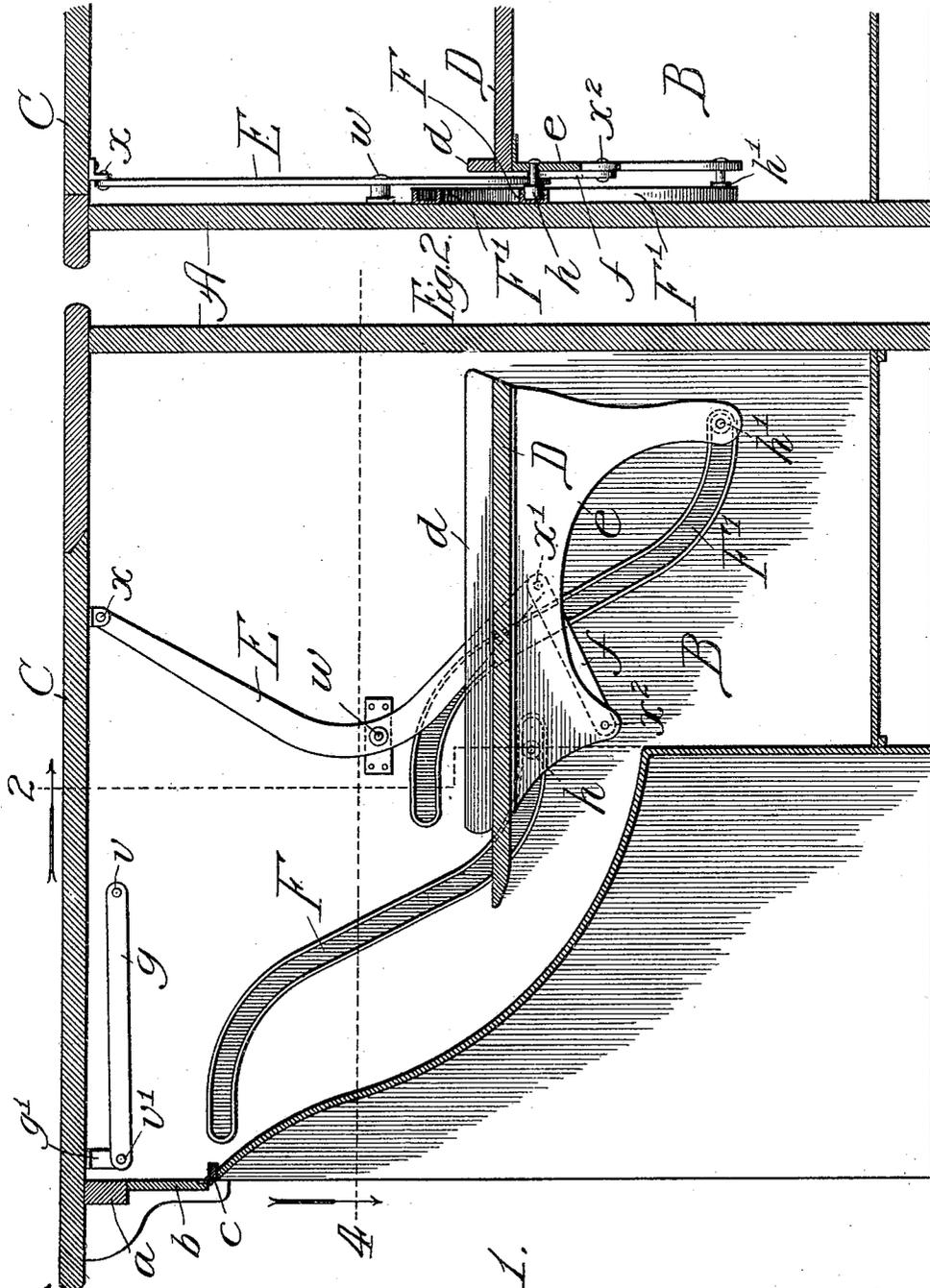


No. 820,272.

PATENTED MAY 8, 1906.

J. VAALER.  
TYPE WRITER DESK.  
APPLICATION FILED JULY 20, 1905.

3 SHEETS—SHEET 1.



Witnesses:  
Chas. H. Buell.  
John Enders.

