

No. 635,438.

Patented Oct. 24, 1899.

W. A. JONES.
LOCK FOR TEMPORARY BINDERS.

(Application filed May 13, 1898.)

(No Model.)

FIG. 1.

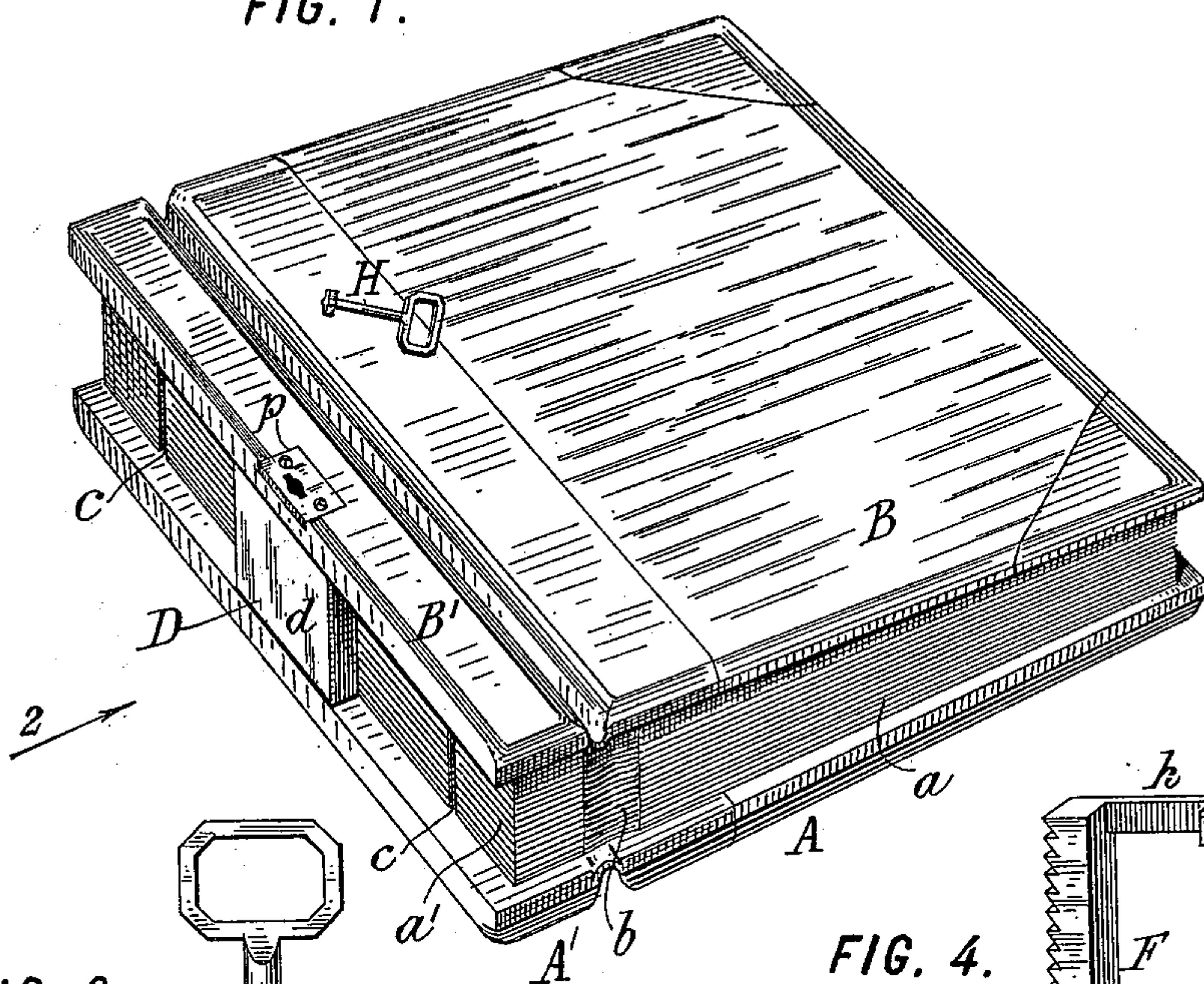


FIG. 2.

