

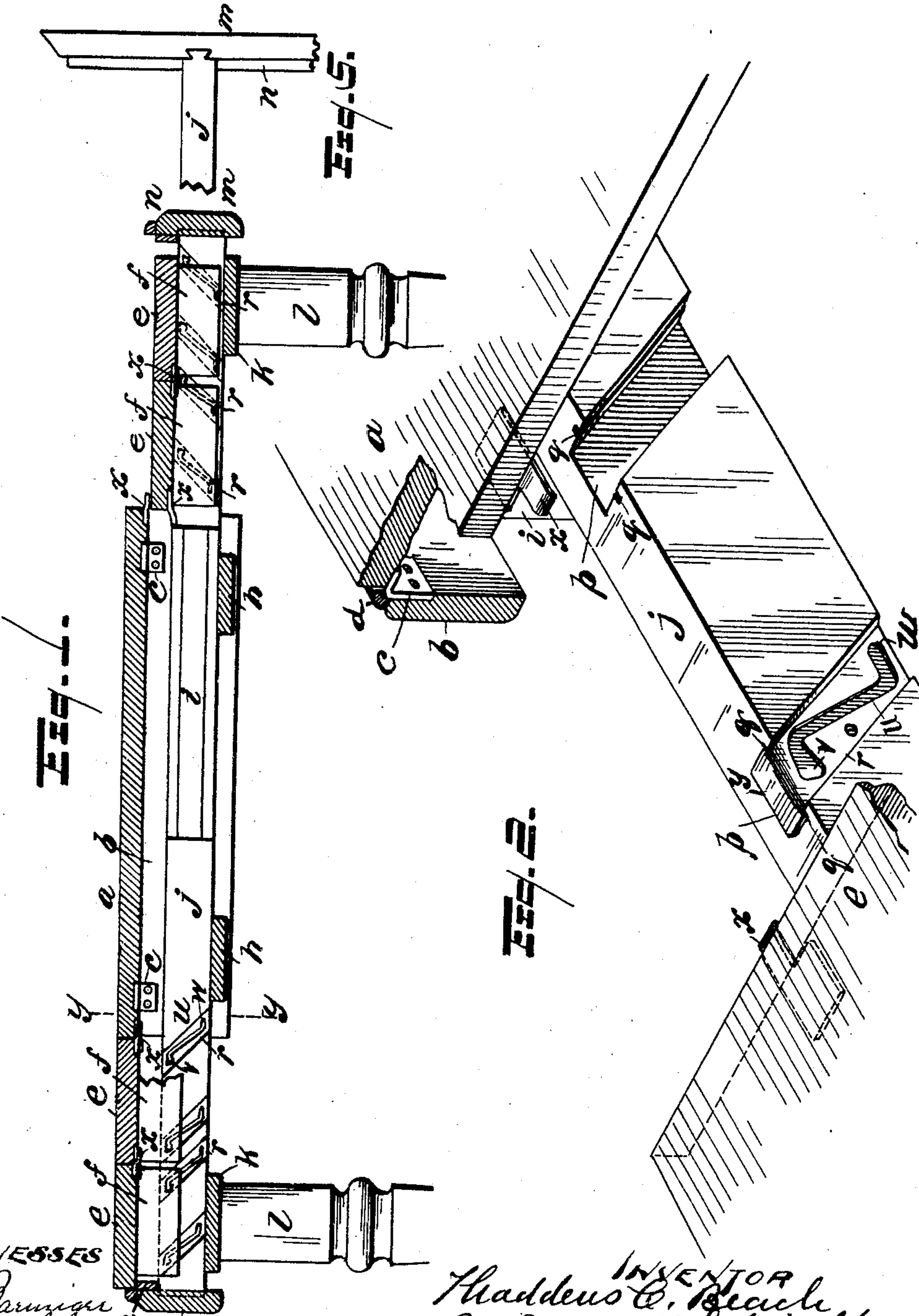
No. 786,086.

