(No Model.)

W. M. RUSSELL.

BINDER FOR LOOSE SHEETS.

No. 605,916. Patented June 21, 1898.

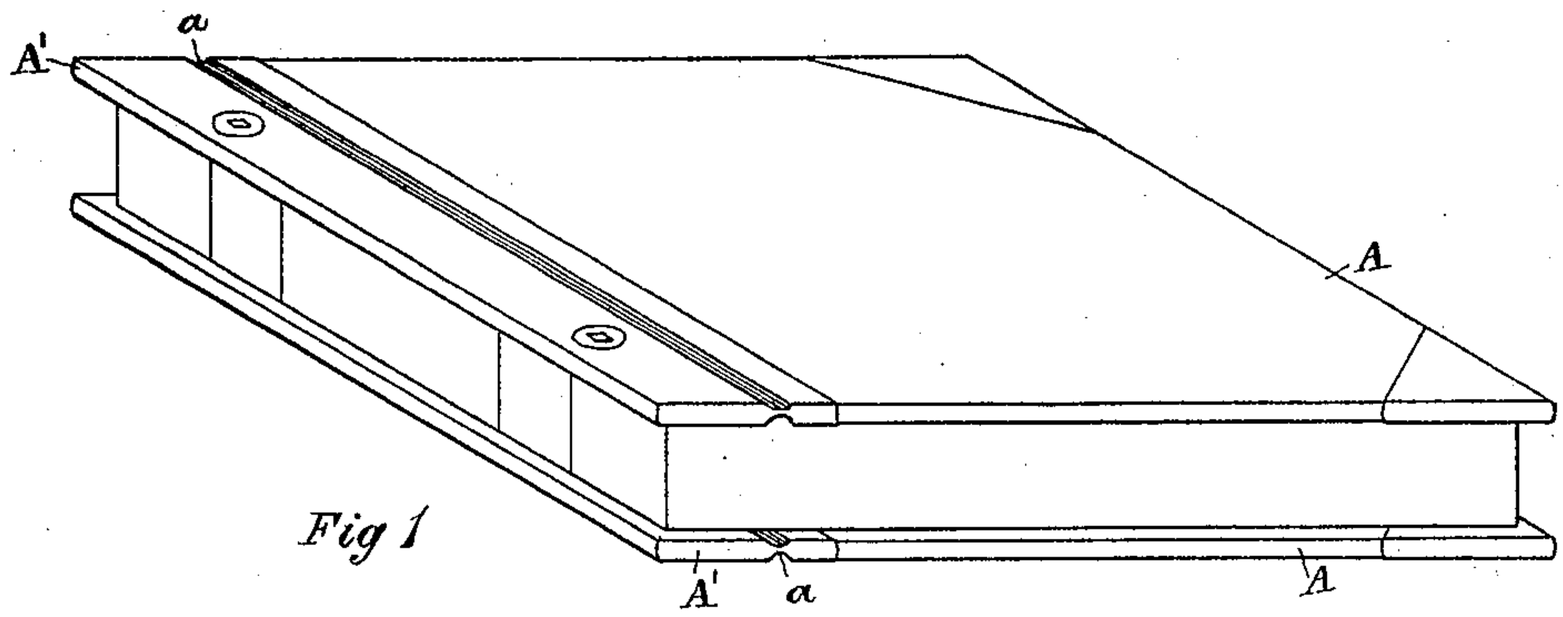

Fig 1

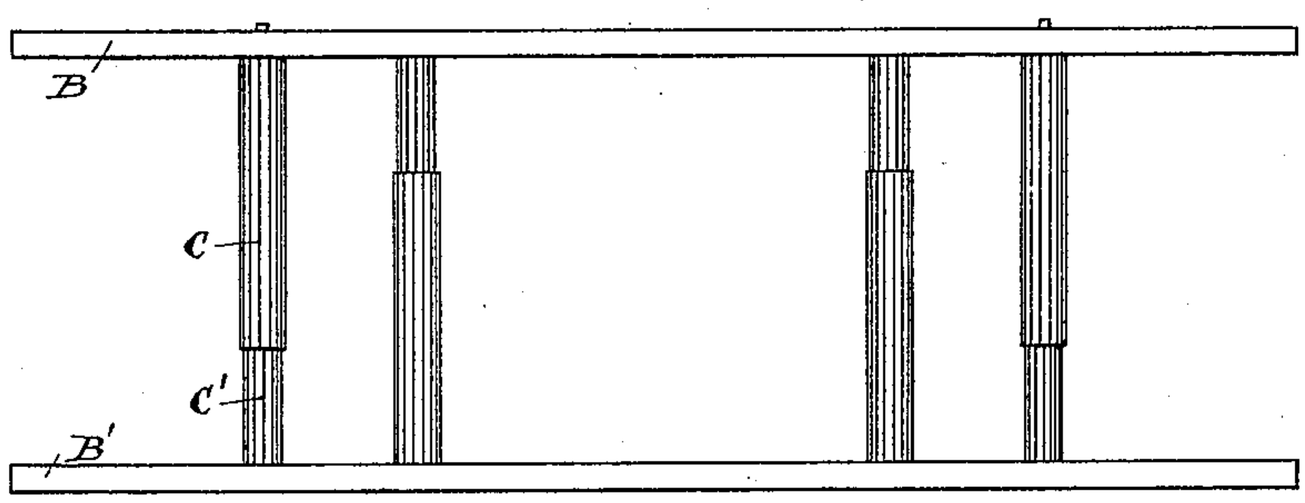

Fig. 2

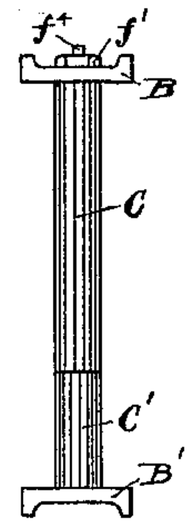

Fig. 3

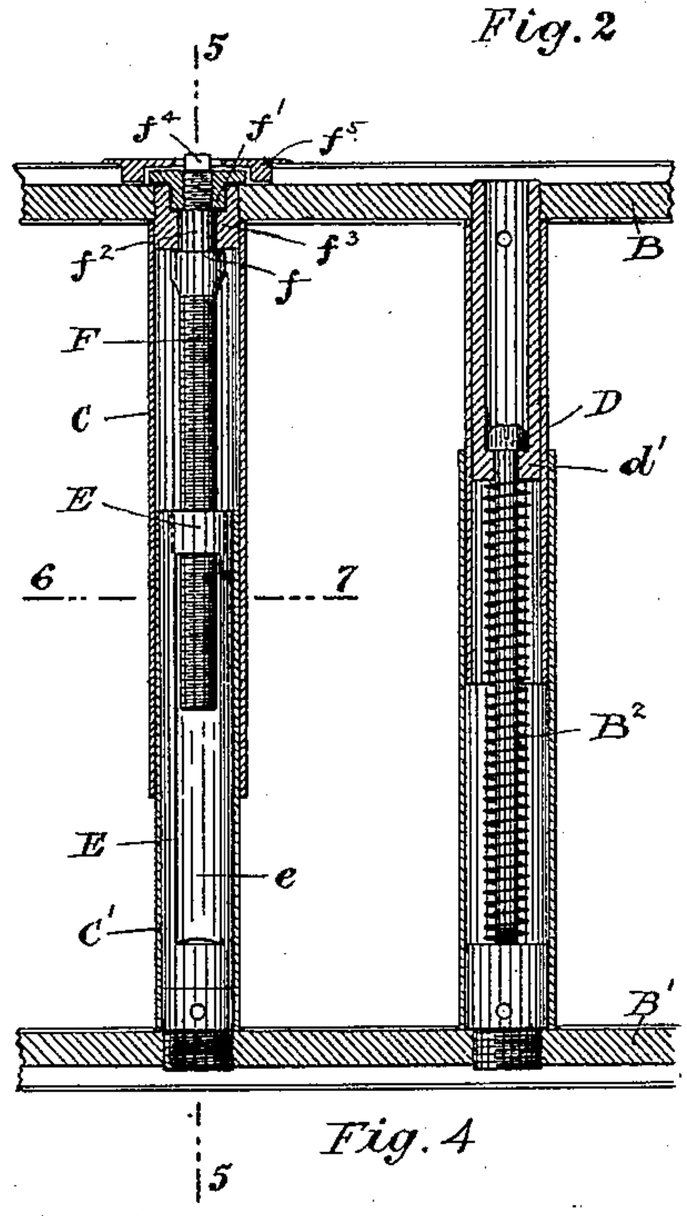

Fig. 4

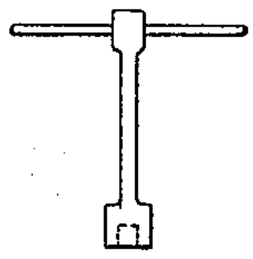

Fig. 9

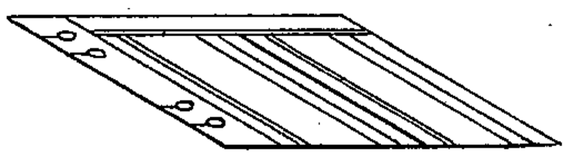

Fig. 8

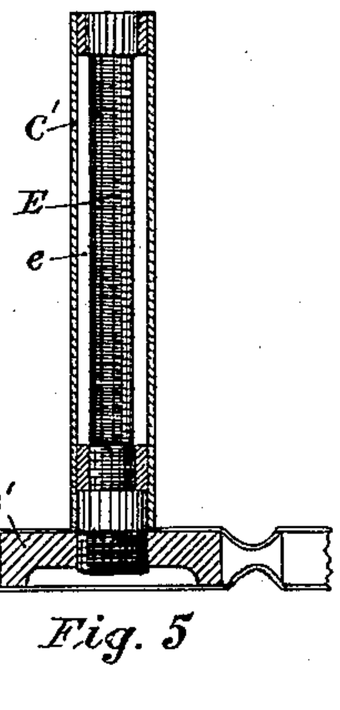

Fig. 5

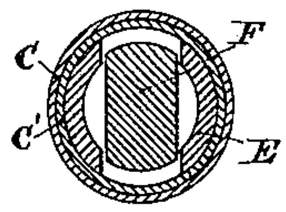

Fig. 6

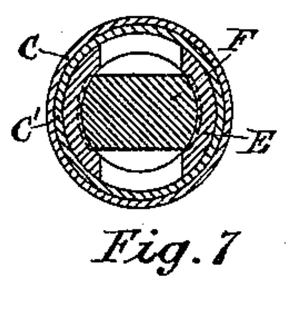

Fig. 7

Witnesses:
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Sew. E. Curtis

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UNITED STATES PATENT OFFICE.

WILLIAM M. RUSSELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO META C. BAKER, OF SAME PLACE.

BINDER FOR LOOSE SHEETS.

SPECIFICATION forming part of Letters Patent No. 605,916, dated June 21, 1898.

Application filed July 19, 1897. Serial No. 645,158. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. RUSSELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Binders for Loose Sheets, of which the following is a specification.

