No. 643,380. Patented Feb. 13, 1900.

B. F. KENDIG & E. COLEMAN.

TEMPORARY BINDER.

(Application filed May 9, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

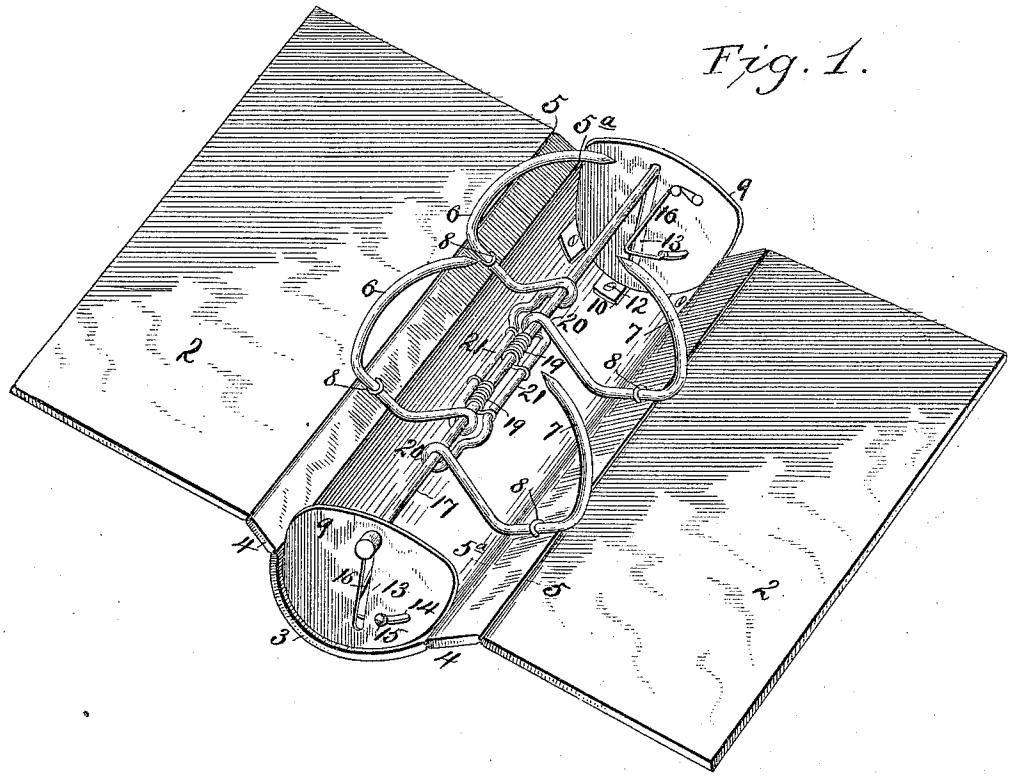

Fig. 2.

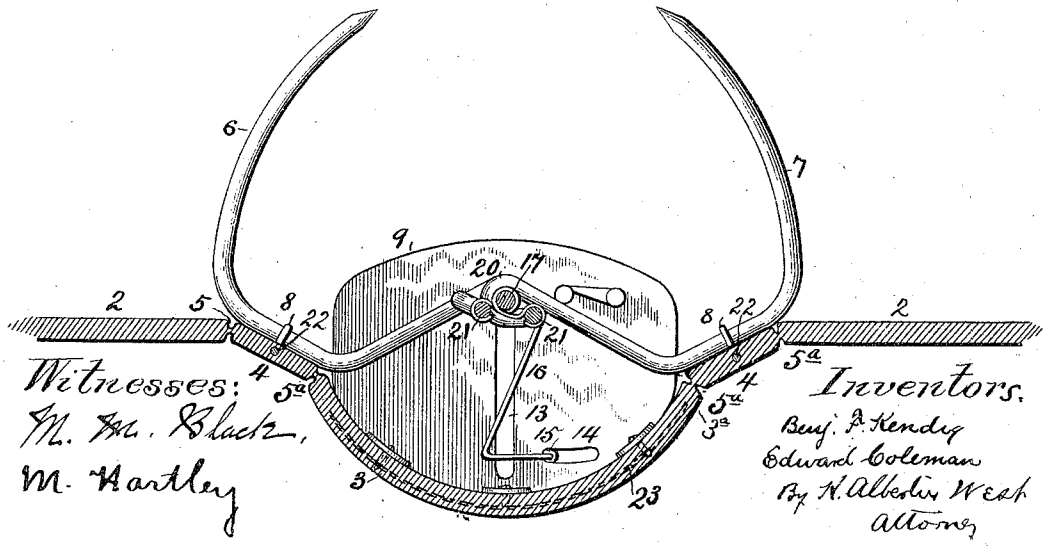

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Fig. 4.

