

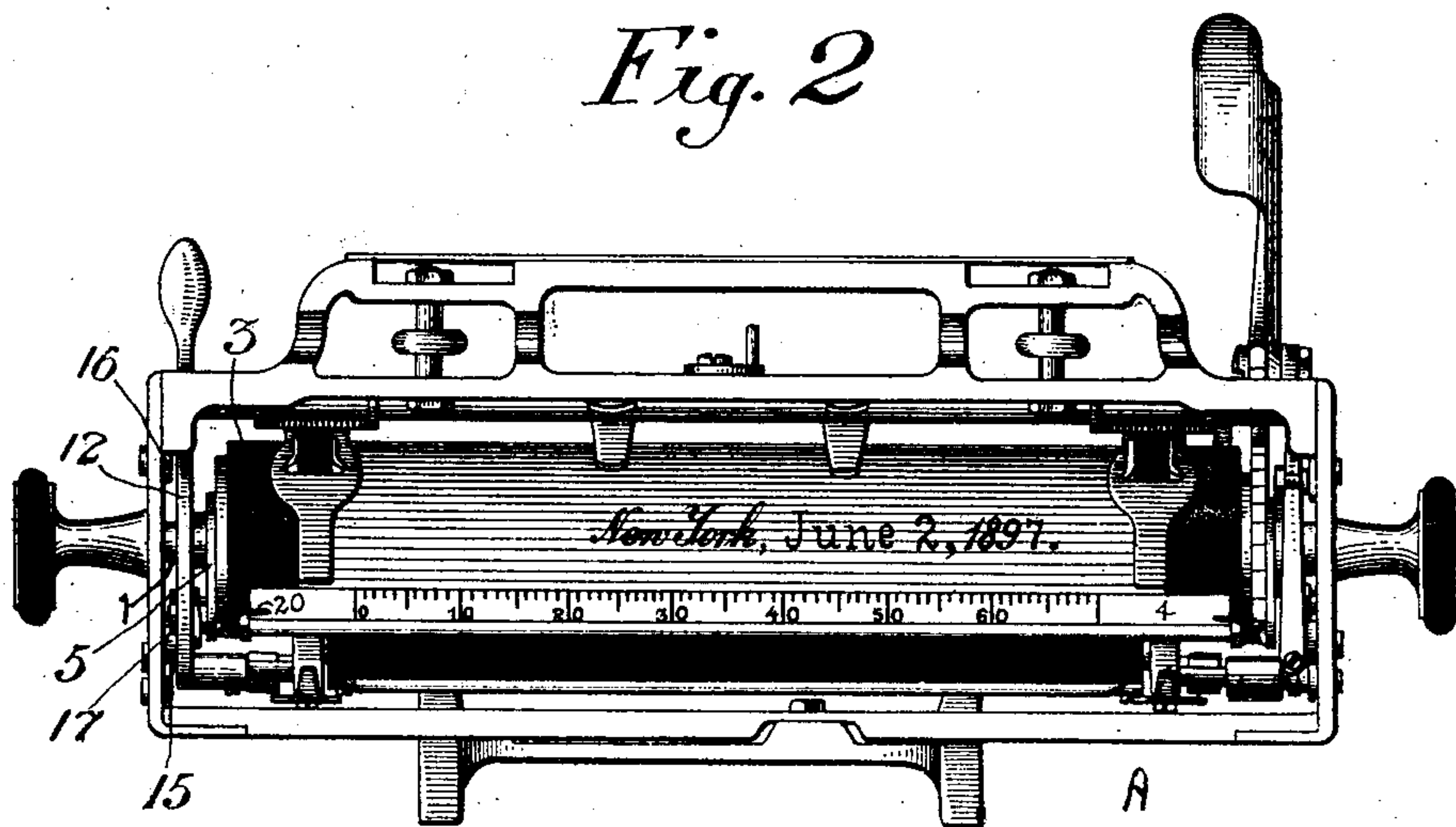
