No. 855,285. PATENTED MAY 28, 1907.

F. H. CRUMP.

LOOSE LEAF BINDER.

APPLICATION FILED AUG. 2, 1906.

2 SHEETS—SHEET 1.

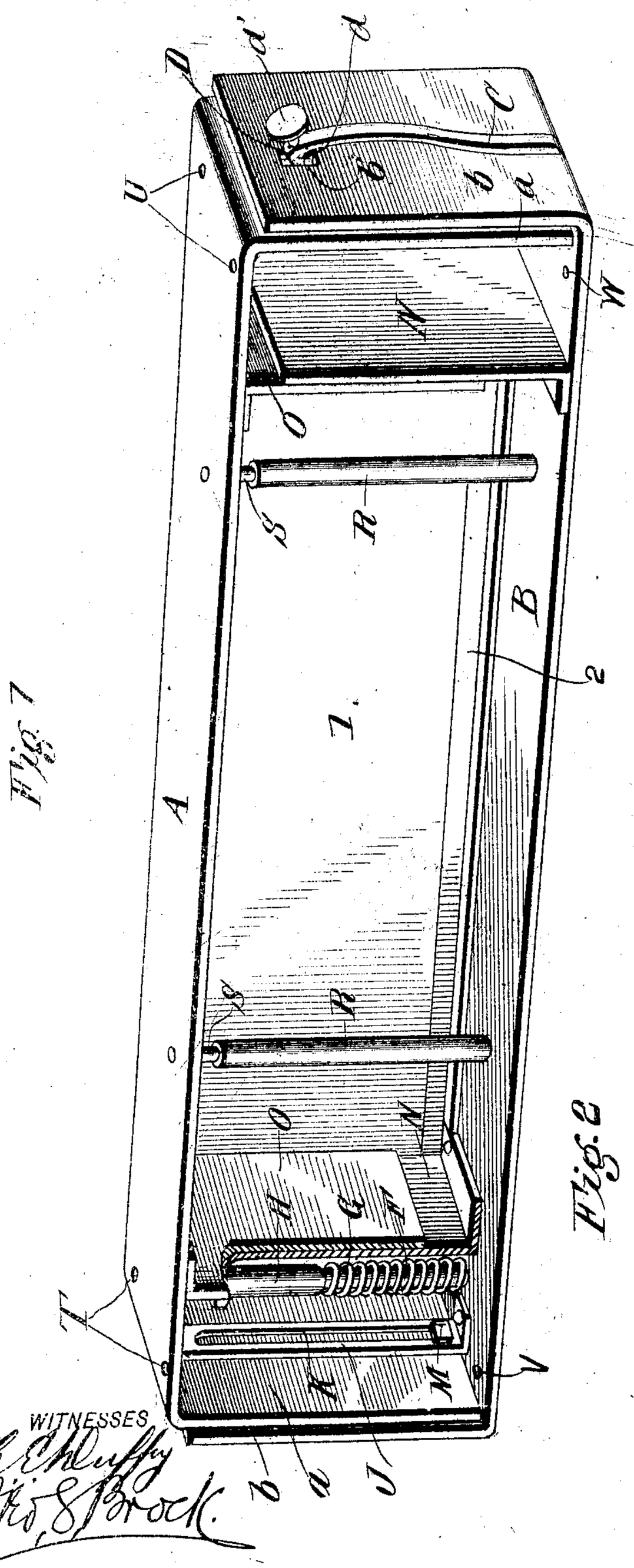