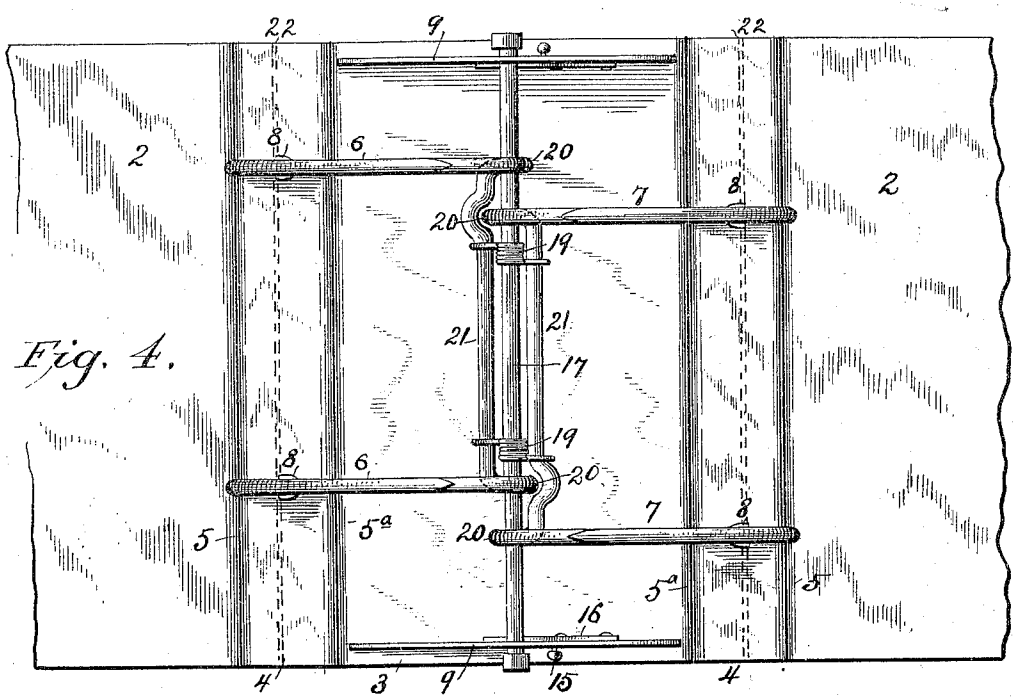


Fig. 3.

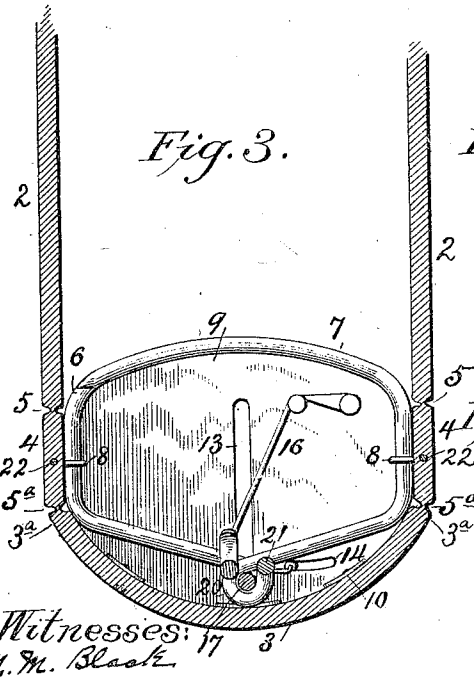


Fig. 5.

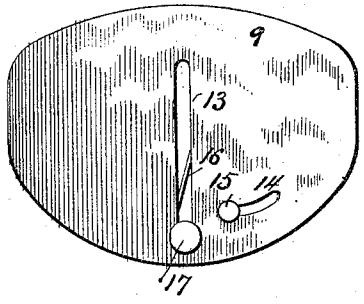
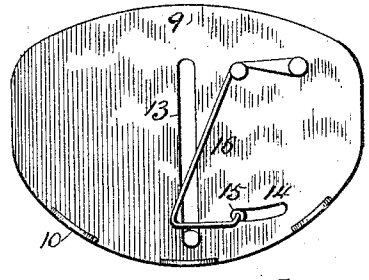


Fig. 6.



