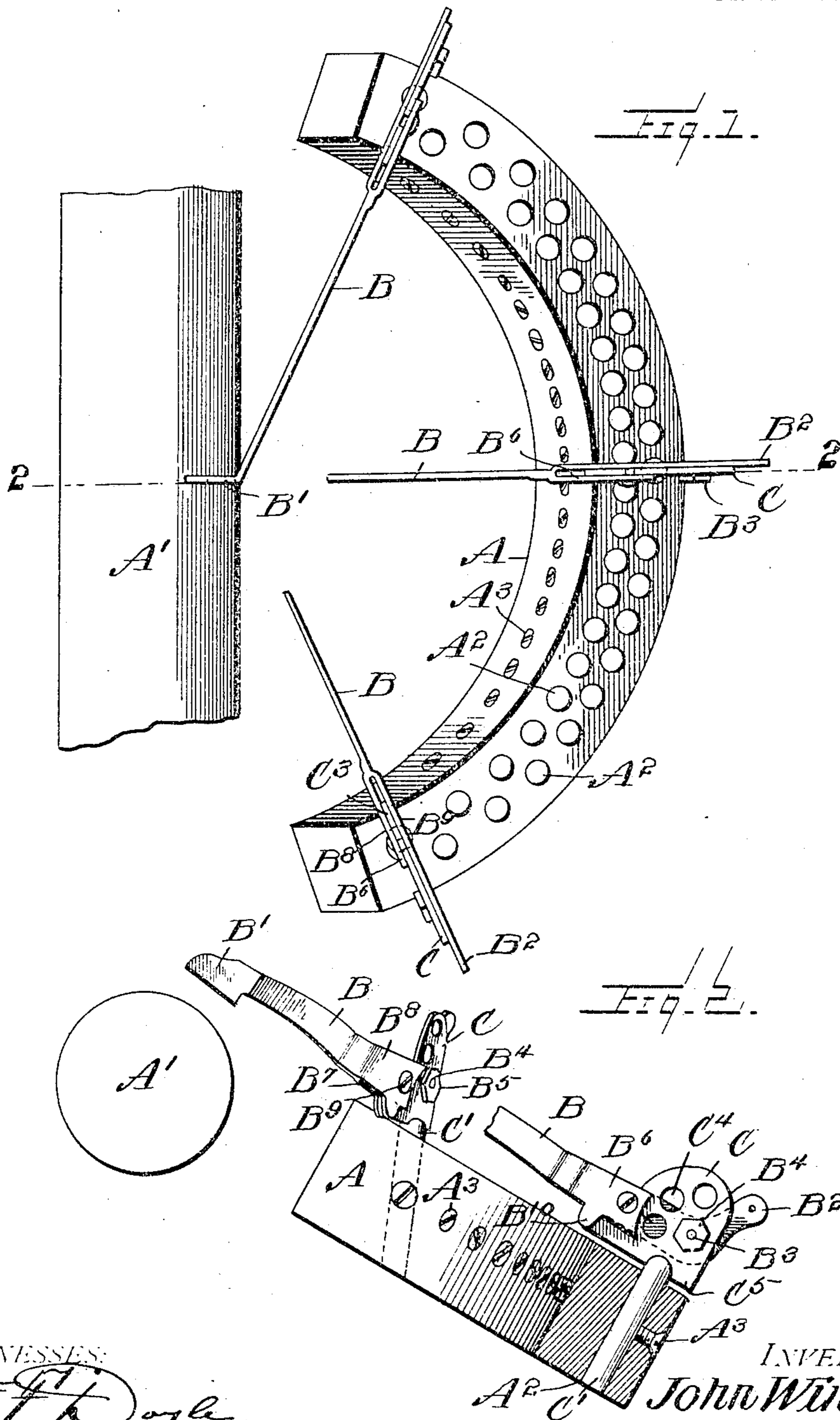


No. 787,968.

PATENTED APR. 25, 1905.

