

(No Model.)

L. M. LESLIE.
TEMPORARY BINDER.

No. 603,428.

Patented May 3, 1898.

Fig. 1.

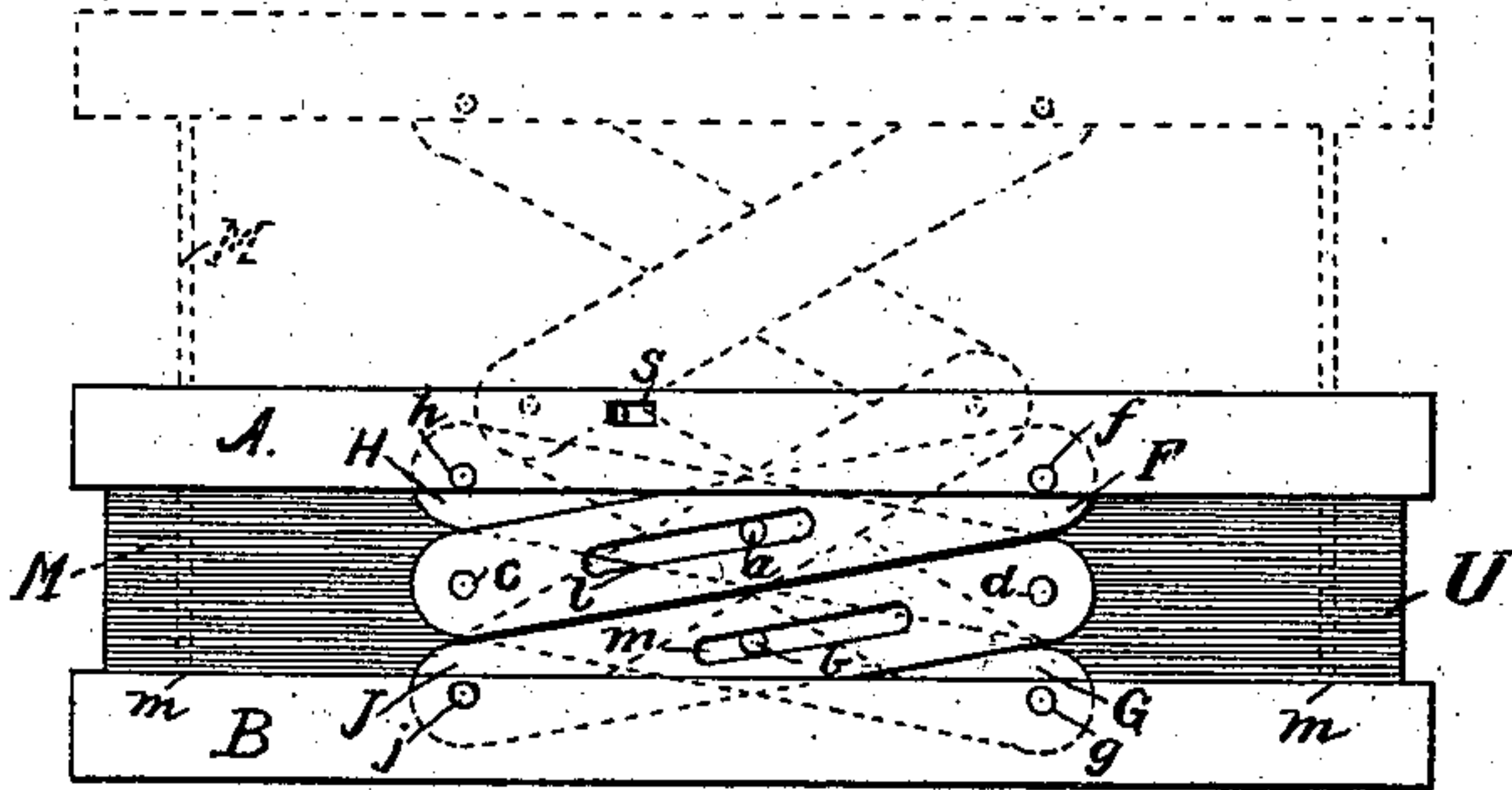


Fig. 2.

