

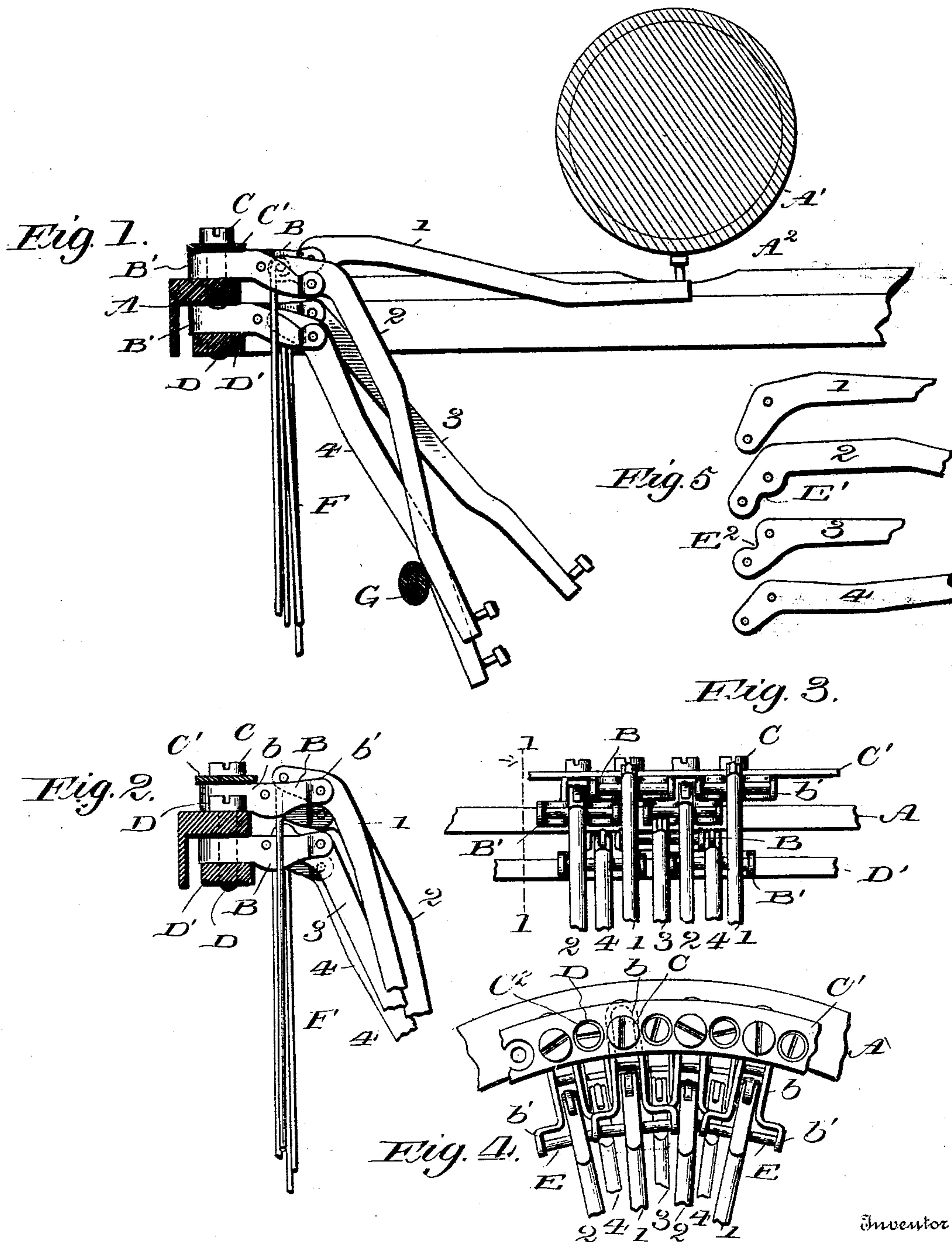
No. 625,375.

Patented May 23, 1899.

J. WINSOR.  
TYPE WRITER.

(Application filed June 1, 1898.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 625,375, dated May 23, 1899.

