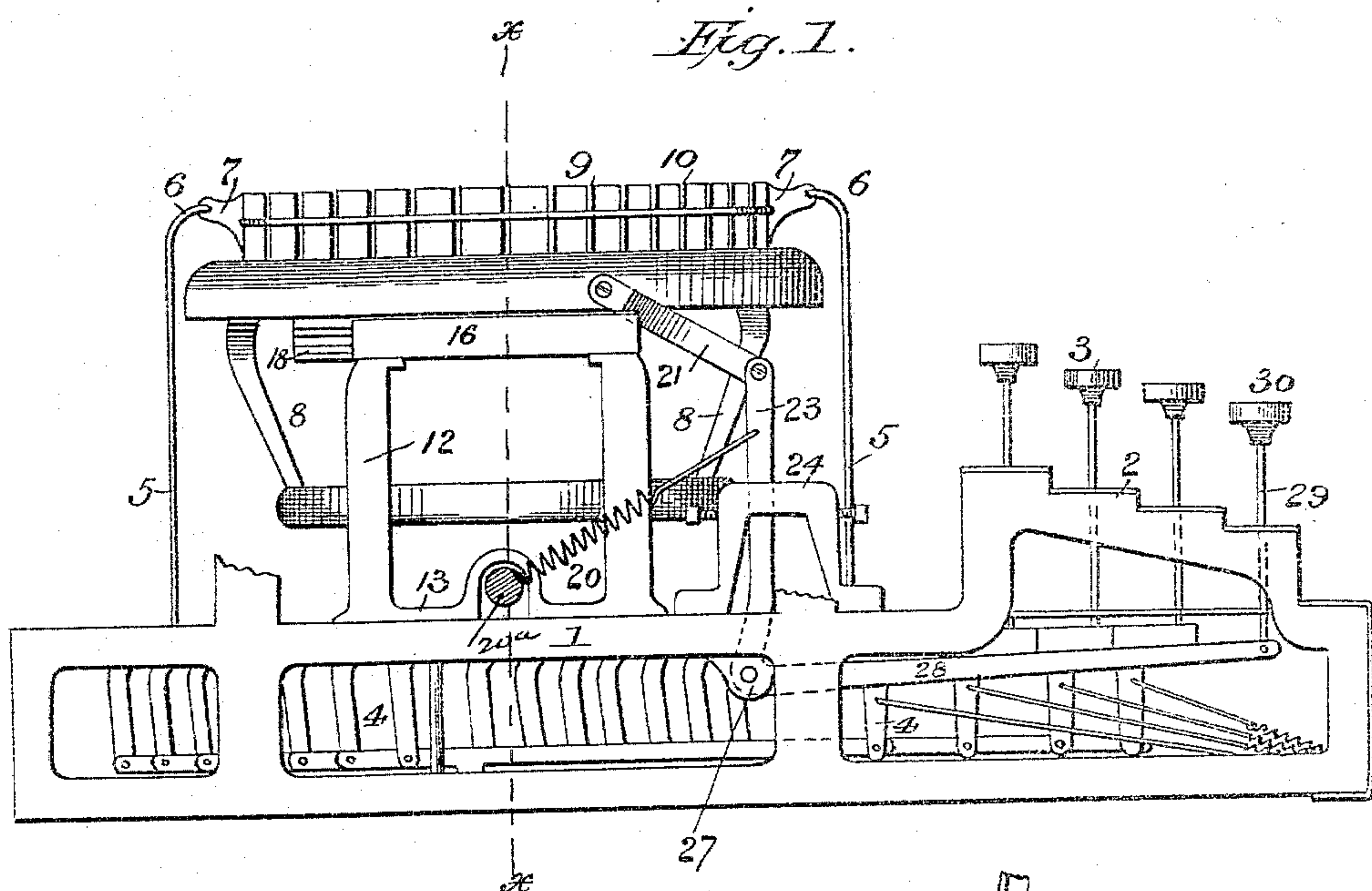
(No Model.)