J. WINSOR.
TYPE BAR AND SUPPORT.
APPLICATION FILED MAR. 12, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

W. F. Doyle
Alfred T. Sage

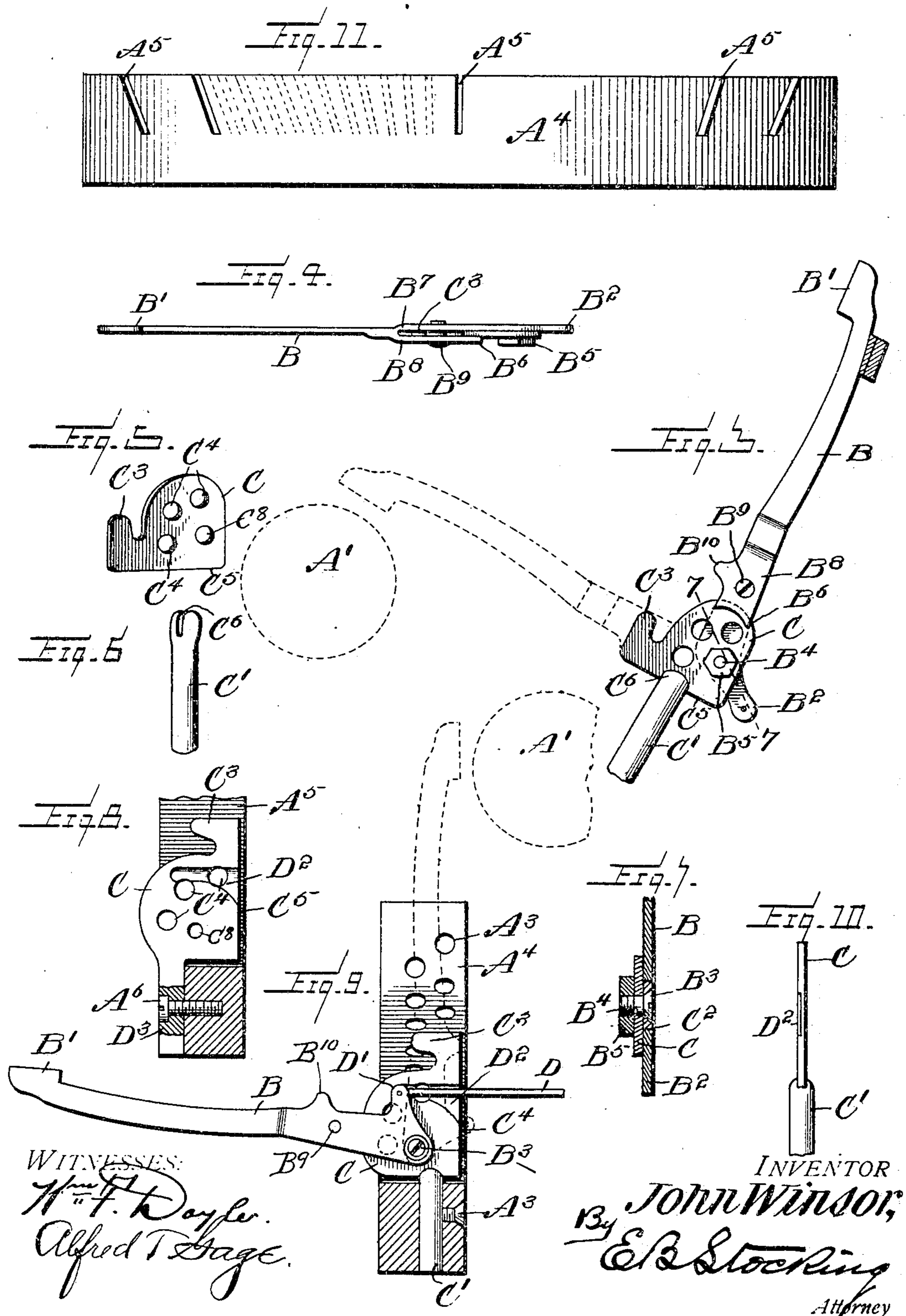
INVENTOR

John Winsor

By *E. R. Stocking*
Attorney

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JOHN WINSOR, OF BROOKLYN, NEW YORK.

TYPE-BAR AND SUPPORT.