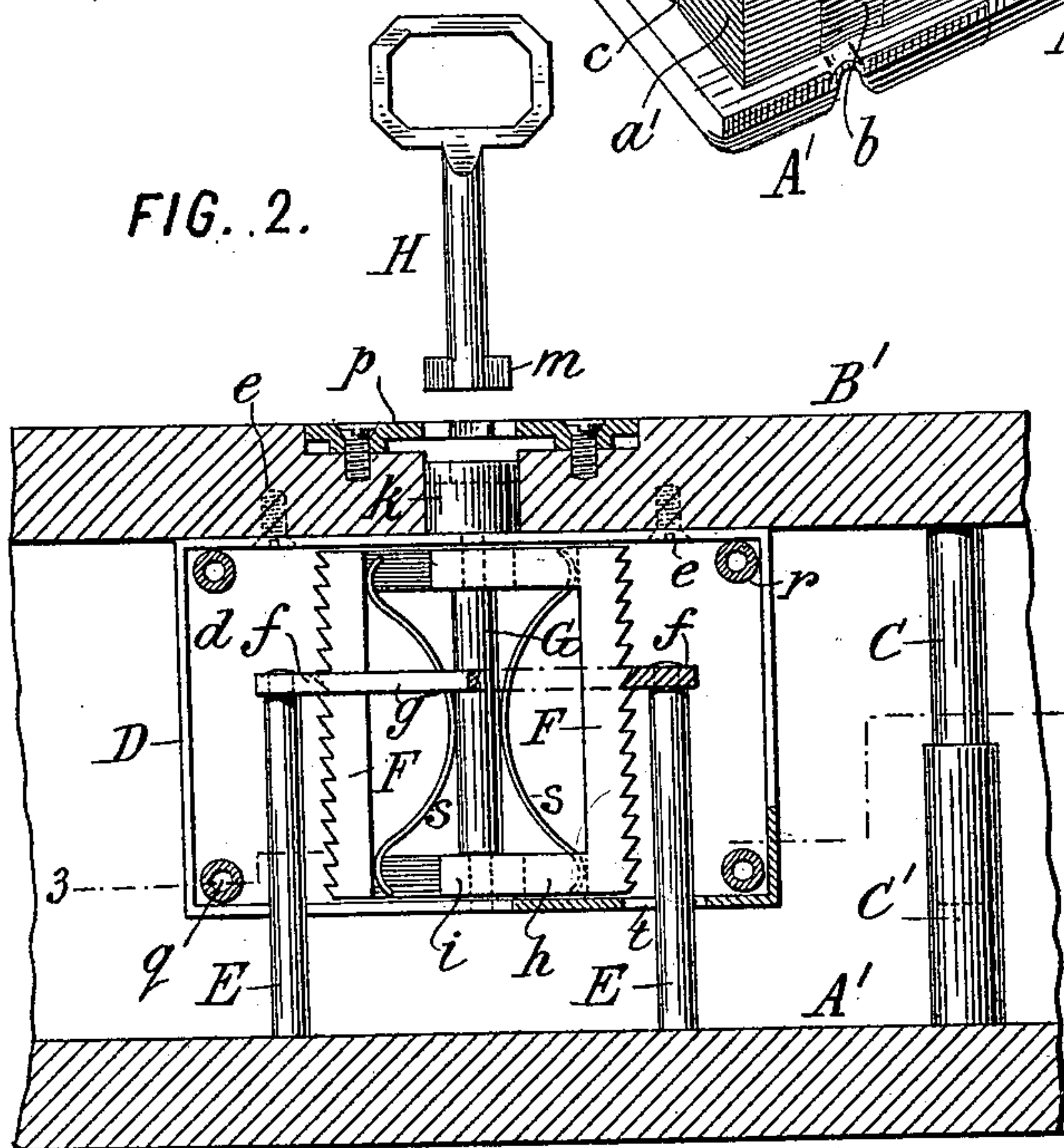


FIG. 4.