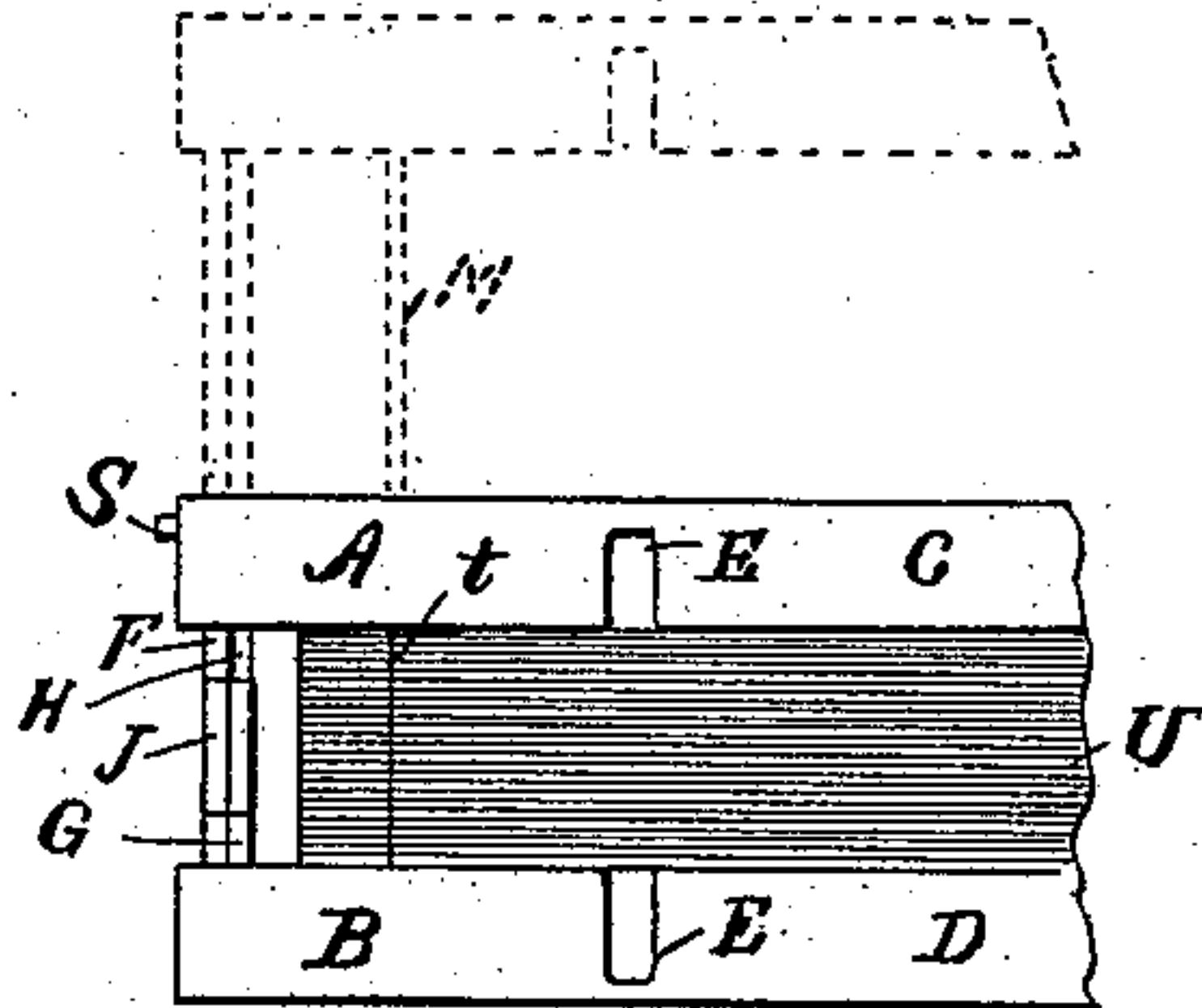


Fig. 3.

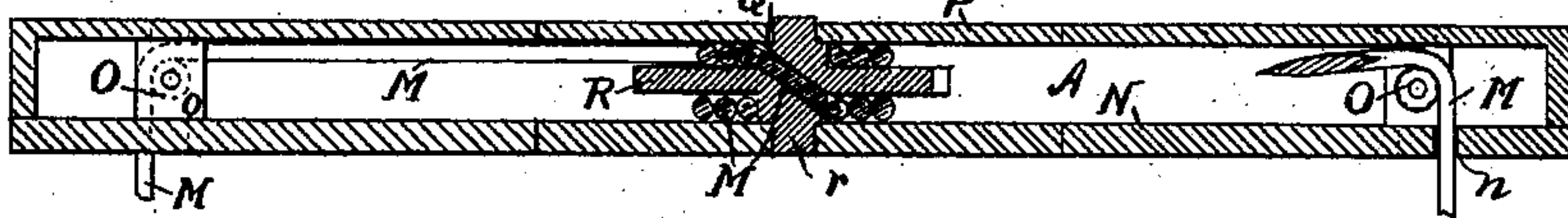


Fig. 4.