PATENTED MAR. 28, 1905.

T. C. BEACH.  
EXTENSION TABLE.

APPLICATION FILED JULY 18, 1903.

2 SHEETS—SHEET 1.



WITNESSES

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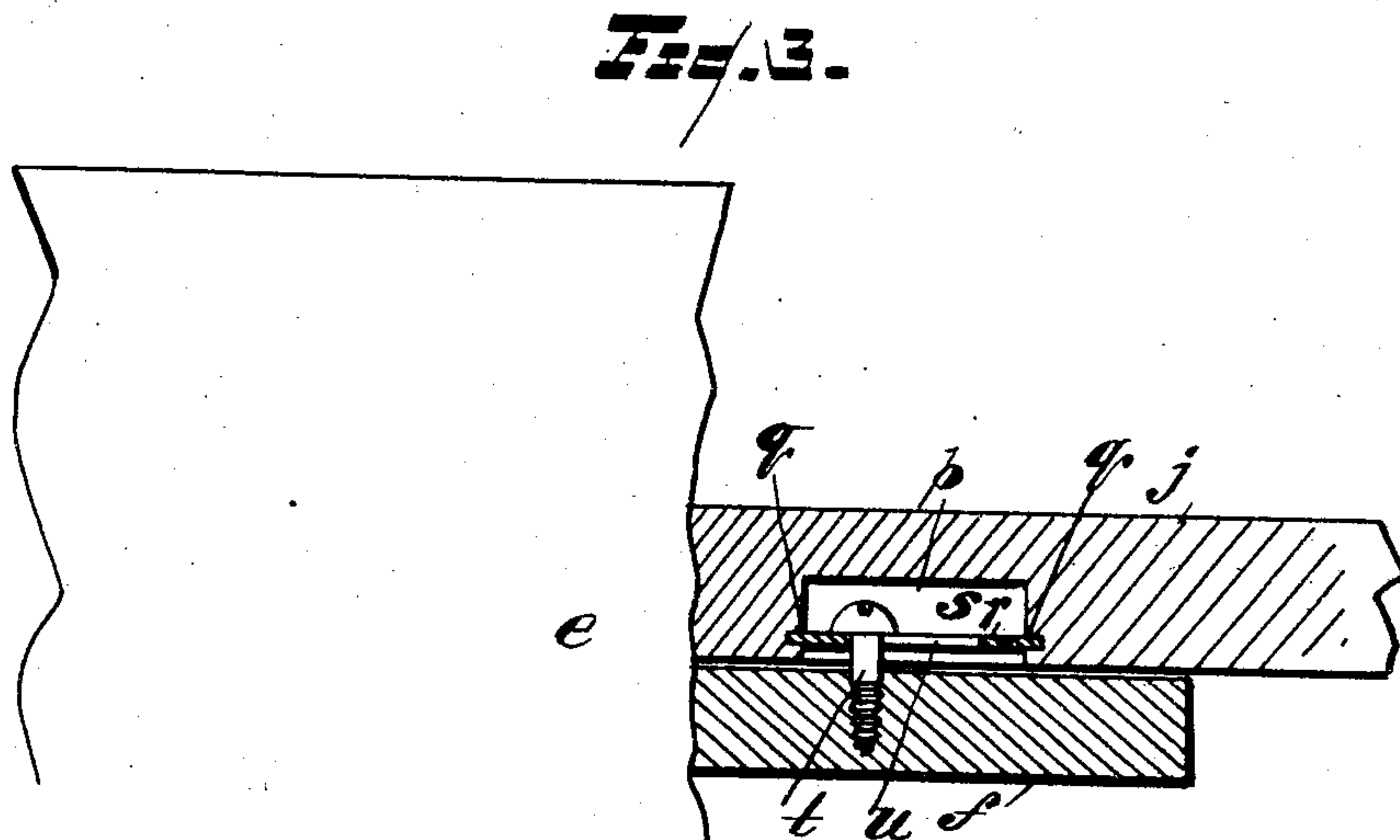
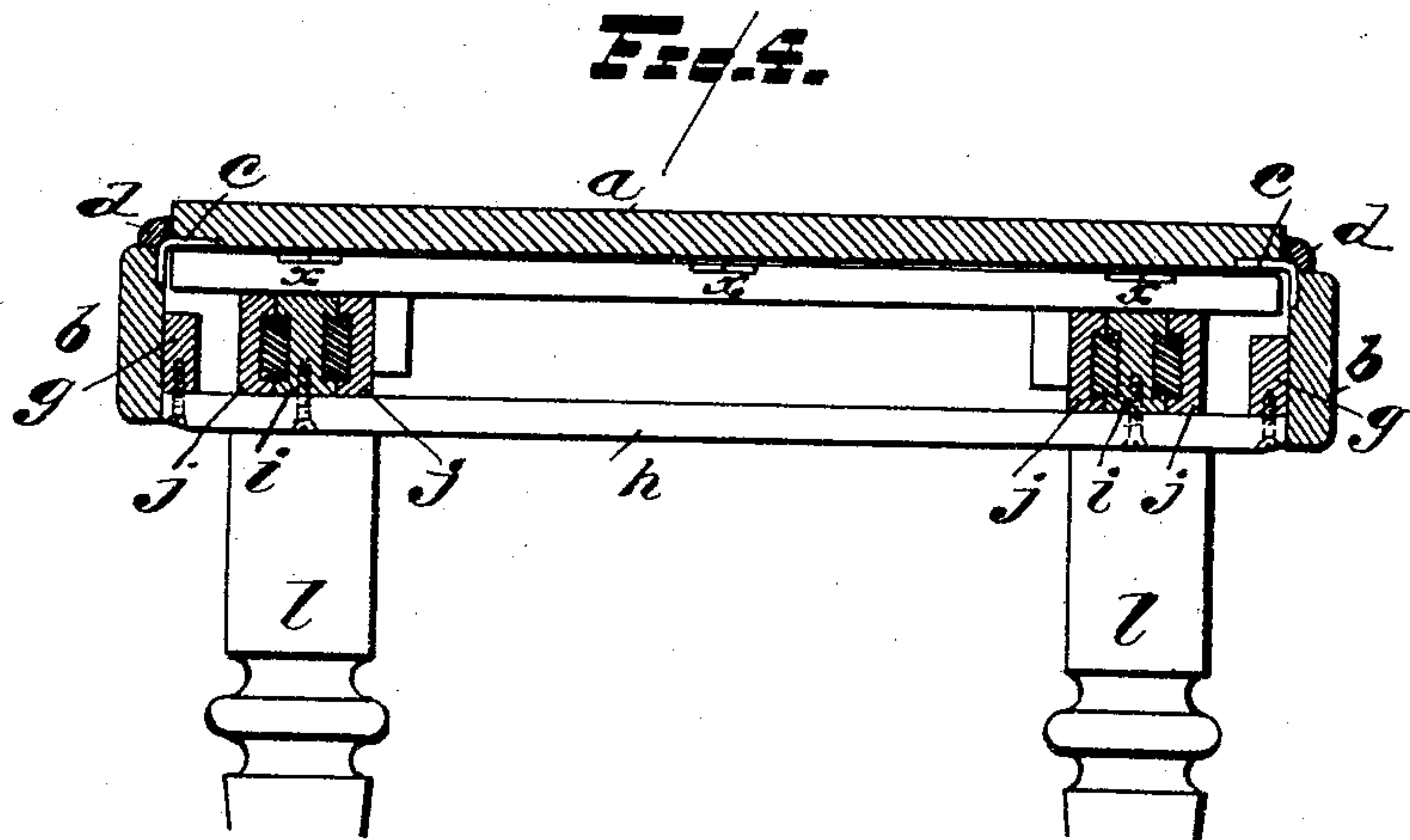
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# UNITED STATES PATENT OFFICE.