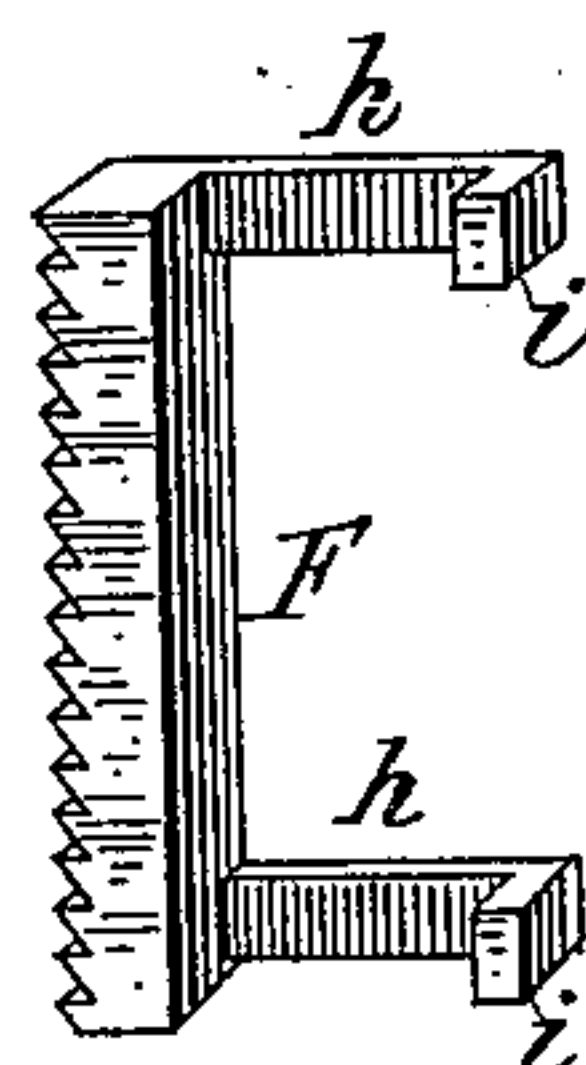


FIG. 5.

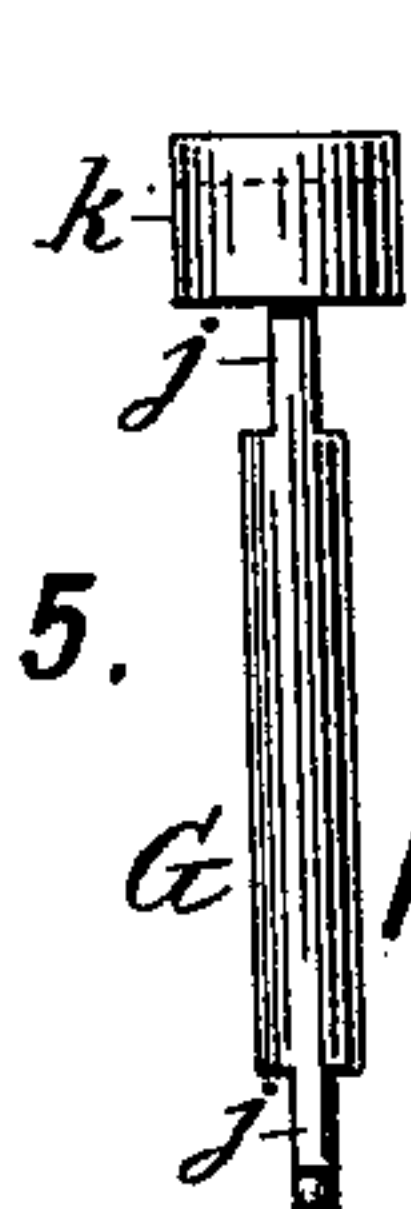


FIG. 7.

