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Fig. 1.

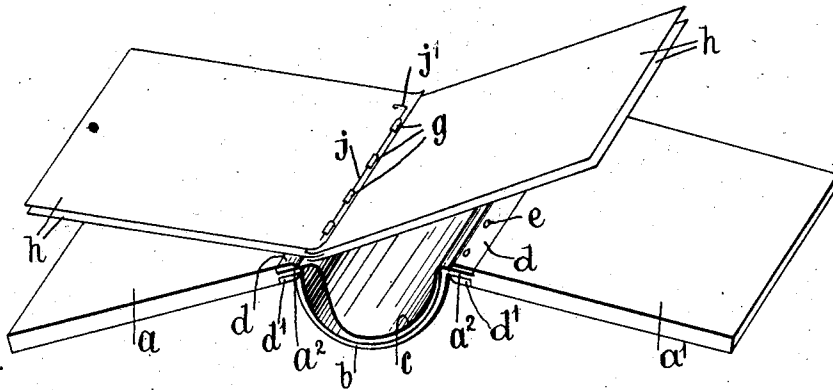
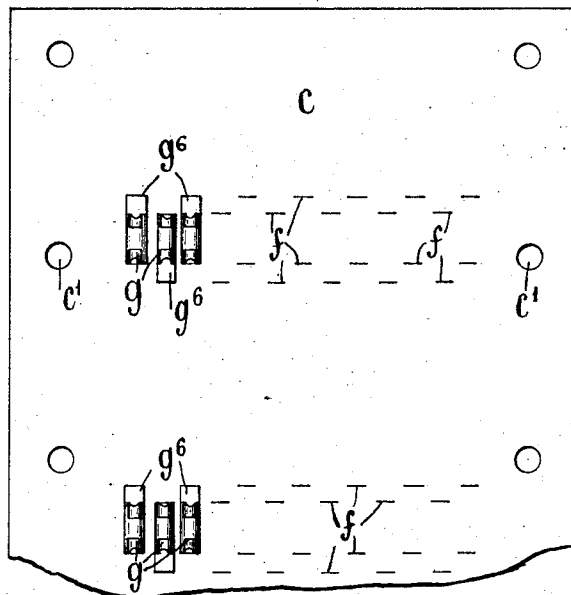


Fig. 2



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 Lewis Mathew.
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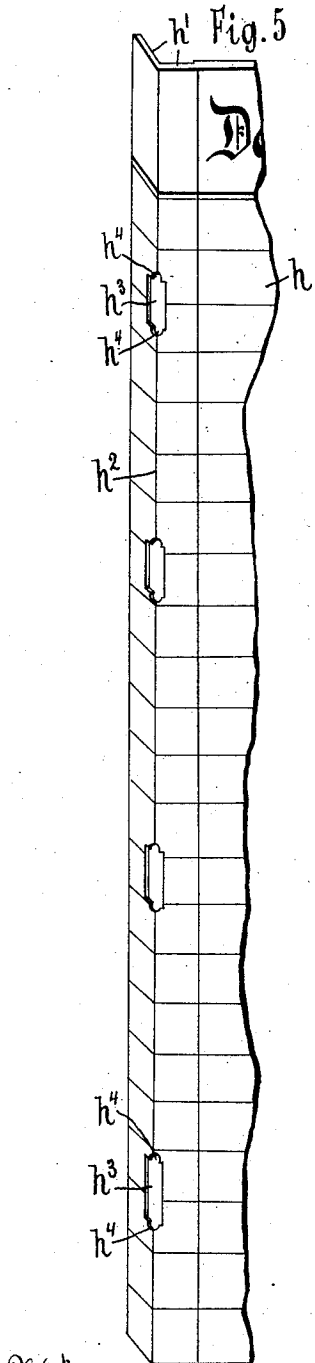
Inventor
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APPLICATION FILED FEB. 27, 1912.