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## EXTENSION-TABLE.

SPECIFICATION forming part of Letters Patent No. 786,086, dated March 28, 1905.

Application filed July 18, 1903. Serial No. 166,069.

*To all whom it may concern:*

Be it known that I, THADDEUS C. BEACH, a citizen of the United States, residing at St. Johns, county of Clinton, State of Michigan, have invented a certain new and useful Improvement in Extension-Tables, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object certain new and useful improvements in extension-tables; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section showing parts in elevation. Fig. 2 is a view in perspective showing parts broken away and one of the leaves removed to show the construction of underlying parts. Fig. 3 is a view in plan and partly in horizontal section. Fig. 4 is a view in vertical cross-section on the line *y y*, Fig. 1. Fig. 5 is a detailed view, in inverted plan, showing a dovetail engagement of one of the end rails with one of the sliding rails.

My invention is designed to provide novel and superior means for adjusting movable leaves at the ends of the fixed portion of the table-top whereby when it is desired to close the table into smaller dimensions the end leaves may be lowered and moved under the stationary portion of the table-top and whereby when the table is desired to be extended the extremities thereof may be moved outward away from the fixed portion of the table-top and the adjustable leaves be elevated and held in elevated position, this movement or adjustment of the leaves at the extremities of the table being accomplished by means of improved devices by which the operation is simplified and the construction both simplified and rendered more economical.

My invention also aims to provide improved means for attaching the side rails to the table-top by means of angle-irons recessed into both the corresponding rail and the top; also, to provide leveling devices to hold securely and in proper position the detachable leaves one

with another and with a stationary table-top affording a perfectly level surface upon the upper side thereof.

My invention also aims to provide other improved features of construction and arrangement, which will be hereinafter more specifically described.

I carry out my invention as follows:

In the drawings, *a* represents a stationary section or fixed top of an extensible table, and *b b* are side rails connected therewith. These side rails are secured and held in position by means of angle-irons *c*, recessed into the corresponding portions of the side rails and of the fixed top. By recessing said plates into the corresponding parts it is obvious that they are out of the way, so as to afford no obstruction to the movable parts of the table-top, while at the same time they hold the side rails and the fixed top firmly together. The fixed top and side rails are so secured together that the side rails have their inner surfaces parallel with the lateral edges of the fixed top and projecting a slight distance outward therefrom to provide necessary clearance. To make a suitable finish on the exterior, I employ a molding *d*.

*e* represents a series of adjustable or movable leaves, said leaves each provided with cleats *f f* at the extremities thereof. The side rails *b b* are provided with attaching side bars *g g*, with which are engaged transverse bars or slats *h h*, the transverse bars or slats *h h* being thereby spaced from the fixed table-top a sufficient distance to provide for the sliding bars carrying removable leaves and to receive the movable leaves in under the fixed table-top. Secured to the transverse bars *h h* are fixed rails *i i*. Sliding rails *j j* have a movable engagement with said fixed rails, preferably on opposite sides thereof, so as to carry removable leaves at each end of the fixed table-top. These sliding rails *j j* may thus have a tongue-and-groove connection—for example, one set having such a connection upon the inside of the fixed rails, while the sliding rails to carry the leaves at the opposite end of the fixed table have a sliding connection with the fixed rails upon the exterior thereof, as shown.



