No. 832,105. PATENTED OCT. 2, 1906.

A. A. WENSINGER.

TYPE WRITING MACHINE.

APPLICATION FILED APR. 13, 1906.

3 SHEETS—SHEET 1.

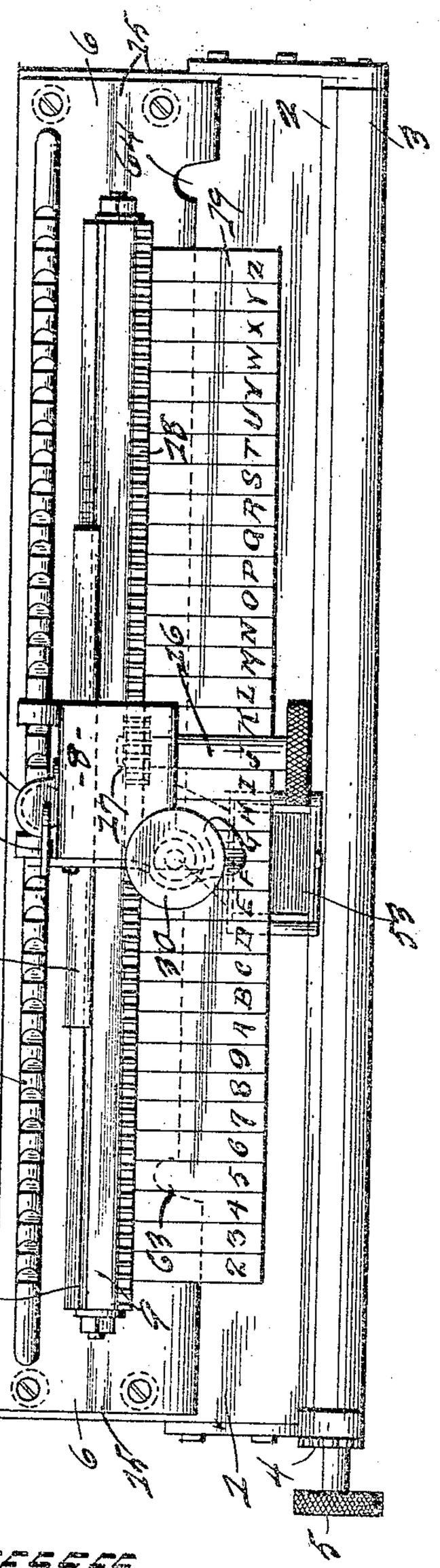

Fig. 1.