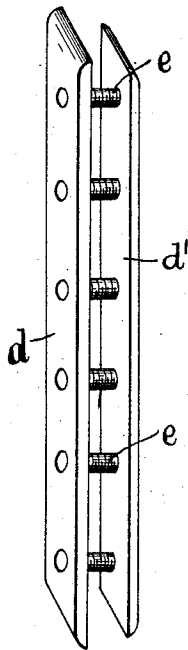
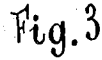
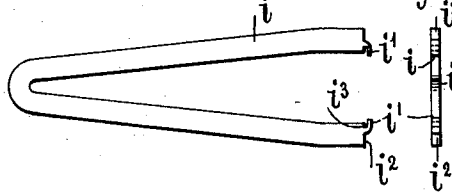
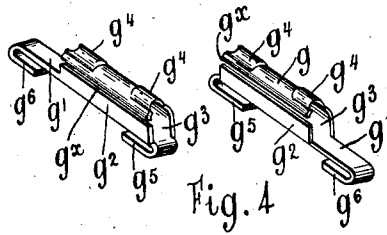
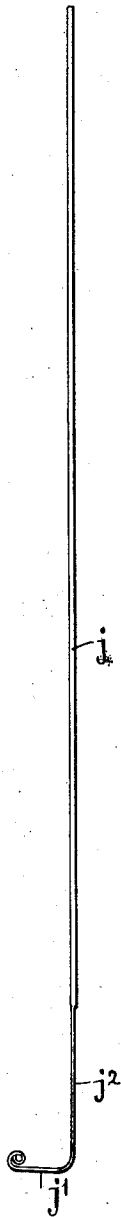
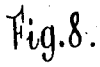
1,047,792.

Patented Dec. 17, 1912.

2 SHEETS--SHEET 2.



Dismisses
 King & Mother.
 H. W. Primmer



Inventor

Robert Eugene Greener
Commissioner, Fair, with reference to Appellate
his Attorney

UNITED STATES PATENT OFFICE.

ROBERT EUGENE GRESSER, OF PARIS, FRANCE.

LOOSE-LEAF BINDER.

1,047,792.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed February 27, 1912. Serial No. 680,169.

To all whom it may concern:

Be it known that I, ROBERT EUGENE GRESSER, a citizen of the Republic of France, residing at Paris, in the Department of the Seine and Republic of France, have invented new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

The present invention relates to a form of register, book or note book having removable interchangeable leaves, which presents when assembled the aspect of a book sewn in the usual manner, but is distinguished therefrom by the fact that each leaf, instead of being permanently held by a thread is held by a movable pin or rod which permits the insertion or withdrawal of each leaf of the book with great ease and as desired.

The invention is illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of a binder according to the present invention, showing the binder open with a number of leaves fixed in position. Fig. 2 is a plan view of a portion of the leather-strip, provided with incisions for the reception of the hooks for the leaves; this strip is fixed inside the back of the binder by means of metal plates and screws. Fig. 3 is a view of a pair of the metal plates used to fix the leather shown in Fig. 2. Fig. 4 shows a pair of the metal hooks or clasps used to hold the leaves. Fig. 5 represents a portion of a leaf to be bound showing the rectangular hole made in the fold of the said leaf for the passage of the hooks or clasps. Fig. 6 is a side view of the V-shaped guide-key which is placed on the hooks to guide the various sheets when being put in position. Fig. 7 is an end view, looking on the right of Fig. 6. Fig. 8 represents the pin which retains each set of leaves.

The binder consists of a cover, formed in the usual manner, of two boards a a' , connected by a rigid semi-circular back b , fastened as usual to the boards a a' by means of hinges. The boards are thinned at the points where they are connected to the back b , as shown at a^2 , to make room for the metal plates d and d' .

Inside the back is placed a strip of leather c (Figs. 1 and 2) having holes c' at its edges. It is fixed to each of the boards a , a' , by means of metal sheets or plates d , d' ,

placed one inside and the other outside the board, on the thinned portions a^2 and connected together by screws e which pass, as will easily be understood through the holes c' in the leather strip c , the latter being inserted between the board of the cover and the interior metal plate d .

