(No Model.) 2 Sheets—Sheet 1.

C. W. WALKER.

TYPE WRITING MACHINE.

No. 487,802. Patented Dec. 13, 1892.

Fig. 1.

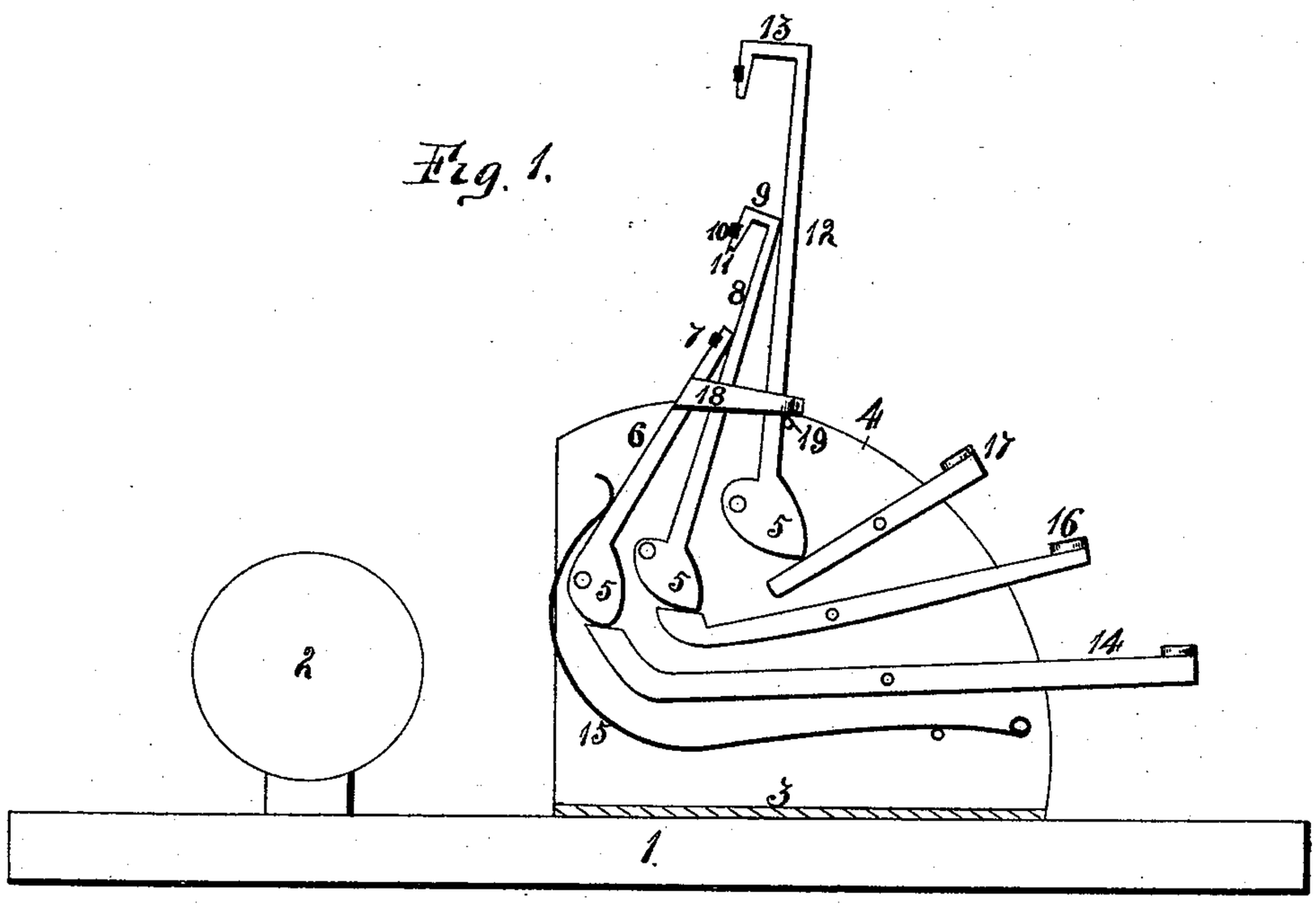
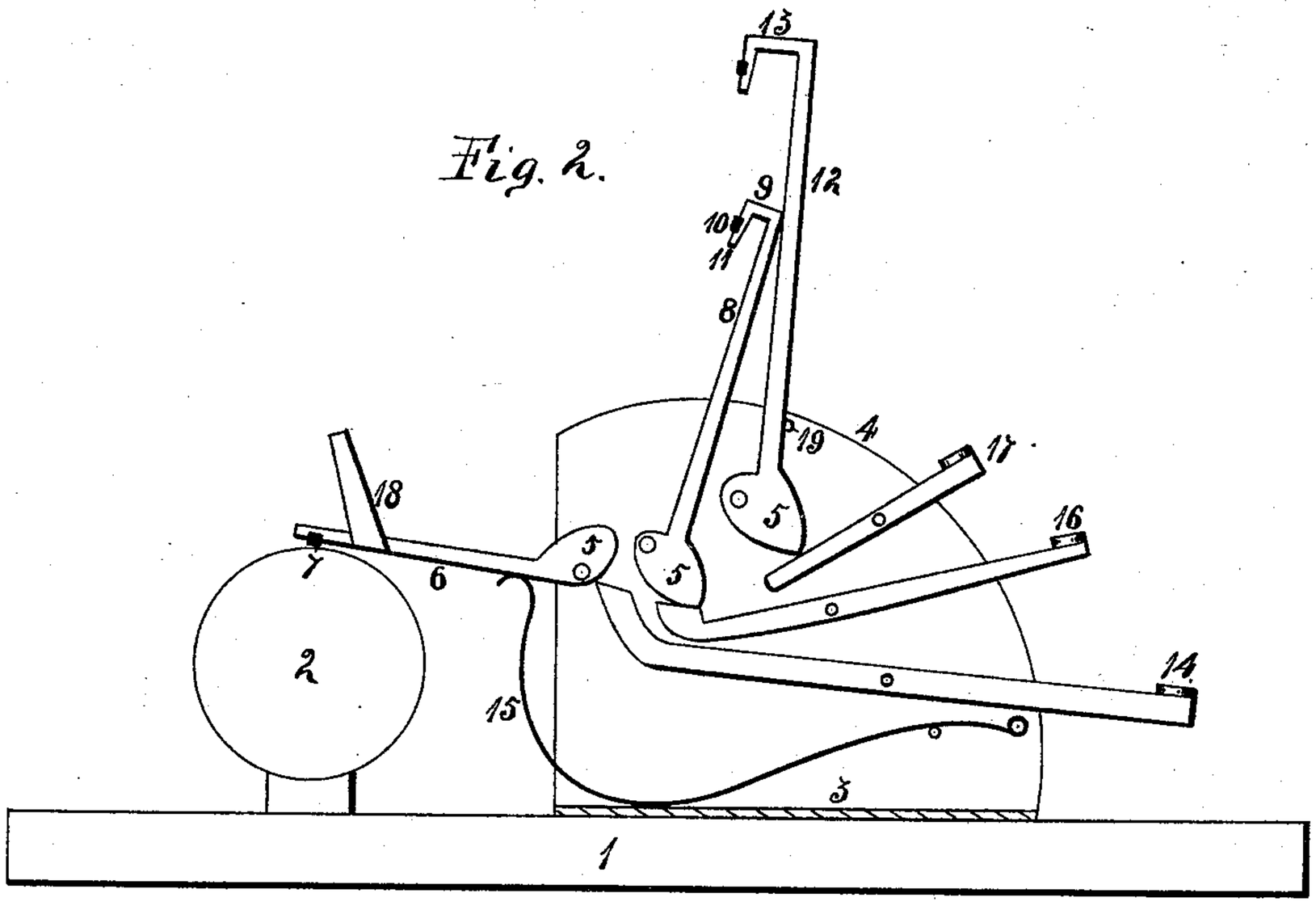


