

J. VAALER.

TYPE WRITER DESK.

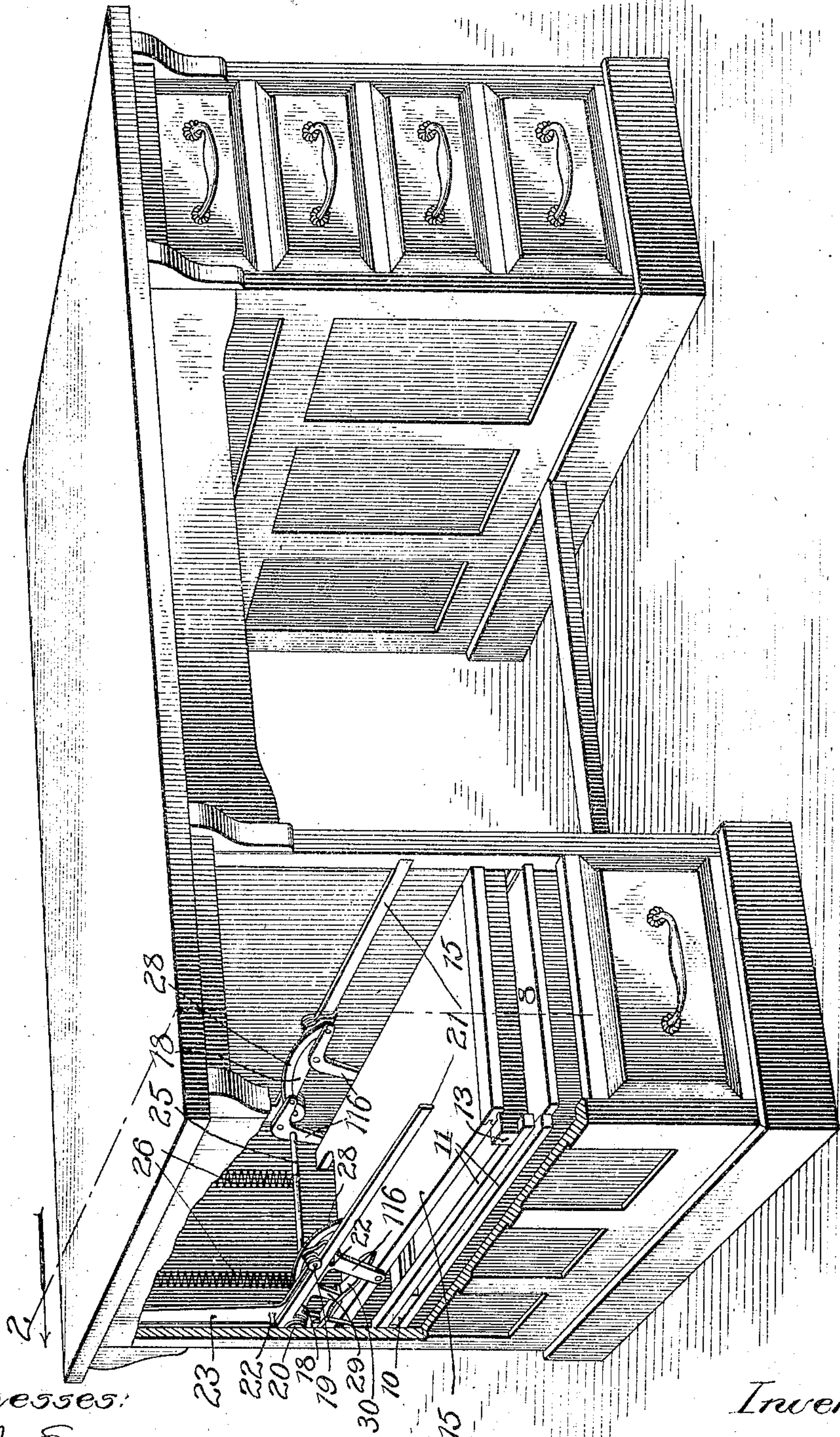
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Patented Sept. 21, 1909.

