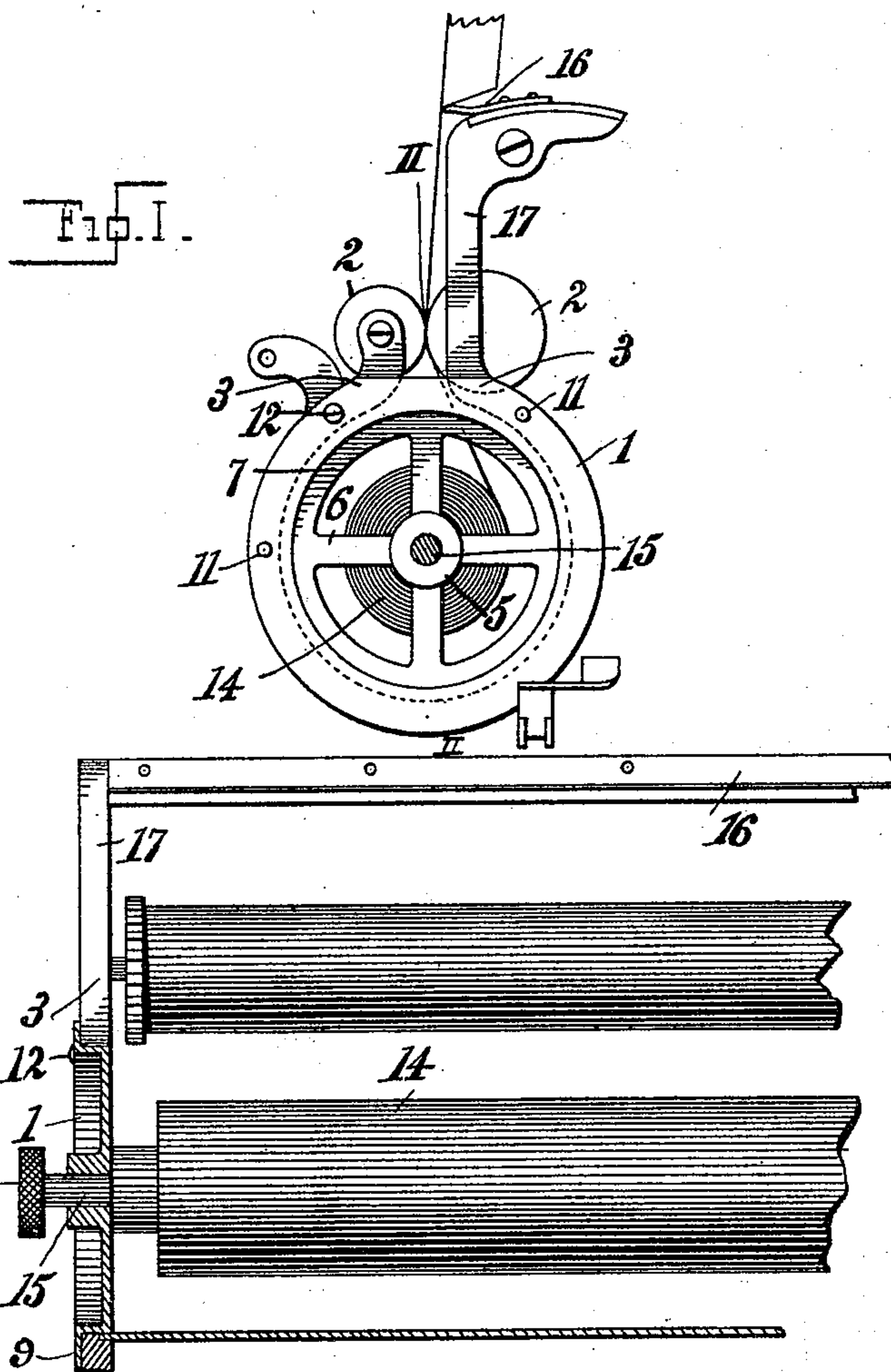


(No Model.)

F. L. CLIFFORD.
TYPE WRITING MACHINE.

No. 496,296.

Patented Apr. 25, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK L. CLIFFORD, OF BROOKLYN, NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 496,296, dated April 25, 1893.

Application filed November 22, 1892. Serial No. 452,796. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. CLIFFORD, a citizen of the United States, residing at Brooklyn, county of Kings, 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 that class of type-writing machines in which the paper is delivered to the platen from the cage of approximately cylindrical shape usually, as for example, in the Hammond typewriter, located immediately under the feed rollers and striking point of the type, and my invention is designed to render it possible to operate with such machines a continuous roll of paper in place of the separate sheets of paper now used. To this end, I supply to the ends of the carriage frames suitable spiders or brackets having journals adapted to receive the trunnions of the paper roll.

Referring to the accompanying drawings which form a part of this specification:— Figure I is an end view of so much of the paper carriage of the Hammond typewriter as is necessary to the understanding of the invention, my improved means of mounting a paper roll therein being shown. Fig. II is a vertical sectional view of one end of the same on the plane indicated by the line II—II, Fig. I. Fig. III is a view of the spider or paper roll support detached.

1 may represent one of the end frames of an ordinary Hammond typewriter and 2, 2 the paper feed rolls supported thereon. The end frames are usually open at the end and have also their upper edges 3 somewhat separated to allow the paper to pass up through the same and between the feed rollers 2, 2. In use, the paper is passed down into the cage between the feed rollers 2, 2 or is rolled up and slid into the cylinder through the end frame 1 endwise.

4 is my paper roll supporting spider or frame. It has the bearing 5 supported by arms 6 from the cylindrical part 7 which is adapted to slip into the end frame of the paper carriage. This cylindrical portion 7 is made of just the right diameter to fit the paper carriage of any machine to which the invention is to be applied. Instead of the arms 6, it is apparent that the bearing 5 may be simply formed in the center of a solid disk which has the cylindrical part 7 at its periphery. A

lighter construction however and one capable of allowing an inspection is obtained by use of the arms as shown having spaces between them. The spider or supporting frame 4 has the flange 9 which seats against the end frame 1 which is provided with holes 10, 10 entered by pins 11, 11 on the end frame. The spider being thus centered, it is readily fastened by a screw 12 passing through hole 13 in the flange 9 or other means of attachment may be employed. It is to be understood that the same form of spider substantially as used at each end can be used, its edges being made to fit however any difference in the form of the end frame or parts of the typewriter at the two ends of the carriage.

14 is the paper roll supported by a shaft whose trunnions 15 are adapted to enter the bearings 5 in the spiders. By removing the screw 12 the spider at one end can be taken off and a used up roll or shaft removed and a new one inserted without great delay.

As seen in Fig. I, the paper from the roll 14 passes up between the feed rollers 2, 2 and it may be severed into the length desired after having been written upon by being torn against the knife 16 which is supported on the arms 17 of the end frame and which extends from end to end of the paper carriage. A thumb piece 18 affixed to one or both of the trunnions 15 enables the adjustment of the roll and the winding or unwinding of the paper thereon.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a typewriter in combination with the end frames 1, the paper roll supporting spider or frame having bearing 5 arms 6, cylindrical portion 7, flange 9 and means of attachment to said end frame, substantially as set forth.

2. The combination of the paper carriage end frames, the paper roll supporting spiders or frames fixed thereto, a paper roll having its trunnions supported therein, a thumb-screw affixed to one of said trunnions, and the stationary severing knife supported on the end frames, substantially as and for the purposes set forth.

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Witnesses:

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