Fig. 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

C. W. WALKER.

TYPE WRITING MACHINE.

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Fig. 5.

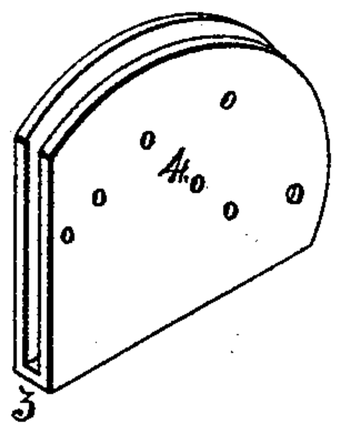


Fig. 3.

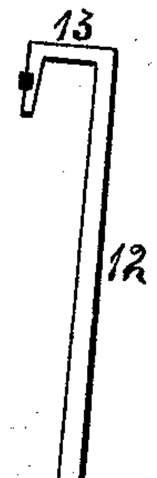
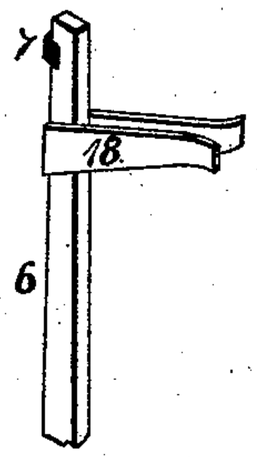


Fig. 6.



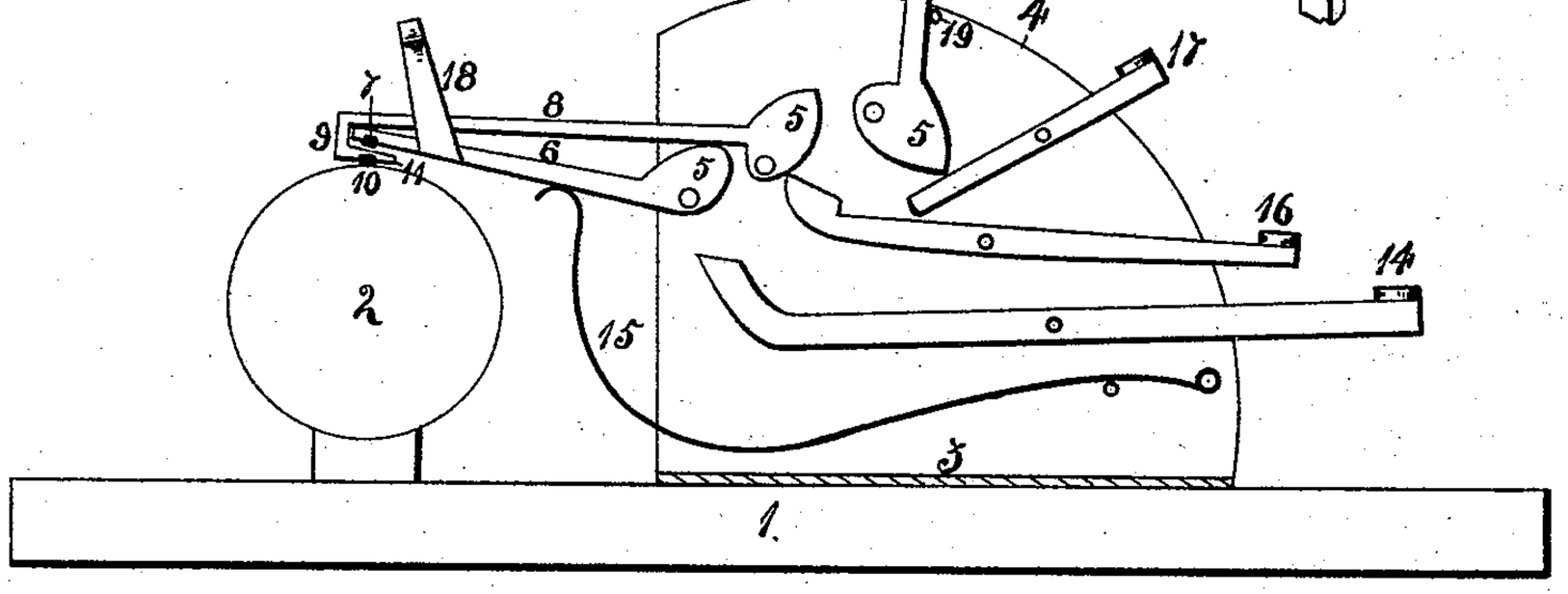
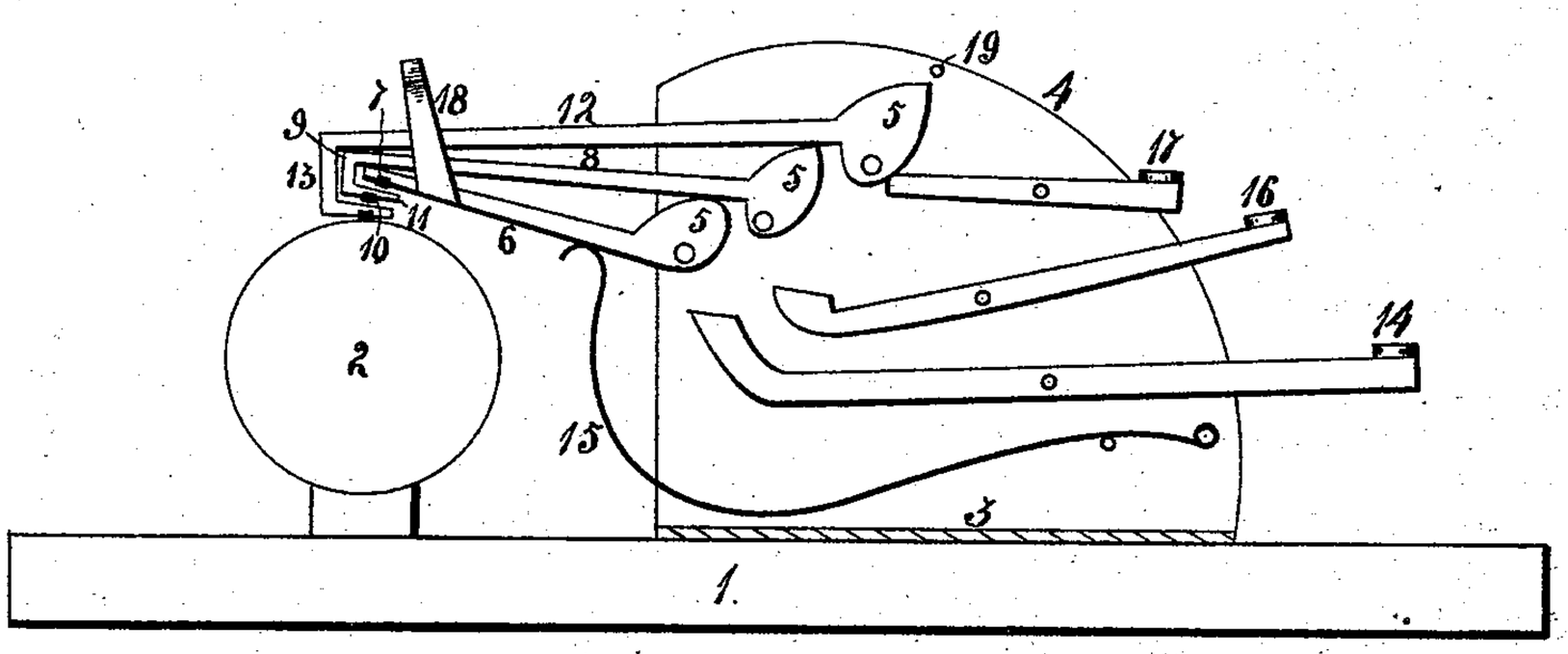