3 SHEETS—SHEET 1.

Fig. 1



Witnesses:

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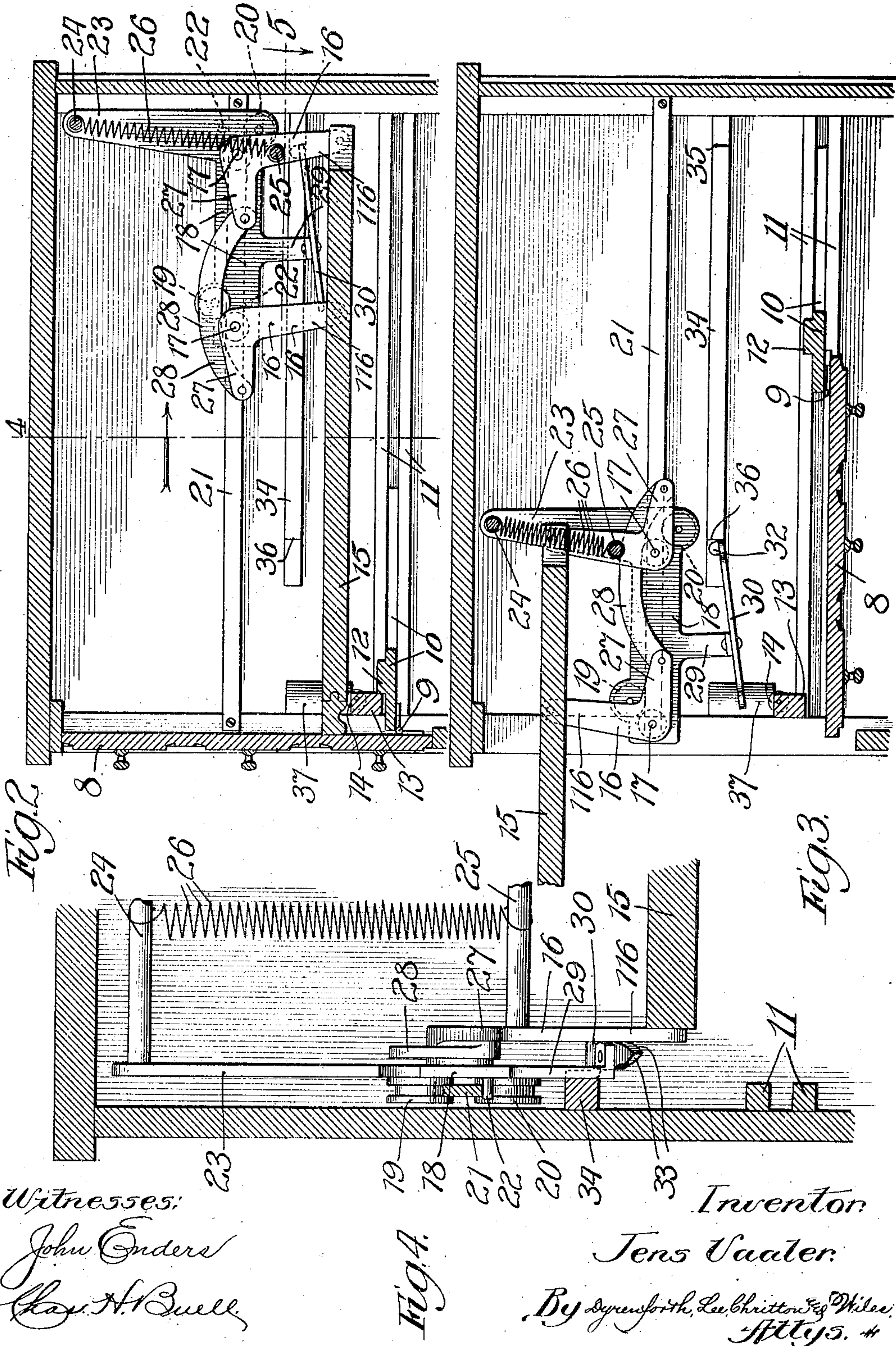
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3 SHEETS—SHEET 2.