2 Sheets—Sheet 1.

E. S. SHIMER.
TYPE WRITING MACHINE.

No. 545,316.

Patented Aug. 27, 1895.



Witnesses :

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Fig. 3.

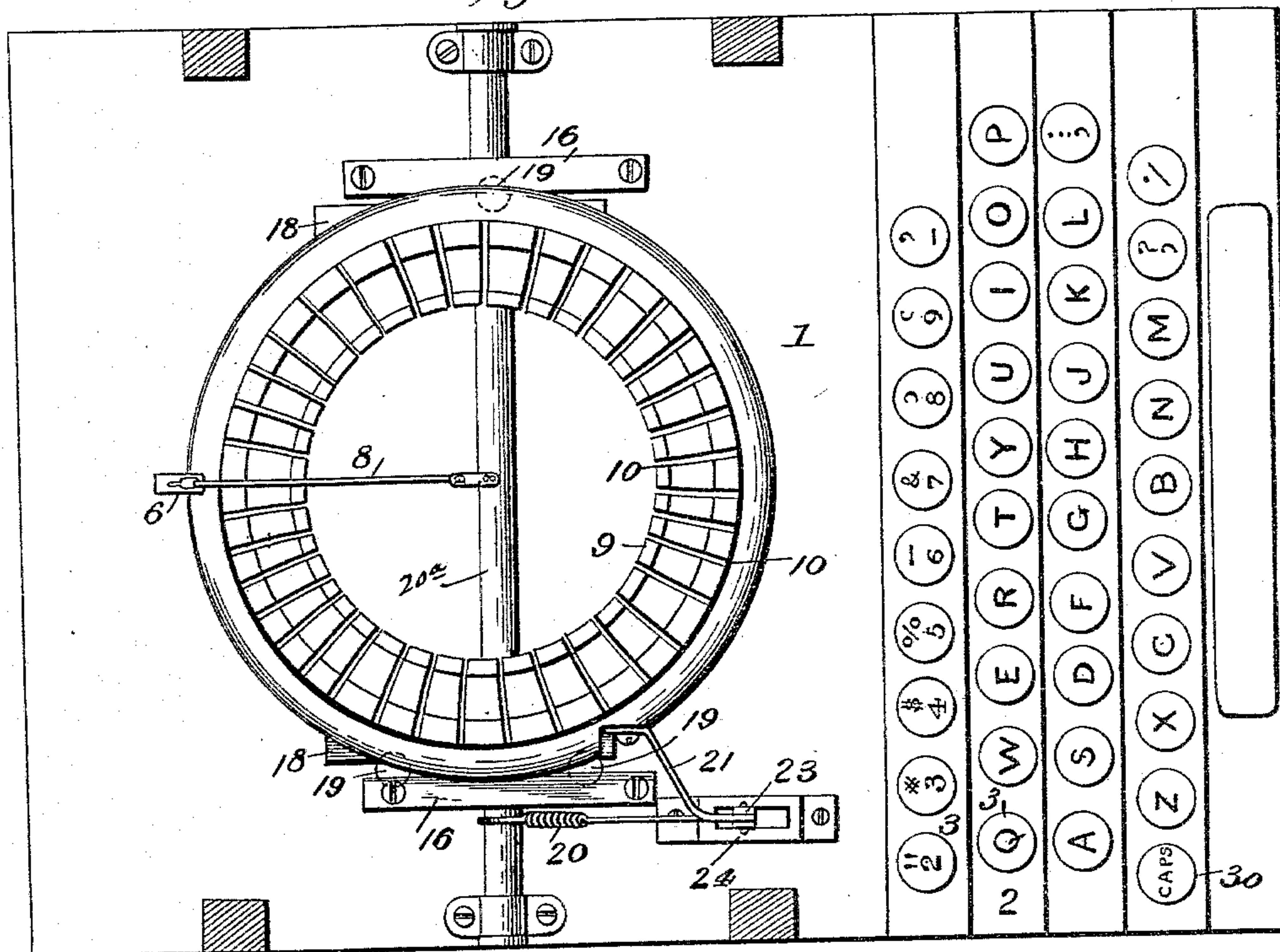


Fig. 4.

