No. 865,481. PATENTED SEPT. 10, 1907.

R. E. DECKS & J. O. DRENNAN.

DESK LID SUPPORT.

APPLICATION FILED FEB. 11, 1907.

Fig. 1.

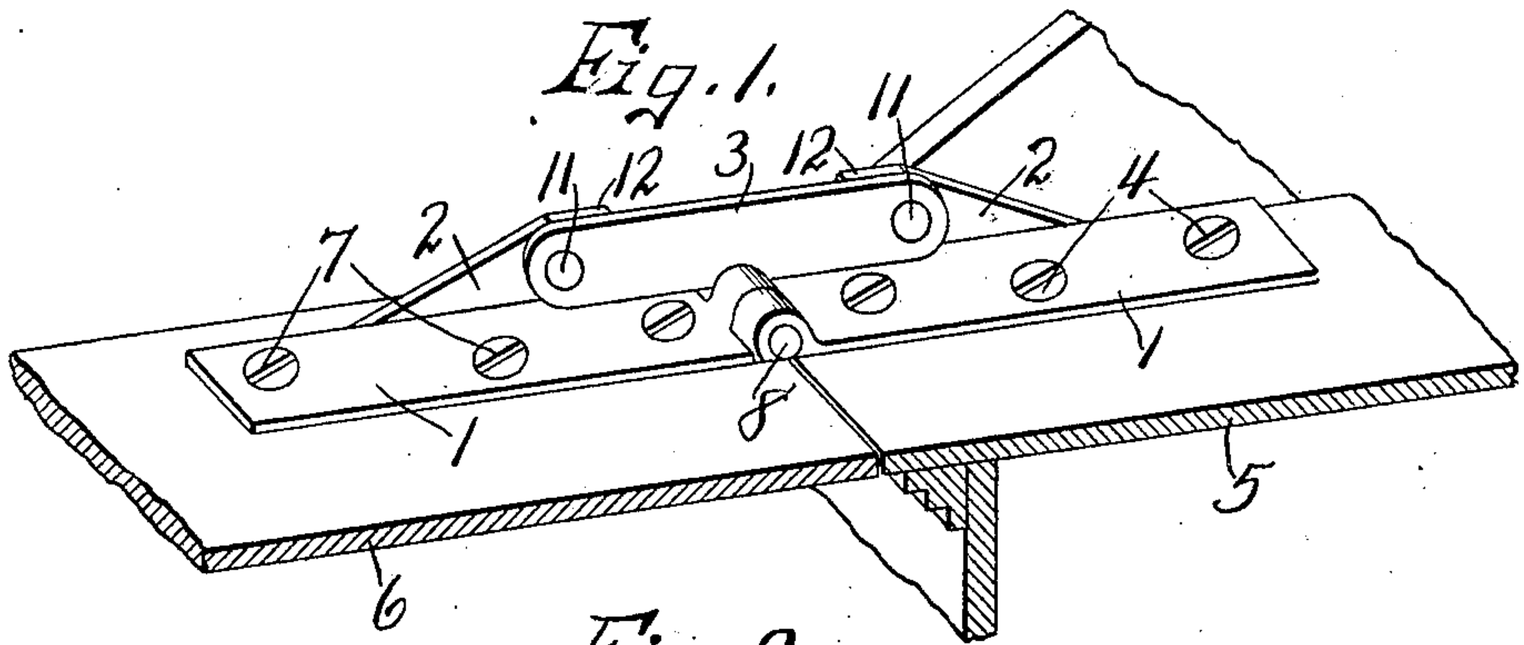


Fig. 2.