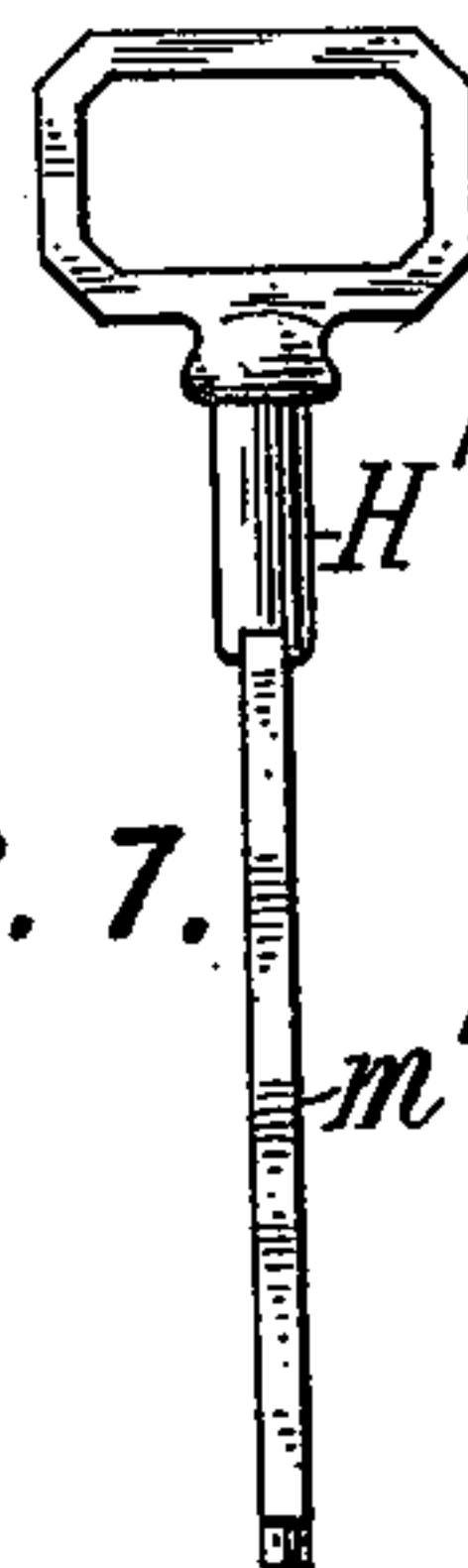


FIG. 6.

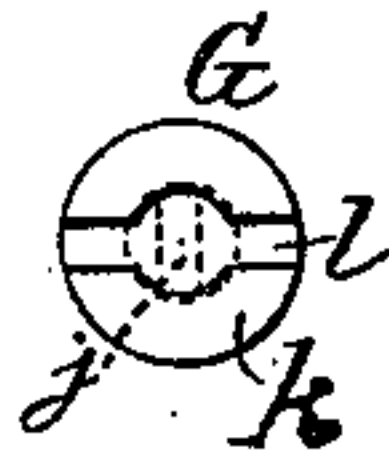
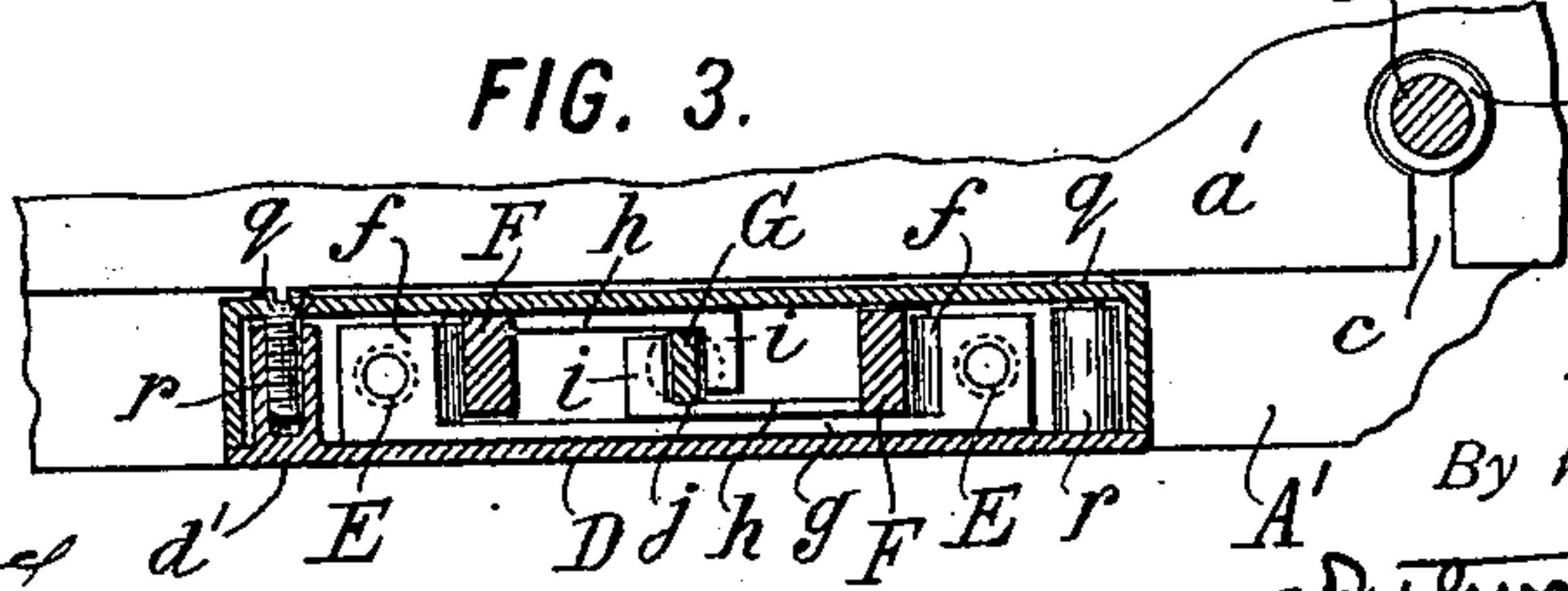