Fig. 1.

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3 SHEETS—SHEET 2.

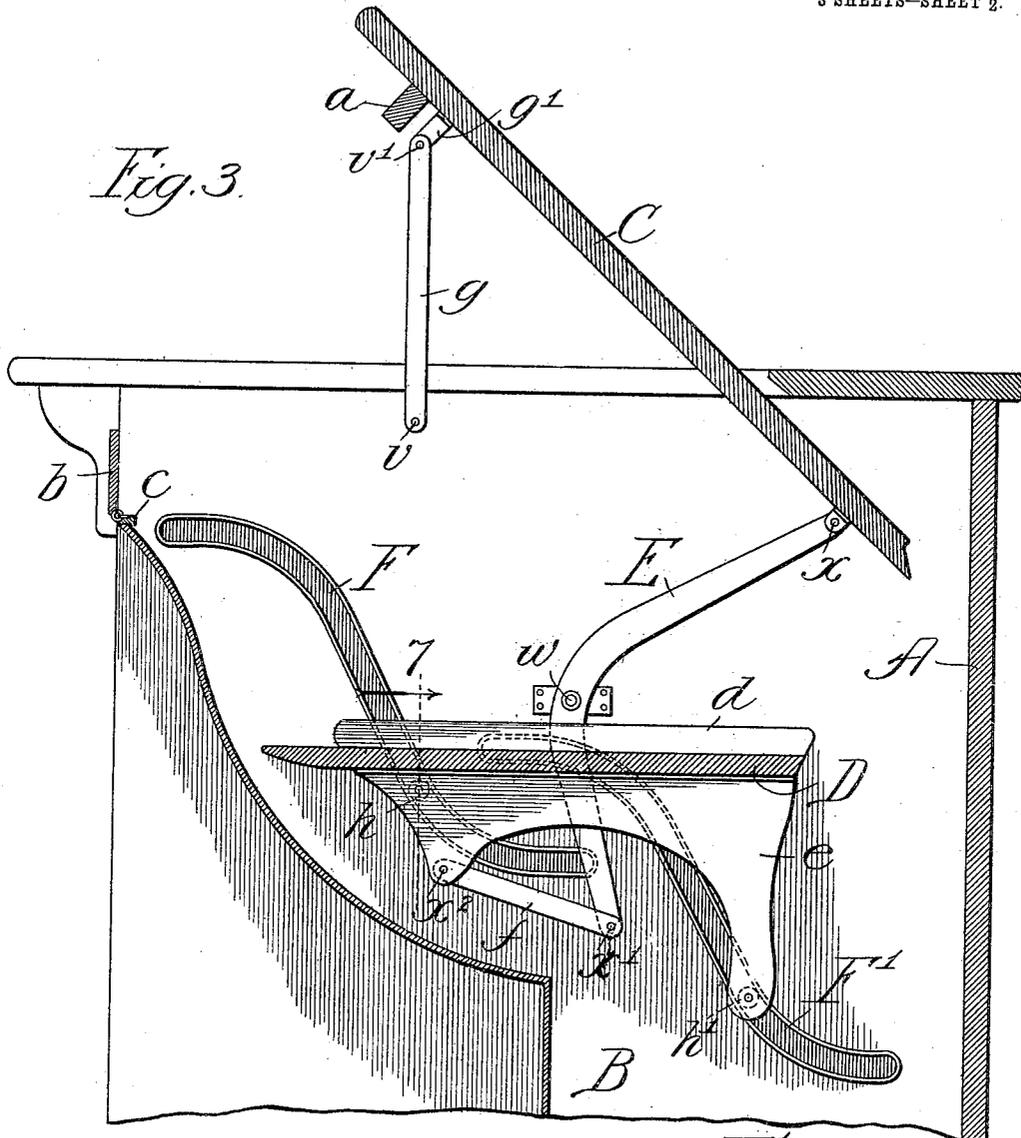


Fig. 3.