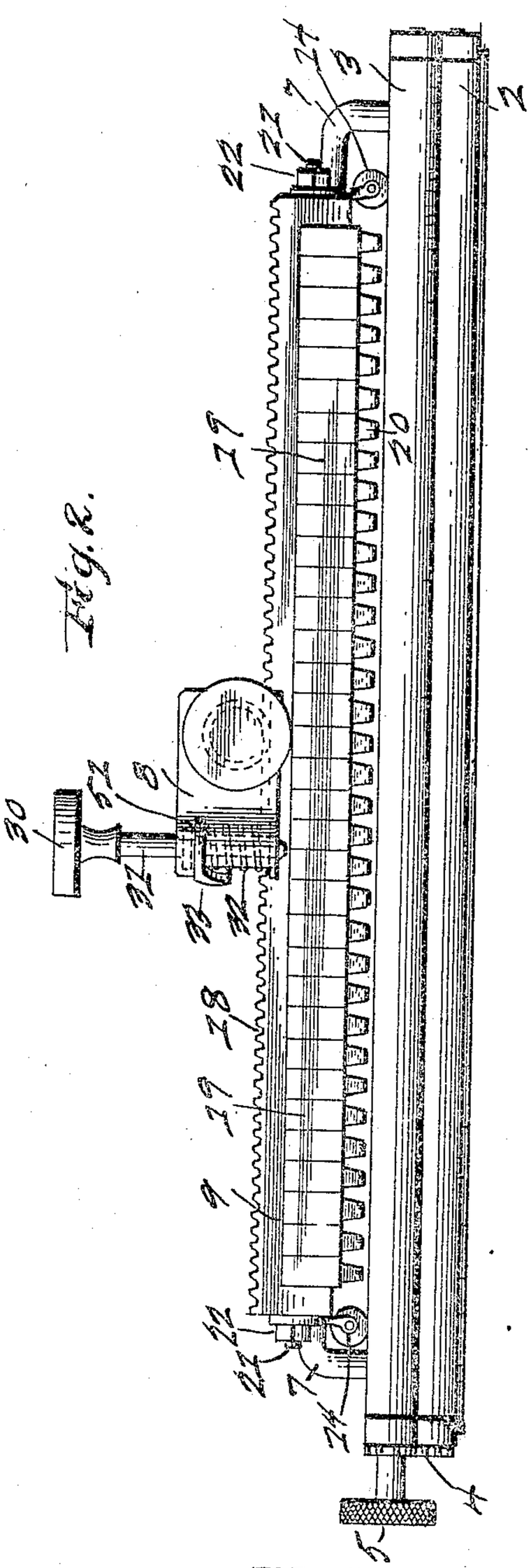

Fig. 2.

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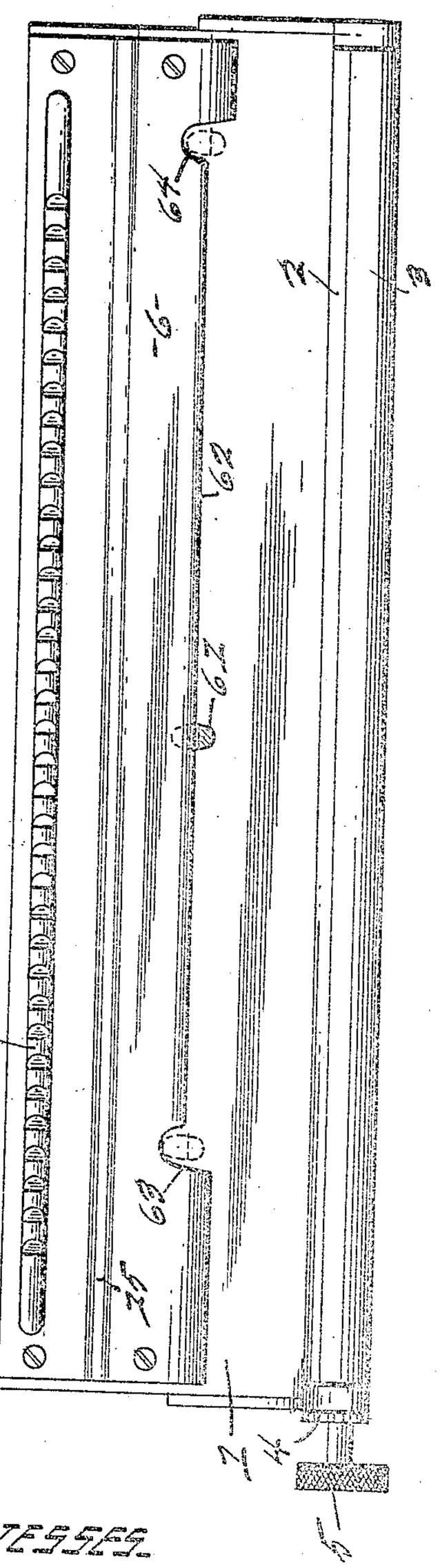