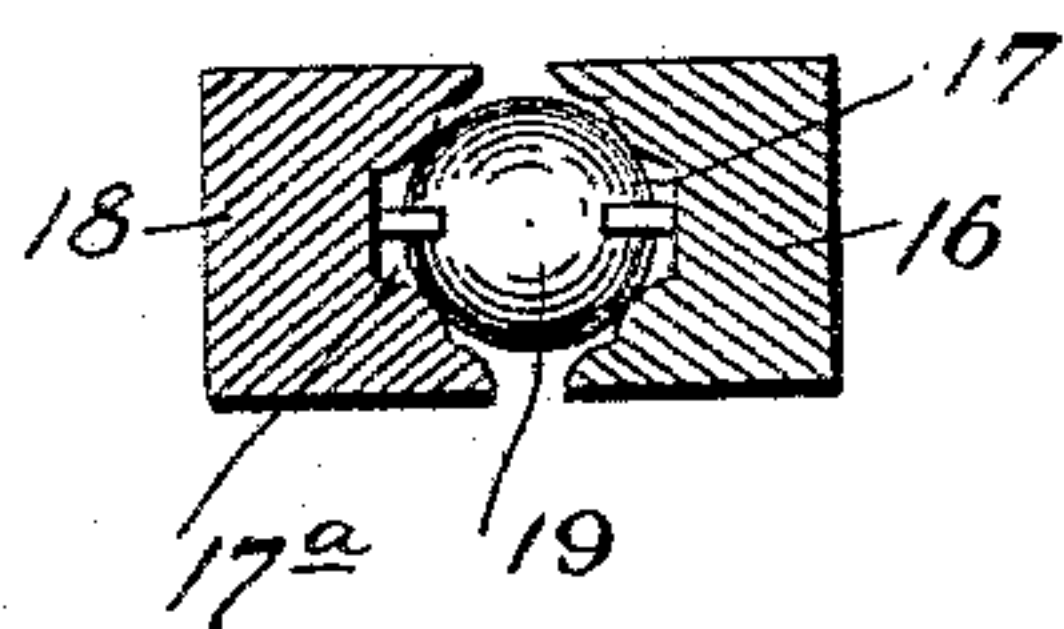
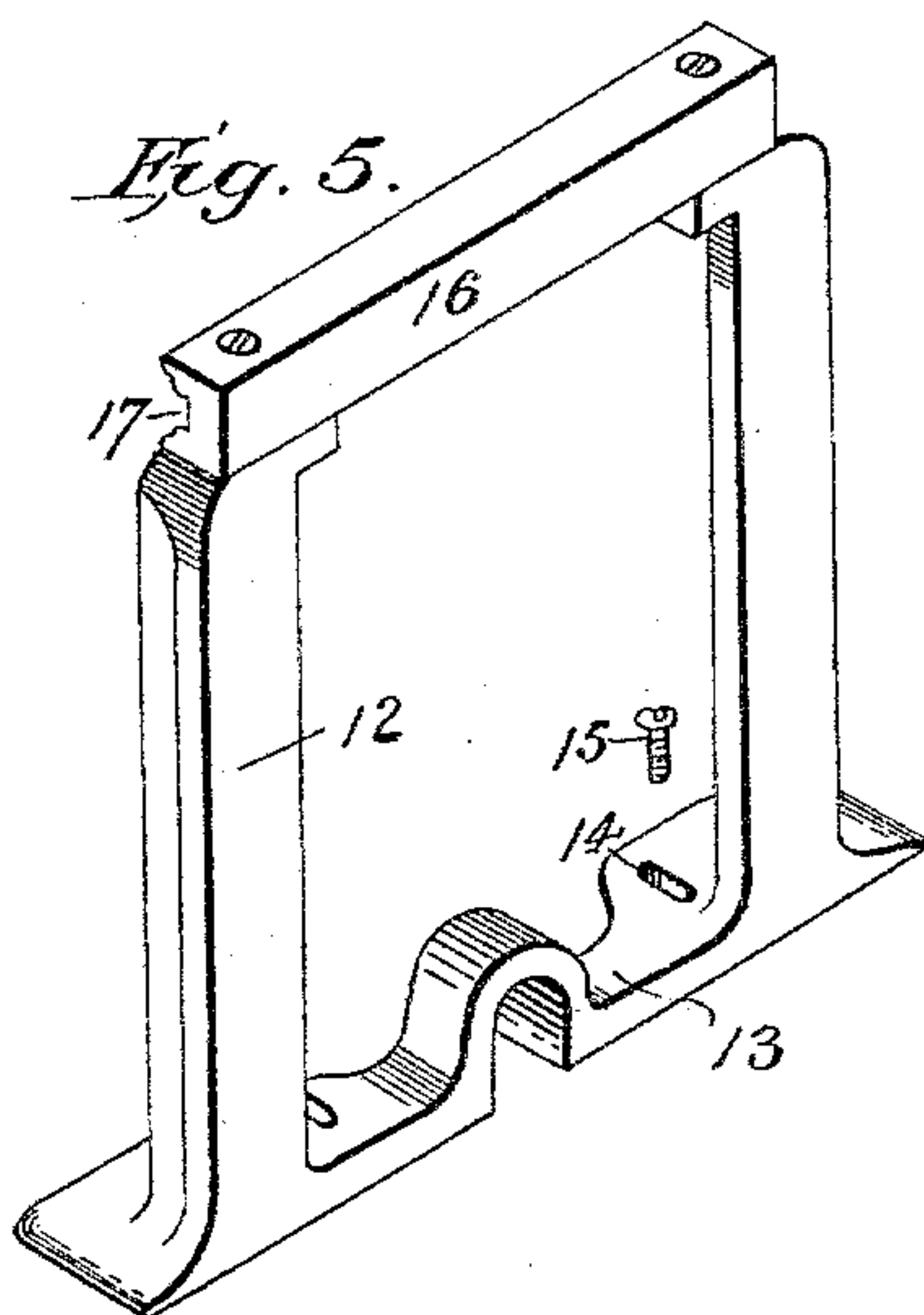