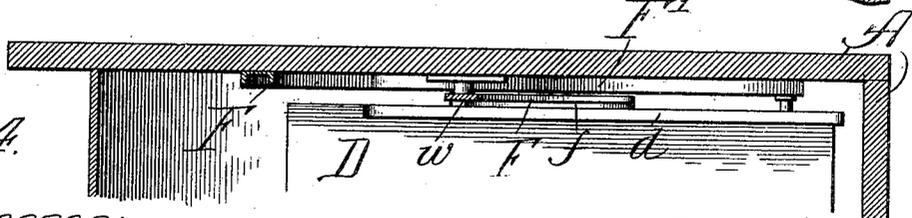


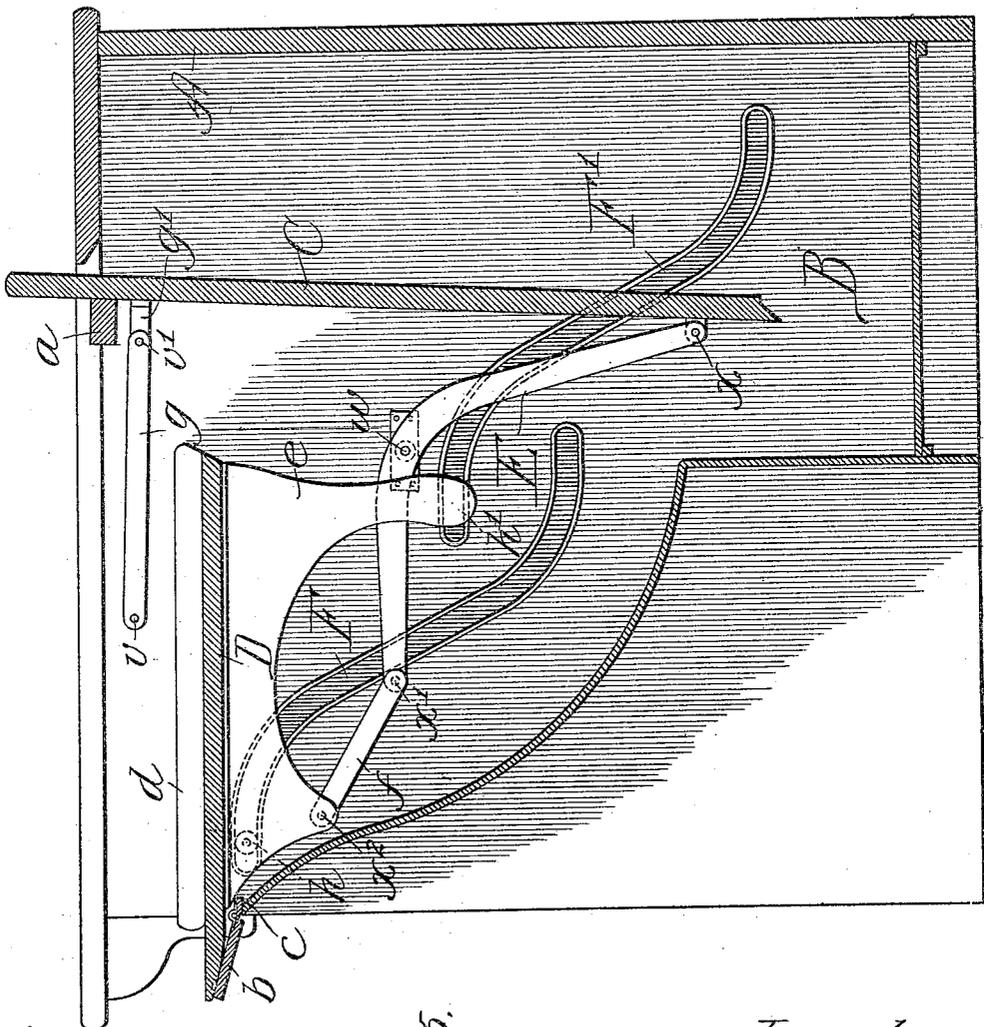
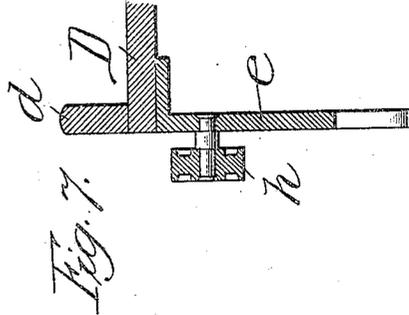
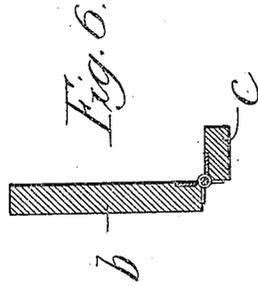
Fig. 4.