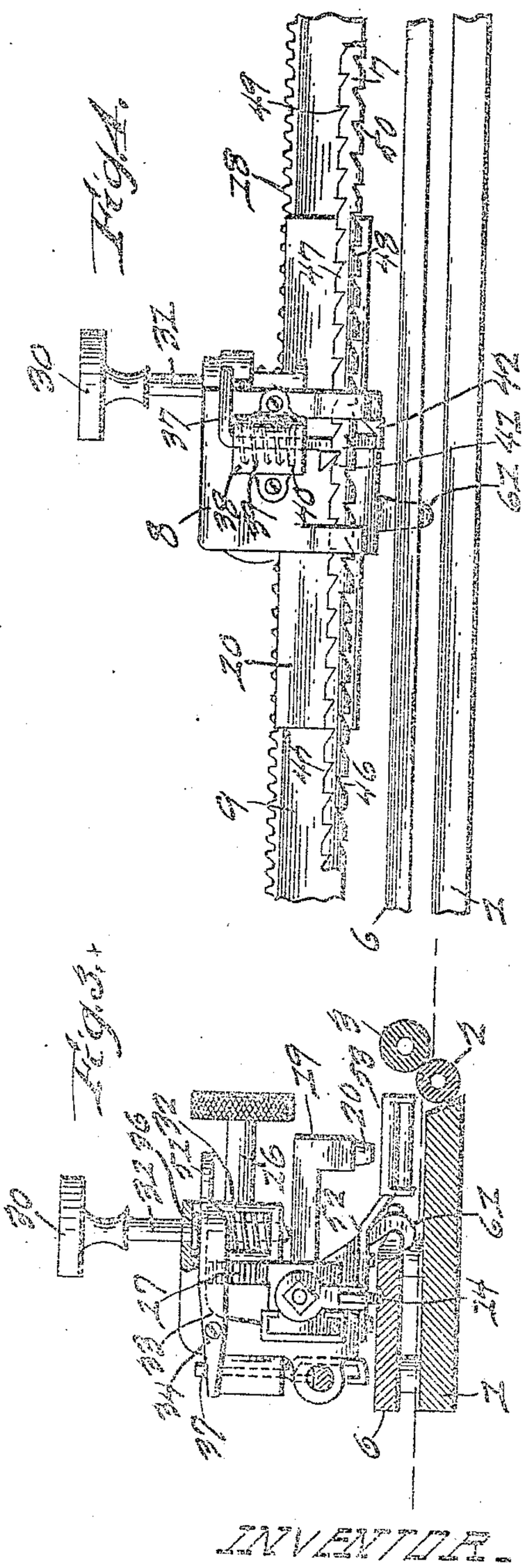

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3 SHEETS—SHEET 3.

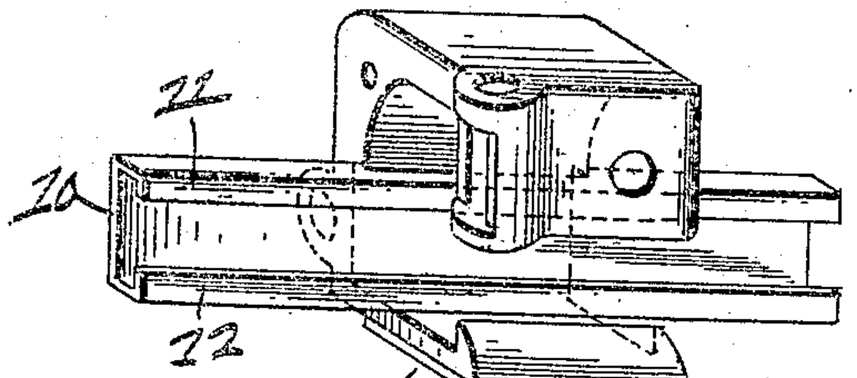


Fig. 6.