FIG. 3.



WITNESSES:

Fred. White

Thomas F. Halladay

INVENTOR:

William A. Jones

By his Attorneys,

Arthur C. Draper & Co.

UNITED STATES PATENT OFFICE.

WILLIAM A. JONES, OF BUFFALO, NEW YORK.

LOCK FOR TEMPORARY BINDERS.

SPECIFICATION forming part of Letters Patent No. 635,438, dated October 24, 1899.

Application filed May 13, 1898. Serial No. 680,542. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. JONES, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Locks for Temporary Binders, &c., of which the following is a specification.

This invention relates to locks especially adapted for temporary binders such as are employed for binding together loose sheets or pages in perpetual ledgers and for other analogous uses. In such binders the loose sheets or pages are held or clamped between top and bottom side boards or plates which clamp the back edges or stubs of the sheets. It is desirable to connect the opposite plates or clamping members of the binder through the medium of a lock in such manner that they may be fastened together at varying distances apart, according to the varying number of leaves or sheets between them, and in order that when once fastened together in any position they cannot be separated without the use of a special key, whereby the tampering with the binder by unauthorized persons is prevented. My invention provides a suitable construction of lock for this purpose which is applicable also to other analogous uses.

Figure 1 of the accompanying drawings is a perspective view of a temporary binder in the nature of a perpetual ledger to which my improved lock is applied. Fig. 2 is a fragmentary vertical section through the lock, looking in the direction of the arrow 2 in Fig. 1. Fig. 3 is a horizontal section on the line 3 3 in Fig. 2. Figs. 4, 5, and 6 are separate views of interior parts of the lock, and Fig. 7 shows a modification of Fig. 5.

Referring to the drawings, let A and B designate, respectively, the bottom and top side boards of the temporary binder, the back portions or clamping members A' and B' of which embrace between them the stub portions a' of the leaves or sheets a which are to be bound together. For a perpetual ledger or other such book I prefer to connect the stubs a' with the sheets proper through the medium of a flexible portion b, consisting of some thin woven fabric, such as crash, although this forms no part of my invention. The stubs a' are notched at c c, preferably in

the shape shown in Fig. 3, and in the circular part of the notches they are traversed by telescopic or extensible binding-pins C C', one of which is shown at the right in Fig. 2. Of these pins the inner one C is fastened to the top clamping member B' and the outer one C' to the bottom clamping member A', though other arrangements may be substituted.

The construction just described is that which is preferred, but it forms no necessary part of my invention, and may be greatly varied, according to the use to which the binder is put.

