K. THULANDER & V. B. NELSON.

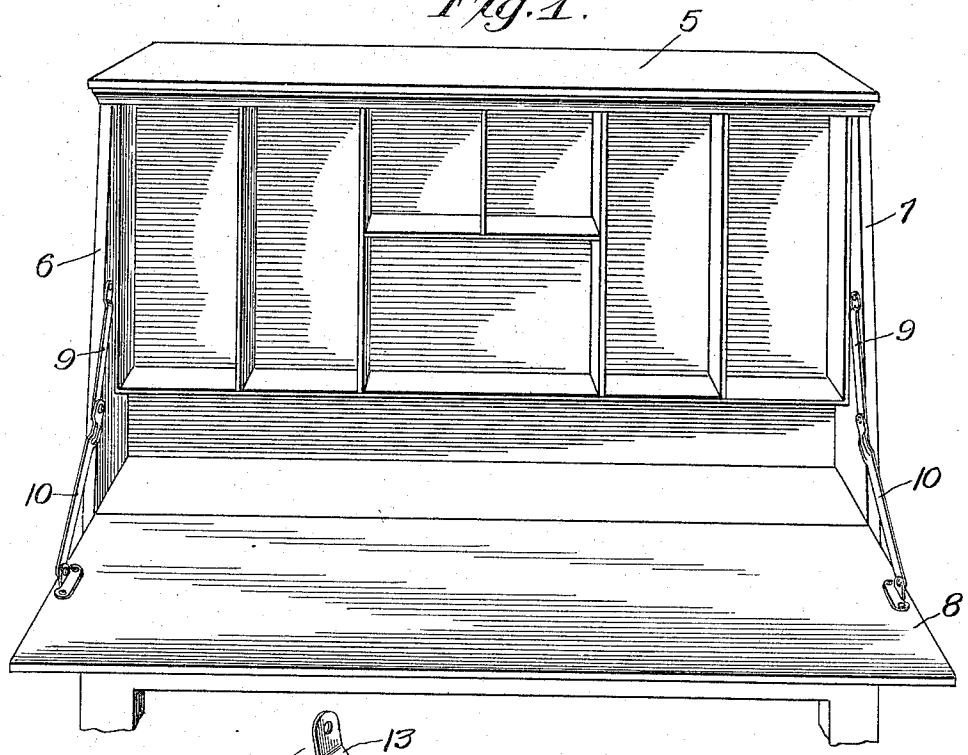
DESK FALL SUPPORT.

APPLICATION FILED MAR. 20, 1914.

1,177,153.

Patented Mar. 28, 1916.

Fig. 1.



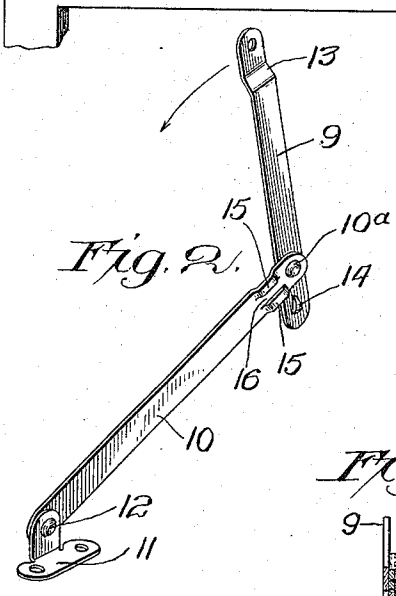


Fig. 2.

Fig. 3.

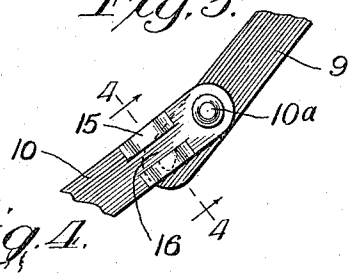
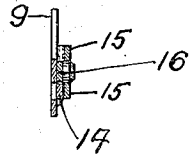


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

KONSTANTINE THULANDER AND VICTOR B. NELSON, OF ROCKFORD, ILLINOIS, ASSIGNORS TO NATIONAL LOCK COMPANY, OF ROCKFORD, ILLINOIS, A CORPORATION OF ILLINOIS.

DESK-FALL SUPPORT.

1,177,153. Specification of Letters Patent. Patented Mar. 28, 1916.

Application filed March 20, 1914. Serial No. 826,013.

To all whom it may concern:

Be it known that we, KONSTANTINE THULANDER, a subject of the King of Sweden, and VICTOR B. NELSON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Desk-Fall Supports, of which the following is a specification.

Our invention relates to supports for desk falls, and may be used in all cases where it is desired to apply supporting means to the outer edge of a hinged element.