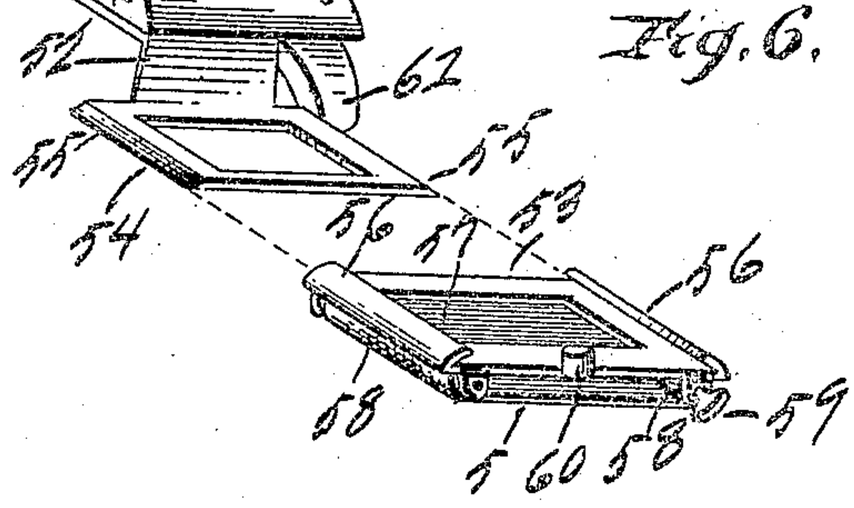


Fig. 7.