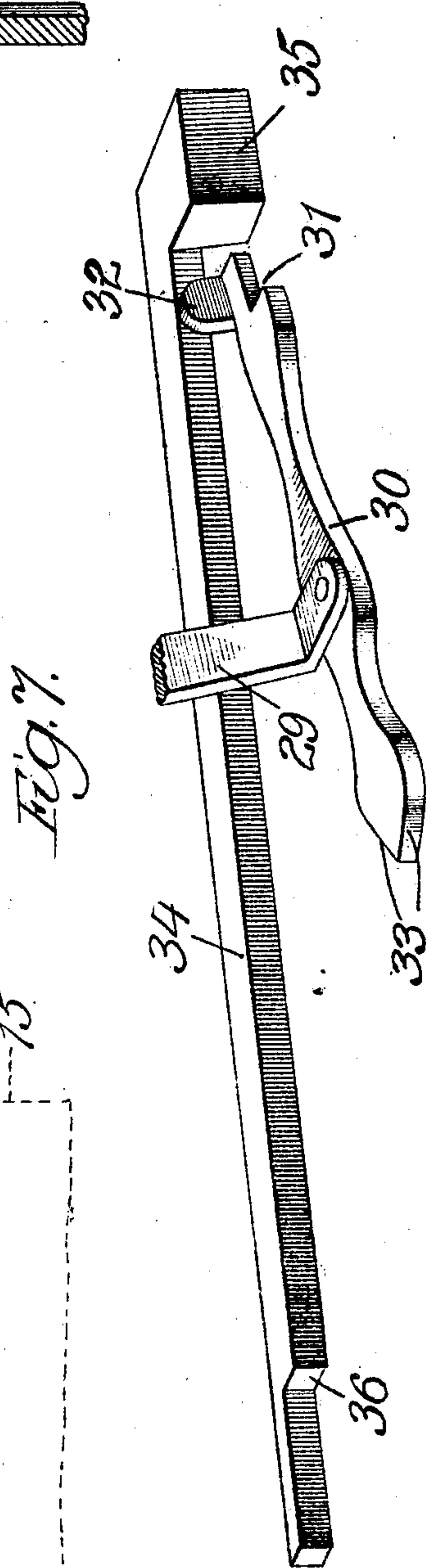
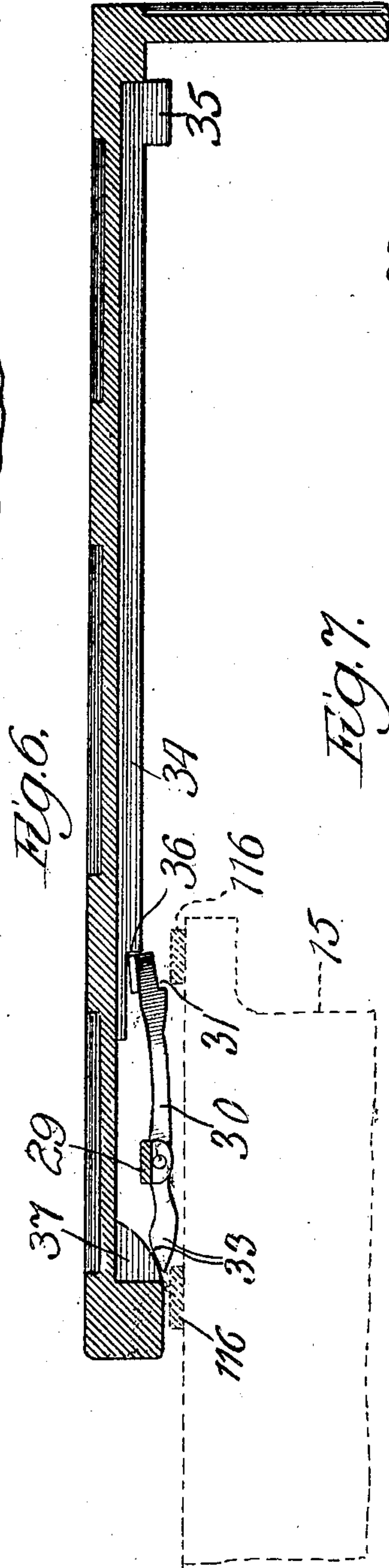
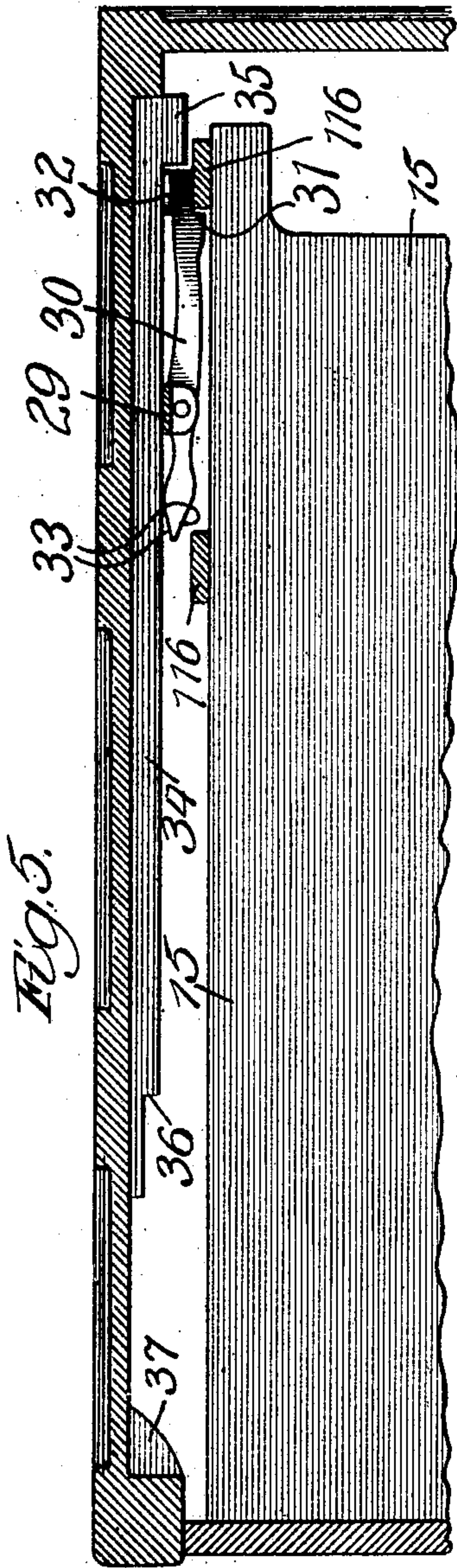
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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TYPE-WRITER DESK.