The object of our invention is to provide a simple form of desk fall support which will open to a desired position in either direction, and hence may be used either as a right-hand or left-hand support. Such supports have heretofore been made with a stop operating in but one direction, thus necessitating the manufacture and use of a different support for each end of the desk fall. It is very desirable to have a form of such support that will be interchangeable, as this obviates the necessity of carrying different kinds of supports in stock, avoids mistakes in filling orders for repairs, and facilitates the assembling of the desk parts. Our invention effects this purpose by utilizing stops medially located on the respective arms of the support and adapted to engage at a corresponding point when the arms are opened in either direction.

In the accompanying drawings, Figure 1 is a front elevation of the upper part of a desk fitted with our improved device. Fig. 2 is a side elevation of our desk fall support. Fig. 3 is a fragmental side elevation of the support in one of its fully opened positions. Fig. 4 is a section on the line 4—4 of Fig. 3.

In the embodiment of our invention here illustrated, the desk 5 has ends 6 and 7, and a hinged fall leaf 8 supported at either end by our improved interchangeable supports, which supports comprise an upper arm 9 and a lower arm 10, pivotally connected together by a rivet 10^a. The upper arm 9 is perforated for pivotal attachment to the desk end 6 or 7, and the lower arm 10 may be pivotally connected in any suitable manner with the fall leaf 8. In the embodiment here shown, this attachment is effected by means of a small bracket plate 11, pivotally connected with the arm 10 by means of a bolt or rivet 12, and perforated for rigid attachment to the fall leaf 8. In order to clear the end of the desk, the upper arm 11 is slightly offset at 13 just below the point of attachment to the desk.

In the prior art, the stop which prevents the unfolding support from reaching or passing a dead center has been formed on one of the arms near the point of intersection and so disposed as to operate by coming in contact with the edge of the other arm. Inasmuch as the offset at 13 is necessary and the bracket-plate 11 must be on the inner side of the arm 10 when attached to the desk, it is obvious that a support opening in only one direction could be used on but one end of the desk, thus necessitating the manufacture of a right-hand and left-hand support as above stated. We have overcome this necessity by forming the stops on the arms in such a manner that the arms may open in either direction to the same pre-determined extent short of a dead center. This may be accomplished in various ways. In the specific embodiment of our invention herein shown one of the arms, as 9, is extended a short distance beyond the point of connection with the arm 10, and near the middle of the extension of the arm 9 a stud 14 is formed. Corresponding portions 15 on each side of the arm 10 are sufficiently offset to permit the free passage of the stud 14, leaving a central strip 16 against either side of which the stud 14 may abut.

When in use as a left-hand support, as at the end 6 of the desk shown in Fig. 1, the position of the parts is as shown in Figs. 1 and 3, and, partly folded, in Fig. 2. The descending fall leaf 8 opens the arms 9 and 10 which turn on the pivot 10^a until the stud 14 comes in contact with the central portion 16 of the arm 10, when the limit of the opening movement is reached before the arm has come to a dead center, thus making it possible to fold the support again by raising the fall leaf 8. When it is desired to use the same support for the right-hand end of the desk, the arm 9 is rotated past the arm 10 in the direction indicated by the arrow in Fig. 2, until the stud 14 comes in contact with the opposite side of the part 16 of the arm 10. The stud 14 and the part 16 being symmetrically placed, the angle formed by the arms 9 and 10 is equal in either position.

The stud 14 may be triangular in shape so as to present a flat bearing surface to either side of the part 16.

Having thus described our invention, we claim:

1. A reversible desk-fall support comprising pivotally connected arms having reciprocally-engaging parts medially located and adapted to prevent said arms from opening in either direction to a dead center.

2. A desk fall support comprising two arms pivotally connected to each other near the ends thereof, said arms having stops so disposed as to stop the arms at a single predetermined angular position, short of a dead center, when opened in either direction.

3. A reversible desk-fall support comprising two arms pivotally connected near the ends thereof, said arms having stops so arranged as to stop the opening movement thereof at a single predetermined angular position short of a dead center when said arms are opened in either direction, and a bracket pivoted at the end of one of said arms and adapted to form a reversible connection with the desk-fall.

4. A reversible desk fall support comprising two arms pivotally connected near the ends thereof, said arms having stops adapted to prevent said arms from opening in either direction beyond a predetermined equal angle less than 180 degrees.

5. A reversible desk fall support comprising two arms pivotally connected and adapted to stop at a predetermined equal angle, less than 180 degrees, when opened in either direction, one of said arms being offset at one end for attachment to a desk, and the other arm having pivotally connected therewith a bracket for attachment to a desk fall.

6. A reversible desk-fall support comprising two arms, the end of one of said arms being pivoted to the other arm adjacent to the end of said other arm, a stop lug located midway of the width of said other arm and intermediate the pivot and the end of said other arm, the metal of the first mentioned arm being displaced out of the plane of said first mentioned arm, at opposite edges of said first mentioned arm, leaving a strip which serves as a stop coacting with the first mentioned stop.

In testimony whereof we hereunto set our hands in the presence of two witnesses.

KONSTANTINE THULANDER.
VICTOR B. NELSON.

In the presence of—
F. G. HOGLAND,
H. W. CARLSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."