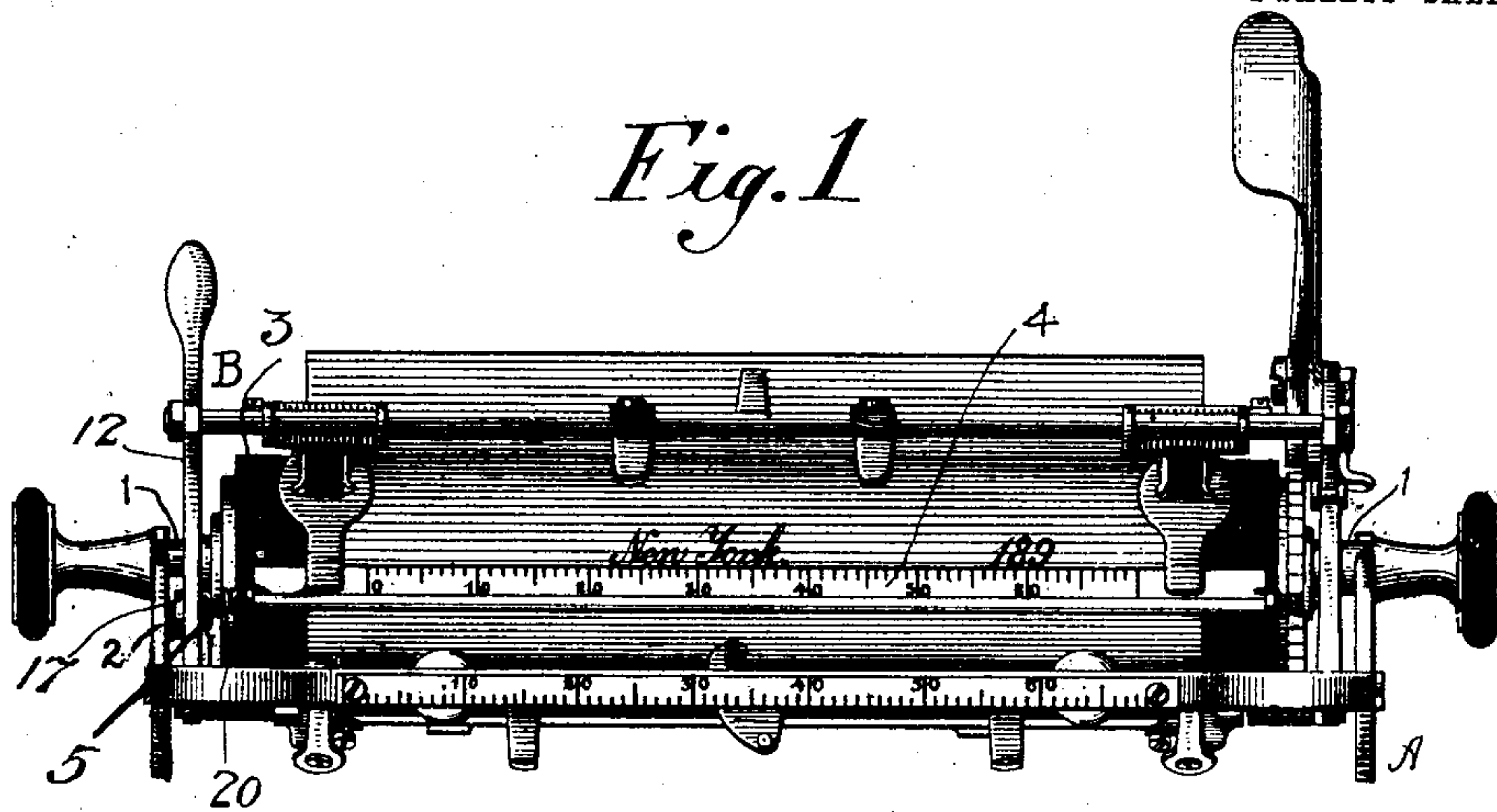
No. 764,983.