Fig. 1

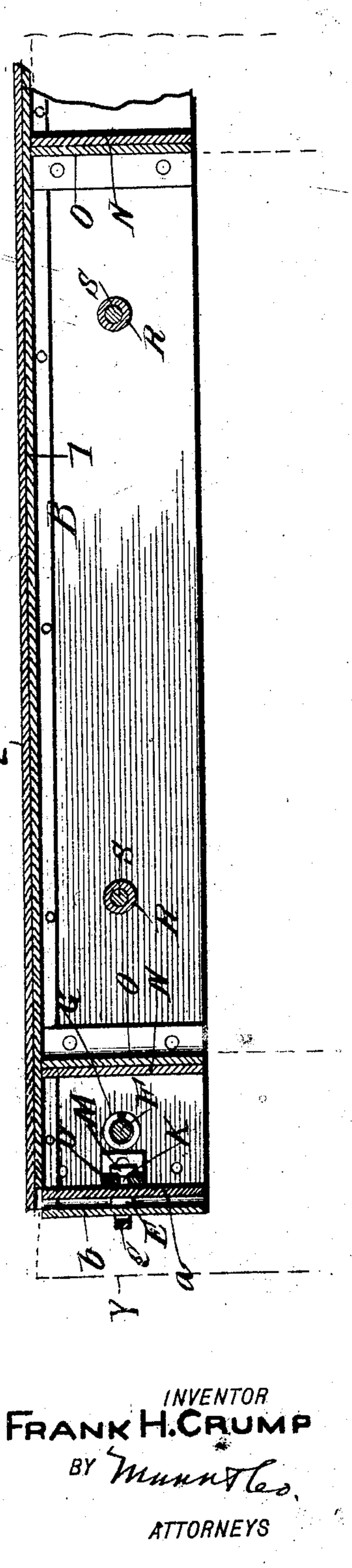

Fig. 2

WITNESSES

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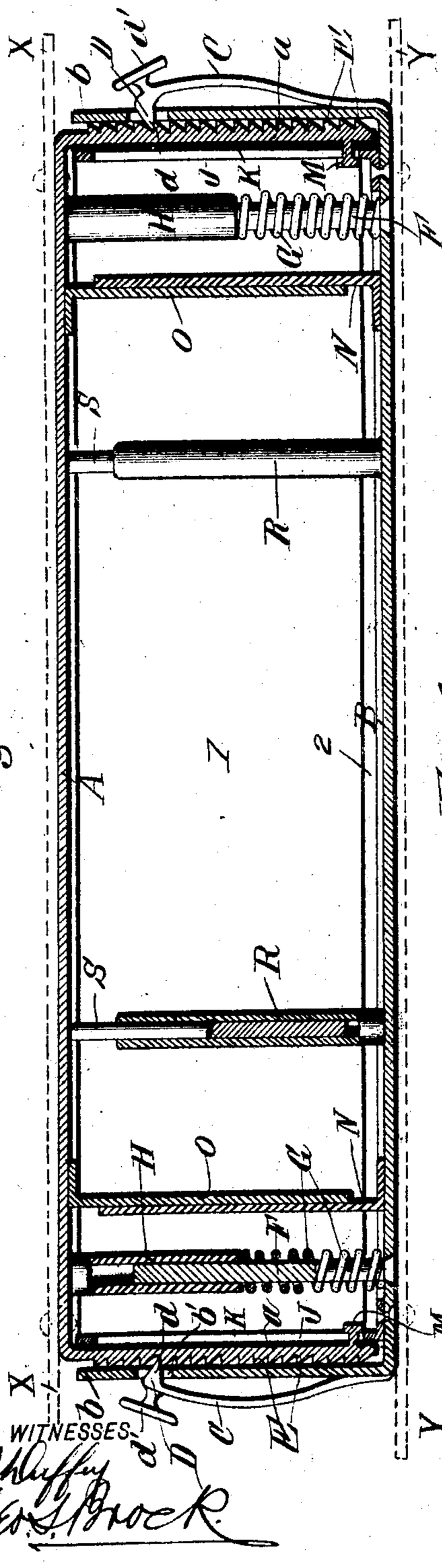

