D. F. DYKE.

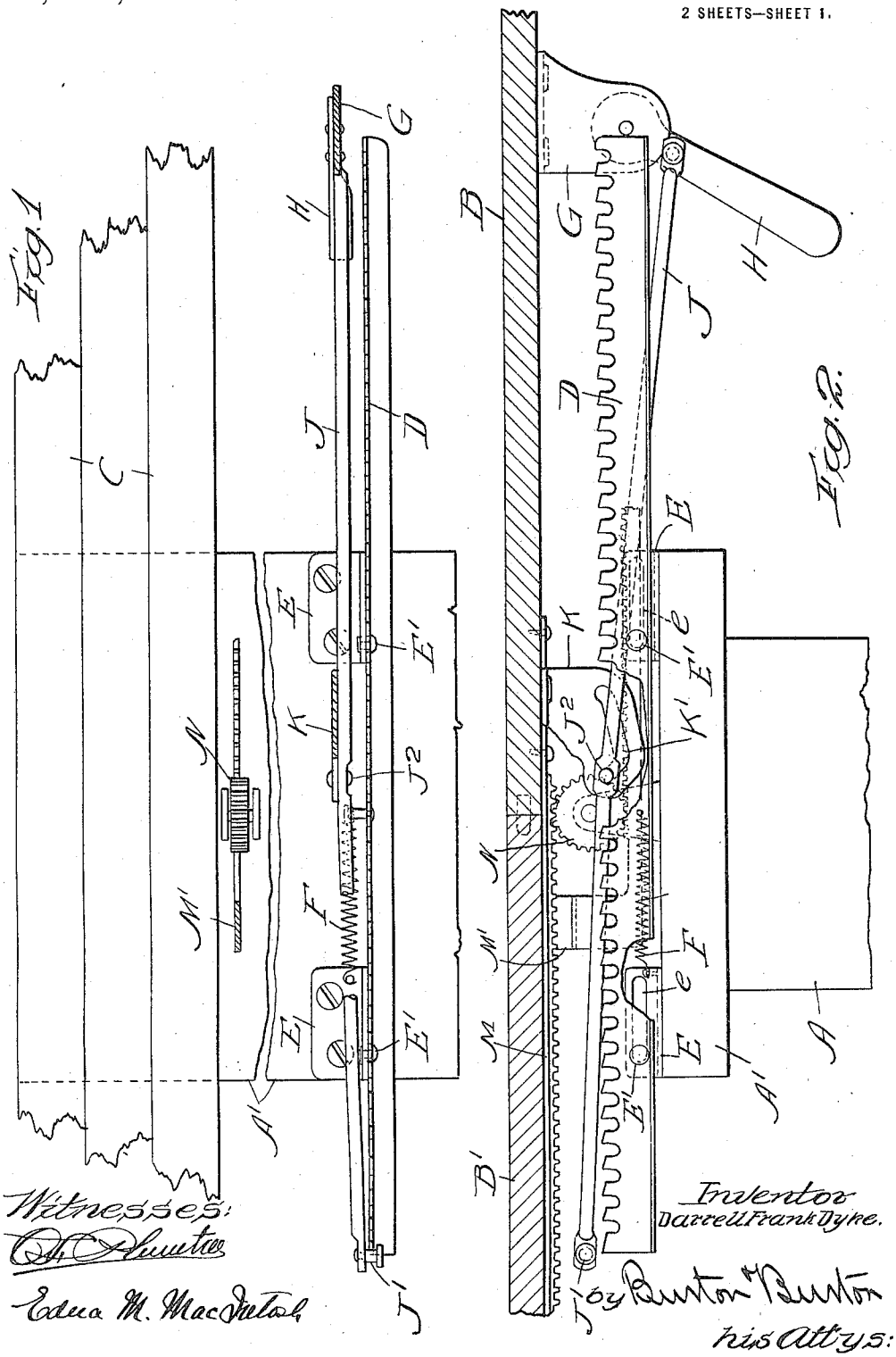
EXTENSION TABLE TOP LOCK.