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J. VAALER.  
TYPE WRITER DESK.  
APPLICATION FILED JULY 20, 1905.

3 SHEETS—SHEET 3.



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*Fig. 5.*

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# UNITED STATES PATENT OFFICE.

JENS VAALER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CLEMETSEN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## TYPE-WRITER DESK.

No. 820,272.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed July 20, 1905. Serial No. 270,533.

*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 a new and useful Improvement in Type-Writer Desks, of which the following is a specification.

My invention relates to an improvement in the class of desks for type-writing machines in which the desk forms a well containing the machine-supporting shelf so connected with the desk-lid and guided in the well as to cause opening the lid to raise the shelf and bring the machine thereon into position for operating it and closing the lid to lower the shelf in the well for housing the machine, but without turning the shelf between the positions to which it is raised and lowered from the horizontal condition it is required to occupy when raised.

My invention relates particularly to an improvement in the mechanism for so raising and lowering the shelf, my object being to provide novel and peculiarly simple, durable, and reliably-operating means for the purpose.

Referring to the accompanying drawings, Figure 1 is a view in cross-sectional elevation of a type-writer desk provided with my improvement, showing the parts in their relative positions when the lid is closed; Fig. 2, a section taken at the line 2 on Fig. 1 and viewed in the direction of the arrow; Fig. 3, a view like that presented by Fig. 1, but showing the relative positions of parts with the lid partly opened; Fig. 4, a section taken at the line 4 on Fig. 1 and viewed in the direction of the arrow; Fig. 5, a view like that presented by Fig. 1, but showing the relative positions of parts with the lid fully opened; Fig. 6, a sectional view of a hinged ledge detail, and Fig. 7 an enlarged section taken at the line 7 on Fig. 3 and viewed in the direction of the arrow.

A is the desk, of any suitable form and construction, containing a well B and provided with a lid C for closing the opening in its top and which in its closed condition is shown to project beyond the front of the desk, at which it carries a depending closure-flange *a*. In the closed condition of the lid the flange *a* meets a ledge *b*, having a spring-hinge connection with its supporting-strip *c*, which ex-

tends between the sides of the desk, the spring-hinge yieldingly maintaining the part *b* in its normally vertical position.

The mechanism hereinafter described for raising and lowering the shelf by opening and closing the lid is duplicated on each side of the shelf, but is only shown at one side thereof in the drawings.

D is the shelf for supporting the machine, (not shown,) provided with upper side rails *d*, if desired, and with depending bearing-plates *e*. At each side of the shelf a lever E of the nature of a bell-crank is fulcrumed between its ends at *w* to an inner side of the desk with one end pivotally connected at *x* with the lid C near its rear end and the opposite end similarly connected at *x'* with one end of a link *f*, having its opposite end pivoted at *x<sup>2</sup>* to the forward portion of a plate *e*. Prop-links *g* are pivoted at *v* to the inner desk sides near the upper ends of the latter and are pivotally connected at *v'* with ears *g'*, depending from the inner side of the lid adjacent to the flange *a* to hinge the lid.

On each side of the desk are formed or provided a pair of similar guides F and F', preferably of the general inverted-S shape illustrated and composed of channeled rails, the most desirable relative disposition of which is that represented, wherein the forward member F is higher than the rear member F', but parallel therewith in the sense of causing antifriction-rollers *h* and *h'*, projecting into the respective guide-channels from a bearing-plate *e* at the points thereon illustrated, always to occupy the same relative positions in raising and lowering the shelf, which is accomplished as follows: To raise the shelf from its lowermost housed position in the well B, (represented in Fig. 1,) wherein the rollers *h* and *h'* are in the lower end portions of the guides F F', to its uppermost and forward position for operating the type-writing machine, (represented in Fig. 5,) the lid C is raised on its journaled points at *v*. In thus raising the forward part of the lid and accordingly depressing its rear part the connection of the latter with the levers E turns them on their fulcrums *w* and drives the links *f* against the plates *e* at the points *x<sup>2</sup>* to lift the shelf D, and the two correspondingly-guided rollers *h h'* at each side of the