The sliding rails *j j* on opposite sides of the table are connected by transverse supporting-bars *k*, with which also the legs *l l* are engaged at opposite ends thereof. Each set of the sliding bars at opposite ends of the fixed table are engaged with an end rail *m*. The engagement of the sliding rails with the end rail is preferably a dovetail engagement, as shown more particularly in Fig. 5. The end rail is constructed with an inwardly-projecting shoulder or flange *n*, extending inward over the adjacent ends of the sliding rails, the dovetail engagement of the sliding rails with the end rail extending obviously only to said shoulder. This construction affords a very firm engagement of the sliding rails with the end rail. To carry the movable leaves, the sliding rails are constructed with a series of separated recesses, (indicated at *p*,) preferably constructed at an angle, as shown, the lateral edges of said rails being slotted, as indicated at *q q*, into which slots are inserted slotted metal plates *r*, preferably made of sheet metal. By slotting the recesses of the sliding rail, as described, it will be evident that the slotted metallic plates may be driven into the slots on opposite sides of each of the recesses. The slots are so located as to leave a space *s* between the slotted plate and the adjacent wall of the recess. The movable leaves are each provided with the cleats *f f*, as above described, said cleats being provided with screws *t t*, passing through the corresponding slotted metal plates upon the sliding rails. The slotted metal plates are preferably formed with elongated slots *u*, preferably extending at an angle to the perpendicular, each of said slots constructed at its extremities with lateral extended portions *v w*, communicating therewith, the upper laterally-extending portion *v* being preferably enlarged, so as to permit the ready insertion of the head of the screws upon the corresponding cleats therethrough. It will be evident that by moving the corresponding adjustable leaf slightly inward the screws passing through the slotted plates will be moved out of the upper lateral extensions of the slot and thence downward through the length of the main elongated slot, permitting the corresponding leaf to be lowered. Then the screws entering the lower lateral extensions of the slot will be held firmly in lowered position. A movement of the adjustable leaf in the opposite direction will of course elevate the leaf into its normally open position, and the screws entering the upward lateral extensions of the slots will hold the leaf in its proper position and upon a level with the fixed table-top. It will be seen that in this method of construction and arrangement the sliding bars or rails are constructed with independent recesses to receive independent slotted metal plates in the marginal slots of said recesses, the heads of the screws upon the cleats of the movable leaves working freely in the spaces

between the metal plates and the adjacent wall of the corresponding recess. By so constructing the sliding rails and providing them with the independent slotted metal plates the construction is greatly simplified and economized. To hold the adjacent leaves firmly together upon a horizontal plane and to hold the movable leaf adjacent to the fixed table-top upon a level with the table-top, the adjacent edges of the leaves and fixed top are provided with tongue-and-bearing plates *x*, each plate being provided with an outwardly-projecting tongue, as shown, and with a bearing-surface to receive the tongue of the opposite or adjacent plate, as shown. This provision of the tongue-and-bearing plates upon adjacent edges of the movable leaves and fixed table-top provides for leveling devices, said devices also holding securely in position the detachable leaves, giving a perfectly level surface upon the upper side of the leaves on a plane with the fixed table-top.

It will be evident that the metal slotted plates are spaced from the cleats on the movable leaves, thereby preventing friction. I do not limit myself to constructing the metal plate with diagonal slots, as I contemplate forming said plates with slots extending in any desired direction, my present invention not being limited to any particular shape of the slots in the metal plates. The upper lateral slots of the metal plate I prefer to have lowered slightly at their outer ends, so that the leaves when raised will rise up to place, then let down slightly, so that they will be held firmly in position. The bottom lateral extremities of the slot hold the leaf up off from the underlying parts of the table, so that the surfaces of the leaves will not rub or mar the finish.

When the leaf at the end is up in position, it is constructed to ride forward slightly and drop upon the adjacent shoulder of the end rail, so that the weight of the leaf is carried thus upon the end rail, the strain being transmitted thus to the legs of the table. The shoulder already described upon the inner surface of each of the end rails forms a ledge upon which the adjacent leaf may rest. When closed up, the end rails form a finish with the adjacent side rails.

It will be seen that the sliding rails at each end of the fixed top section, carrying the corresponding end rails and the corresponding legs, form an extensible section or portion of the table upon which the movable leaves are carried. It will be seen also that the fixed top section with the fixed rails engaged therewith, constructed for the engagement of the sliding rails therewith, constitute a stationary section.

The plates *r* are constructed at their upper ends with laterally-extended flanges *y* to fit over the upper end of the slot *p*. Said plates are made rights and lefts in pairs to provide



for the extension of the leaves at opposite ends of the table.