Application filed June 1, 1898. Serial No. 682,292. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WINSOR, a citizen of the United States, residing at Corry, in the county of Erie, State of Pennsylvania, have  
5 invented certain new and useful Improvements in Type-Writers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to type-writers, and  
10 particularly to the application or arrangement of the type-bar brackets in relation to the supporting-disk carried by the frame of the machine.

The invention has for its object to permit  
15 the application of a type-bar having an extended or long bearing within its supporting-bracket in such a manner that the largest number of said brackets may be applied to the disk of the machine within a stated area.  
20 This object is accomplished by locating a series of these brackets with their pivotal ends in the same vertical plane and at an equal distance from the axis of the supporting-disk—that is, supporting two of the brackets above  
25 the disk and two below, whereby the long pivots may be so nested as to permit the application of four type-bars, one beneath another, with their pivots at an equal distance from the axis of the disk.

30 The invention has for a further object to produce an improved construction of the several parts for permitting this arrangement of the type-bars, each upon a similar pivotal center, and the free movement of the same  
35 when so nested or arranged.

Other objects and advantages will hereinafter appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

40 In the drawings, Figure 1 is a detail section illustrating a series of four type-bars in position upon the supporting-disk. Fig. 2 is a similar detail section with the said bars at rest. Fig. 3 is a detail front elevation of a  
45 series of type-bars. Fig. 4 is a top plan view, and Fig. 5 is a detail, of the pivotal end of one series of the type-bars.

Like letters and numerals of reference indicate like parts throughout the several figures  
50 of the drawings.

The letter A designates a disk or other sup-

porting-surface carried by the frame of a type-writer, from which the type-bar brackets are supported. Above this disk the usual platen A' is located and carried in the move- 55 ment of the carriage across the disk. The disk beneath this platen is cut away, as at A<sup>2</sup>, so that the platen may be lowered to bring the lines of contact between the platen and the type-bars more central for heavy or 60 thick manifolding work. It is also proposed to omit several of the type-bars beneath or at the cut-away portion of the disk, so as to not interfere with the travel of the platen above the disk. 65

The type-bars are arranged in a series of four bars, each numbered 1, 2, 3, and 4, respectively, in their descending order and of slightly-increasing length. For the purpose of illustration in this application only a por- 70 tion of the bars have been illustrated; but in the machine when constructed the disk will carry a number of type-bars—for instance, eighty-four in the complete circle—the pivot of each bar being eleven-sixteenths 75 of an inch long. These type-bars are supported in two brackets of different characters. For instance, the brackets B are similar in shape and configuration and support the bars 1 and 3, while the brackets B' are provided 80 with a bearing in a plane lower than the brackets B and support the bars 2 and 4. By reference to Fig. 1, which is taken upon the line 1 1 of Fig. 3, looking in the direction of the arrow, it will be seen that the bars 1 and 2 are 85 supported by the upper set of brackets B and B', which brackets rest upon the upper face of the disk and are clamped thereon by means of a screw C and an interposed plate C'. The depending pivot end of the bracket B' per- 90 mits the long bearing of the bar 2 to lie beneath a portion of the bearing of the bar 1. Likewise the second set of brackets B and B', which support the type-bars 3 and 4, respectively, are located beneath the ring and are 95 clamped against the under face of the same by means of a screw D, which engages a clamping-plate D'. This screw D passes through an aperture C<sup>2</sup>, formed in the plate C' between the screws C, and is threaded into 100 the plate D'. The brackets supporting the type-bars 3 and 4 are nested similarly to the



upper set of brackets B and B', with the exception that they are slightly moved to one side, so that the type-bars will not lie beneath the corresponding bars in the upper set, but will be located between the same. For instance, as illustrated, the bar 4 will lie between the bars 1 and 2 and the bar 3 between the bar 1 of one series and the bar 2 of the next adjacent series.