Fig. 3

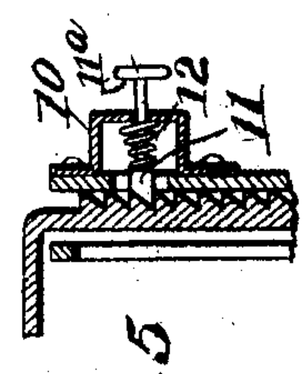

Fig. 5

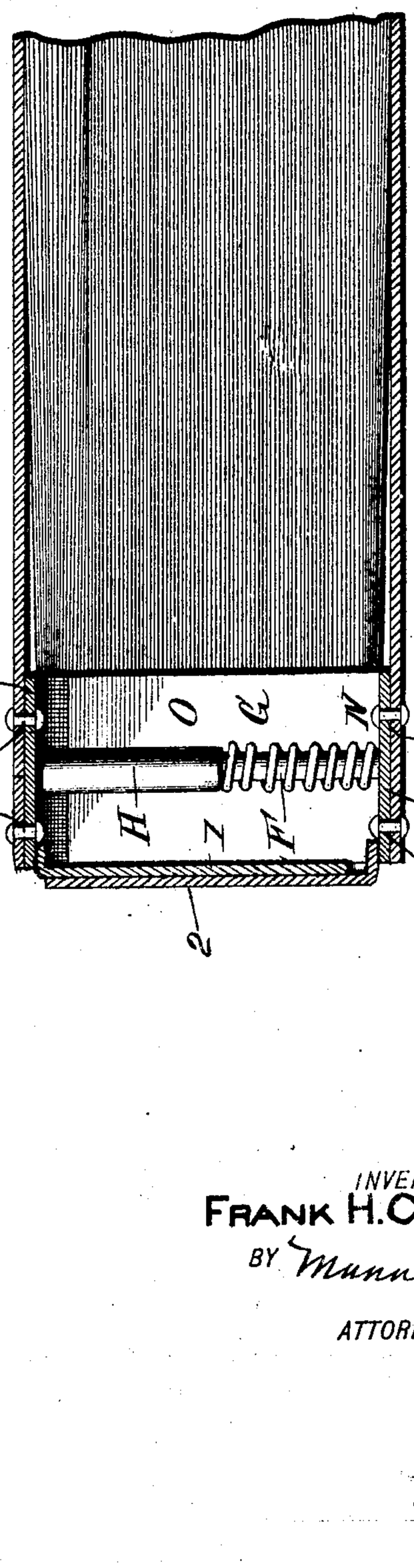

Fig. 4

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UNITED STATES PATENT OFFICE.

FRANK H. CRUMP, OF LOS ANGELES, CALIFORNIA.

LOOSE-LEAF BINDER.

No. 855,285. Specification of Letters Patent. Patented May 28, 1907.

Application filed August 2, 1906. Serial No. 328,960.

To all whom it may concern:

Be it known that I, FRANK H. CRUMP, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented an Improved Loose-Leaf Binder, of which the following is a specification.

My invention relates to improvements in loose leaf binders, of that character in which leaves may be readily inserted or removed from the backs of a book or binder.

Ordinarily loose leaf binders are provided with locking devices rendering it necessary to close the book and use a key to insert or remove the leaves.

The object of my invention is to provide means for securing the two backs together and also allow the backs to be easily and quickly separated for the insertion of new leaves or removal of leaves, while the book remains open on the desk and without the use of a key.

To these ends my invention consists of certain novel features of construction, arrangement and combination of parts as will be hereinafter fully described and pointed out in the claims, reference being had to the accompanying drawing in which—

Figure 1 is a perspective view of my improvement. Fig. 2 is a horizontal section. Fig. 3 is a central vertical section. Fig. 4 is a vertical transverse section showing book back attached and showing the separator spring device, and Fig. 5 is a detail section showing another form of spring latch.

In carrying out my invention I use two plates A and B turned over at each end, the ends *a* of the top plate being disposed within the ends *b* of the bottom plate as shown in Figs. 1 and 3. To the outer face of each end *b* of the bottom plate a strip of spring steel C is rigidly secured at its lower end, said spring having at its upper end a bolt D which has a beveled end *d* projecting through an opening *b'* in the ends *b* of bottom plate, projecting from the bolt D is a handhold *d'* to manipulate said bolt, the beveled end *d* of bolt D being adapted to engage the vertical row of teeth or serrations E on the outer face of each end *a* of the top plate A.