D is the lock as a whole. Its case d is carried by one of the clamping members, preferably the upper one B', being fastened thereto by screws e e, Fig. 2. To the opposite clamping member A' are firmly fixed two posts E E, which pass into the case and are formed therein with teeth f, Fig. 2. As shown, these teeth are formed as parts of a single plate g, riveted to the tops of the posts E E; but this is not essential. Within the case and suitably guided by its walls are two parallel-motion ratchet-bars F F, the ratchet-teeth of which are adapted to engage the teeth f f and which are pressed outwardly into engagement with said teeth by springs s s. The left-hand bar F is shown removed in Fig. 4. It is formed at top and bottom with arms h h, the ends of which are turned at right angles to form fingers i i. The right-hand bar F is of exactly the same construction, except that its bars h spring from its opposite face, as seen in Fig. 3.

For operating the lock I provide, by preference, a vertical central spindle G. (Shown detached in Figs. 5 and 6.) This spindle is flattened at j j, and the flattened portions thus formed are arranged between the fingers i i of the respective ratchet-bars F F. By giving the spindle G a quarter-turn its flat portions j force the fingers i i apart, and thereby move the bars F F toward each other sufficiently to disengage their ratchet-teeth from the teeth f f, thereby unlocking the lock. The upper end of the spindle G is formed with a head k, having a notch l, shaped to fit the bits m of the key H. (Shown in Figs. 1 and 2.) The head k is countersunk in the clamping member B' and is covered over by an escutcheon p, which has a keyhole adapted to admit the key and to guide it into the notch

l in the spindle-head. The springs s s are shown as bearing against the middle of the spindle G, which is a convenient arrangement, but not necessary, as they may bear
 5 against any fixed part within the lock. The outer plate d' of the lock-case d is fastened to the case by means of the screws q q, the heads of which are accessible only from the inner side, so that when the binder is in use
 10 these heads are covered by the stubs of the bound sheets and are inaccessible. The screws q screw into tubular posts r r, formed integrally with the front plate, as shown at the left in Fig. 3. Hence when the lock is
 15 locked it is impossible to open it or get access to its interior.

In operating my invention it is only necessary to insert the key and give it a quarter-turn, whereby the locking-bars F F are dis-
 20 engaged from the teeth f f, and the top clamping member B' may then be drawn up, carrying the lock with it, until stopped by contact of the part g with the bottom of the case. This construction is preferred, because in
 25 most cases it is preferable not to permit the two parts of the binder to be taken apart, it being sufficient to separate them widely enough to enable the sheets to be inserted or removed by bending them at the notches c
 30 sufficiently to pass over the diameter of the posts C C'. If, however, it is preferred at any time to construct the lock to admit of being separated, the cross-bar g may be removed and the teeth f made as small as is practica-
 35 ble and openings formed in the bottom of the lock-case to admit these teeth to pass through, one such opening being shown at the right in Fig. 2, (lettered t.) The clamping members having been separated to their full extent, as
 40 just described, any desired sheets may be removed and any additional sheets may be inserted, and when the sheets to be retained are properly in place it is only necessary to press down the top member B', either first re-
 45 moving the key and letting the ratchet-bars click over the teeth f until the top member has descended far enough to firmly clamp the sheets, or by leaving the key in place and the lock unlocked until the top member is
 50 brought fully down and then turning the key back to its first position and removing it.

It is preferable to provide the spindle G to be engaged by the key, as already described; but it would be within my invention to omit
 55 the spindle G and construct the key of such shape as to enter through the entire depth of the lock and take the place of the flats j for engaging the fingers i i within the lock. This construction is shown in Fig. 7, where the
 60 key H' has its bit m' formed simply as a flat plate of the same shape in cross-section as the flat portions j of the spindle G, the latter being wholly omitted and the key being thrust down through the entire depth of the lock.

65 My invention may be modified in details of mechanical construction without departing from its essential features. I do not desire

to limit my invention to the application of my improved lock solely to a temporary binder, as it may be applicable to other analogous
 70 purposes or in other situations where it is desirable to have an adjustable lock or one the opposite parts or members of which can engage each other at successive points, so as to interlock to varying degrees, and thereby
 75 accommodate themselves to varying thicknesses of any intervening part.