shelf adjacent to its forward and rear ends cause it to maintain a horizontal position at each point in its rise, the weight of the shelf being distributed to the forward and rear rollers *h h'*. When the lid has been opened to the extent represented in Fig. 3, the links *g* are vertical, and with the lid completely opened, as represented in Fig. 5, the links guide it into the vertical position shown behind the shelf in the well, and its action upon the levers *E* has turned them to carry the shelf to its uppermost position. In the rise of the shelf the guides *F F'* advance it forward, and toward the end of its rise the forward edge of the shelf protrudes past the plane of the ledge *b*, thereby forcing it against the resistance of the spring-hinge toward a horizontal position, wherein it bears against the base of the shelf ready to follow the latter and rise to its normal upright position in closing the lid *C* to lower the shelf by the reversely-turning action of the lid against levers *E*.

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

1. In a type-writer desk, the combination with a shelf for supporting a type-writing machine in the desk-well, of mechanism for raising and lowering the shelf in horizontal position, comprising a hinged lid, levers at the opposite sides of the shelf fulcrumed between their ends and connecting the lid with the shelf to be turned for raising and lowering it by opening and closing the lid, and guides of substantially inverted-**S** shape in said well engaging the shelf and directing its movements therein.

2. In a type-writer desk, the combination with a shelf for supporting a type-writing machine in the desk-well, of mechanism for raising and lowering the shelf in horizontal position, comprising a hinged lid, levers at opposite sides of the shelf fulcrumed between their ends and pivotally connected at corresponding ends to the lid, with links connecting their opposite ends to said shelf to raise and lower the latter by opening and closing the lid and thereby turning said levers, and corresponding guides of substantially inverted-**S** shape in said well engaging the shelf and directing its movements therein.

3. In a type-writer desk, the combination with a shelf for supporting a type-writer machine in the desk-well, of mechanism for raising and lowering the shelf in horizontal position, comprising a lid having link connections with the desk, levers at opposite sides of the shelf fulcrumed between their ends and connecting the lid with the shelf to be turned for raising and lowering it by opening and closing the lid, and corresponding guides of substantially inverted-**S** shape in said well

engaging the shelf and directing its movements therein.

4. In a type-writer desk, the combination with a shelf for supporting a type-writing machine in the desk-well, of mechanism for raising and lowering the shelf in horizontal position, comprising a hinged lid, levers at opposite sides of the shelf fulcrumed between their ends and connecting the lid with the shelf to be turned for raising and lowering it by opening and closing the lid, and a pair of guides of substantially inverted-**S** shape on each side of the shelf with the members of each pair extending one lower than the other and inclining upwardly toward the front of the desk, said guides engaging the shelf and directing its movements in said well.

5. In a type-writer desk, the combination with a shelf for supporting a type-writing machine in the desk-well, and provided with depending bearings, of mechanism for raising and lowering the shelf in horizontal position, comprising a lid having link connections with the desk, levers at opposite sides of the shelf fulcrumed between their ends and pivotally connected at corresponding ends to the lid, with links connecting their opposite ends to said bearings to raise and lower the shelf by opening and closing the lid and thereby turning said levers, a pair of guide-tracks of substantially inverted-**S** shape on each side of the shelf with the members of each pair extending one lower than the other and inclining upwardly toward the front side of the desk, and antifriction-rollers projecting from said bearings into engagement with said tracks.

6. In a type-writer desk, the combination with a shelf for supporting a type-writing machine in the desk-well and provided with depending bearings, of mechanism for raising and lowering the shelf in horizontal position, comprising a lid having link connections with the desk, bent levers fulcrumed between their ends to the desk sides and pivotally connected at corresponding ends to the lid, with links connecting their opposite ends to said bearings to raise and lower the shelf by opening and closing the lid and thereby turning said levers, a pair of channeled guide-tracks of substantially inverted-**S** shape on each side of the shelf with the members of each pair extending one lower than the other and inclining upwardly toward the front of the desk, and antifriction-rollers projecting from said bearings into the channels of said tracks.

JENS VAALER.

In presence of—

L. HEISLAR,  
J. N. LANDES.