APPLICATION FILED APR. 7, 1915.

1,180,912.

Patented Apr. 25, 1916.

2 SHEETS—SHEET 1.



THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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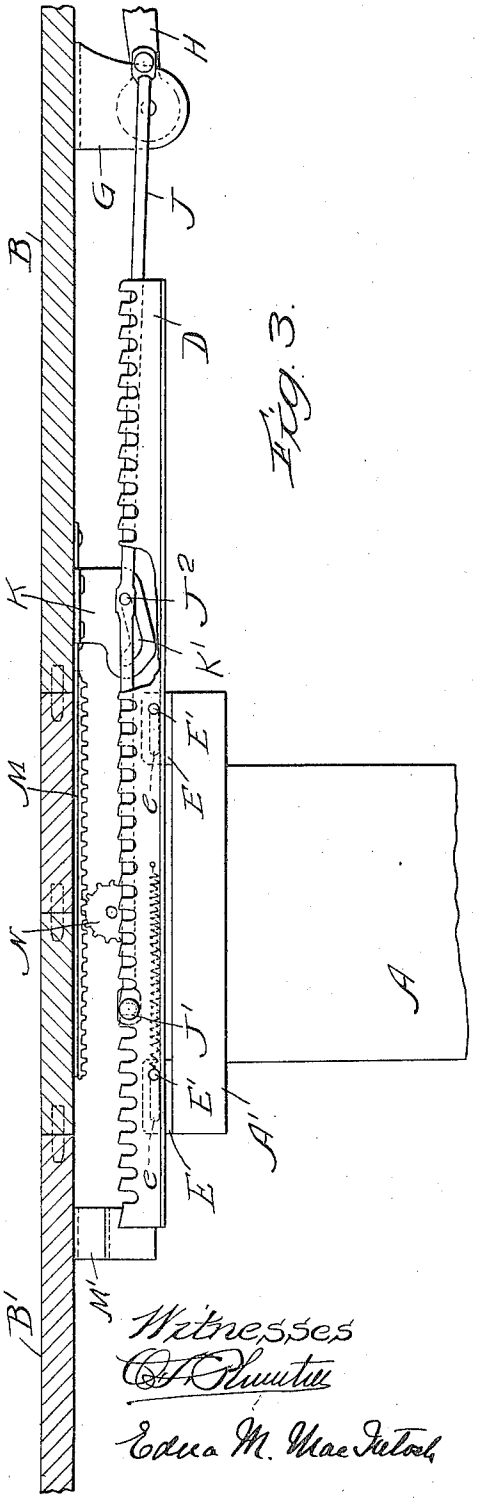


Fig. 3.

