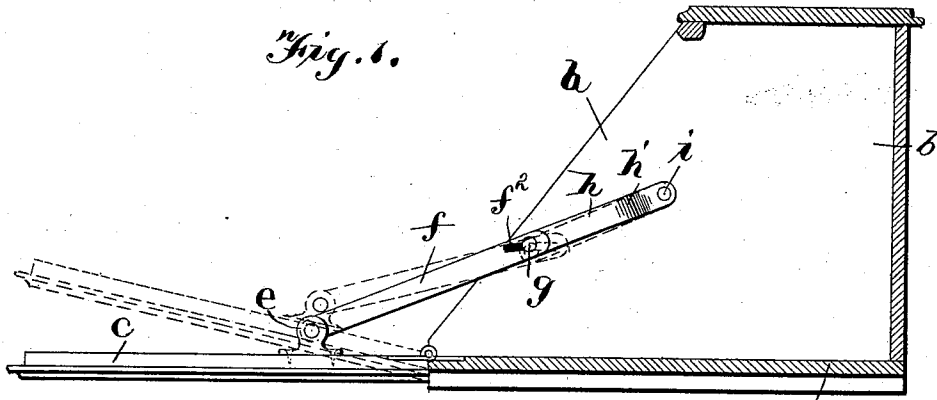


(No Model.)

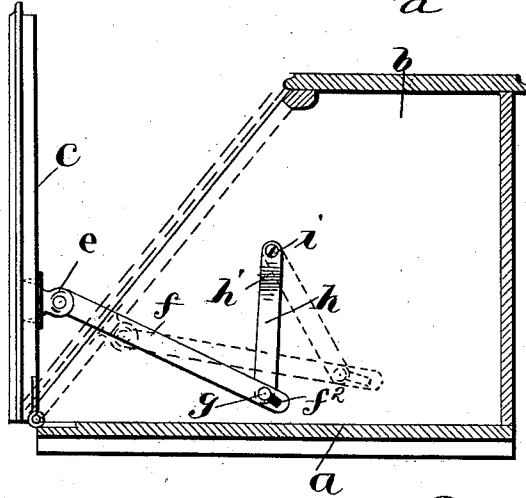
B. E. KIPP.  
DESK LID SUPPORT.

No. 566,191.

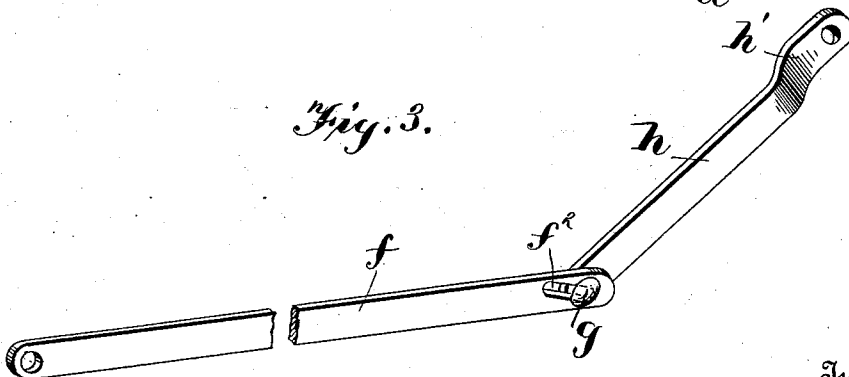
Patented Aug. 18, 1896.



*Fig. 2.*



*Fig. 3.*



Witnesses  
*Geo. E. Frick*  
*A. S. Pattison*

Inventor  
*Barton E. Kipp*  
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Attorney

# UNITED STATES PATENT OFFICE.

BURTON E. KIPP, OF PHILADELPHIA, PENNSYLVANIA.

## DESK-LID SUPPORT.

SPECIFICATION forming part of Letters Patent No. 566,191, dated August 18, 1896.

Application filed April 17, 1896. Serial No. 587,978. (No model.)

*To all whom it may concern:*

Be it known that I, BURTON E. KIPP, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Desk-Lid Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in desk-lid supports.

An object of the invention is to provide an exceedingly simple, cheap, durable, and practical desk-lid support particularly adapted for supporting or bracing the lids or falls of drop-lid desks.

A further object of the invention is to provide certain improvements in details of construction and arrangement of parts whereby an improved and highly-efficient desk-lid support is produced.

The invention consists in certain novel features of construction and in combinations and arrangements of parts, as will be hereinafter more fully and particularly described and pointed out.

Referring to the accompanying drawings, Figure 1 is a vertical sectional view through a portion of a lid-desk, showing the lid lowered, dotted lines showing the same partially raised. Fig. 2 is a corresponding view showing the lid partially raised. Fig. 3 is a detail perspective view of the support, showing the same breaking or bulging inwardly at the joint or central portion.

In the drawings, *a* is the desk top or shelf, and *b b* are the desk ends, secured thereto in any desirable manner and closed at the top.