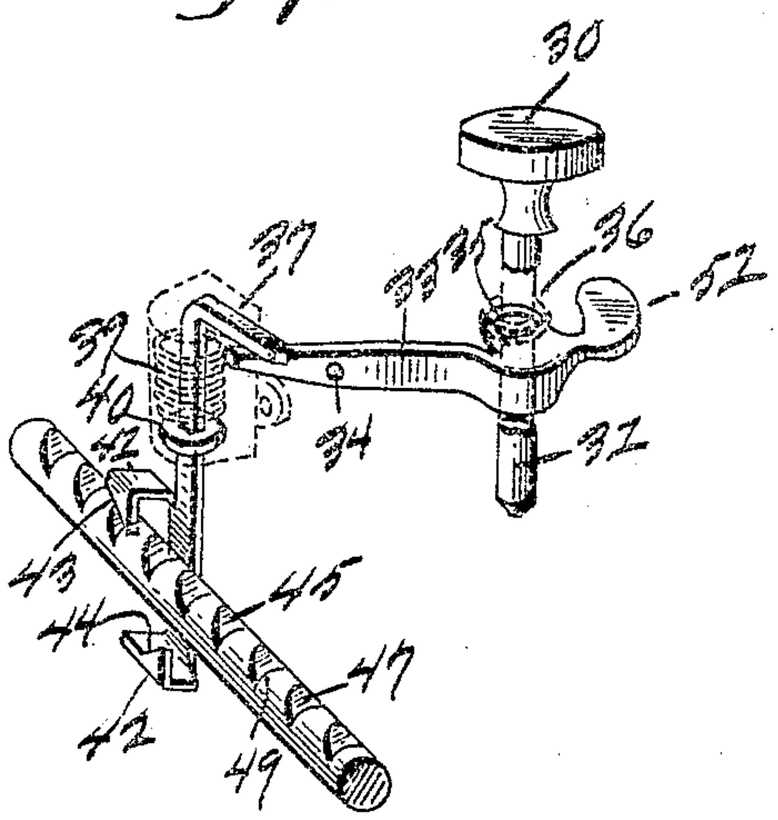


Fig. 10

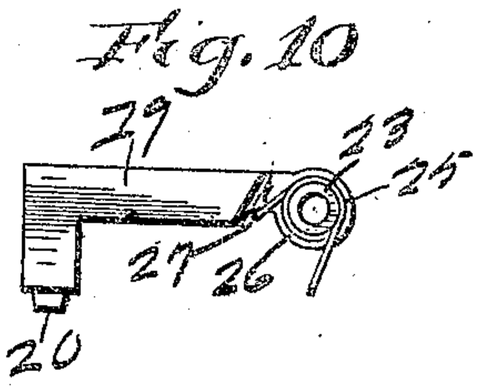


Fig. 8

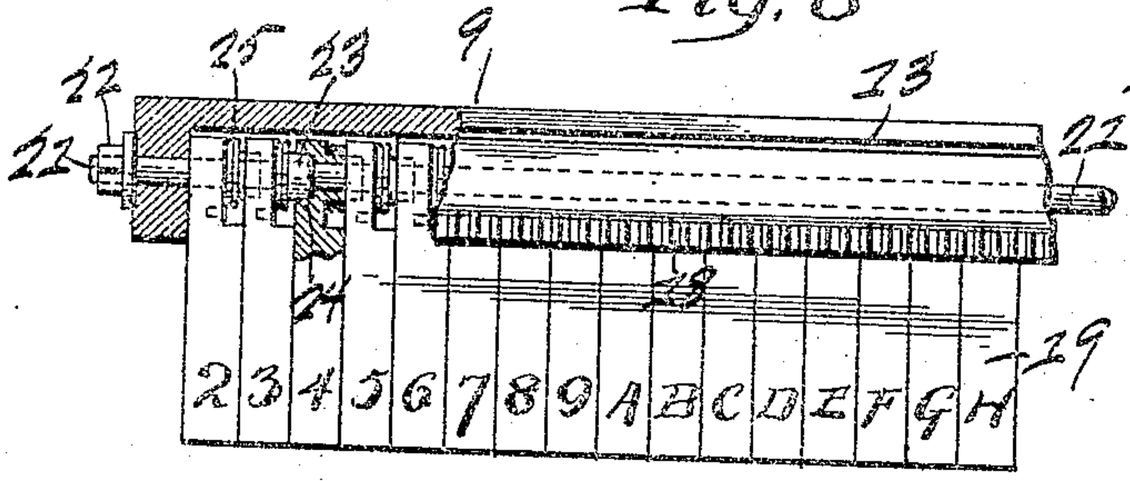
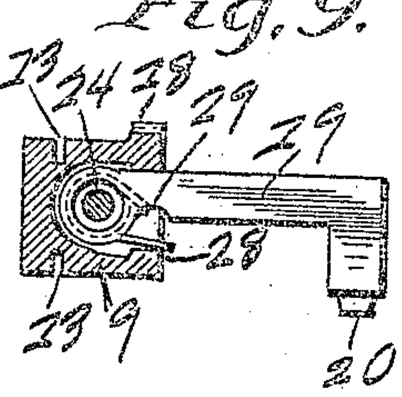


Fig. 9.



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UNITED STATES PATENT OFFICE.

ANDREW A. WENSINGER, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO CHARLES W. FELGNER, OF TOLEDO, OHIO.

TYPE-WRITING MACHINE.

No. 832,105. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed April 13, 1906. Serial No. 311,455

To all whom it may concern:

Be it known that I, ANDREW A. WENSINGER, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to improvements in single-key-operated type-writing machines; and it has for its object to provide a machine of this character which shall be simple in construction, comprising few parts, being cheaply manufactured, and which shall be compact in arrangement to permit the same to be conveniently carried in a grip with other articles, being especially adapted for use by the traveling public.

In carrying out my invention I employ the novel combination, arrangement, and details of construction hereinafter shown, described, and claimed.

In the accompanying drawings, Figure 1 is a plan view of my complete machine. Fig. 2 is an elevation of the same. Fig. 3 is an end elevation, partly in section. Fig. 4 is a rear elevation showing the spacing mechanism. Fig. 5 is a plan view, the head carrying the spacing mechanism and the type-bar carrier being removed. Fig. 6 is a perspective view of the head, showing the means for supporting the type-bar carrier and also disclosing the means for detachably supporting the ribbon-holder. Fig. 7 is a perspective of the spacing mechanism detached. Fig. 8 is a sectional plan view of the type-bar carrier, showing the construction for mounting the type-bars. Fig. 9 is a transverse section through the type-bar carrier, showing a type-bar in position; and Fig. 10 is an elevation of one of the type-bars.