The object of this invention is to provide a temporary binding for loose sheets, such as those of a perpetual ledger. In such a binder the sheets which are intended to be inserted or removed from time to time are made usually with perforations at one edge, placed at stated positions, for the purpose of accommodating the holding pins or standards of the binder, and for ease of insertion such perforations are slitted through the inner margin of the sheets, so that the sheets may be slipped laterally into place over such standards. The standards extend commonly from one cover to the other of the binder.

The present invention consists in so constructing and combining the standards with the cover that the latter may be separated easily for the insertion of the sheets and readily brought together again at varying distances apart to suit the number of contained sheets and locked firmly together at any desired position, and this without causing any of the pins or standards at any time to project above the cover and also without loosening the hold of the standards upon the sheets in such manner that any of them can become disengaged, there being always in my improved construction at least two of the standards in engagement with each sheet in such manner as to fill the perforations.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts throughout the several views, Figure 1 is a perspective view of my improved perpetual binder. Fig. 2 is a side view of the standards and the metal bars to which they are attached, the latter being bound into the material of the covers. Fig. 3 is an end view of the structure shown in Fig. 2. Fig. 4 is a partial longitudinal vertical section through a pair of the standards. Fig. 5 is a transverse vertical section on the line 5 5 of Fig. 4. Figs. 6 and 7 are horizontal sections on the line 6 7 of Fig. 4, these two figures being shown enlarged. Fig. 8 is a perspective view of one of the ledger-sheets detached and shown in reduced size. Fig. 9 is the key for unlocking.