The slotted metal plates *r*, constructed with a vertically-extended slot *u* and the laterally-extended slots *v w*, may be made in duplicate wherever said slotted metal plates are employed on the same side of the table. This construction of said plates enables me to use the same plate for all of the different leaves employed and to separate the various leaves the one from another when required. As to the construction of the bearing-plates *x*, with their outwardly-projecting tongues, it will be observed that the tongue of each plate is dropped down from the body of the plate, adjacent to the corresponding edge of the fixed table top or leaf, as the case may be. Said bearing-plates are made in duplicate and are reversed in their application, so that as the two tongues of adjacent bearing-plates contact when the parts of the table-top are in elevated position and adjacent one to the other this contact of the edges of the table will prevent any lateral movement of the adjacent parts.

What I claim as my invention is—

1. In an extension-table the combination with a stationary section, of an extensible section provided with sliding rails having plural separated upright recesses on their lateral faces each independently extending at an angle to the perpendicular and provided with marginal grooves, an independent angle-plate located in the grooves of each of said recesses of the rails, and forming a space between the slotted plate and the adjacent wall of the recess, each plate constructed with a single upright slot having laterally-extended portions at its extremities, movable leaves provided with cleats, and means connected with said cleats and projecting through and movable in the corresponding slotted plate, said leaves arranged to be raised and lowered in their engagement with said plates, substantially as and for the purpose described.

2. In an extension-table the combination with a stationary section, of an extensible section provided with sliding rails having plural separated upright recesses on their lateral faces extending at an angle to the perpendicular and provided with marginal grooves, an end rail carried by said sliding rails, an independent angle-plate located in the grooves of each of the recesses of the sliding rails, each plate constructed with a single upright slot having laterally-extended portions at its extremities, and a movable leaf provided with means engaged with the corresponding angle-plates and arranged to be elevated and lowered in said plates and held in raised and lowered position substantially as and for the purpose described.

3. In an extension-table the combination with a stationary section, of an extensible section provided with sliding rails having plural

separated upright recesses on their lateral faces extending at an angle to the perpendicular and provided with marginal grooves, an end rail carried by said sliding rails, an independent angle-plate carried in the grooves of each of the recesses of the sliding rails, each plate constructed with a single upright slot having laterally-extended portions at its extremities, and a movable leaf provided with means engaged with the corresponding plates and arranged to be elevated and lowered in said plates, said movable leaf when in elevated position, supported at its outer edge upon the end rail, substantially as and for the purpose described.

4. In an extension-table the combination with a stationary section provided with side rails, a transverse connecting-bar, and fixed rails secured to said connecting-bar, of an extensible section provided with sliding rails on opposite sides thereof having a movable engagement with the corresponding fixed rails and constructed with plural separated recesses on one of the lateral faces thereof and provided with marginal grooves, an independent metal plate located in the grooves of each of said recesses, each plate constructed with a single upright slot having laterally-extended portions at its extremities, movable leaves provided with cleats, and independent means connected with said cleats and passed through the corresponding independent slotted plates whereby the leaves may be raised and lowered in said slotted plates.

5. In an extension-table the combination with a stationary section provided with side rails, a transverse connecting-bar, and fixed rails secured to said connecting-bar, of an extensible section provided with sliding rails having a movable engagement with a corresponding fixed rail, and constructed with recesses on one of the lateral faces thereof, said recesses provided with marginal grooves, independent slotted metal plates located in the grooves of said recesses and forming a space between the slotted plate and the adjacent wall of the recess, movable leaves provided with cleats, and screws engaged with said connecting-cleats having their heads projecting through the corresponding slotted plates whereby the leaves may be raised and lowered in said slotted plates.