PATENTED JULY 12, 1904.

C. J. BOND.
TYPE WRITING MACHINE.
APPLICATION FILED OCT. 22, 1897.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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Fig. 3

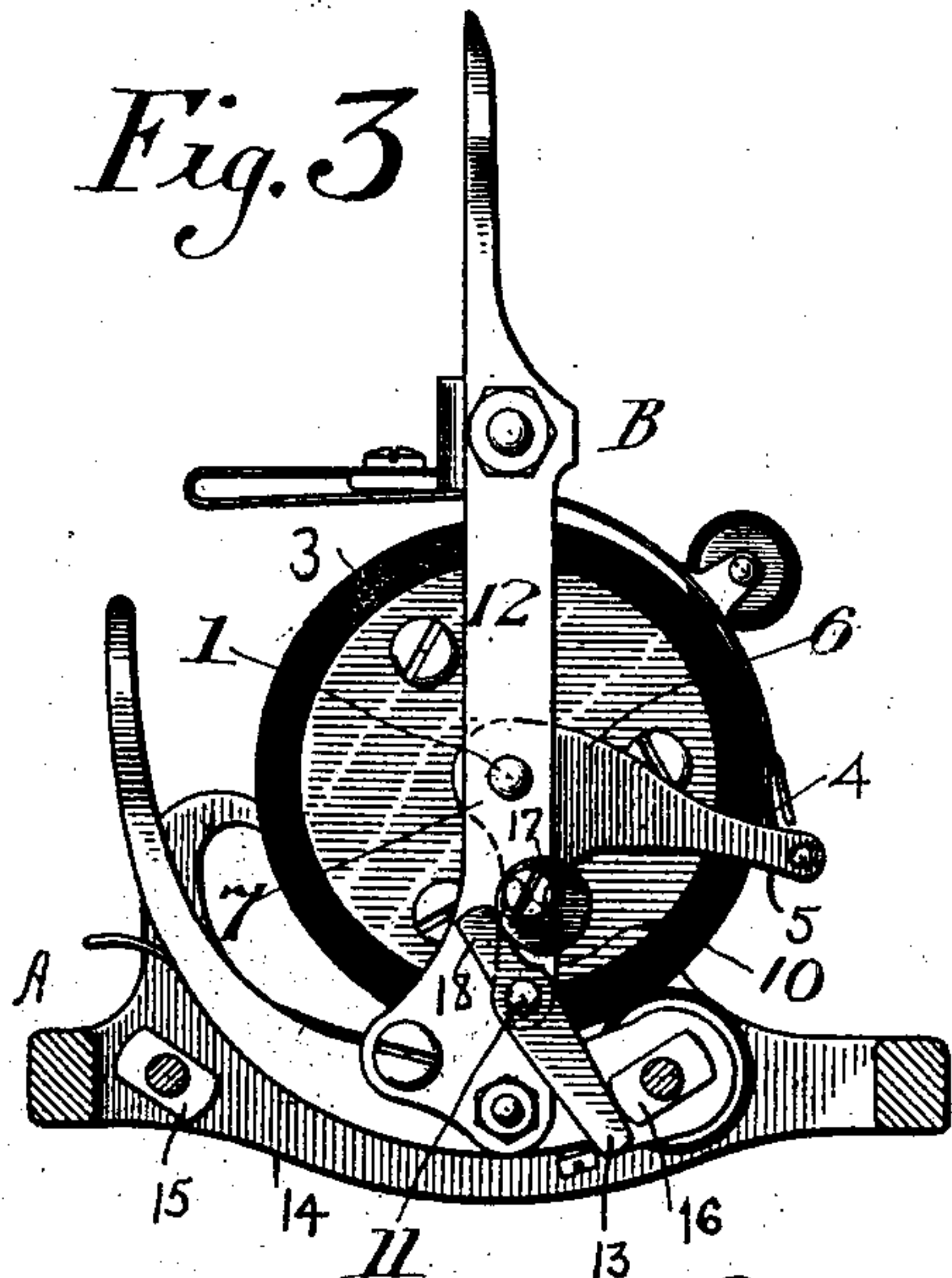


Fig. 4

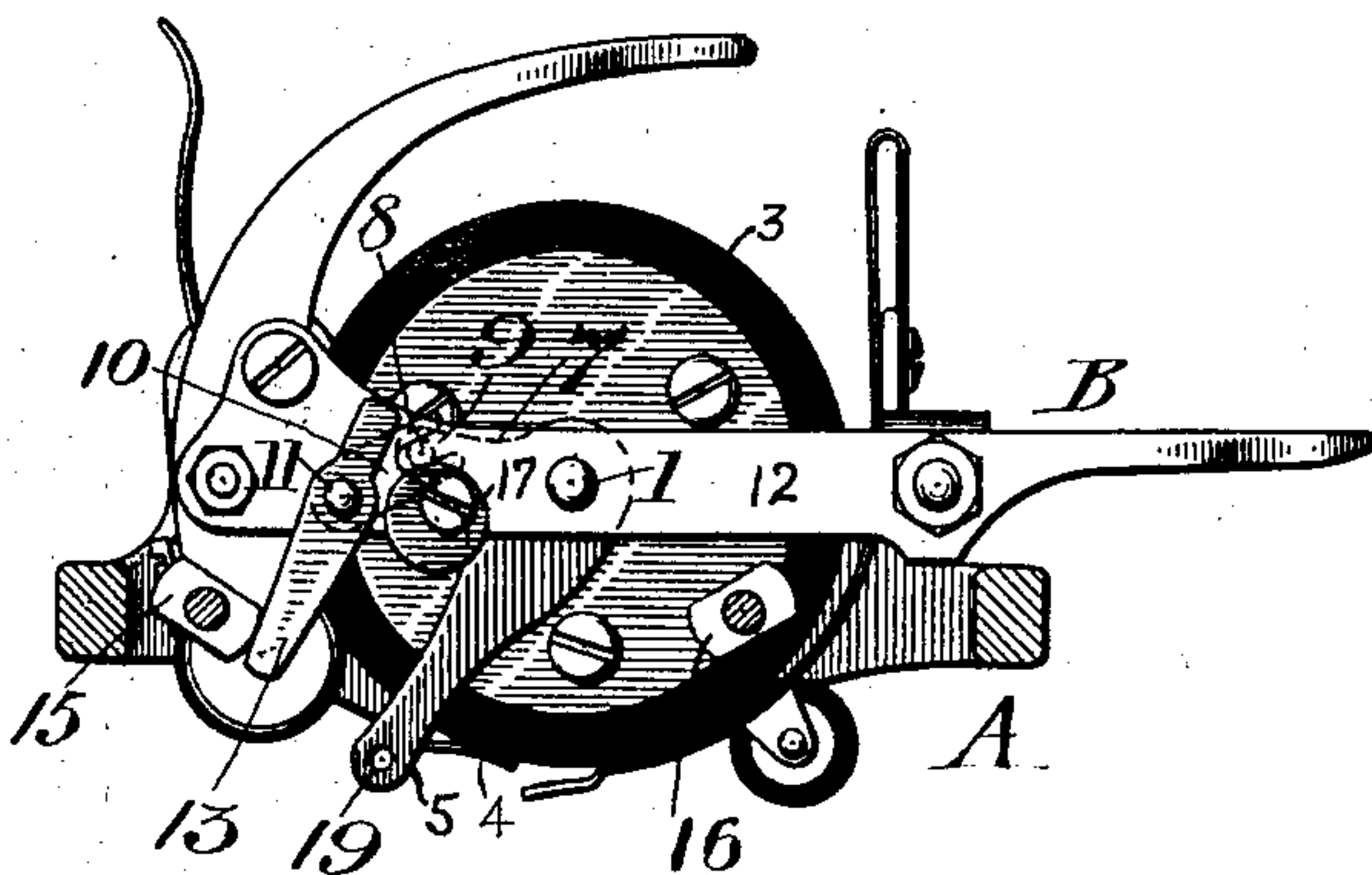


Fig. 5