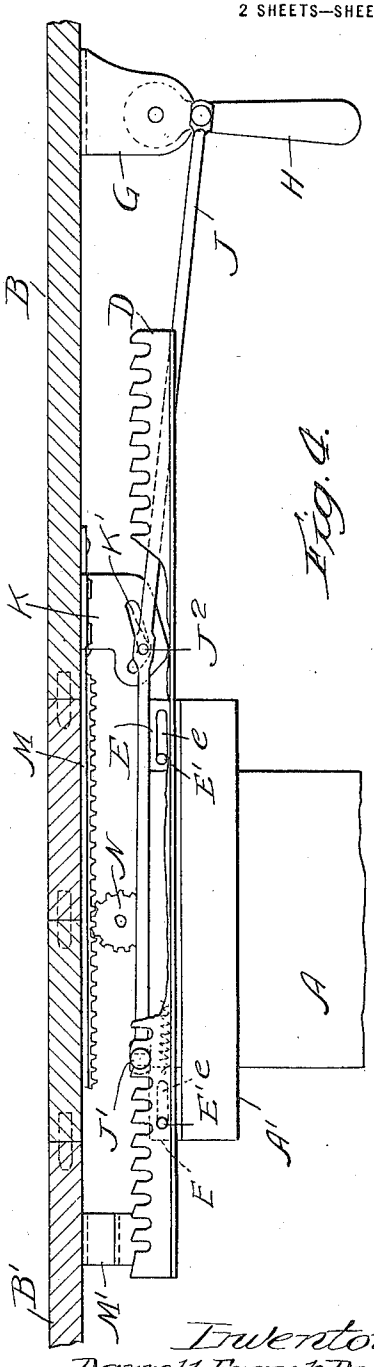


Fig. 4.

Witnesses
C. A. Plumtree
Edna M. MacIntosh

Inventor:
Darrell Frank Dyke.
by Burton & Burton
his Attys.

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DARRELL FRANK DYKE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE SENG COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

EXTENSION-TABLE-TOP LOCK.

1,180,912. Specification of Letters Patent. Patented Apr. 25, 1916.

Application filed April 7, 1915. Serial No. 19,698.

To all whom it may concern:

Be it known that I, DARRELL FRANK DYKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Extension-Table-Top Locks, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved device for closing up and locking the members of the top of an extension table.

It consists in the elements and features of construction shown and described in the drawings as indicated in the claims.

In the drawings:—Figure 1 is a top plan view of a portion of an extension table equipped with this invention. Fig. 2 is a longitudinal vertical section of a portion of such table showing the features constituting the locking device in side elevation at the closed position of the table top, but with the locking devices disengaged for permitting the top to be extended. Fig. 3 is a view similar to Fig. 2 showing the table top extended with fillers intervening between the two top members, and the locking device in locking position. Fig. 4 is a view similar to Fig. 3 showing the parts of the locking device at the position occupied when they have been operated for unlocking and forcing apart the top members to disengage the tenons.

The drawings show the customary parts of an extension table of customary construction comprising a pedestal or supporting member, A, of which the upper part only is shown, and two top members, B, B^1, connected together and mounted upon the supporting member by the usual extension slides, C. Upon the cap or bridging, A^1, of the supporting member, A, there is mounted a notched bar, D, extending longitudinally of the table and having its notched edge uppermost, said bar being thus supported upon the bridging by two angle brackets, E, E, each of which has its vertical flange provided with a longitudinal slot, *e*, by means of which the notched bar is secured to the bracket by the headed studs, E^1, E^1, extending through the slots engaging the bar to permit the bar to slide longitudinally on the bridging the distance of the length of the slot, *e*. A coiled spring, F, is connected at one end to the notched bar, D, and at the other end to one of the brackets, E, the connection being such as to cause the spring to be stretched by longitudinal movement of the bar in one direction and to retract the bar in the opposite direction and hold it when thus retracted with the studs, E^1, E^1, stopping its movement in that direction at the end of the slot, *e*. Upon one table top member, B, under the outer end portion there is fulcrumed on a bracket, G, a hand lever, H, to which there is connected a draw bar, J, which extends under the table top and over the bridging alongside the notched bar, and has its inner end provided with a laterally projecting stud, J^1, positioned for engaging the notches of said notched bar. The notches on said bar are straight-shouldered, that is to say, they are bounded on both sides by vertical edges so as to be adapted for engagement of the abutment, J^1, with them positively, for moving the notched bar positively in either direction by the thrust or pull of the draw bar, but preferably the tops of the teeth intervening between the notches are beveled off toward the operating handle lever, H, that is, in the direction to permit the abutment, J^1, to slide up over them in the inthrust of the draw bar, J, and ride down on them in the opposite direction for certainty of engagement with the inwardly facing shoulders of the notches. Preferably the rack bar, D, is mounted so as to extend in both directions from the middle point of the supporting member of the table, *i. e.* so as to extend under both the top members when the table top is closed; and the draw bar, J, similarly extends under both top members when the table is closed up, that is, it extends past their meeting edges. To the underside of the top member, B, upon which the operating handle is fulcrumed, near the meeting edges of the two top members, there is mounted a hanger or bracket, K, alongside of which the draw bar, J, extends, and said hanger has a slot, K^1, which forms a track for the engagement of a stud, J^2, which projects laterally from the draw bar to enter said slot which forms a guide track for the same in the longitudinal movement of the draw bar. This slot or track slopes downward from both ends toward an intermediate point, the longer slope being at the end toward the operating handle, the other slope