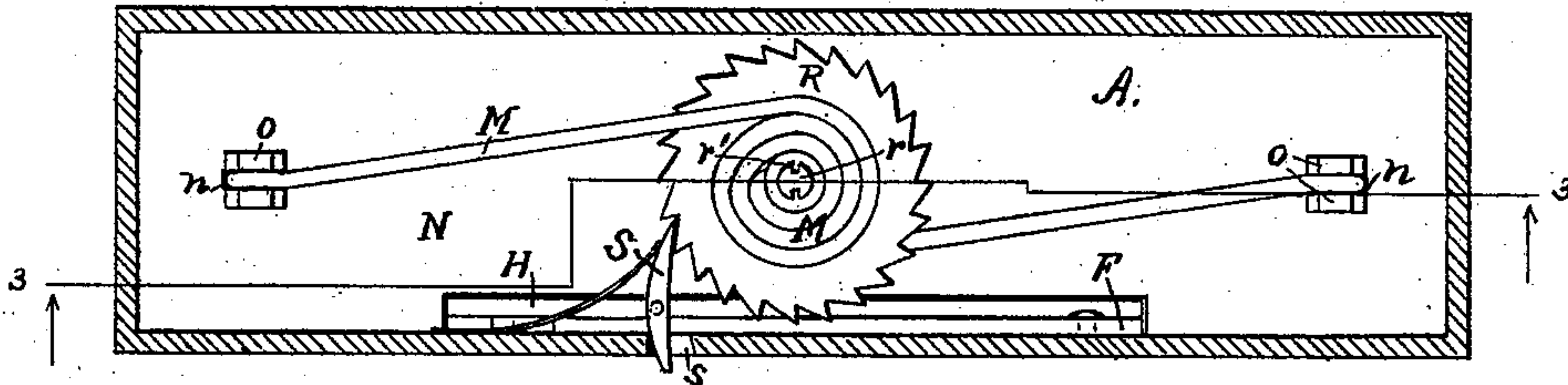
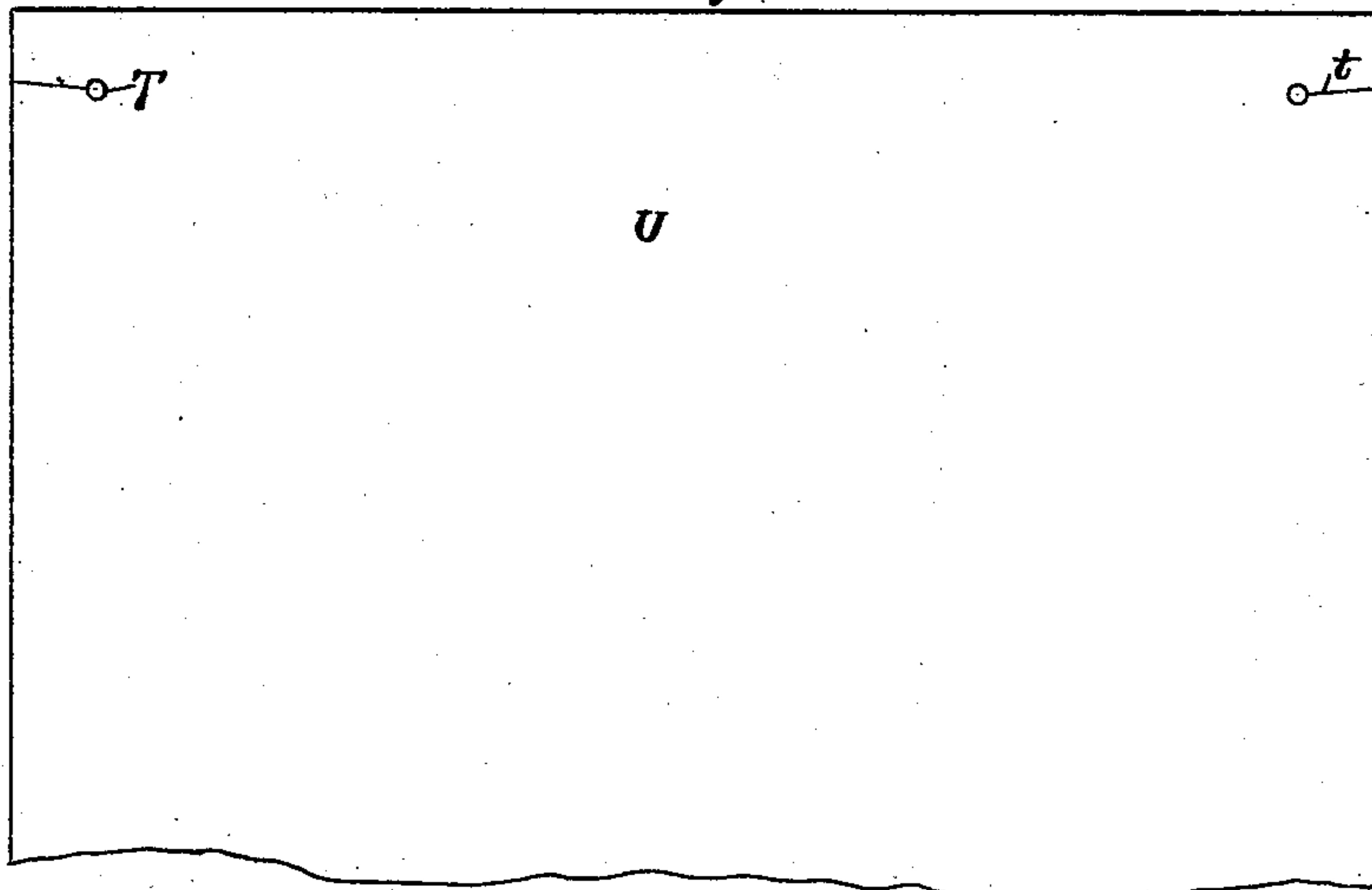