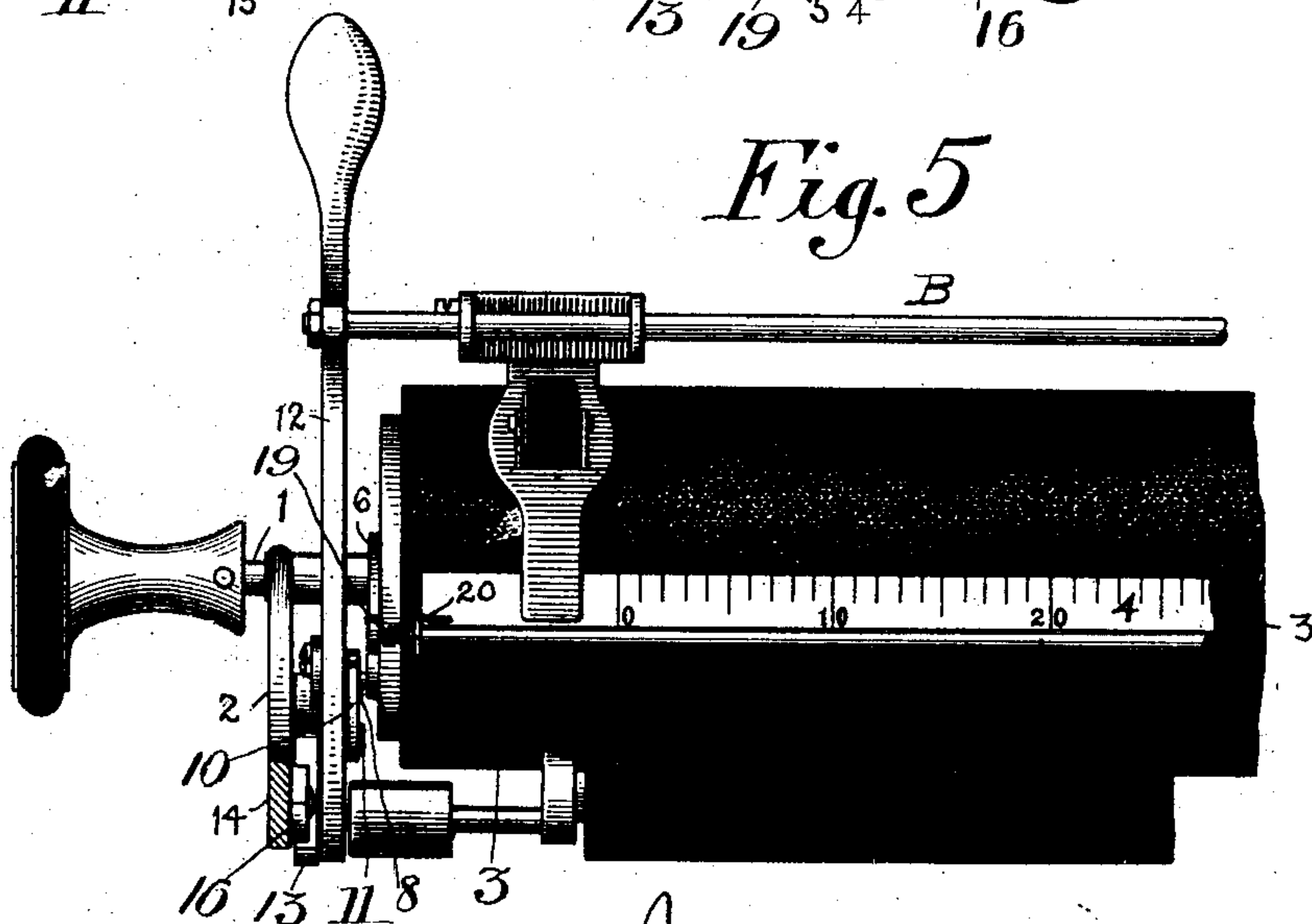
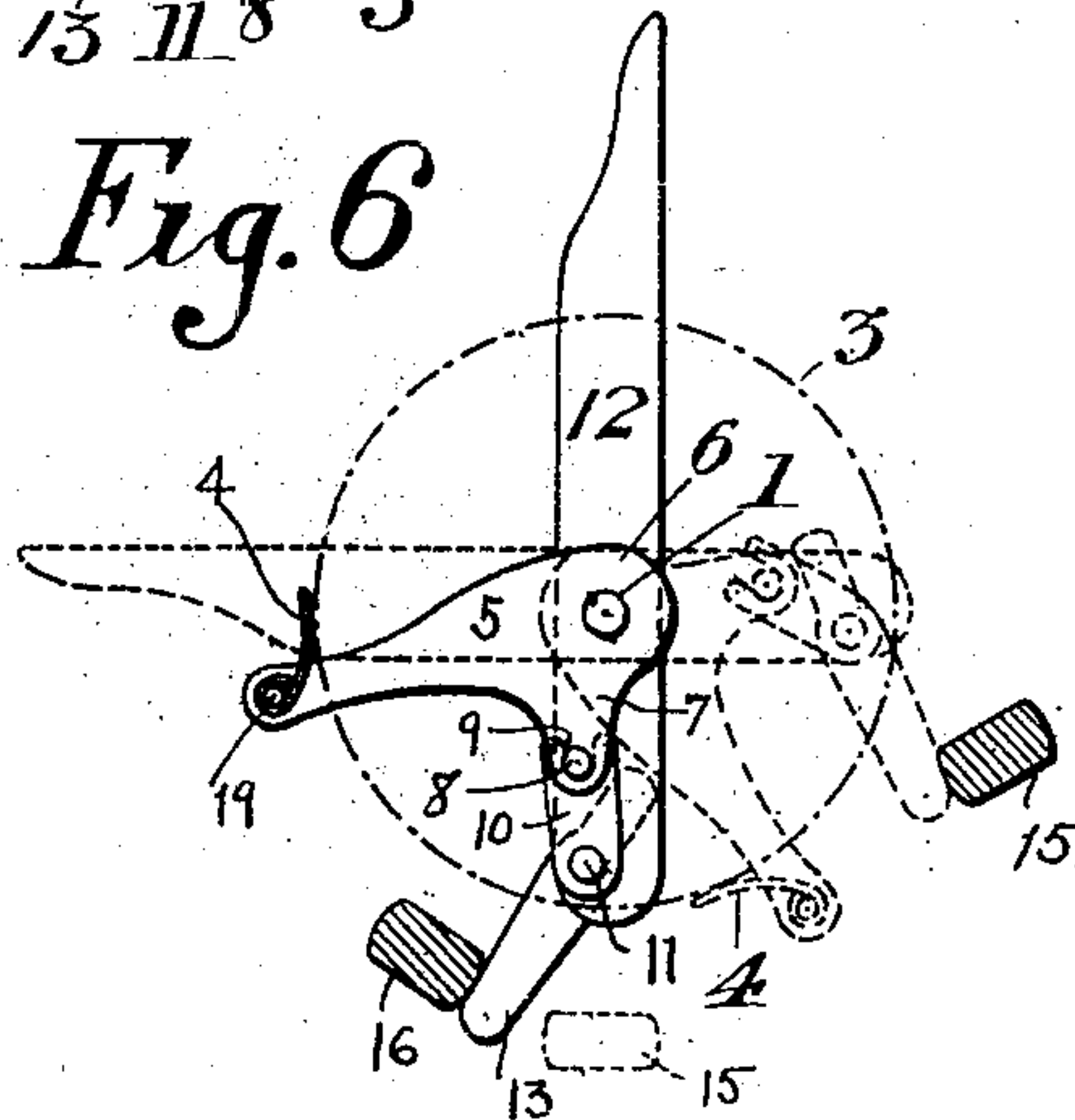


Fig. 6



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UNITED STATES PATENT OFFICE.