Fig. 5.



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UNITED STATES PATENT OFFICE.

ELMER S. SHIMER, OF MILTON, PENNSYLVANIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,316, dated August 27, 1895.

Application filed March 28, 1895. Serial No. 543,542. (No model.)

To all whom it may concern:

Be it known that I, ELMER S. SHIMER, a citizen of the United States, and a resident of Milton, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in type-writers of that class in which two or more types are formed or provided on each type-bar, so that by suitable shifting mechanism each type-bar may be made to print different characters or letters, and its object is to provide an improved construction of the same, whereby I obtain superior advantages with respect to efficiency in operation.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of so much of a type-writer constructed in accordance with my invention as is necessary to illustrate the same. Fig. 2 is a transverse sectional view on the line xx , Fig. 1. Fig. 3 is a plan view. Fig. 4 is a cross-section, on an enlarged scale, of the bearing-plates. Fig. 5 is a perspective view of the adjustable standards. Fig. 6 is a detail perspective view of the sleeve of the type-ring shifting-lever.

In the said drawings, the reference-numeral 1 designates the base of the machine, formed or provided with the usual keyboard 2, keys 3, pivotally connected with elbow-levers 4, which in turn are connected with vertical bars 5, the upper ends of which are formed into hooks 6, which engage with lugs 7 on the outer ends of the type-bars 8. These type-bars are pivoted to a type-ring 9, which is formed with a number of radial slots 10, corresponding in number with the number of type-bars. The inner or striking ends of the type-bars are formed or provided with two or more types for printing different characters.