*c* is the swinging desk lid or fall formed and constructed in any suitable and desirable manner and suitably hinged or otherwise pivotally joined at its inner edge to the front edge of the desk shelf or top so as to swing from the operative opened and horizontal position in continuation of the desk-shelf to the closed position against the inclined front edges of the desk ends.

However, it should be understood that my invention is not limited to any particular or peculiar construction of desk, but that my

invention is adapted for use on any drop-lid desk and in other devices or connections to which its peculiar construction adapts it.

The invention comprises a lid support or brace formed of two links *f* and *h*, jointed pivotally together so as to form what might be termed a "toggle-link," with one end pivotally joined to the lid and the opposite end pivotally joined by a supporting pin, screw, or equivalent connection to an elevated point in the desk, as to a desk end, so that when the lid is lowered the two links forming the toggle will be in a straight line upwardly and inwardly from the lid to the attaching means or pivot at the desk end, so that the downward strain on the lid is resisted directly by such pivot or attaching means. When the lid is raised, the toggle breaks at its intermediate joint without noise, and the two links fold and swing inwardly as the lid is elevated and closed.

*e* is a metal plate secured to the upper or inner side of the lid near one edge and forming the upwardly-extending ear to which the outer end of the link *f* is pivotally joined. This link is preferably of such a length as to extend inwardly into the desk when the lid is down, and at its inner end is pivotally joined by a suitable pivot, such as *g*, to the outer end of a link *h*, usually somewhat shorter than the outer link *f*, and at its upper end it is pivotally joined to the desk end, usually by a strong and rigid screw *i*, or any other suitable and equivalent means of sufficient strength to withstand the strain of sustaining the lid through the medium of said links. The supporting or sustaining pivot *i* is secured to the desk end a distance above the desk-shelf, preferably a distance above the desk-shelf greater than the length of the inner link.

The upper end of the link *h* is preferably, although not necessarily, deflected inwardly (see *h'*, Fig. 3) to hold the remainder of said link and the other link *f* out from the face of the desk end, so as to avoid rubbing, scratching, and consequent noise and injury.

It has been stated that when the lid is raised the links break inwardly at their intermediate joint and fold and swing inwardly. Now it will be observed that when the lid is down the three pivotal points, at the lid, the

intermediate joint, and at the desk end, are all in a straight line or in the same plane. Hence to avoid the links locking at the dead-center and to insure the intermediate joint moving in out of said center or straight line a cam-slot  $f^2$  is provided at the inner end of the link  $f$ , through which the pivot  $g$  loosely passes. This slot  $f^2$  is inclined at an angle to the longitudinal length or axis of the link  $f$ , so that when the lid is down the slot extends outwardly and toward the upper edge of the link. Thus when the lid is raised the link  $f$  first moves inwardly independently of link  $h$ , sliding on the pivot  $g$  in the slot, which, being inclined upwardly and outwardly, throws the pivot  $g$  and the jointed ends of the two links downwardly automatically, so that they properly break and move inwardly and fold as intended. However, I wish it understood that I do not limit my invention to the location of this slot or other automatic means for throwing said three pivotal points out of line at the joint between the links, as it might be located at other points.

25 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a lid-desk, the combination of a drop-lid hinged to the desk, and a lid-brace comprising links pivoted together, and at their opposite ends pivoted to the lid and in the desk, respectively, so that when the lid is lowered the two links will be in continuation of each other, said links where pivoted together having a pivot rigid with one link, the other link having a slot inclined at an angle to its longitudinal axis, said pivot movable in said slot, substantially as described.

2. In a drop-lid desk, the combination of

desk ends, a shelf, a lid hinged thereto, a rigid sustaining-pivot at the inner face of a desk end a distance above the shelf, the lid-support comprising the long straight link  $f$ , at its lower end pivotally joined to the lid a distance outwardly from the inner edge thereof, the short link  $h$ , at its lower end joined to the upper end of link  $f$ , and having its upper end deflected inwardly at  $h'$ , and mounted on said sustaining-pivot, so that when the lid is lowered the links extend in a straight line from the lid upwardly to the sustaining-pivot with the joint between the two links within the desk over the shelf, one of said links, where joined together, having a slot inclined at an angle to the length of the link, and the other link having a pivot movable in said slot.

3. In a lid-desk, the combination of desk ends, a shelf, a drop-lid hinged to the shelf, a sustaining-pivot at the inner face of a desk end a distance above the shelf, a lid-support comprising a long link at one end pivotally joined to the lid and at its opposite end having the slot inclined at an angle to the length of the link, and the short link at its upper end mounted on said sustaining-pivot so that the links are held away from the desk end and at its lower end having the pivot confined and movable in said slot, the links arranged to extend in a straight line from the sustaining-pivot to the lid when the lid is lowered.

In testimony whereof I affix my signature in presence of two witnesses.

BURTON E. KIPP.

Witnesses:

EDWARD P. HIPPLE,  
F. E. HIPPLE.