CHARLES J. BOND, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO THE
DENSMORE TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A
CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 764,983, dated July 12, 1904.

Application filed October 22, 1897. Serial No. 656,012. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. BOND, a citizen of the United States, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to a platen-scale of the type set forth in the patents to Henry W. Merritt, No. 658,156, dated September 18, 1900, and to Walter J. Barron, bearing No. 715,943, dated December 16, 1902—that is to say, a scale which when the platen is down in normal working position is arranged or stands away from the printing-point, but which when the platen is turned to a non-working position for inspection and correction of the work is caused to move automatically to the impression-point and then again to recede automatically therefrom when the platen is turned down to a working position again.

My invention has for its main object to provide an improved means for mounting and for operating a scale of this description; and to this end my invention consists in the combinations of devices and features of construction hereinafter more fully described, and particularly pointed out in the appended claims. Certain of the novel devices shown herein may, however, be employed independently of the mechanism for automatically operating the scale.

In the accompanying drawings, Figure 1 is a front elevation of the carriage and platen-frame of a Densmore writing-machine and with the platen-frame and platen turned to an abnormal or non-working position and showing in this view the platen-scale as having been moved up to the line of print or the impression-point. Fig. 2 is a bottom plan view of the parts shown in Fig. 1, but with the platen-frame and platen in their normal or working positions relatively to the main carriage. Fig. 3 is an enlarged end elevation of the carriage and platen-frame in the relative positions shown in Fig. 1, the carriage being in section. Fig. 4 is an enlarged simi-

lar view, but with the platen down in working position, as shown at Fig. 2. Fig. 5 is an enlarged front elevation of the platen-frame in the position shown at Fig. 1, but with the main carriage broken away and shown only in part at the left-hand end of the view in order to more fully exhibit the actuating devices connected with the scale, and Fig. 6 is a side diagrammatic view to show the positions and mode of operation of the said actuating devices.

In the various views the same parts will be found designated by the same letters and numerals of reference.

A is the main carriage, and B the platen carrier or frame; 1, the platen-axle supported in slotted uprights or arms 2 on said carriage in the usual manner and so that the platen 3 may be turned or swung from its normal working position, as at Fig. 4, to a non-working position, as at Fig. 3, where the paper may be adjusted and the work readily inspected and corrected.

4 is the platen-scale, arranged in proximity to the impression-point of the types and parallel with the axis of the platen and extending for substantially the whole length thereof. The ends of said scale are attached to the outer free ends of the longer arm 5 of a pair of bell-cranks or bent levers 6, which are pivoted to or mounted upon the platen-axle or loose collars thereon, whereby said scale may move or swing circumferentially of the surface of said platen when said arms are vibrated. The other and shorter arms 7 of said bell-cranks and which normally project substantially horizontally in a rearward direction, as shown in Fig. 4, are provided each at their outer ends with a pin 8, which extends laterally into the fork or slot 9 of an arm 10, which is pivoted at 11 in an end bar 12 of the platen-frame. The said pivot 11 passes through said end bar, and upon its outer end is attached an arm or lever 13, which projects downwardly and slightly rearwardly.

On the inner side of each end bar 14 of the main carriage are arranged two lugs or projections 15 and 16, both adapted to actuate

their associated arm 13, as will presently appear. The two forward lugs or projections 16 are adapted to act on and vibrate the arms 13 when they are swung forward in the turning up of the platen to the non-working position, and the two lugs or projections 15 are adapted to act on said arms when they are moved rearwardly and the platen is turned down to its working position. In the forward travel of said arms 13 they strike the said projections 16 just before the platen has fully reached its non-working position, and in the backward movement of said arms they strike the stops 15 before the platen has reached its working position. When the said arms 13 strike the forward projections 16, they are caused to rock and oscillate their connected arms 10, the pivots 11 turning in their bearings in the end bars. The oscillating motion of the arms 10 is then communicated to the bell-cranks 6, and through their vibration the scale-bar is caused to move circumferentially of the platen, or substantially so, and to advance to that portion of the platen which when down in its working position aligns or registers with the printing or converging point of the types. The scale is thus brought to this position just before or at about the time the platen has fully reached its non-working position, (indicated at Figs. 1 and 3,) and while the platen is in this position the scale-bar is held in its shifted position by the weight or pressure of the platen-frame, and hence needs no special attention on the part of the operator, who may now insert the sheet to be written upon, and after squaring it relatively to the platen by means of said scale may then bring the date-line or the point to be corrected or such other space on the paper as may be desired into register with the graduated edge of said scale. When the paper has been thus adjusted, the platen may be turned down at once to working position, and that portion of the paper at which it is desired to print will be brought into alinement or register with the striking-point of the types automatically or without special rotative or line-spacing movements of the platen as common nowadays with fixed or immovable scales. In the turning-down movements of the platen the scale is also automatically retracted from the line of print, so as to be out of the way of the types, and this it will be understood is accomplished by the striking of the arms 13 against the rear pair of projections 15, which cause said arms and the other vibratory parts of the lever mechanism to oscillate in the opposite direction, and thus bring the scale back to its first position. The back projections 15 may be located on the end bars of the carriage at any desired point, so as to retract the scale from the line of print at any desired period in the returning movement of the platen to printing position. Thus, as at Fig. 6, the cam or projection 15 is shown in dotted lines