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

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TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 603,428, dated May 3, 1898.

Application filed January 23, 1897. Serial No. 620,463. (No model.)

To all whom it may concern:

Be it known that I, LEON M. LESLIE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Temporary Binders, of which the following is a specification.

My improvements relate to that class of temporary binders known in the trade as "perpetual ledgers" and designed to constitute books which in ordinary use are firmly bound, yet any leaf of which can be readily extracted without displacing or releasing the others from the binder.

I have shown my invention as embodied in the mechanism illustrated in the accompanying sheet of drawings, in which the same letters of reference are used to designate the same parts in all the figures, and in which—

Figure 1 is a rear elevation of my improved binder in its closed position, the position of the parts when it is expanded being indicated by the dotted lines. Fig. 2 is a similar side elevation. Fig. 3 is a section through the upper back piece on the broken line 3 3 of Fig. 4 and on a larger scale than Figs. 1 and 2. Fig. 4 is a plan view of the upper back piece with the upper portion of its casing removed, and Fig. 5 is a plan view of a portion of one of the sheets.

My improved binder is composed of the two back pieces A and B, to which the lids or covers C and D are connected by the customary flexible hinges at E. The two back pieces are connected by two pairs of levers F and G and H and J, which are pivoted to the rear inside walls of the back pieces A and B at the points *f* and *g* and *h* and *j* and to each other at the points *c* and *d*. The levers G and H have studs *a* and *b*, rigidly mounted at their centers and projecting into the slots *l* and *m* in the levers F and J, respectively. It results from this particular form of lazy-tongs connections that when the back pieces A and B are moved relative to each other they will always be maintained parallel to each other and with their ends in the same planes, and it will be seen from Figs. 1 and 2 that they can be readily adjusted to accommodate any number of sheets or leaves within the capacity of the binder.

To retain the sheets or leaves U in position and to hold the binder in any desired position of expansion, I employ the cord M, which is preferably a small wire cable and which is fastened at its ends to the interior of the back piece B at the points *m*. This cord M passes into the interior of the upper back piece A, through the apertures *n* in the base N of said back piece, and over the pulleys or rollers O, which are mounted between vertical supports *o*, which may be fastened by mortise-and-tenon connections in the base N and top piece P of the back piece A. The cord M passes through a diagonally-disposed aperture Q in the spindle *r*, which carries the ratchet R. This spindle *r* has reduced portions at the ends, which take into circular apertures in the base N and top piece P to form bearings for the spindle. A spring-pressed dog S, whose tail projects out of the back piece A through an aperture *s*, engages the teeth of the ratchet R. A couple of notches *r'*, cut into the upper end of the spindle *r*, furnish means for turning said spindle by the application of a key thereto. Supposing that the back pieces have been separated as far as permitted by lazy-tongs and the cord M, it will be seen that if a key is applied to the spindle *r* and it is turned in the direction permitted by the ratchet R the cord M will slip through the aperture Q until the tension is equal on both sides, and then the continued turning of the spindle *r* will cause the cord M to be wound in opposite directions in spirals about the spindle *r*, the vertical distances between the ratchet R and the base-piece N and top piece P being just sufficient to permit the cord M to coil freely without any wedging or binding effect. The dog S, cooperating with the ratchet R, prevents any backward movement and consequent unwinding of the cord M.