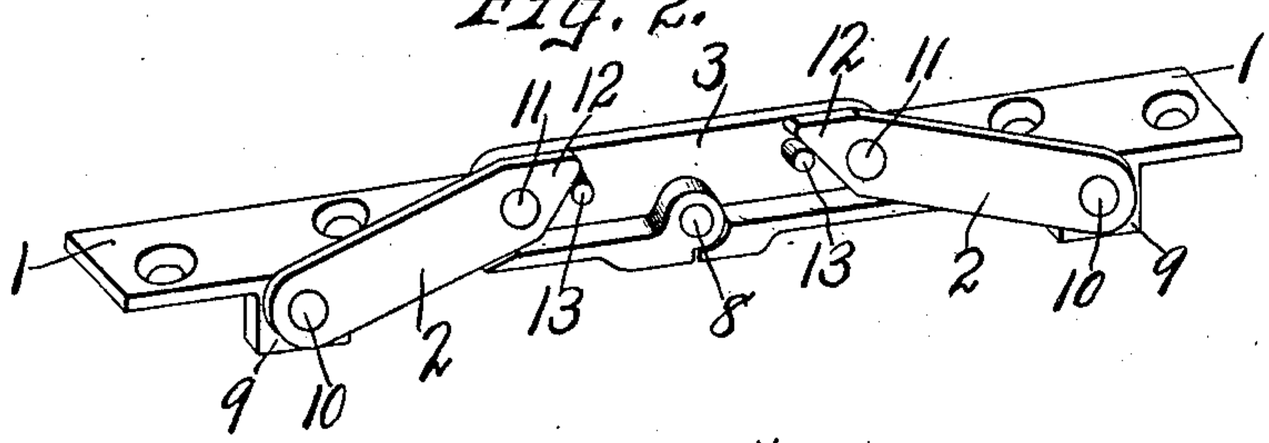


Fig. 3.

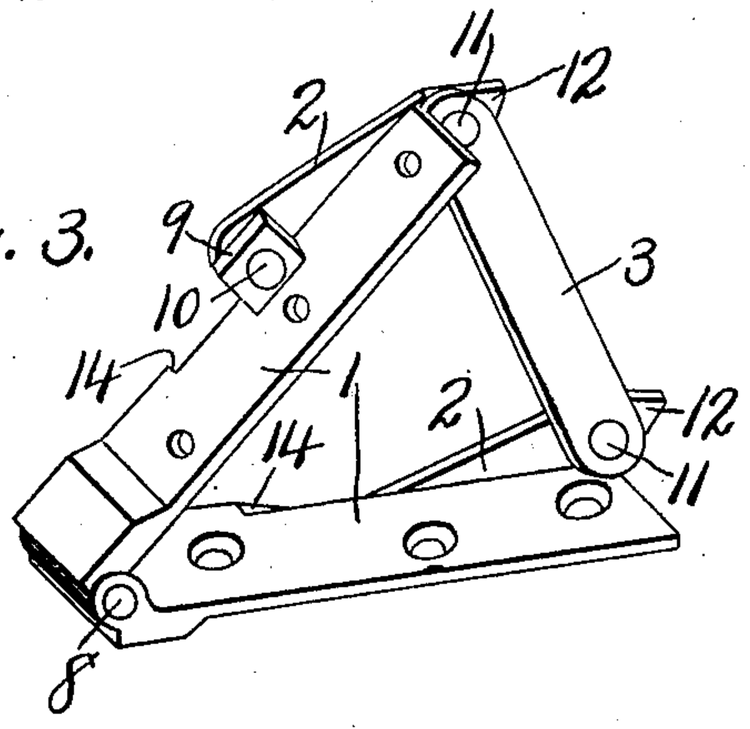
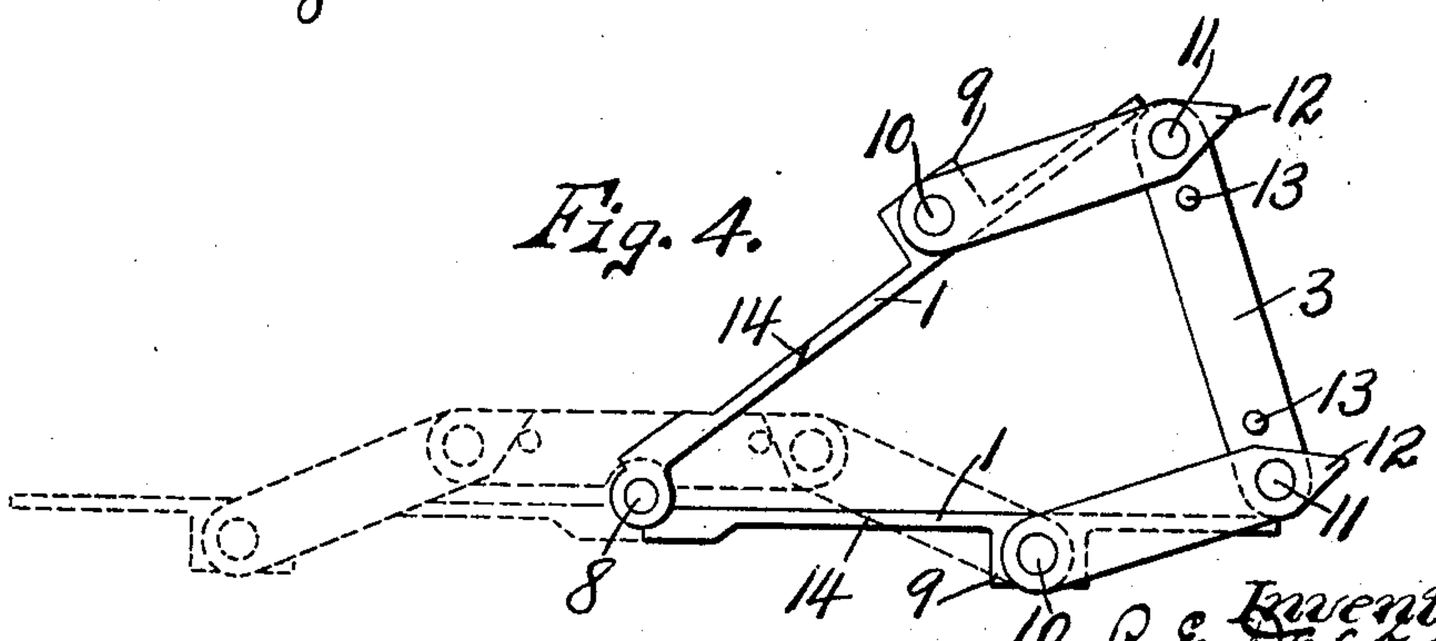