Referring to the details, 1 is a base-plate having feed-rolls 2 and 3 extending along its forward edge, the rolls being geared together at 4 and rotation being imparted thereto by the manual operation of the thumb-wheel 5.

6 is a plate slightly elevated above the base-plate 1, the letter-sheet being directed to the feed-rolls between said plates.

7 is a guide-rod mounted at the ends upon the plate 6, the same being adapted to slidably and pivotally support the head 8.

9 is a type-bar carrier supported by the head and adapted to slide longitudinally therethrough, being firmly supported and guided in its movement by a channeled bar 10, having edges 11 and 12 projecting toward each other and operating along grooves 13 in the top and bottom faces of the type-bar carrier. Type-bar carrier 9 is further guided in its movement to insure true alinement by means of rollers 14, supported upon its ends and operating along a groove 15 on the top of the plate 6. Longitudinal movement is imparted to the type-bar carrier by means of a manually-operated stem 16, rotatably supported in the head and having a pinion 17 at its inner end to engage the teeth of a rack 18 upon the top of the type-bar carrier.

19 indicates the type-bars of angular form, having the type-faces 20, and the same are mounted side by side upon a rod 21, extending lengthwise through the carrier, nuts 22 on the ends of the rods securing the latter in place. Each type-bar is provided on one of its sides about its pivotal portion with a hub extension 23, adapted to fit into a complementary recess 24 in the face of the adjoining type-bar. By this construction the type-bars are firmly supported in their pivotal movement about the rod 21, and the tendency to become loosened is to a great degree eliminated.

25 represents light wire springs having coils 26 surrounding the hub extensions of each bar, one end 27 of each spring pressing against the type-bar carrier at 28 and the other end being bent angularly and engaging the under side of the type-bar at 29, and thereby holding the same normally elevated. The various type-bars as they are brought to proper position are actuated to strike the base-plate 1, which serves as a platen, by striking the key 30, carried by the stem 31, the latter being vertically movable in the head, being normally elevated by the action of a coiled spring 32.

The spacing mechanism which I employ comprises a lever 33, pivoted upon the head

at 34 and provided near its forward end with a lateral extension 35, surrounding the stem 31 and underlying an enlargement 36 upon the stem, so that as the key 30 is struck the forward end of the lever 33 will be depressed. At its rear end the lever 33 engages the upper angular end of the spacing-bar 37, suitably guided for true vertical movement through a case 38, mounted upon the head; a coiled spring 39 within the case pressing downwardly against an enlargement 40 upon the bar 37 and holding the latter normally in lowered position. At its lower end the spacing-bar 37 is provided with spacing-teeth 41 and 42, disposed in a vertical plane and taking position on opposite sides of the guide-rod. As shown, these teeth project in opposite directions toward each other, but slightly inclined in a vertical direction, and they are provided with inclined faces 43 and 44, respectively. Arranged in line upon the upper and lower sides of the guide-rod at distances corresponding to full spaces between adjoining type-bars are recesses 45 and 46, having inclined faces 47 and 48, respectively, adapted to be engaged by the inclined faces of the teeth carried by the spacing-bar. The recesses 45 and 46 are staggered, as shown in Fig. 4, and have vertical walls 49 and 50, adapted to limit the movement of the spacing-teeth, and as said walls are spaced at distances apart corresponding to half-spaces between adjoining type-bars the operation of the striking-key to elevate the spacing-bar and the return of the latter to lowered position when the striking-key is released will cause the spacing-bar and the head upon which it is supported to move two half-spaces, the head being moved twice in rapid succession a distance corresponding to a full space at each operation of the striking-key. The outer end of the lever 33 is extended forwardly of the head, as at 51, to permit the operation of the spacing mechanism independently of the operation of the striking-key, the same being actuated by pressure of the finger upon the part 51. Upon the lower face of the type-bar-carrier head is supported a sheet-metal bracket 52 for the ribbon-holder 53, the bracket being extended forwardly in the form of a hollow rectangular frame 54, underlying the type-faces of the type-bars. The side edges of the frame 54 are preferably beveled, as at 55, to receive the upturned margins 56 of the ribbon-holder, the latter being capable of instant attachment or removal. Ribbon-holder 53 is preferably constructed of sheet metal of rectangular form corresponding to the shape of the rectangular frame of the bracket, and the same is cut out centrally to expose the inked ribbon 57 to the type-faces when the type-bars are actuated by the striking-key, the ink from the ribbon being transferred to the letter-sheet directed below the ribbon-carrier through the feed-rolls. Ribbon 57 is in the form of a continuous band operating around rolls 58, supported by the ribbon-holder. One of the rolls may have its axis provided with a thumb-head, as at 59, Fig. 6, to permit the ribbon to be advanced manually at intervals, a fresh inking-surface being thereby secured when desired and the life of the ribbon being prolonged by this construction.