SPECIFICATION forming part of Letters Patent No. 787,968, dated April 25, 1905.

Application filed March 12, 1904. Serial No. 197,812.

To all whom it may concern:

Be it known that I, JOHN WINSOR, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improve-
5 ments in Type-Bars and Supports, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a type-bar and support therefor, and particularly to a structure whereby a plurality of type-bars are supported upon a segment relative to the printing-
10 platen.

The invention has for an object to improve the construction and arrangement of the type-
15 bar and its supporting-bracket, whereby a pivoting-bracket is provided for the bar capable of thorough adjustment while the bar is guided in its oscillation and the alinement thereof as-
20 sured at the printing-point.

A further object of the invention is to provide an improved support for a plurality of type-bars which is inclined relatively to a ver-
25 tical line and the bars disposed thereon in positions inclining toward a central point below the support, whereby the pivotal axis of each bar is maintained in a substantially horizontal position and any side play or pull thereon prevented which will occur when the pivotal
30 point of the bar is thrown into other than a horizontal plane. This arrangement also materially economizes the length of segment required, as the bars travel in such planes as to prevent any clashing and permit the use of
35 shorter bars, while a material saving in space is effected in the contact of the bars with the bar-rest therefor.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the
40 appended claims.

In the drawings, Figure 1 is a plan showing the position of the support relative to the platen; Fig. 2, a vertical section on the line
45 2 2 of Fig. 1; Fig. 3, an enlarged detail of a type-bar and supporting-bracket; Fig. 4, an edge view thereof; Fig. 5, a perspective of the plate of the bracket; Fig. 6, a similar view of the pin of the bracket; Fig. 7, an en-
50 larged detail section on the line 7 7 of Fig. 3;

Fig. 8, a vertical section through a segment disposed in a vertical plane with a modified form of the type-bar bracket applied thereto; Fig. 9, a similar view of another modified ap-
55 plication of the bracket and type-bar to a vertically-disposed segment; Fig. 10, an edge view of the bracket shown in Fig. 9, and Fig. 11 an edge view of a segment similar to that shown in Figs. 1 and 2 and having securing-
60 slots therein.

Like letters of reference refer to like parts in the several views of the drawings.

The letter A designates a segment, which in the illustration here given is rectangularly formed and disposed at an angle of thirty de-
65 grees to a vertical line and at one side of a platen A'. These parts may be of any desired size, construction, or configuration and the angle thereof altered as found desirable. This segment A is provided with a plurality
70 of openings A² therein, which are preferably staggered, as shown in Fig. 1, so as to economize space in the mounting of the type-bars B therein. In the use of this support any
75 desired form of type-bar may be provided; but a preferred construction thereof is herein shown. In this illustration the type-bar B is mounted in a bracket C, which is pro-
80 vided with a depending pin C', held in position within the segment by means of a screw or other fastening device A³. These devices
85 are disposed upon the opposite faces of the segment, so as to intersect the openings therein for the purpose of holding the type-bars in position. The series of openings in this
90 segment are inclined downward from one face thereof toward a central point below the bar, and the inclination is such that the type-bar carried by the bracket is supported in a ver-
95 tical plane with its pivot in a horizontal plane in order to avoid the side play, friction, and wear which occur when the bar is disposed in other than a vertical plane with its weight carried upon the pivot. In Fig. 1 the seg-
100 ment is shown as provided with apertures A² therein; but if found desirable a similar result may be obtained by using slots or recesses, as shown at A⁵, in a segment A⁴, (illustrated by Fig. 11,) these slots being disposed at suc-
cessively greater angles to a central slot or

recess in the progression thereof toward the opposite ends of the segment, which is inclined, as in Figs. 1 and 2, to bring the slots into a vertical plane.