A number of incisions f , which are staggered relative to each other, are made in the leather-strip c and are destined to receive the hooks g which serve to hold the leaves. As shown in Fig. 4, these hooks g , which are introduced into the incisions f in the strip of leather, are formed of a piece of metal folded on itself so as to form a flat base g' and two lateral portions g^2 , g^3 , standing up from said base perpendicularly, the portion g^3 being bent so that its free edge is exactly vertically above the upper free edge of the portion g^2 and leaves, between it and said latter edge a narrow slit g^4 for the introduction of the pin hereinafter described. At the ends of the curved portion g^3 , recesses g^4 for the reception of the tenons of the V-shaped key, described below, are stamped or pressed out or formed in any other suitable manner. The flat portion g' of the hook projects at either end beyond the portions g^2 and g^3 and is folded as at g^5 , g^6 . The extension of the part g^6 projects more than the other, g^5 . The longer projection is arranged, for the hooks of one of the vertical rows, at one end of the extremities of the said hooks, while for the hooks of the adjacent row or rows, it is arranged toward the opposite end, as is clearly shown in Fig. 4. This is done in order to enable the hooks g to be introduced into the strip of leather by placing the projection g^6 at the top and bottom alternately, so as to avoid cutting the strip of leather by incisions which lie in line with each other, as would be the case if the projecting portions g^6 of the hooks were always placed on the same side.

Each sheet h to be bound is provided, on its edge nearest the center of the binder, with a flap h' whose thickness is equal to half that of the rest of the sheet. This flap is folded on itself to form a central crease h^2 , and centrally with this crease are formed rectangular holes, h^3 , having at their ends, short extensions h^4 of less width, which are intended to fit on portions of the key, as

explained below, and are spaced so as to correspond to the distance apart of the hooks g fixed on the strip of leather. In this way, sheets h can be slipped onto the said hooks by means of the holes h^3 .

The guide-key, Figs. 6 and 7, consists of a V-shaped piece of steel having at its free ends hooked extensions i' which fit in recesses g^4 in the hooks g so as to hold the key on these latter. This key facilitates the introduction of the openings in the paper on the said hooks when placing each leaf in position. On each side of the key i is provided with shoulders i^2, i^3 . The shoulders i^2 cooperate with the extensions h^4 of the openings h^3 in each sheet of paper and thereby serve to hold the sheets, while the shoulders i^3 bear against the outer walls of the recesses g^4 of the hooks thus serving to prevent the key from entering and hindering the free passage of the pin.

The pin j (Fig. 8) consists of a thin piece of steel terminating bluntly at one end, and at the other end is flattened and turned at right angles to form a head j' . This pin which takes the place of the usual thread for holding, in the binder, the different sheets of the same gathering or "signature", is provided near its head j' with a flattened or thinner portion j^2 , of such size that it can enter the slots g^x , while for the rest of its length, the pin j is too thick to be able to pass through said slots.

The strip of leather c , fitted with the hooks g , being fixed inside the back b of the binder by means of the plates d, d' and the screws e , a V-shaped guide-key i is placed upon each of the hooks of the same vertical line and consequently of the same gathering or "signature". The sheets h are then slipped one by one on the hooks g by means of the holes h^3 provided in the thinned heels of the sheets, taking care that right and left-hand sheets are placed alternately as shown in Fig. 1. When the gathering or "signature" is finished, that is to say, when the number of sheets therein comprised has been inserted in the manner described a pin j is taken and introduced into the hooks in question by passing the thin portion j^2 through the slot g^x in each of the hooks successively. The guide-key i is then withdrawn and the sheets will then be found to be held as securely within the binder as if they were sewn in the usual manner.

If it is desired to withdraw one or more sheets from the binder, it is sufficient to withdraw the pin j by its head from the hooks, whereupon the leaves can be withdrawn by slipping them off the hooks by means of the holes h^3 .