To the bottom plate B adjacent to the point where it turns up at each end, solid posts F are secured, around each of which is a coiled spring G. To the top plate A immediately above the solid posts F are secured the hollow tubes H, H', in which the solid posts F pass, the springs G tending normally to force the plates A and B apart. Secured to the bottom plate B are upright bars J, J, having the elongated slots K, K, through which pass the lugs M, M, which are secured to the inside of the lower ends of the top plate, this arrangement allowing the plates to be forced apart by the springs G until the lugs M, M, reach the end of slots K, K. To the bottom plate B are also secured plates N, N, which together with the plates or bars O, O, secured to the upper plate A are designed to conceal the mechanism at the ends of the top and bottom plates A and B, said mechanism being the same at each end.

R, R, are hollow tubes secured to the bottom plate B and S, S, are solid posts secured to and projecting downwardly from top plate A which are for the purpose of receiving and holding the loose leaves in position. The plates A and B are secured to book backs by means of the holes T, T, U, U, V, V, and W, W.

The whole device when properly secured to covered book backs allows the insertion or removal of loose leaves by simply releasing the bolts D from the teeth E by means of handholds *d'* which are at each end of the binder and in plain view, but are prevented from contact with the desk or other obstacle by protrusion of the book covers X, X, and Y, Y. The book backs may be held close while still open upon the desk, by simply squeezing them together at each end.

To the upper and lower plates A and B at the rear of the holder I attach the metallic plates 1 and 2 which project inwardly and slide past each other to conceal the mechanism of the binder from the back and these plates sliding past each other allow for the adjustment of the upper and lower plates.

In Fig. 5 I have illustrated another form of spring latch or bolt for locking the plates in their relative positions. In this form of device a bracket 10 is secured to the upturned end of the lower plate and through this and the said upturned end, passes a bolt 11 which is normally held to engage the teeth on the downturned end of upper plate by a coiled spring 12, said bolt having a handhold 11ª by means of which the bolt can be released while the book is open without the use of a key.

I claim—

1. A binder for loose leaves consisting of an upper and a lower plate, each plate having its ends bent at right angles, vertically slotted

plates projecting upwardly from the lower plate, headed lugs projecting inwardly from the bent ends of the upper plate and projecting through said slotted plates, and means for holding the upper and lower plates at any distance apart.

2. A loose leaf binder consisting of top and bottom plates each having its ends bent at right angles, and adapted to slide past each other, the outer face of the bent ends of the top plate provided with beveled teeth or serrations, and the bent ends of the bottom plate having beveled end spring bolts adapted to engage said teeth or serrations, finger-holds projecting from said bolts, rigid posts projecting from one of said plates, tubular sockets adapted to fit over said rigid posts and springs for causing sliding movement of said tubular sockets with respect to the rigid posts, plates projecting from the top and bottom plates and overlapping each other to conceal the rigid posts and tubular sockets, and other mechanism, and pins projecting from the top or bottom plates to receive the loose leaves.

3. A loose leaf binder consisting of a top and a bottom plate, each having its ends at right angles thereto and adapted to slide one within the other, the outer face of the bent end of the top plate having thereon beveled teeth, and the bent end of the bottom plate having an opening therethrough near its upper end, a spring bar rigidly secured at one end to the outer face of said bent end of the bottom plate and having at its other end a beveled nose projecting through the aforesaid opening of the bent end and adapted to engage the beveled teeth on the outer face of the bent end of the top plate, posts projecting from one of said plates, tubular sockets adapted to fit over said posts, and springs for causing sliding movement of said sockets, plates projecting from the top and bottom plates and overlapping each other to conceal the posts and tubular sockets, and pins projecting from the top or bottom plates to receive the loose leaves, the beveled end of the spring bar being adapted normally to restrain upward movement of the bent end of the upper plate, but permitting free sliding movement thereof downwardly.

FRANK H. CRUMP.

Witnesses:
W. N. BUCKLIN, Jr.,
W. H. MCMASTERS.