Fig. 4.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES W. WALKER, OF STRANG, NEBRASKA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 487,802, dated December 13, 1892.

Application filed July 20, 1892. Serial No. 440,690. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. WALKER, a citizen of the United States, residing at Strang, in the county of Fillmore and State of Nebraska, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

The object of this invention is to construct a type-writer in which the space now occupied by the keys and type-bars is greatly reduced—that is, a series of type-bars are placed in the same vertical plane and as each type-bar is operated it also moves all type-bars in front of it and when any type-bar other than the front is operated the type of all preceding bars are covered in order that the type of the type-bar which is operated may leave its imprint upon the paper.

In the accompanying drawings, Figure 1 is an elevation of my improvements with one side of the support for the type-bars and keys removed, showing the parts in their normal position. Fig. 2 is a similar view showing the first type-bar in contact with the paper-roller. Fig. 3 shows the position of the type-bars when the second type-bar is moved. Fig. 4 shows the position of the type-bars when the third type-bar is moved. Fig. 5 is an isometrical representation of the support for one series of the type-bars and keys. Fig. 6 is an isometrical representation of the free end of the first type-bar, showing the guide for the other type-bars.

My improvements relate to that class of type-writers in which an inking-ribbon is employed and between which and the paper-roller the paper is located, so that an impression of the type is left upon the paper by the type forcing the inking-ribbon in contact with the paper and against the paper-roller.