Instead of forming the posts E each with a single tooth and the ratchet-bars or locking-bars F with a multiplicity of teeth, this ar-
 80 rangement may obviously be reversed by forming the posts E E with repeated teeth or notches and the bars F F each with only one, or for greater strength with two, three, or more teeth. The construction shown is, how-
 85 ever, preferred, because when the posts E E are drawn out to their extreme limit no teeth or notches are exposed outside the case, and the posts are smooth and free from liability to catch against other objects.
 90

I claim as my invention the following-defined novel features, substantially as hereinbefore specified, namely:

1. In a temporary binder, the combination with upper and lower clamping members hav-
 95 ing means for engaging between them the stubs of sheets to be bound, of a lock for preventing the separation of the clamping members comprising a casing fastened to the up-
 100 per member, a ratchet-bar movable laterally therein, a post fixed to the lower member and entering said case, and having therein a tooth engaged by the ratchet-bar, a spring pressing
 105 said bar into engagement with said tooth, and a key adapted for insertion downwardly through the upper clamping member to act upon and retract said ratchet-bar.

2. In a temporary binder, the combination with upper and lower clamping members hav-
 110 ing means for engaging between them the stubs of sheets to be bound, and a lock for preventing the separation of the clamping members comprising a casing fastened to the upper member, a pair of oppositely-disposed
 115 ratchet-bars movable therein, a pair of posts fixed to the lower member entering said case, and each having therein a tooth engaged by the ratchet-bars respectively, means for pressing
 120 said bars into engagement with said teeth, and a key adapted for insertion downwardly through the upper clamping member to act upon and retract said ratchet-bars.

3. A lock for a temporary binder consisting of a case, a parallel-motion ratchet-bar mov-
 125 able therein, a post entering said case and having a tooth engaged by the ratchet-bar, an operating-spindle having cam-surfaces adapted to engage said ratchet-bar at opposite ends thereof and impart parallel motion thereto to bring it into or out of engagement with said
 130 tooth, and a key for operating said spindle.

4. A lock consisting of a case, a pair of oppositely-disposed ratchet-bars movable there-
 in, a pair of posts entering said case and hav-

ing each a tooth engaged by the ratchet-bars respectively, a spindle arranged parallel with said ratchet-bars and having cam-surfaces engaging both of said bars, and adapted when
 5 turned to move said bars simultaneously by a parallel motion into and out of engagement with their respective teeth, and a key for turning said spindle.

5. A lock comprising a case, posts *E E* entering it and formed with teeth *f f*, ratchet-bars *F F* within the case each formed with opposite arms *h h* and fingers *i i*, springs *s s* pressing said bars outward, and an operating-spindle having cam-faces *j j* adapted to en-
 10 gage said fingers *i i*, and when turned to force them apart and thereby retract the ratchet-bars simultaneously by a parallel motion.

6. In a temporary binder, the combination with opposite clamping members having
 20 means for engaging the stubs of sheets to be bound, of a lock for preventing the separation of the clamping members, comprising a casing fastened to the upper member, and projecting toward the lower member, projec-
 25 tions from the lower member entering said casing, and locking devices within said casing adapted to lock at a succession of points for holding said members at varying distances

apart, the upper clamping member formed with a keyhole passing through it into said
 30 lock-casing, and a key adapted for insertion therethrough to operate the lock.

7. In a temporary binder the combination with opposite clamping members having means for engaging the stubs of sheets to be
 35 bound, of a lock for preventing separation of the clamping members comprising a casing fastened to one of said members, and projecting toward the other, projections from the other member entering telescopically into said
 40 casing, and locking devices within the latter adapted to lock at a succession of points for holding said members at varying distances apart, said locking devices adapted for oper-
 45 ation by a key inserted with its axis perpendicular to the plane of said clamping members, and a keyhole for the insertion of the key in such position through the member to which the casing is fastened.

In witness whereof I have hereunto signed
 50 my name in the presence of two subscribing witnesses.

WILLIAM A. JONES.

Witnesses:

ELIJAH W. HOLT,
 JOHN L. WILCOXEN.