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UNITED STATES PATENT OFFICE.

BENJAMIN F. KENDIG, OF ELIZABETH, NEW JERSEY, AND EDWARD COLEMAN, OF NEW YORK, N. Y.

TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 643,380, dated February 13, 1900.

Application filed May 9, 1899. Serial No. 716,088. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. KENDIG, a resident of Elizabeth, in the county of Union and State of New Jersey, and EDWARD COLEMAN, a resident of New York, in the county of New York and State of New York, citizens of the United States, have invented certain new and useful Improvements in Temporary Binders, of which the following is a specification.

This invention relates to temporary binders for papers, &c., designed more especially for use as a loose-leaf ledger and for filing letters, bills, &c., whereby any particular papers may be removed at pleasure or papers inserted in any desired relative position; and the invention consists, mainly, in the construction and means of operating the holding-fingers for the paper, which fingers are connected to the covers and connected together by a hinge or knuckle or connected to a rod or bar, so that by moving the hinge or knuckle or the rod or bar to and from the back the fingers are opened and closed.

The invention also consists in such construction and arrangement of the back, the curved fingers, and the movable rod that the fingers on being forced down at their inner ends by the rod fulcrum upon the cover and drop between the edges of the back, so that the downward movement of the rod and inner ends of the fingers to a point below the edges of the back causes the latter, acting as abutments, to swing the fingers to closed position.

The invention also consists in the construction, arrangement, and operation of the parts, all as hereinafter described, and specified in the claims.

In the accompanying drawings, to which reference is made and which form a part of this specification, Figure 1 is a perspective view of the binder in open position. Fig. 2 is a sectional elevation of the same. Fig. 3 is a sectional elevation of the binder closed. Fig. 4 is a plan view with the fingers open. Fig. 5 is an end elevation of one of the end pieces, and Fig. 6 an inside view of the same.

In the drawings, 2 2 represent the covers, and 3 the back, of the binder. The covers 2 2 are connected to the edges of the curved back 3 by intermediate sections 4 4 and double hinges 5 5^a, which allow the weight of the covers when open and while being opened to be thrown upon the binding-fingers 6 and 7 for opening them. The said fingers are attached to the sections 4 4 by staples 8 8 or other fasteners, which permit them to slide through or move in the same; but we do not limit ourselves to this arrangement, for the fingers may be attached to the cover or back, but not with the same advantage as when the sections 4 are used. In this manner—that is, when the double hinges 5 5^a are used—when the binder-fingers are closed, as shown in Fig. 3, the covers 2 2 may be opened and closed at the hinges 5^a; but when the binder-fingers are unlocked the intermediate sections 4 4 act to pull the fingers back to open position, and at the same time they act to lift the inner ends of the fingers outward and away from the back 3—that is to say, when the binder is set up on its continuous and solid back, the latches pressed from over the rod or bar 17, and the covers 2 2 opened out on a desk or table the weight of the covers on the central portions of the curved holding-fingers at the fastening devices, loops, or staples 8 acts to pull the outer ends of the fingers open, assisted by the spring 19, if used, and at the same time the inner ends of the holding-fingers are by the same means lifted in a straight line up and away from the back 3, and they lift with them the rod or bar 17, which in this operation is acted upon by the fingers, the rod serving now only (in connection with the end pieces 9 9) as a tie-rod to hold the fingers firmly at the center of the back and to hold also the covers through the staples 8, so that the whole binder is firm, strong, and durable, and as a further consequence of the construction described the back 3 may be made continuous from edge to edge and may thus be made very strong and heavy, and being without a hinge or joint along its longitudinal center it has no local point or place of weakness, but is uniformly strong and durable throughout.

The back 3 is continuous and of stiff material, here shown as concaved in form, hav-

ing the rigid edges 3^a 3^a, which extend to a level higher than the lowermost position of the rod 17, (hereinafter described,) so as to act as fulcrums for closing the curved fingers and as side braces for holding them closed, and the back has secured to its inner concaved side, near its ends, the keepers or end pieces 9 9. These keepers or end pieces are preferably of metal provided with lateral lugs 10 10, through which rivets or screws 12 12 pass for securing them firmly to the back 3. In each of the end pieces 9 are formed a straight slot 13 and a short opening or curved slot 14, in which latter the handles or knobs 15 of the pivoted locks 16 operate.