934,861.

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To all whom it may concern:

Be it known that I, JENS VAALER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Type-Writer Desks, of which the following is a specification.

My invention relates to an improvement in the class of typewriter-desks in which the desk is of an ordinary type for office use and a platform for supporting a typewriting-machine and mechanism for operating the platform are housed in the desk in a manner to adapt the platform to be moved from its housing into position for operating the machine and restored to its housed position without requiring the desk to be disarranged.

The object of my invention is to provide improved mechanism, novel in construction and in its manner of operation, for the support of the platform, and by which the latter may, with facility, be moved forward and backward and raised and lowered in changing it from the housed to the withdrawn position, and vice versa.

Referring to the accompanying drawings: Figure 1 is a broken perspective view of a "flat-top" office-desk equipped with my improvement, showing the platform and its operating mechanism in position in one of the pedestals of the desk; Fig. 2 is a view in broken sectional elevation through the platform and the upper portion of the pedestal, showing the platform in its normally housed position, the view being taken at the line 2 on Fig. 1; Fig. 3 is a view similar to Fig. 2, but showing the platform in the withdrawn and raised position, which is the operative position for the machine; Fig. 4 is an enlarged view in sectional elevation taken on line 4, Fig. 2; Figs. 5 and 6 are broken plan sectional views taken at the line 5 on Fig. 2, and showing the parts respectively in the housed and raised position of the platform; and Fig. 7 is a broken perspective view of a locking-lever detail.

The desk is so designed and constructed as to completely hide the typewriter feature when the latter is out of use, being housed in one of the pedestals; and to accomplish that purpose a false front 8 is provided for that pedestal of the size and general appearance of the upper three drawers of the other pedestal. The front 8 is hinged near its lower end, as at 9, to a slide-plate 10

movable between guides 11 on the inner sides of the pedestal; and a stop 12 is formed on the slide to engage a bar 13 extending across the pedestal at the front thereof, for limiting the movement of the slide in a forward direction when the front is in its normal or raised position. When it is desired to use the typewriter-machine (not shown) the front 8 is swung to lower it on its hinges to approximately a horizontal position when it is shoved out of the way into the pedestal to the position shown in Fig. 3.