Fig. 4.



Witnesses.
F. C. Thomas
H. E. Chase

Inventors
R. E. Decks and
J. O. Drennan
By
Howard P. Denison
Attorney.

UNITED STATES PATENT OFFICE.

ROBERT E. DECKS, OF NEW YORK, AND JOHN O. DRENNAN, OF SYRACUSE, NEW YORK.

DESK-LID SUPPORT.

No. 865,481. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed February 11, 1907. Serial No. 356,885.

To all whom it may concern:

Be it known that we, ROBERT E. DECKS and JOHN O. DRENNAN, of New York city and Syracuse, in the counties of New York and Onondaga, in the State of New York, have invented new and useful Improvements in Desk-Lid Supports, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in desk lid supports comprising a hinge and flexing connections attached to the hinge sections at opposite sides of the pintle and bridging the intervening space to form a truss for relieving the strain upon the pintle and adjoining ends of the hinge sections when the lid is open so that the lid will be capable of supporting heavier loads than would be possible without the use of the truss.

My object is to provide a symmetrical and reversible trussed hinge connection between the shelf and lid of a desk or similar device in which a lid is used and at the same time to enable the parts to be quickly and economically manufactured and assembled and easily applied to any desk having a folding lid without excessive mutilation of the parts of the desk to which the trussed hinge is secured.

Other objects and uses relating to the specific parts of the device will be brought out in the following description.

In the drawings,—Figure 1 is a perspective view of a portion of a desk and its lid showing the application of one of my trussed hinges thereto, the members being shown in their open position. Fig. 2 is a perspective view of the detached truss-hinge seen in Fig. 1 also in its open position. Fig. 3 is a perspective view of the same truss hinge in its folded or closed position and Fig. 4 is a side elevation of the same device shown in full lines in its folded position and by dotted lines in its open position.

This trussed hinge comprises essentially two similar leaves or hinge sections —1— and —1—, levers —2— and —2— and a link —3—, one of the hinge sections or leaves as —1— being adapted to be secured by suitable fastening means as screws —4— to the shelf as —5— of a desk having a folding lid —6— to which the other hinge section as —1— is secured by suitable fastening means as screws —7—. These hinge sections —1— and —1— are of substantially the same form and size so that when hinged together at their meeting ends by a pintle or hinge pin —8— the hinge may be reversed or applied to either side of the desk thereby obviating the necessity for providing right and left hinges. The meeting ends of these hinge sections are formed with hollow bosses or cylinders, one of which is grooved transversely to receive a tongue which is formed on the other section, the pintle —8— being passed through these tubular bosses to pivotally lock the hinge sections together, said bosses being raised from the plane of the main body of the hinge sections to form a bearing or limiting stop for the link —3— when the lid is swung to its full open position as will be presently described.