17 is a rod or bar the ends of which are held in the said straight slots 13 on the end plates 9. To this rod or bar are hinged the inner ends of the fingers 6 and 7, which are curved, so that the rod 17 in being pressed down toward the back 3 in the slots 13 will pull down the inner ends of the fingers 6 and 7. The inner ends of the curved fingers reach from the rod 17 to the edges of the back 3, and the central portions of the fingers overlie the edges of the back when the fingers are opened by the outward movement of the rod 17. When the rod 17 is depressed, the fingers impinge or fulcrum upon the cover and edges of the back, so that the cover and edges of the back, acting in conjunction with the rod, swing the fingers to closed position, and when the rod reaches its lowermost position the edges of the back hold the fingers closed in such closed position, as shown in Fig. 3. When in this closed position, the locking-buttons 16 are pushed over the said rod or bar 17 by springs, and thus lock the fingers 6 and 7 and the sections 4 4 in closed position. By pressing back on the knobs 15 15 the locks release the bar 17, whereupon the springs 19 will tend to throw the fingers 6 and 7 outward, and thus lift the bar 17 in the slots 13; but the springs 19 may be dispensed with for the reason that the act of opening the covers 2 causes the fingers 6 7 to be pulled back, and being curved and loosely bound by the fastenings 8 8 they automatically lift the rod or bar in the slots 13 13.

The fingers are by preference made of a single piece of wire or metal in the form shown in Fig. 1—that is to say, a straight rod is first bent to form the two lateral eyes 20 20, which embrace the rod or bar 17, and then from these eyes the hooks are formed at right angles to the straight central portion 21, which constitutes a rod or rigid brace for the knuckles or eyes and prevents all danger of the fingers shifting to or from each other.

The loops 8, by which the fingers are connected at or about their centers to the cover, are by preference formed by bending two rods 22, as shown in Fig. 4, and these rods are embedded in the cover to add strength and rigidity to the binder, and embedded in the back 3, near its end, is a curved metal plate 23, to which the end pieces 9 are secured by rivets or screws, thus not only strengthening the back, but at the same time furnishing a strong and rigid base for holding operative parts of the binder.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a temporary binder two or more curved holding-fingers, a central rod or bar to which the inner ends of said fingers are hinged or knuckled, a back for the binder having upturned edges, keepers or guide-pieces secured to the back and provided with slots for holding the said rod or bar and for permitting it to be moved to and from the back a distance sufficient to cause the rod to carry the inner ends of the holding-fingers outward above and downward below the edges of the back, and fastening devices for locking the rod or bar in its lowermost position, substantially as and for the purposes described.

2. In a temporary binder, curved holding-fingers, devices located between the ends of the fingers for loosely holding them in place in the binder, and knuckles at the inner ends of said fingers at the center of the binding whereby the points of the fingers may be opened and closed by moving the opposite knuckled ends thereof to and from the back of the binder, substantially as described.

3. In a temporary binder, the combination with upturned edges of the back of the binder of a central movable rod or bar having a range of movement past the edges of the back, and curved holding-fingers whose inner ends are hinged or knuckled to said rod or bar, and whose central portions fulcrum upon and between the edges of the back, substantially as described.

4. In a temporary binder, the combination with the back, the covers and intermediate sections connecting the covers with the edges of the back, of end pieces secured to the back, a rod or bar held to move in slots in said end pieces, and opposite curved fingers attached to said rod or bar, and also attached to said intermediate sections of the cover, substantially as described.

5. In a temporary binder the combination with the back, of keepers secured to the concaved surface of said back by rivets or screws entering bracing-pieces applied to the back, substantially as described.

6. In a temporary binder, a pair of curved holding-fingers, each finger having a knuckle or loop at the base thereof, a rod or bar for holding the said fingers by said knuckles or loops and a rigid rod or bar reaching from knuckle to knuckle for bracing the holding-fingers, substantially as described.

7. A temporary binder, comprising a curved back, covers hinged to the edges of said back, slotted end pieces secured to the inner concaved surface of said back, a rod or bar held

in said slotted end pieces and adapted to be moved to and from the center of said curved back, opposite curved holding-fingers knuckled at their inner ends to said rod or bar and fastening devices in the said covers for connecting them to the holding-fingers and devices for locking the said rod or bar adjacent to the inner surface of the back, substantially as described.

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