

J. B. IRVING.
LOOSE SHEET BINDER.
(Application filed Nov. 4, 1901.)

(No Model.)

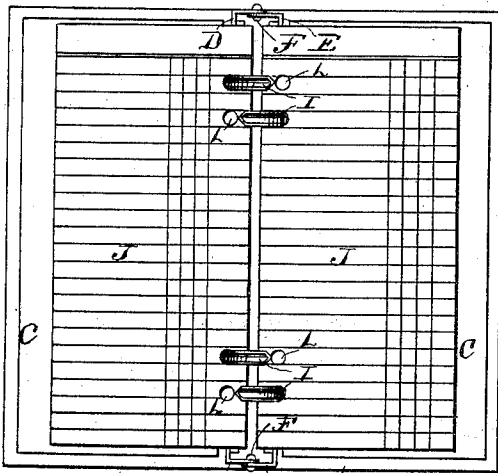
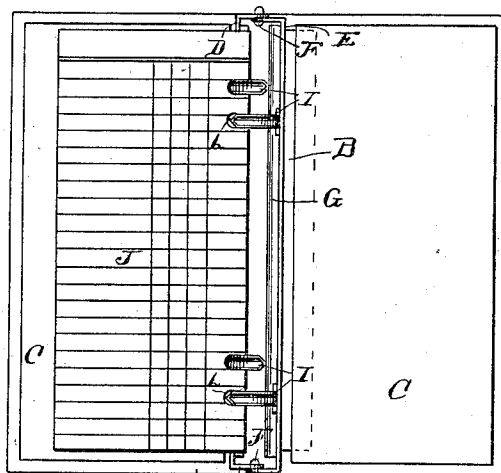


Fig 1 D E A



A D E Fig 2

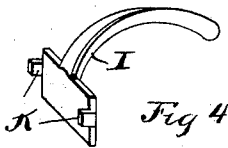


Fig 4

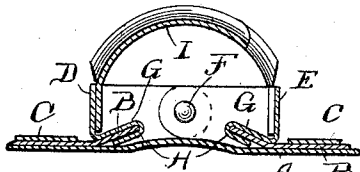


Fig 5 A B

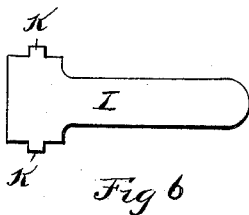


Fig 6

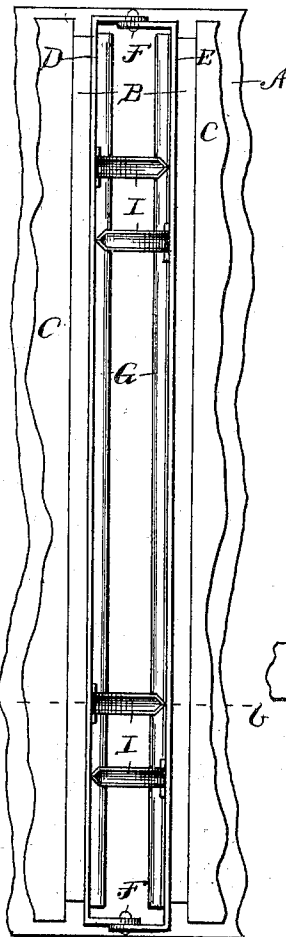


Fig 3

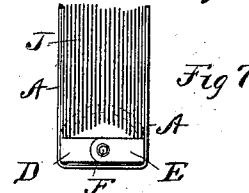


Fig 7

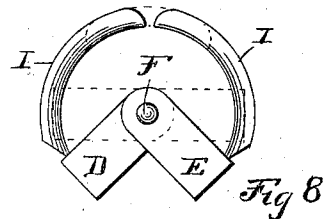


Fig 8

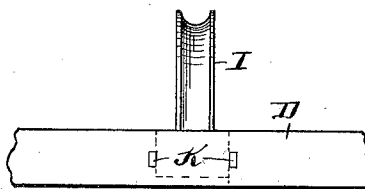


Fig 9

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UNITED STATES PATENT OFFICE

JUNIUS B. IRVING, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-HALF
TO JOSEPH D. HAVENS, OF KANSAS CITY, MISSOURI.

LOOSE-SHEET BINDER.

SPECIFICATION forming part of Letters Patent No. 706,949, dated August 12, 1902.

Application filed November 4, 1901. Serial No. 80,965. (No model.)

To all whom it may concern:

Be it known that I, JUNIUS B. IRVING, a citizen of the United States of America, residing in Kansas City, county of Jackson, and State

of Missouri, have invented a certain new and useful Improvement in Loose-Sheet Binders, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in loose-sheet binders designed to hold and bind temporarily sheets of paper for the purpose of forming price-books or similar books in which leaves may be inserted or extracted at

pleasure. The object of my invention is to provide a binder of the kind referred to which is cheaply constructed and in which single leaves may be readily inserted or removed therefrom. My invention provides also a construction in which very little thickness is added to the leaves by the mechanism which holds them together. This is a very desirable feature, as several price-books are frequently carried in the pocket at a time, and economy of space in the matter of the thickness of the books is important.

My invention provides also a construction in which the outer leaves are guided at their lower edges by the curved leaf-holding arms, so that they will not catch upon the hinged members carrying the curved arms. This is also a very important feature, for the reason that the leaves not being tightly bound together would be easily torn unless they could move freely and without catching when the cover is opened or closed.