as having been set quite close to the front cam or projection, in which position it will retract the scale on the first part of the returning movement instead of on the last part thereof, as shown by the position of the projection in full lines in the same view. By having the scale retracted on the first part of the turning-down movement of the platen erasures may be conveniently made while the platen is up and while the line of print is in a position where it will register with the printing point or center when the platen is turned down. As far as the feature of retracting is concerned, a spring may be employed with or without the back projections, as in the Barron case, above referred to. The limiting of the upward or forward movement of the scale or bar or the movement thereof into the registering position is defined by an eccentric stop 17, secured by a screw on the outside of each end bar 12 of the platen-frame. By adjusting these eccentric stops the throw of the levers and the scale-bar may be so regulated as that the free working edge of the scale-bar may be brought to the exact required position or to the line or plane at which the bottoms of the letters will strike. This adjustment is desirable, because the printing-point varies slightly in different machines of the same make. The arms 13 are provided with extensions 18, which contact with said eccentrics or adjustable stops when the arms 13 have been sufficiently vibrated by their projections 16 to bring the edge of the scale to the printing-point, and by reason of said contact of the said extensions with the said adjustable stops not only is the independent movement of the scale arrested, but the platen-frame itself is also prevented from further turning movement, since at this time the projections 16 act as positive stops to the now rigid arms 13, and therefore further rotative movement of the platen-frame is prevented, any effort to further turn said platen-frame only causing the arms 13 to bear harder against the projections 16 by reason of the pressure of the extensions 18 on the said eccentric stops 17. Thus the parts may be brought accurately to the required or desired position when the platen is brought or turned into its non-working position.

If desired, the scale may be attached to a rod or axis 19, pivotally mounted in the longer arms 5 of the bell-cranks. A small coiled spring 20 may be provided at each end to force said scale-bar against the surface of the platen or the paper thereon; but while I prefer this independent pivotal mounting of the scale it may of course be rigidly attached to said arms without departing from the gist of my improvements.

Although my improvements are shown in connection with a Densmore machine, they may be advantageously employed on other styles or makes of machines; and while I have

shown means for automatically moving the scale to and from the printing-line upon the platen still many novel features herein set forth are adapted also to machines in which the scale is not moved automatically.

While I have shown my improvements as applied to an understrike-machine, it will be perceived that many features thereof are applicable also to "visible-writing" machines.

So far as certain features of the scale mechanism are concerned it is not essential that the platen be moved from the position shown at Fig. 3 in order to receive the type-impressions, so long as the scale may be retracted from the printing-line so as to clear the types.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination of a longitudinally-moving platen adapted to be turned from a working to a non-working position, a platen-scale moving longitudinally therewith, arms pivoted axially of said platen and supporting said scale, and means for acting on said arms and causing the scale to automatically advance to the printing-point when the platen is turned to its non-working position.

2. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a pair of arms pivotally mounted axially of said platen, a scale-bar attached to the free ends of said arms, a pair of arms pivoted to the platen-frame and connected to said scale-carrying arms, and projections on the carriage for vibrating said arms and causing the scale to advance to the printing-point.

3. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a pair of bell-cranks or bent levers, a scale-bar attached to the free ends of one pair of the arms of the bell-cranks, a pair of vibratory devices pivoted on the platen-frame having each one arm connected to the free arm of the bell-crank and another arm adapted to be actuated by a projection on the main carriage.

4. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a scale-bar, a bell-crank attached to said scale-bar, the pivoted arm 10 connected to the arm 7 of the bell-crank, the pivoted arm 13 connected to the arm 10, and means on the main carriage for vibrating the arm 13 to advance the scale when the platen is turned to its non-working position.

5. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a bell-crank pivotally mounted axially thereof, a scale-bar attached to the arm 6 of said bell-crank, a slotted arm 10 pivoted to the end bar of the platen-frame, the arm 13 attached to

the same pivot, and the projection 16 on the main carriage.

6. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a pair of bell-cranks pivotally mounted axially thereof, a scale-bar attached to the arms 5 thereof, the slotted arms 10 pivoted to the end bars of the platen-frame and arranged on the inner side thereof and connected to the arms 7 of the bell-cranks, the arms 13 mounted on the pivots of the arms 10 and arranged on the outer sides of said end bars, and a pair of projections fixed on the end bars of the main carriage.

7. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a pair of bell-cranks mounted axially thereof, a scale carried by said bell-cranks, a pair of vibratory devices pivoted on the end bars of the platen-frame and connected to said bell-cranks, means on the main carriage for actuating said vibratory devices when the platen is turned to a non-working position, and means on said carriage for also actuating said devices when the platen is turned back to a working position; whereby the scale is automatically advanced and retracted.

8. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a pair of bell-cranks mounted axially of said platen, a scale-bar carried by said bell-cranks, a pair of arms 13 pivoted to the platen-frame and connected to said bell-cranks, and projections as 15 and 16 for turning said arms 13 and causing the advance and retraction of said scale-bar.

9. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a scale-bar adapted to be automatically advanced when the platen is turned to its non-working position, means for advancing said scale-bar, and adjustable stops for limiting the action of said advancing means.

10. In a type-writing machine, the combination of a platen adapted to be turned from a working to a non-working position, a scale-bar adapted to be advanced when the platen is turned up to a non-working position, means for advancing the same, and an adjustable eccentric stop or stops for limiting the action of said means.

11. In a type-writing machine, the combination of a longitudinally-moving platen adapted to be turned from a working to a non-working position, a scale-bar attached to a lever mechanism and moving longitudinally with the platen, and means for actuating said mechanism to both advance and retract said scale-bar.

12. In a type-writing machine, the combi-

nation of a platen adapted to be turned from a working to a non-working position, a scale-bar mounted on bell-cranks, arms 13 having extensions 18 and pivoted in the platen-frame 5 and connected to said bell-cranks, the projections 16 on the carriage-frame, and stops 17 on the platen-frame.

13. In a type-writing machine, the combination of a platen adapted to be turned from 10 a working to a non-working position, a pair of bell-cranks mounted on the axis of said platen, the pivoted arms 13 having the extensions 18, the projections 16 on the carriage-frame, and the adjustable stops 17 on the 15 platen-frame.

14. In a type-writing machine, the combination of a main carriage having the projections 15 and 16, a platen-frame, a platen mounted therein, a pair of bell-cranks mounted 20 on the axis of said platen and carrying a scale-bar, pivoted arms 10 and 13 on the platen-frame connected to said bell-cranks and the eccentric stops 17 on the platen-frame.

15. In a type-writing machine, the combination with a rotatable platen-frame, a platen 25 mounted therein, a scale-bar adapted to move toward the printing-point when the platen-frame is turned up, and adjustable means for limiting this movement of the platen-scale 30 and also the turning-up movement of the platen-frame.

16. In a type-writing machine, the combination with a platen and a scale movable longitudinally with the platen and movable transversely to and from the printing-line upon the 35 platen, of adjusting devices for regulating the extent of movement of the platen-scale.

17. In a type-writing machine, the combination with a platen and a carriage, of a platen- 40 scale arranged upon the carriage and normally supported away from the printing-line upon the platen, means for moving said scale into and out of register with the printing-line, and adjustable mechanism for determining the 45 movement of said scale toward said printing-line.

18. In a type-writing machine, the combination with a platen and a carriage, of a scale

supported on the carriage, a lever constructed to move said platen-scale from normal position to a position in register with the printing-line upon the platen, and adjusting devices 50 for regulating the movement of the scale.

19. In a type-writing machine, the combination with a platen and a carriage, of a platen- 55 scale, arms whereby said scale is supported upon the carriage, a lever for swinging the scale upon the said arms from normal position to a position in register with the printing-line upon the platen, and adjusting devices 60 for regulating the extent of movement of the scale.

20. In a type-writing machine, the combination with a platen, of a scale movable longitudinally with the platen and constantly 65 bearing upon the platen and normally supported out of the path of the types, and means for positively moving said scale into and out of register with the printing-line upon the platen. 70

21. In a type-writing machine, the combination of a platen-frame, an indicating bar or scale carried by the platen-frame, and means for positively moving the indicating-bar on the platen to and away from the printing- 75 line, to the printing-line for registering and adjusting the paper and away from the printing-line to escape the types.

22. In a type-writing machine, the combination of a paper-carriage, a platen-frame carried by said paper-carriage and adapted to be 80 moved independently thereof transversely of the length of the platen, a scale that extends longitudinally of the platen and which is carried by the platen-frame and travels there- 85 with, and means for positively moving the said scale toward and away from the printing-line.

Signed at Springfield, in the county of Hampden and State of Massachusetts, this 90 18th day of October, A. D. 1897.

CHARLES J. BOND.

Witnesses:

J. G. DUNNING,

H. W. MERRETT.