It will be seen that by means of the present invention it is possible to bind the leaves or to withdraw them from the binder

and to re-insert them, as desired, without tearing or injuring them in any way. Furthermore the binder can always be opened flat, as if it were formed of gatherings or "signatures" connected together by sewing in the usual manner.

It will be understood that the shape, details of construction and materials employed in carrying this invention into effect can be modified without in any way changing the principle of the invention.

I claim:

1. A loose leaf binder comprising a two part cover, a back connecting the two parts of said cover, a member disposed internally of said back, a plurality of rows of hooks attached to said member for the reception of the leaves, the hooks of each of said rows being arranged in staggered relation to those of the adjacent rows, and a pin adapted to hold said leaves on said hooks.

2. A loose-leaf binder comprising a two-part cover, a rigid back connecting the two parts of said cover, a leather strip held in place within said back, said strip being provided with incisions for the reception of a plurality of hooks for the reception of the leaves, and a pin adapted to hold said leaves on the hooks.

3. A loose-leaf binder comprising a two-part cover, a back connecting the two parts of said cover, a leather-strip held within said back and provided with incisions, a plurality of hooks attached to said strip, said hooks having base portions adapted to be inserted in said incisions and to be bent around to hold the hooks thereto, a key adapted to cooperate with said hooks for guiding the leaves thereon and a pin adapted to hold said leaves on the hooks.

4. A loose-leaf binder comprising a two-part cover, a back connecting the two halves of said cover, a leather strip held within said back and provided with incisions, a plurality of leaf-holding hooks, said hooks having two base portions of unequal length and being arranged in rows with the longer base portion arranged in each row alternately toward the top and bottom of the binder, said base portions being adapted to be inserted in said incisions and to be bent around to hold the hooks to the strip, a guide-key adapted to cooperate with said hooks during the insertion of the slotted leaves and a pin adapted to hold said leaves on the hooks.

5. In a loose-leaf binder the hook (g) said hook having base portions (g^5, g^6) for attaching it to the binder, and side walls (g^2, g^3) one of said walls being bent around so that its free edge stands above the edge of the other wall with a space between them for the purpose set forth.

6. In a loose-leaf binder, the hook (g) with the base portions (g^5, g^6), the side walls (g^2, g^3) one of said walls being bent around

so that its free edge stands above the edge of the other wall, with a space between them and recesses (g^4) provided in said bent-over side wall for the purpose set forth.

- 5 7. In a loose-leaf binder the combination of the hooks (g) having base portions (g^5 , g^6), side walls (g^2 , g^3), one of said side walls being bent around so that its free edge stands above the edge of the other wall leaving a
10 space between these two edges and a pin (j) having a thinned portion (j^2) adapted to pass between the two edges of the side walls and a thicker portion incapable of passing through said space for the purpose set forth.
- 15 8. In a loose-leaf binder the combination of a hook (g) having base portions (g^5 , g^6), side walls (g^2 , g^3) one of said side walls being bent around so that its free edge stands above the edge of the other wall leaving a
20 space between these two edges and recesses (g^4), with a guide-key (i) having at two of its ends projections i' adapted to engage with said recesses (g^4) and shoulders (i^3)

adapted to engage the end walls of the recesses (g^4) and shoulders (i^2) adapted to engage the slots in the sheet to be bound. 25

9. A loose-leaf binder comprising the two covers (a , a') the back (b), a leather strip (c) within said back, hooks (g) attached to said strip and adapted to receive the slotted 30 leaves, a guide-key (i) adapted to engage with said hooks and to guide the leaves into place on the hooks, and a pin (j) adapted to engage the hooks to retain the leaves thereon. 35

10. In a loose leaf binder having hooks, the sheet h having a thinned flap portion (h') of half the thickness of the remainder of the sheet, said flap being folded down the center and slotted centrally of the fold to 40 fit the hooks.

ROBERT EUGENE GRESSER.

Witnesses:

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MAURICE H. PIQUET.

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