being comparatively short and steeper. The purpose of this longer slope is to accommodate the movement of the end of the draw bar which is connected to the operating hand lever, H, in view of the fact that that hand lever in its outward movement for closing up the table and locking it, carries the pivoted end of the draw bar upward and outward, which would tend to swing the inner end of the draw bar engaged with the notched bar downward by reason of the fulcruming of the draw bar intermediate its ends at the engagement of the stud, J^2, with the hanger, K, if the level of the pivot stud could not change somewhat correspondingly to the change of level of the pivoted end of the draw bar. By sloping the track, K^1, as described and shown, the upward movement of the pivoted end of the draw bar in the drawing and locking movements of the hand lever is accommodated without forcing downward the inner end of the draw bar with the notched bar or unduly springing or straining the draw bar.

It will be seen that in operating the device for closing together the top members, either with or without intervening fillers,—(the length of the notched bar and of the draw bar being such as to permit them to cooperate for closing up the table, either without fillers as shown in Fig. 2, or with as many fillers as would equal by their total width twice the length of the notched bar, in view of the means hereinafter described for causing each top member to move the opposite top member equally in the opposite direction), the drawing or clamping action effected by means of the engagement of the draw bar with the notched bar may be continued after the top members and the intervening fillers are close togther, by reason of the yielding of the spring, F, permitting the notched bar to move longitudinally of the table after the meeting of the top members prevents them from any further longitudinal movement, and that the spring will therefore operate to the extent of the tension given it to hold the top members firmly closed together. It will be seen, therefore, that in reversing the action for unlocking and releasing the members for extension or to remove fillers, the spring will be relaxed in the first movement of the hand lever inward for unlocking; and it is contemplated that in this movement the stud, J^2, on the draw bar will travel the whole length of the longer downward slope of the track, K^1 in the bracket, K, and will stand at the lowest point in that track when the reaction of the spring is complete and the notched bar is fully retracted to the position shown in Fig. 2. At this stage the top members with their intervening fillers will be still closed together but not pressed together by the tension of the spring. In view of the engagement of the top members with each other or with the intervening fillers by means of tenons and sockets, which sometimes engage quite tightly making it difficult to separate them either for extending the tops or removing the fillers, it is desirable to provide means for pushing the members apart at this stage; and it is for that purpose that the inner shoulders as well as the outer shoulders of the notches of the notched bar are made abrupt, that is, so as to effect positive engagement of the stud, J^1, on the draw bar, J, therewith; and at the stage described in the opening movement, that is, when the spring has fully reacted and the stud, J^2, is at the lowest point of the track, K^1, of the bracket, K, the operator by pushing the hand lever, H, inward will positively force outward the top member upon which the hand lever is mounted, withdrawing it from the opposite top member or from the next intervening filler, disengaging the tenons and sockets of the top parts.

So far as above described, the movement of the parts both in opening and closing, locking and unlocking, would be only the movement of the top member, B, with respect to the supporting member, and the description has assumed that the opposite top member, B^1, was in any suitable manner held in its position either at closed position or at any desired extended position for the operation of the fillers. But in order that the closing and locking devices described may operate perfectly for the purpose of closing up the top, either with or without intervening fillers, that is, without separate manipulation or securement of the opposite top member, the two top members are connected together by means of racks, M, M, (one at each side) on one top member, and similar racks, M^1, M^1, (one at each side) upon the opposite top member, the two racks at either side, one on each table top member being engaged by opposite sides of a pinion, N, N, mounted upon the bridging at the top of the supporting member. By this means all the movement given to the top member, B, upon which the operating devices described are mounted, is communicated directly and equally in opposite direction to the opposite top member, so that when drawing the member, B, toward the center, the member, B^1, is also drawn toward the center an equal amount; and in withdrawing the member, B, away from the center for inserting fillers, the member, B^1, is withdrawn in the opposite direction an equal distance; and the locking of the member, B, at closed position as described, serves to lock the member, B^1, at similar position.