The outer longitudinal edges of the hinge sections —1— and —1— are formed with pendent lugs or ears —9— which are located some distance at opposite sides of and equi-distant from the pin —8— for receiving pivotal pins —10— of the levers —2— and —2—. These levers —2— and —2— are, therefore, pivoted at one end to their respective hinge sections —1— and 1— equi-distant from the hinge pin —8— and extend toward each other, their adjacent ends being pivotally connected by pins —11— to the opposite ends of the link —3— thus forming what may be termed a double toggle connection between the hinge sections —1—.

The adjacent ends of the levers —2—project toward each other some distance beyond the pivots —11— forming shoulders —12— which are adapted to engage abutments —13— on the opposite ends of the link —3— between the pivots —11— and hinge pin —8— for limiting the relative movement of the adjacent ends of the levers —2— and link —3—. These abutments —13— consist in this instance of pins secured to the link —3— at equal distance from their pivots —11— and therefore, equi-distant from the hinge pin —8— when the hinge is swung to its open position and operate to prevent the swinging of either of the pivots —11— below a direct line drawn between the pivots —10— when folding and unfolding the hinge sections.

The hinge sections —1— and —1— from which the lugs —9— depend are formed with laterally projecting shoulders —13— in the plane of movement of the levers —2— and —2— between their respective pivots —10— and the hinge pin —8— forming additional limiting stops for the levers —2— and —2— when the hinge is open or rather when the lid is swung to its horizontal position thereby transmitting the downward strain on the lid from the pivot to the hinge sections at opposite sides of the hinge pin, the link —3— being at the same time engaged with the meeting end of one of the hinge sections. These levers —9— and —9— together with the link —3— form what may be termed a truss connection between the intermediate portions of the hinge sections to relieve strain upon the hinge pin and meeting ends of said hinge sections. In other words, the downward strain upon the lid and hinge section secured thereto is transmitted from an intermediate point some distance from the hinge pin of the hinge section —1— to the link —3— through the medium of the lever —2— which it will be seen bears upon the adjacent shoulder —13— between the pivots —10— and —11— so that the load or strain due to downward pressure upon the lid is borne almost entirely by the shoulders —13— between the hinge pin —8— and pivots of the levers.

When the levers —2— and —2— are engaged with

their respective shoulders —13—, the central portion of the link —3— rests upon the tubular end of one of the hinge sections, thereby transmitting but a very small part of the load upon the lid to the hinged ends of the hinge sections.

What I claim is:

1. A desk lid support comprising two similar hinge sections pivoted to each other, levers pivoted to said section equi-distant from and at opposite sides of the hinge pin, a link pivotally connected to the levers, a limiting stop on the hinge sections adapted to be engaged by said levers for limiting the down movement of the hinge sections.

2. A desk lid support comprising a hinge having similarly constructed leaves of substantially the same form and size, shoulders on said leaves, levers pivoted to said leaves at opposite sides of the swinging axis of the hinge sections and movable into and out of engagement with said shoulders as the hinge is opened and closed, and a link pivotally connected to the levers and movable therewith into and out of engagement with the central portion of the hinge as one of the hinge sections is closed and opened.

3. A desk lid support comprising the opposite leaves of a hinge, said hinge having shoulders equi-distant from the swinging axis of said leaves, levers pivoted at one end to their respective leaves equi-distant from the swinging axis of the hinge sections, and a link pivotally connected to the opposite ends of said levers.

4. A desk lid comprising two hinge sections pivoted to each other and provided with shoulders equi-distant from and at opposite sides of the swinging axis of the hinge, levers pivoted to their respective hinge sections, a link having its opposite ends pivoted to said levers, and stop pins on the link adapted to be engaged by said levers for limiting the movement of the levers relatively to the link during the opening of the hinge.

In witness whereof we have hereunto set our hands this 26th day of January, 1907.

ROBERT E. DECKS.
JOHN O. DRENNAN.

Witnesses:
H. E. CHACE,
M. M. NATT.