A roller or rollers 14 may be mounted on the bar 13, and a platform 15, which carries the aforesaid machine, is supported at its front or outer end thereon when in a lowered position, the roller furnishing an anti-friction bearing for the platform to facilitate sliding it back and forth. The platform is supported at opposite sides of its inner-end portion by a pair of similar bell-cranks 16, the longer arms 116 of which are pivotally fastened to the platform-edges. Each pair of bell-cranks is fulcrumed at 17 to one of two similar castings or stampings forming the sides of a carriage 18 provided, as to each side, with an upper grooved roller 19 adjacent to its forward end and a similar lower grooved roller 20 adjacent to its inner end. A track 21 formed of rails on, but spaced from the opposite inner faces of the pedestal-sides, as shown in Fig. 4, is provided for the carriage 18, which is mounted to slide freely thereon, being confined in position by the rollers 19 and 20 in engagement with the rails of the track, as described. Accidental separation of the carriage from the track is prevented by studs 22 projecting from the carriage across the track, one of such studs being opposite each of the rollers 19 and 20 and in such close proximity to the track as to prevent displacement of either wheel, though not interfering with the free movement of the carriage. An arm 23 rises from each side of the carriage 18 at its inner end and a rod 24 extends between these arms to rigidly connect them, while a similar rod 25 extends between the rear bell-cranks; and springs 26, under expansion, as in Fig. 2, are attached at their ends to the rods 24 and 25 for the purpose hereinafter explained; a spring being adjacent to each rear bell-crank. The shorter arms 27 of the bell-cranks, forming a pair on each carriage-side, are

pivotaly connected by a curved link 28, and the parts are so proportioned and arranged that when the platform is either in its housed and lowered, or withdrawn and raised, position, each link 28 will rest upon the hub-portion of a bell-crank, as shown in Figs. 2 and 3, in which figures these hub-portions are indicated by dotted lines surrounding the fulcrums 17. The tension of the springs 26, which is exerted upon the rod 25 in the direction toward the rod 24, is so proportioned to the weight of the typewriting-machine as to act as a counter-balance for the same, though not to quite equal its weight.

When the platform is in its lowermost and housed position it is locked therein so that it cannot be raised until it has first been drawn forward, when, upon reaching its limit of forward movement, it is automatically unlocked to permit the platform to be raised for bringing the machine into operative position. For accomplishing this object the following-described parts are provided:

Depending from one (the outermost) carriage-side is a bracket 29, to which is fulcrumed between its ends, to swing laterally, a lever 30 obliquely disposed and provided at one end with an offset 31 and an upturned lip 32, while the opposite end is tapered to form similar opposite cam-faces 33. A cleat 34 is attached to an inner side of the pedestal and is provided with a head 35 at one end (see Fig. 7), and an offset at its other end forming a shoulder 36. The cleat is so positioned as to permit the lip 32 to bear against it while the recess 31 engages the depending arm 116 of the adjacent rear bell-crank (see Fig. 5) which locks the latter against turning on its fulcrum with the result that the platform is thereby held in its lowered position. As the platform is drawn forward and the ear 32 passes the shoulder 36, one of the cam-faces 33 of the lever 30 encounters a cam-block 37 in its path (see Fig. 6), with the result that the arm is rocked on its pivot to disengage it from the bell-crank, when the platform is free to be raised. As the platform is raised each one of the four bell-cranks is inverted about its fulcrum, somewhat beyond the extent of 180°, from the position shown in Fig. 2 to that shown in Fig. 3. The arms 116, all being of the same length, have a parallel movement throughout their inversion, so that the platform is maintained in a horizontal position at all times.

With the platform in its lower position the shaft 25 is past a dead-center, that is, to one side of a line drawn through the centers of shaft 24 and the fulcrum 17, as shown in Fig. 2. The springs, which in this position exert their greatest tension, tend to turn the arms 116 backwardly, which movement is checked by contact of the links 28 with the

hub-portions of the adjacent bell-cranks. The force of the springs being exerted in this direction, pressure of the arm 116 against the locking-arm is prevented, thereby permitting the latter to be swung freely upon its pivot by contact of its cam-surface 33 with the cam-block 37.

In the raised position shown in Fig. 3, the pivot-connections of the arms 116 with the platform are to the rear of perpendicular lines drawn through the fulcrums 17 of the bell-cranks, so that the weight of the typewriting-machine is exerted to hold the links 28 against the hub-portions of the other bell-cranks, as shown, and the tension of the springs also assists in maintaining the parts in that position.