Each of the brackets B and B' is composed of a loop portion *b*, by which they are clamped in position and at their outer ends are offset, as at *b'*, immediately adjacent to the long bearings E, carried by the type-bars. This structure of bracket supports the bearing, while the inner end of the type-bar lies between the walls of the loop *b*, and is thus held against lateral movement. The inner end of each of the type-bars is pivotally connected with the usual rods F, which are operatively connected with the keyboard of the machine, as usual. The series of type-bars when they are at rest bear upon the usual ring G, supported by the frame for that purpose, and each of the bars carries at its outer end a suitable type. The type-bars of each series are pivoted in successive planes in a descending order, so that the bar 4 is the lowest of the series. This, it will be understood, is necessary to bring the type-bar pivots in a vertical line and at an equal distance from the axis of the ring and to concentrate a number of bearings in a small area. The outer end of each of the bars is also suitably offset or bent to throw the bar into its proper alinement, which is necessary in view of the lowering of the bars in the series. The inner or pivoting end of the bars may also be suitably cut away or recessed to prevent interference with adjacent bearings or brackets. For instance, the bar 2 is cut away at E' upon its under side to prevent contact or interference with the pivot of the bar 3, which lies immediately beneath the bar 2. The bar 3 is also recessed upon its upper surface, as at E<sup>2</sup>, so as to permit the proper swing of the bar without interference with the pivot E of the bar 2, which is immediately above the bar 3. The pivotal ends of the bars 1 and 4 may be substantially the same, as they are not in such position as to interfere with the pivots or brackets of adjacent bars. This recessing materially assists in permitting the close assemblage or nesting of the bars and their brackets, which is also greatly facilitated by means of the offsets in the brackets located immediately adjacent to the pivoting-point for the type-bar. By this means a series of four successively-lowered bars may be used and all of the pivots located in the same vertical plane. This location of all of the type-bar pivots in the same vertical plane at an equal distance from the axis of the ring is a very material and essential improvement in this art, as it permits the most advantageous length of pivot to be

used without materially altering the length of the bars or their pivotal centers, which difference in length causes a different leverage upon the individual bars, and thus fails to produce a uniform character of stroke, which is essential to the most desirable class of work.

It will be obvious that my improvement can be applied to any class of type-writers and that the brackets and type-bars may be increased or diminished in the number of series used and various means for securing the same applied without departing from the spirit of this invention as defined by the appended claims.

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

1. In a type-writer, the combination with a supporting-ring, of type-bar brackets located beneath said ring, a clamping-plate beneath said brackets, a securing-screw passed through said ring into said plate, type-bar brackets located upon the upper surface of said ring, a clamping-plate above said upper brackets and provided with apertures in alinement with the heads of the screws for the lower clamping-plate, and securing-screws extending from said upper plate into said ring; substantially as specified.

2. In a type-writer, the combination with a supporting-ring, of two type-bar brackets located upon the upper surface of said ring and having their pivoting portions extending in different horizontal planes, two type-bar brackets located beneath said ring and having their pivotal portions extending in different horizontal planes all of said brackets having their pivotal ends at an equal distance from the axis of the ring, and means for clamping said brackets in contact with the opposite faces of said ring; substantially as specified.

3. In a type-writer, the combination with a supporting-ring, of two type-bar brackets located upon the upper surface of said ring and having their pivoting portions extending in different horizontal planes, two type-bar brackets located beneath said ring and having their pivotal portions extending in different horizontal planes all of said brackets having their pivotal ends at an equal distance from the axis of the ring, a plate above said upper brackets, a clamping-plate beneath said lower brackets, screws threaded into said ring for clamping said plates in contact with said brackets; substantially as specified.

4. In a type-writer, the combination with a support, of a series of type-bar brackets B, B', the brackets B having their pivotal points in one horizontal plane and the brackets B' having their pivotal points in another and lower horizontal plane, all of said pivotal points being in a single vertical plane at an equal distance from the axis of the support, offsets at the pivotal ends of said brackets, a



series of type-bars 1, 2, 3, 4, carried by said  
brackets and provided with elongated pivots  
which overlap each other, the bars 2 and 3 of  
said series having cut-away portions upon  
5 their lower and upper surfaces respectively  
at their pivotal ends, and means for operat-  
ing said type-bars; substantially as specified.

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

JOHN WINSOR.

Witnesses:

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