The sheets or leaves U have perforations T corresponding in shape and location to the cord M, which passes through them, and it will be seen that when the cord M is drawn taut between the two back pieces the sheets will be held firmly in position, the cross-section of the cord M corresponding in size and shape to the apertures or perforations T, so as to prevent any material play of the sheets or leaves. It will be understood that

in ordinary use the sheets or leaves are held firmly clamped between the back pieces, as indicated in Figs. 1 and 2, and the parts are retained in this position by the dog S, coöperating with the ratchet R. When it is desired to withdraw any sheet, as when it has been filled, the dog S is pressed back, so as to free the ratchet from it, and the back piece A is lifted up, the unwinding of the cord M from about the spindle *r* permitting this movement. In this condition the sheets are strung on the cord M, but can be separated from each other so much as may be necessary. The perforations T have slits *t* running to the sides of the sheets at angles of about eighty-five degrees, as clearly seen in Fig. 5. When the adjoining sheets or leaves have been shifted to give the one to be extracted some play, it is ordinarily taken by the outer corners and concaved, so as to open the slits *t* somewhat, and the sheet can then be readily extracted, the cord M being passed through the slits *t*. A fresh sheet or leaf is then substituted and the key applied to tighten up the cord M and cause the back pieces A and B to firmly clasp and clamp the sheets or leaves U.

It will be understood that my invention is not limited to the exact structure shown and described, but includes such modifications thereof and constructions as are indicated by the terms of the following claims as interpreted by the state of the art.

I claim—

1. In a binder, the combination of the back pieces, with the levers forming an expansible connection between said back pieces, the single cable coöperating with sheets or leaves to hold them in place, and means for adjusting said cable to hold any desired number of sheets or leaves.

2. In a binder, the combination of the back pieces, with expansible connection between said back pieces, and a single cord for retaining the sheets or leaves in position, and mechanism for tightening said cord uniformly throughout its length, for the purpose described.

3. In a binder, the combination of the back pieces, with the single cable or cord connecting said back pieces and passing through one of them, and means for effectually shortening said cord.

4. In a binder, the combination with the apertured sheets or leaves, of the back pieces, the single cord or cable connected to one of said back pieces and passing through the apertures in said sheets, and means for effectually shortening said cord whereby the back pieces will be drawn together and the sheets clamped thereby.

5. In a binder, the combination of the back pieces and the apertured spindle, with means for turning said spindle, a catch to hold the spindle in any position to which it may be turned, and a cord passing through the aperture in said spindle.

6. In a binder, the combination of the back

pieces and the rotatable spindle, with a cord coöperating therewith and wound up by the rotation of said spindle, and connections between said cord and spindle so as to permit the movement of the cord relative to the spindle in order to automatically adjust the cord until the stress on the ends of said cord is uniform.

7. In a binder, the combination of the back pieces, and the cord or cable, attached at its ends to one of said back pieces with the other back piece movable relative to the first back piece, and connections between said second back piece and the cord, the continued operation of which first adjusts said cord so that the tension is uniform throughout its length and then effectually shortens it so as to cause said back pieces to approach each other, substantially as described.

8. In a binder, the combination of the back pieces, with means for connecting said back pieces and holding them in parallelism, a cable connected at its ends to one of said back pieces and passing through the other back piece, and tautening mechanism on said other back piece through which said cable passes, substantially as described.

9. In a binder, the combination of the back pieces, with means for connecting said backs and holding them in parallelism, a cable connected at its ends to one of said back pieces and passing through the other back piece, and tautening mechanism for said cable comprising the spindle *r* and the diagonal aperture Q, all located and operating substantially as and for the purpose described.

10. In a binder, the combination of the back pieces, with means for connecting said back pieces and holding them in parallelism, a cable connected at its ends to one of said back pieces and passing through the other back piece, and tautening mechanism for said cable comprising the spindle *r*, carrying the ratchet-disk R and having the diagonal aperture Q with the dog S, all coöperating substantially as described.

11. In a binder, the combination of the back pieces, with the levers forming an expansible connection between said back pieces, a single cable coöperating with sheets or leaves to hold them between said backs, and means for adjusting said cable to hold any desired number of sheets and said backs unyieldingly, substantially as described.

12. In a binder, the combination of the back pieces, with the single cable or cord connecting said back pieces and passing through one of them, and means for effectually shortening said cable to hold unyieldingly said back pieces and any desired number of sheets, substantially as described.

In witness whereof I have signed my name this 18th day of January, 1897.

LEON M. LESLIE.

In presence of—

BENJAMIN L. COFFIN,
WM. H. HASEY.