I claim:—

1. In an extension table comprising a supporting member and top members movable thereon for extension, in combination with

such supporting member and top members, a bar mounted on the supporting member extended in the direction of movement of the top members and provided with a series of notches; a draw bar carried with one of the top members, and a support by which it is mounted for being so carried and for movement relatively to said top members longitudinally of the table; means carried by said top member for so moving said draw bar, the notches of the notched bar being adapted for positive engagement of the draw bar for thrust of the latter in both longitudinal directions, and the draw-bar-supporting-and-moving means being constructed for causing the draw bar to be lifted out of engagement with the notched bar at a predetermined limit of inthrust movement of the draw bar.

2. In an extension table comprising a supporting member and top members movable thereon for extension, in combination with such supporting member and top members, a bar mounted on the supporting member extended in the direction of movement of the top members and having a series of notches; a draw bar carried with one of the top members, and a support by means of which it is mounted for being so carried and for movement relatively to said top members longitudinally of the table; means carried by said top member for so moving said draw bar, the notches of the notched bar being adapted for positive engagement of the draw bar for thrust of the latter in both longitudinal directions, the support of the draw bar on said top member being a cam track along which the fulcrum of the draw bar is moved longitudinally of the table in the thrusting movement of the draw bar in either direction, said cam track having at the inner end an up-slope by which the draw bar is lifted out of engagement with the notched bar after a predetermined point in said inthrusting movement.

3. In an extension table comprising a supporting member and top members movable thereon for extension, in combination with such supporting member and top members, means for equalizing the movement of said top members in opposite directions, causing equal extension of the table in both directions, a notched bar mounted on the supporting member, a draw bar carried by one of the top members and engaging said notched bar, and means by which it is moved longitudinally of said top member while thus engaged with the notched bar, the notches of the notched bar being adapted for positive engagement of the draw bar by thrust of the latter in either longitudinal direction.

4. In an extension table comprising a supporting member and top members movable thereon for extension, in combination with such supporting member and top members, means mounted on the supporting member and top members respectively for causing movement of either top member to move the other top member equally in the opposite direction, a notched bar mounted upon the supporting member having its notched length as great as the maximum extending movement of either top member, a draw bar mounted on one top member and means for moving it relatively thereto longitudinally of the notched bar, the notches of said notched bar being adapted for positive engagement of the draw bar therewith in the thrust of the draw bar inward, and means for withdrawing the draw bar from said notches at the limit of the inward thrusting movement of the draw bar.

5. In an extension table comprising a supporting member and top members movable thereon for extension, means mounted on the top members and supporting member respectively for causing the movement of either top member to move the opposite top member equally in the opposite direction, a notched bar mounted on the supporting member, a draw bar guided by one of the top members and adapted for engagement with the notched bar, said notched bar being mounted on the supporting member for longitudinal movement relatively thereto, and a spring for yieldingly resisting such movement in the direction of pull of the draw bar, the notches of said notched bar being adapted for positive engagement of the draw bar therewith in the thrust of the draw bar in both longitudinal directions, and means for causing the draw bar to be lifted out of engagement with the notched bar by the inward thrusting movement of the draw bar in the closing portion thereof.

In testimony whereof I have hereunto set my hand at Chicago, Illinois, this 3d day of April, 1915.

DARRELL FRANK DYKE.

Witnesses:
FRANK J. SENG,
JOHN M. BROST.

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