To lower the platform, it is first pulled forward against the tension of the springs to carry the pivots which secure the bell-cranks to the platform past lines perpendicular to the fulcrums 17, when the platform is free to be lowered against the constantly increasing tension of the springs, which eases the movement in that direction. As this movement takes place the arm 116 of the forward bell-crank contacts one of the cam-surfaces 33 of the locking-arm 30 to turn the latter on its pivot, thereby disengaging its other end from contact with the shoulder 36, and causing the recess 31 to engage and lock the respective bell-crank, after which the platform is free to be slid back into the housed position shown in Fig. 2. The platform is stopped in this movement by the encounter of the end of the lever 30 with the head 35 (Fig. 7) of the cleat 34.

The position of the mechanism for adjustably supporting a typewriting machine in the manner described is primarily intended to be on the pedestal of an ordinary office-desk, as shown; but I do not wish to be understood as intending to limit my improvement to that particular connection.

While I have shown and described my invention as applied to a typewriter in a desk, the same is equally useful for application to other devices adapted to be used in connection with and housed within a cabinet, pedestal or the like, such as a calculating machine, a desk-telephone, and other devices which it is desired to so mount within a structure such as those enumerated, as to permit of their quick and ready withdrawal therefrom in convenient position for use, and equal facility in returning them within the cabinet, pedestal, desk or similar structure after using, where they are hidden from view and protected from dust.

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

1. In combination with a desk, cabinet, or the like, a carriage movably confined therein, a platform withdrawably housed therein, and platform-supporting elements pivoted

on the carriage in a plane between the lowered and raised positions of the platform, whereby said platform-supporting elements are inverted on withdrawing the platform
5 to raise the platform during such withdrawal.

2. In combination with a desk, cabinet, or the like, a carriage movably confined therein, a platform withdrawably housed therein,
10 platform-supporting elements pivoted on the carriage in a plane between the lowered and raised positions of the platform, whereby said platform-supporting elements are inverted on withdrawing the platform to raise
15 the platform during such withdrawal, and a locking-device releasably holding said platform-supporting elements.

3. In combination with a desk, cabinet, or the like, a carriage movably confined therein,
20 a platform withdrawably housed therein, a track for the carriage, and a pair of platform-supporting levers fulcrumed to each side of the carriage in a plane between the lowered and raised positions of the platform, whereby said levers are inverted on withdrawing the platform to raise the platform
25 during such withdrawal.

4. In combination with a desk, cabinet, or the like, a track therein, a carriage riding
30 on said track, a pair of bell-cranks fulcrumed at their angles to each side of the carriage, a link connecting the members of each of said pairs at their shorter arms, and a platform pivotally supported on the longer
35 bell-crank arms the fulcrums of said arms being in a plane between the lowered and raised positions of such platform, whereby said levers are inverted on withdrawing the platform to raise the platform during such
40 withdrawal.

5. In combination with a desk, cabinet or the like, a track therein, a carriage riding on said track and comprising sides having

upwardly extending rear arms at which the sides are connected, a pair of bell-cranks
45 fulcrumed at their angles to each carriage-side, a link connecting the members of each of said pairs at their shorter arms, a platform pivotally supported on the longer bell-crank arms, and springs connecting said
50 longer arms with the carriage, for the purpose set forth.

6. In combination with a desk, cabinet or the like, a track therein, a carriage riding on said track, a pair of bell-cranks fulcrumed to each side of the carriage, a link
55 connecting the members of each of said pairs at their shorter arms, a platform pivotally supported on the longer bell-crank arms, a locking-lever fulcrumed between its ends on the carriage to swing laterally and adapted to interlock at one end with a longer bell-crank arm and provided on its opposite
60 end with a cam-head, and an abutment in the path of said head, for the purpose set forth.

7. In combination with a desk, cabinet or the like, a track therein, a carriage riding on said track, a pair of bell-cranks fulcrumed to each side of the carriage, a link connecting the members of each of said pairs at
70 their shorter arms, a platform pivotally supported on the longer bell-crank arms, a cleat extending along an inner side of a pedestal and provided with an offset in its forward end, a lever fulcrumed between its ends on
75 the carriage to swing laterally, with an offset in its rear end to engage a longer bell-crank arm, a lip adjacent to said offset to bear against the cleat, and a cam-head on its forward end, and an abutment in the path of
80 said head, for the purpose set forth.

JENS VAALER.

In the presence of—

R. A. RAYMOND,
J. G. ANDERSON.