In said drawings, A A are the covers, each provided with a hinge at *a*, connecting them with the back bars A′. Inclosed in the back bars A′, which are formed of the usual material used by the bookbinder, are the rigid metallic bars B B′ for attaching and supporting the standards. Although a greater number of standards may be employed than four, I prefer to employ four standards, as shown in Fig. 2. Each of these standards is made in two parts, one part telescoping within the other. The outer tube C is arranged to slide freely up and down, except when locked, upon the inner tube C′. It will be noticed that said outer tube C of two of the standards is attached to the uppermost bar, while said outer tube of the other two standards is attached to the lowermost bar, and that when said bars are fully separated—as, for example, in Fig. 2—the length of the outer tube is somewhat greater than half the distance between the bars. The object of this arrangement is to maintain at all times at least two of the outermost tubes in the perforations of each sheet. These perforations should be made of a size to snugly fit the said outermost tubes, and of necessity, therefore, will be too large to snugly fit the tubes of smaller diameter telescoping therein. By this arrangement the sheets are kept from lateral movement on the pins or standards and true in position when the binder is unlocked.

By reference to Fig. 4 it will be seen that the standards are of two kinds. In one kind the inner tube is fitted with a headed stop-bolt D, passing through a stop-shoulder *d′* and threaded or otherwise secured to the bar at the other end of the tube, the purpose being to limit the distance the bars B B′ may be separated. A coil-spring B^2, placed around said bolt, will serve to throw the bars apart when they are unlocked in the manner presently to be indicated and hold them apart while the sheets are being inserted or removed. The other two standards, and preferably the two nearest the end of the bar, are each provided with the locking device, constructed as

follows: The inner tube C′ is provided at the end with a nut E, cut with a thread and slotted vertically at two sides with the slots *e*. Working in this nut is a threaded bolt or mutilated screw F, the two opposite sides of which are cut away, so that when turned into the position indicated at Fig. 6 the bolts will pass freely up and down through the nut without engagement, but when given a quarter-turn (indicated in Fig. 7) the threads of the bolt will engage with the threads of the nut, and the two will be thus locked together. The upper end of the bolt F is preferably shouldered, as indicated at *f*, and provided with an opposing shoulder *f′*, threaded onto the bolt, between which two shoulders is a journal f^2, working in a bearing f^3, secured to the bar B. The upper end of the bolt F is squared, as at f^4, to receive a key by which to turn it in locking and unlocking the binder. A perforated washer f^5, fitted into the material of the cover, gives access of the key to this squared end without producing any material protrusion.

The operation is as follows: By means of a suitable key (shown in Fig. 9) the bolts F are turned to release their engagement with the nuts, when the springs will throw the covers apart. The sheets with their slitted perforations are then inserted, one or more at a time, and the covers pressed firmly together, after which with the key the bolts are given a quarter-turn, locking the covers together at whatever position they may be in when thus pressed firmly down upon the sheets. Although I prefer to use a key for turning the bolts, any sort of handle, either attached or attachable thereto, may be employed. They should not project above the surface of the cover if attached to the bolt.

It will be seen that with this construction, without any devices projecting above the cover to interfere with the holding of the book, a very considerable margin of expansion or contraction to accommodate a greater or less number of sheets is provided and a very solid and secure binding of the sheets into the cover obtained, together with an exceedingly easy and simple means for opening the binder and removing and replacing the sheets either singly or as a whole.

I claim—

1. The temporary binder for perforated slitted sheets, consisting of the covers provided with telescoping standards, part of which have the exterior tube attached to one cover and part to the other cover, substantially as and for the purpose specified.

2. The combination with the covers, of the telescoping standards, two of which are provided with stop-bolts and springs for causing and limiting the separation of said covers, and the other two of which are provided with locking devices, substantially as specified.

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