My invention provides, further, a means of securing the hinged members to the cover without adding to the thickness of the structure.

It provides, further, a novel form of leaf-holding arm formed of sheet metal and provided with means for rigidly securing it to the hinged member carrying it.

Other novel features of construction are hereinafter fully described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a plan view of a book constructed in accordance with the principles of my invention, the leaves carried

therein being shown partly on one side and partly on the other side of the binder and the cover being in the open position. Fig. 2 is a view similar to Fig. 1, the leaves being shown all turned to the left. Fig. 3 is a view similar to those shown in Figs. 1 and 2, on a larger scale, the leaves being removed and the lateral ends of the cover and cover-lining being broken away. Fig. 4 is a perspective view of one of the leaf-holding arms. Fig. 5 is a cross-section view taken on the dotted line *ab* of Fig. 3 and on a larger scale. Fig. 6 is a plan view of the blank from which the leaf-holding arm is formed. Fig. 7 is an end view in the closed position, the upper ends of the leaves and the cover being broken away. Fig. 8 is an end view of the hinged members and the arms carried thereby. The position of the parts when a leaf is to be inserted or removed is shown in solid lines. The dotted lines represent the position of the parts when in the closed position. Fig. 9 is an outside elevation view of a part of one of the hinged members, showing one of the curved arms. Similar characters of reference indicate similar parts.

A indicates the cover, preferably of leather and flexible at the middle. Secured to the inner side of the cover at each side of the medial line are two parallel flaps B, preferably of a flexible material, such as canvas. If desired, the cover may be provided with an inner lining C, which also serves to secure the flaps to the cover. The hinged members D and E are made, preferably, from sheet metal, the body of each member being perpendicular to the cover when the cover is in the open position. The ends of the members D and E are bent toward each other and are pivoted together, respectively, at the points F. From the lower edge of each member D and E extends inwardly or toward the other member a longitudinal flange G, one of said flanges being secured to the free edge of one flap and the other flange secured to the other flap. The flaps are preferably so secured by being clamped between the inner folded edges of the flanges, as shown in Fig. 5. In this form the inner edge of each flange is folded under the body of the flange. The folded portions are indicated by the letter H. Upon

the inner side of each member is secured a plurality of curved arms I, which curve upwardly from the upper edges of the members toward the opposite members, respectively.

5 The lower ends of the arms I are preferably flattened, the flattened portions being placed upon the inner sides of the members D and E. I preferably provide each of said arms at its flattened portion with an outwardly-extending projection or projections K, which

10 extend through the member to which the arm is secured and may be held there by riveting or soldering. The arms I above the upper edges of the hinged members are curved concentrically with the hinge-pins F, and the arms on one side extend past the ends of the opposite arms when the hinged members are in the position shown in Fig. 5. The arms I are formed, preferably, in the portion above

20 the hinged members, so as to be in cross-section concave on the upper and convex on the lower sides, the upper sides being cut away immediately above the hinged members, so that no parts project outside the outside of

25 the said members.

In operating my invention the leaves to be inserted (indicated by J) are provided with perforations L, so disposed that all the arms I may enter. The cover A is then opened

30 and the hinged members D and E forced to the position shown in Fig. 8, after which the leaves may be inserted. The leaves inserted may be suitably indexed, if desired, in the ordinary manner. The hinged members are permitted after the leaves are all in position to assume the position shown in Fig. 5. The leaves may then be turned backward and forward to suit the operator. The outer leaves on each side slip over the arms I, and the

40 lower edges of these leaves are guided by the lower flattened ends of the arms I inside the inner edges of the members D and E and are thus prevented from having their lower edges catch on the upper edges of the members D and

45 E. As the outer leaves rest against the inner sides of the flattened portions of the arms I when the binder is closed, as in Fig. 7, it will be seen that there is only the thickness of the flattened portions of the arms I and

50 the thin longitudinal body portions of the

members D and E between the outer leaves and the cover A. A minimum of thickness of the closed book is thus afforded by this construction. A further advantage of my invention, due to the hinging of the cover

55 to the hinged members below the upper edges of the said members, is that it permits the leaves to be turned on the curved arms I to a horizontal position. As the leaves can thus be laid almost flat, as shown in Fig. 1, the

60 entire upper sides of the upper leaves are exposed to view, and entries may thus be made upon any portion of the sides thus exposed. The arms I being movable independently of the cover permits the cover to be

65 opened while the arms I are still overlapping each other, and the leaves may then be turned backward and forward freely. When it is desired to remove a leaf or insert one on the arms I, the members D and E are forced to

70 the position shown in Fig. 8, in which position the leaves may be placed on or removed from the arms.

My invention is capable of many modifications without departing from its spirit.

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Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a loose-sheet binder, two members hinged to each other and provided each with a plurality of sheet-holding arms comprising each

80 a sheet-metal body the lower end of which is provided with a plurality of projections extending through the body of the member for securing the arm thereto, and the upper portion of the said body curving upwardly toward the other member, the said arm above the upper edge of the member being, in cross-section concave on its upper and convex on

85 its lower side, the arm being secured on the side of the member adjacent to the opposite member, substantially as described.

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In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JUNIUS B. IRVING.

Witnesses:

WARREN D. HOUSE,
JESSIE R. COMSTOCK.