6. In an extension-table the combination with a stationary section provided with side rails, a transverse connecting-bar, and fixed rails secured to said connecting-bar, of an extensible section provided with sliding rails having a movable engagement with a corresponding fixed rail and constructed with recesses on one of the lateral faces thereof, said recesses provided with marginal grooves, independent slotted metal plates located in the grooves of said recesses and forming a space between the slotted plate and adjacent wall of the recess, movable leaves provided with



cleats, a screw engaged with said connecting-cleats having their heads projecting through the corresponding slotted plates whereby the leaves may be raised and lowered in said  
5 slotted plates, the slots in said plates provided with lateral extensions at the top and at the bottom thereof.

7. In an extension-table the combination with a stationary section provided with side  
10 rails, a fixed table-top, a transverse connecting-bar, fixed rails secured to said connecting-bar and spaced from the fixed table-top, of an extensible section provided with sliding rails having a movable engagement with the cor-  
15 responding fixed rails and constructed with plural separated recesses on one of the lateral faces thereof and provided with marginal grooves, an independent metal plate located in the grooves of each of the said recesses,  
20 each plate constructed with a single upright slot having laterally-extended portions at its extremities, and movable leaves provided with cleats, said leaves provided with means separably connecting the cleats with the corre-  
25 sponding slotted plates whereby the leaves may be raised and lowered in said plates, and whereby the leaves may be passed under the fixed table-top, between the top and the fixed rails.

8. In an extension-table the combination with a stationary section provided with side  
30 rails, a transverse connecting-bar, and fixed rails secured to said connecting-bar, of an extensible section provided with sliding rails on  
35 opposite sides thereof having a movable engagement with the corresponding fixed rails, and constructed with plural separated recesses on one of the lateral faces and provided with marginal grooves, an independent metal plate  
40 located in the grooves of each of said recesses, each plate constructed with a single upright slot having laterally-extended portions at its extremities, movable leaves provided with cleats, means connected with said cleats and  
45 passed through the slots in the corresponding metal plates whereby the leaves may be raised and lowered in said plates, a transverse supporting-bar connecting the sliding rails upon opposite sides of the table, and legs connected  
50 with the said supporting-bar.

9. In an extension-table the combination with a stationary section provided with fixed  
55 rails, of an extensible section provided with sliding rails having a movable engagement with the corresponding fixed rails and constructed with plural separated recesses on one

of the lateral faces thereof and provided with marginal grooves, an independent slotted metal plate located in the grooves of each of said recesses, each plate constructed with a  
60 single upright slot having laterally-extended portions at its extremities, and movable leaves provided with means connected with said leaves and with said independent plates whereby the leaves may be raised and lowered in  
65 said plates, said plates on the same side of the table made in duplicate.

10. In an extension-table the combination with a stationary section provided with side  
70 rails, and transverse connecting-bar, and fixed rails secured to said connecting-bar, of an extensible section provided with sliding rails having a movable engagement with the corresponding fixed rail and constructed with re-  
75 cesses on one of the lateral faces thereof, said recesses provided with marginal grooves, independent slotted metal plates located in the grooves of said recesses and forming a space between the slotted plate and the adjacent  
80 wall of the recess, movable leaves provided with cleats, and means engaged with said connecting-cleats having heads projecting therefrom through the corresponding slotted plates whereby the leaves may be raised and lowered  
85 in said slotted plates.

11. In an extension-table the combination with a stationary section provided with side  
90 rails, a transverse connecting-bar, and fixed rails secured to said connecting-bar, of an extensible section provided with sliding rails having a movable engagement with a corresponding fixed rail and constructed with re-  
95 cesses on one of the lateral faces thereof, said recesses provided with marginal grooves, independent slotted metal plates located in the grooves of said recesses and forming a space between the slotted plate and adjacent wall  
100 of the recess, movable leaves provided with cleats, means engaged with said connecting-cleats having heads projecting therefrom through the corresponding slotted plates whereby the leaves may be raised and lowered  
105 in said slotted plates, the slots in said plates provided with lateral extensions at the top and at the bottom thereof.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THADDEUS C. BEACH.

Witnesses:

N. S. WRIGHT,

M. M. STRUBLE.