5 The improved construction of type-bar B is provided at its outer end with the usual head B' to receive the type and at its inner end with a tail B², to which the usual connector is applied. Intermediate of the ends a
10 pivoting-screw B³ is passed through a suitable aperture in the bar and an aperture C⁸ in the bracket C, upon which it is mounted. If found desirable, a bushing C² may be inserted in the type-bar at the pivoting-aperture,
15 as shown in Fig. 7, into contact with which the tapered head of the pivot-screw B³ is adapted to lie and have bearing. The free end of this screw is suitably threaded, as at B⁴, and a lock-nut B⁵ applied thereto. At one
20 side of the bracket C the type-bar is formed with a bifurcated portion B⁶, which may be constructed in any ordinary manner—for instance, by offsetting one portion of the body of the bar, as shown at B⁷, and applying an
25 opposite shorter finger B⁸, as shown in Figs. 3 and 4. The members B⁷ and B⁸ to this portion are connected together by a screw B⁹, threaded therein and adapted to permit the adjustment of the parts laterally to the periphery of the bracket C, which is embraced
30 thereby in the travel of the bar, whereby any lateral motion or twisting of the bar is prevented. The type-bar is also provided at its bifurcated portion with laterally-extending
35 lugs B¹⁰, adapted to embrace or straddle a projection C³, carried by the bracket C, which insures an accurate alinement of the type in its printing position and obviates the necessity of any type-bar-locking device adjacent
40 to the platen.

The bracket-plates C are provided with a series of apertures C⁴, which in connection with the body of the type-bar B clean the sides of the bar of any lint or other dust collecting thereon, as there is a shearing movement of the type-bar in passing over the periphery of the openings. They also reduce the weight of material necessary in the formation of this part, which is preferably of
50 hardened steel, so as to secure the most efficient wear and prevent any possible bending or twisting thereof when in use. The pin C', which forms one means for securing this bracket in position, is adapted to be adjusted
55 longitudinally of the under face C⁵ of the bracket-plate, which is necessary for different type-bars, as they are disposed in the staggered apertures or through openings provided for their support and obviates the necessity
60 of varying the length of the bars. The head of the pin may be slotted, as shown at C⁶, and secured to the plate by clamping or soldering it in any well-known manner.

65 In Fig. 9 a modified application of the bracket and bar is illustrated, in which the

segment A⁴ is disposed in a vertical plane beneath the platen A', while the type-bars swing upward from a horizontal to a substantially vertical position. This necessitates the application of the connector D at a slightly-different point from that shown in Fig. 3, and for that reason the tail D' is disposed at the opposite side of the pivot from that before shown in order that the connector may lead therefrom in a horizontal plane. The bracket-
75 plate is also disposed in a position at substantially right angles to that shown in Fig. 3, and the pin C' applied to a face at right angles to its point of application shown in Fig. 3. This requires the connector to pass across
80 the face of the bracket C, and for that purpose a depression or the channel D² is formed therein sufficient in depth to permit the proper play of the connector—for instance, as shown in Fig. 10. The position and operation of the
85 other parts remain relatively the same.

In Fig. 8 a slightly-different manner of mounting the bracket C is shown, wherein the segment A⁵ has the bracket applied to one face thereof by means of a screw A⁶, entering the segment and extending through an extension D³, carried from the same face of the bracket as the pin C', (shown in Fig. 9,) but at one end of said face.

The operation of the type-bars is effected
95 in the usual manner, and the invention is intended and adapted to be varied for application to different classes of machines embodying the use of a plurality of type-bars disposed relatively to a common printing-point upon a
100 platen. It will thus be seen that the positions of the bars on the segment are disposed at an increasing angle relatively to a central point as they approach the opposite ends of the segment, and effects a material saving in the length
105 of segment required, while the length of the type-bars is also shortened and their disposition in a vertical plane prevents the liability of side pull or play, which occurs to more or less extent when the bar is inclined laterally to a vertical line. It also secures an even wear upon the bearings and guides of the bars and prevents the clashing or contact with each other as they fall back upon the type-rest at their rear, each
110 of the bars being in such position as to closely nest with its associates when in contact with the rest. The material of the end of the bar may be suitably hardened to secure a proper bearing or a bushing may be used, as hereinbefore described, for that purpose, while the construction and arrangement of the bracket provides
120 a positive guide for the type-bar in all of its operative positions, preventing any lateral springing thereof, which guiding-points may be adjusted to secure at all times the proper
125 degree of contact to secure the most efficient result, while when the bar approaches the printing-point a lock is provided to insure positive alinement, thus obviating the necessity of any locking device disposed at the free
130

ends of the bars and providing a bar which can be used and applied to any ordinary construction of machine in order to secure the minimum of friction in its bearing and the utmost of rigidity against lateral springing, while it is positively guided in its travel.