60 is a stop upon the ribbon-holder to limit the insertion of the latter upon the frame 54. Extending downwardly from the forward edge of the lower face of the type-bar-carrier head is a hook 61, adapted to engage the forward edge 62 of the plate 6, and thereby lock the head in lowered position between the commencement and completion of a line of writing, and to permit the head to be raised at the completion of the line operation, so that it may be moved along the guide-rod 7 and again lowered in position for writing a new line, the plate 6 is provided at the ends of the margin traversed by the hook 61 with notches 63 and 64, the head being free to be elevated and lowered when the hook registers with the notches, as shown in Fig. 5.

From the foregoing description the simplicity of construction and improved operation of my invention will be apparent.

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

1. In a type-writing machine, the plate 6 having notches in its forward edge adjacent to its ends, the guide-rod 7 mounted upon said plate, and the type-bar-carrier head having a pivoted swinging movement upon the guide-rod and provided with a hook to engage the forward edge of the plate 6 to lock the head in lowered position and adapted when the hook registers with the aforesaid notches to release the head to permit said head to be raised, substantially as described.

2. In a type-writing machine, a horizontally and intermittently movable type-bar-carrier head, a type-bar carrier slidably mounted in the head and provided with a rack, a stem and pinion rotatably mounted in the head to engage said rack to permit manual operation of the carrier, individual type-bars supported by the carrier, and a vertically-movable operating-stem and key adapted to operate the individual type-bars, substantially as described.

3. In a type-writing machine, the combination with the base-plate which serves as a platen, of feed-rolls at the forward edge of the base-plate, a plate 6 spaced above the base-plate, a guide-rod supported by the plate 6, a type-bar-carrier head, intermittently movable along said guide-rod, a type-bar carrier slidable within the head, individual type-bars pivoted in the carrier, an operating-key adapted for the operation of the individual type-bars, and inking means carried by the

head, comprising a rectangular frame disposed between the type-bar faces and the base-plate, said frame supporting an endless ribbon mounted for manual movement thereon, substantially as described.

4. In a type-writing machine, the combination of a base-plate and feed-rolls for a sheet of paper at its forward edge, of a plate 6 spaced above the base-plate, a guide-rod supported at its ends upon the plate 6, a type-bar-carrier head intermittently movable along said guide-rod, a type-bar carrier slidably mounted in the head, individual type-bars pivoted in the carrier, an operating-key carried by the head to be operated to actuate the individual type-bars, and inking means for the type-bar faces comprising a frame detachably supported upon the head and positioned between the type-bar faces and the base-plate, said frame being provided with rollers and an endless inking-ribbon operating around said rollers and adapted to be advanced manually, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ANDREW A. WENSINGER.

Witnesses:

CARL H. KELLER,

ARTHUR J. DARTON.