So far the parts described may be of any

ordinary or suitable construction, as they form no part of the present invention.

Secured to the base at opposite sides of the type-ring are two standards 12, connected together by a bar 13 made integral therewith, forming a frame or yoke. The frame at one side is adjustable by means of a set-screw 14 and a slot 15. Secured to each of these frames at the upper end is a longitudinal bearing-plate 16, formed on the inner sides with a groove 17 extending from end to end thereof, the top and bottom edges of which grooves are convex, as shown. The numeral 18 designates similar plates secured to the type-ring and registering or being in alignment with the plates 16. These plates are formed with similar grooves 17^a, and the space thus formed constitutes a way to receive balls or spheres 19, which serve as bearings for the ring and serve to reduce the friction. In the said ways, at one side of the machine, are located two of said balls or spheres 19, one near each end, while in the opposite way there is but one ball, which is located about midway the length thereof.

The frame carrying the plate in which the single ball is located is adjustable by means of the set-screw for the purpose of regulating the tension, as the uprights of the frame possess sufficient resiliency to cause the balls to be properly confined between the plates without binding, allowing the ring to move easily back and forth. A coiled spring 20 is connected with the lever, which moves the type-ring, and with the shaft 20^a, which shifts the ink-ribbon for returning the ring to normal position.

Secured to the type-ring at one side is an arm 21, which is connected with a vertical lever 23, passing through a guide 24 and secured to a sleeve 25, journaled on a rod 26, secured to brackets 27 on the bed of the machine. This sleeve is also provided with a longitudinal lever 28, which is connected with a vertical key 29, having a head or button 30, by depressing which the type-ring is shifted.

Pins 31 are secured to the bearing-plates for locating and confining the balls in proper position therein.

The operation will be readily understood. When in normal position, the type-ring is

moved back, so that when a type-bar is actuated by depressing its key the type will strike the ink-ribbon above and cause a small letter to be printed on the paper carried by the paper-carriage. To change to another character, as a capital letter, the key 29 is depressed, which, through the medium of the connections, will cause the type-ring to move horizontally forward, so that the next character on the type-bar will strike the ink-ribbon and print a capital letter or other character. When the key is released, the coiled spring returns the type-ring to normal position. By the peculiar location of the balls between the bearing-plates—that is to say, with a single ball in one way and two balls in the opposite way, so that the single ball occupies a position in the way intermediate the positions occupied by the balls in the opposite way—the friction is greatly reduced, allowing the type-ring to be readily and easily shifted. The resiliency of the standards will cause the outer bearing-plates to press against the balls with sufficient force to prevent wobbling of the ring without causing undue friction, which would tend to make the ring bind. The pins 31 locate the balls in the ways, so that the latter are always in their proper positions.

Having thus fully described my invention, what I claim is—

1. The combination in a type writing machine, of the horizontally movable type ring, provided with pivoted type bars having one or more characters thereon, the plates secured to said type ring, the standards at opposite

ends of the machine, one of which is adjustable, the ball bearings located between said plates and standards, the coiled spring, and means for moving said ring by depressing a key, substantially as described.

2. The combination in a type-writer, of the horizontally movable type-ring, provided with pivoted type-bars having two or more characters thereon, the grooved plates forming ways and the standards at opposite ends of the machine, the two balls located in one of said ways, near each end thereof, the single ball located in the other way at or near the center, the coiled spring and means for moving said type-ring by depressing a key; substantially as described.

3. In a type-writer, the combination with the horizontally movable type-ring and the bearing-plates secured to opposite sides thereof provided with grooves having convex edges, and provided with pins at suitable points of the adjustable standards at one side of the machine, the standards at the opposite side, the grooved plates secured to said standards, the pins, the ball-bearings and means for shifting said type-ring; substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ELMER S. SHIMER.

Witnesses:

AUGUST PETERSON,
 BENNETT S. JONES.