In the drawings I have only shown a single set of type-bars and keys, as all others employed to make a complete type-writer would be duplicates, so far as the principle of their operation is concerned. Upon the base 1 is supported a paper-roller 2 in any suitable manner and may be provided with means to impart a rotary and longitudinal movement thereto. The support for the type-bars and keys consists of a base 3, having sides 4, the base being secured to the base or main support 1 of the machine. The side plates 4 are separated the thickness of the type-bars. Each of the type-bars is provided with an enlarged end 5 of cam form and pin for the pivot connection of the type-bar with the side bar of their support. From the enlarged end of the first type-bar extends an arm 6, near the outer end and front side of which is located the type 7. This type-bar is of sufficient length to allow its type to strike upon the top of the paper-roller. The second type-bar 8 is the same in construction as the first, with the exception that its free end 9 is in hook form and the type 10 is placed upon the front arm 11 of the hook. This type-bar is longer than the first type-bar, owing to its pivot being farther from the paper-roller. The third type-bar 12 is the same as the second, except that the hook 13 of its free end is larger and the bar itself longer. A separate key is employed to operate each type-bar and each has a pivotal connection with the support for the type-bars. The key 14 for the first type-bar has its front end curved upward in order not to come in contact with the key for the second type-bar. The free end of the key engages the cam-shaped end of the type-bar and by depressing its outer end will cause the type-bar to be moved upon its pivot, bringing its type in contact with the paper placed upon the paper-roller, as shown at Fig. 2. A spring 15, secured between the side plates 4, has its free end resting against the front side of the first type-bar, and when the key is released the spring will return it to its normal position. As each type-bar has a separate key, the key 16 for the second type-bar will depress the bar, bringing its type against the paper-roller. It will be noticed, however, that as the type of each type-bar strike the same place on the paper-roller and as the second type-bar is directly behind the first type-bar and in the same vertical plane, when the second type-bar is depressed it must necessarily carry the first type-bar with it, and in order to allow the type of the second type-bar to come in contact with the paper-roller the free end of the first type-bar will enter the hooked end of the second type-bar, thereby covering the type of the first type-bar, preventing it coming in contact with the paper-roller, and owing to the spring 13 exerting its force on the first type-bar will hold the first type-bar

in contact with the second type-bar, when the parts will assume the positions shown at Fig. 3 and the spring will return both type-bars to their normal positions when the key to the second type-bar is released.

The third type-bar is the same in construction as the second type-bar, with the exception that its hooked end 13 is large enough to receive the end of the second type-bar, thereby covering its type, and when the third type-bar is depressed by the action of its key 17 the first and second type-bars are also carried with it, the type of the first type-bar being covered by the hooked end of the second type-bar and the type of both first and second type-bars being covered by the hooked end of the third type-bar, when the parts will occupy the position shown at Fig. 4. The action of the spring 13 will carry all the type-bars to their normal position when the pressure on the key to the third type-bar is removed.

To the sides of the first type-bar I secure a guide 18, which extends therefrom and receives the other type-bars. This guide serves to center the second and third type-bars and to insure the spring acting upon them by holding them behind the first type-bar. A stop 19 prevents the action of the spring forcing the type-bars out of reach of the keys and into such position as not to be operated upon by the keys and into such position that they will stand in their elevated position when the type bar or bars before them are operated.

The required number of supports containing the type-bars and keys are located with relation to the paper-roller so that the type of the type-bars will all strike the same point on the paper-roller.

As before stated, I have shown a paper-roller without the mechanism for operating it simply to show its relative location with the type-bars, and I have also shown the type-bars as striking on top of the paper-roller, while it is evident that they may strike the roller upon its under side, as I believe I am the first to locate a series of type-arms so that when one type-bar is operated it will carry all located before it, irrespective of its adaptation to the paper-roller. It is also evident that two or more type-arms may be thus arranged, and the greater the number the less supports will be required and consequently less width of machine.

I claim as my invention—

1. In a type-writer, a series of type-bars located one behind the other in the same vertical plane and a key for each type-bar.

2. In a type-writer, a series of type-bars located one behind the other, each type-bar, excepting the first, provided with a hooked end, and a key for each type-bar.

3. In a type-writer, a series of type-bars located one behind the other, each succeeding type-bar covering the type of all preceding type-bars when they are operated, and keys for operating the type-bars.

4. In a type-writer, a series of type-bars located one behind the other in the same vertical plane, a key for each type-bar, and a spring for holding the series of type-bars in their normal position.

5. In a type-writer, a series of type-bars located one behind the other, a key for each type-bar, and a guide for the type-bars, secured to the first type-bar.

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Witnesses:
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