It will be obvious that changes may be made in the details of construction and configuration in order to apply the invention to different characters of machine for which it is adapted without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. A type-bar segment having a face disposed diagonally to a vertical line and provided with a series of vertical openings therein inclined radially upon the opposite sides of the center from one face of the segment downward toward a common center beneath the segment, and a series of type-bars disposed in said openings and having their pivots in horizontal planes.

2. A type-bar segment having a face disposed diagonally to a vertical line and provided with a series of openings therein inclined radially upon opposite sides of the center from one face of the segment downward toward a common center beneath the segment, and a series of type-bars disposed in said segment to lie in vertical planes radial to a printing-point at one side of the same.

3. In a type-bar, a platen, a segment disposed with its upper face at substantially thirty degrees to the vertical axis of the platen and provided with openings in vertical planes at a right angle to the horizontal axis of the platen and diverging radially at opposite sides of its center at successive different angles from the center of the segment toward a common center beneath the same.

4. A type-bar having a bifurcated portion terminating with an open end between the ends of the bar, a pivotal point at one side of said portion, a bracket-plate to which the bar is pivoted and provided with a segmental peripheral portion extending into the bifurcated portion of the bar, means for adjusting the members of the bifurcated portion toward and from the periphery of said plate, a locking member carried by the bracket-plate at one side thereof, and cooperating means carried by the bar to embrace said member at one extreme of the movement of the bar.

5. A type-bar having a bifurcated portion between its ends, a pivotal point at one side of said portion, a bracket-plate to which the bar is pivoted and provided with a portion extending into the bifurcated portion of the bar, means for adjusting the members of the bifurcated portion toward and from the periphery of said plate, a locking member extend-

ing upward from the bracket-plate at one side thereof, cooperating means carried by one face of the bar to embrace said member at one extreme of the movement of the bar, and a pivot-screw for the bar having a tapered bearing upon its head contacting with the bar, and a lock-nut upon the threaded end thereof of extended through the bracket-plate.

6. A type-bar bracket-plate having at one side of the base thereof an upwardly-extending locking projection, a type-bar having a portion between its ends to embrace the periphery of said plate, a pivot for said bar upon said plate, and a cooperating member carried by the inner face of the bar to lie parallel to said projection and lock the bar.

7. In a type-bar bracket, a plate having a curved face extending concentric to a pivoting-aperture, a locking projection extending upwardly from the base of the plate at one side of said curved portion, and a type-bar having a portion to embrace said curved face and opposite lugs on one side to embrace said projection.

8. A type-bar bracket comprising a plate adapted to pivotally receive a type-bar, and a supporting-pin having a slotted head adapted for attachment at different points upon a face of the plate.

9. A type-bar provided with a pivoting-aperture and a tail at one side of said aperture, a bifurcated portion upon said bar between the aperture and opposite end thereof, a bracket-plate having a curved face extended within said bifurcated portion, laterally-extended lugs at one side of the bifurcated portion, and a projection upon the plate at one side of the curved portion to be embraced by said lugs.

10. A type-bar having an aperture, a hardened bushing-disk having a beveled pivoting-aperture therein secured within the type-bar aperture, and a screw having a beveled face to engage said pivoting-aperture and provide a bearing for the bar.

11. A type-bar having a bifurcated portion one arm of which terminates intermediate of the ends of the bar, a bracket-plate disposed parallel with one arm of the bifurcated portion and embraced at its periphery by the shorter arm of the bifurcated portion, a pivot extending through the bar and bracket-plate, a lock-nut upon said pivot bearing upon the face of the bracket opposite the bar, and an adjusting means extending between the opposite arms of the bifurcated portion at the periphery of the bracket.

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

JOHN WINSOR.

Witnesses:

MARSHALL Y. MILLER,
DAVID ASKIN.