

No. 749,320.

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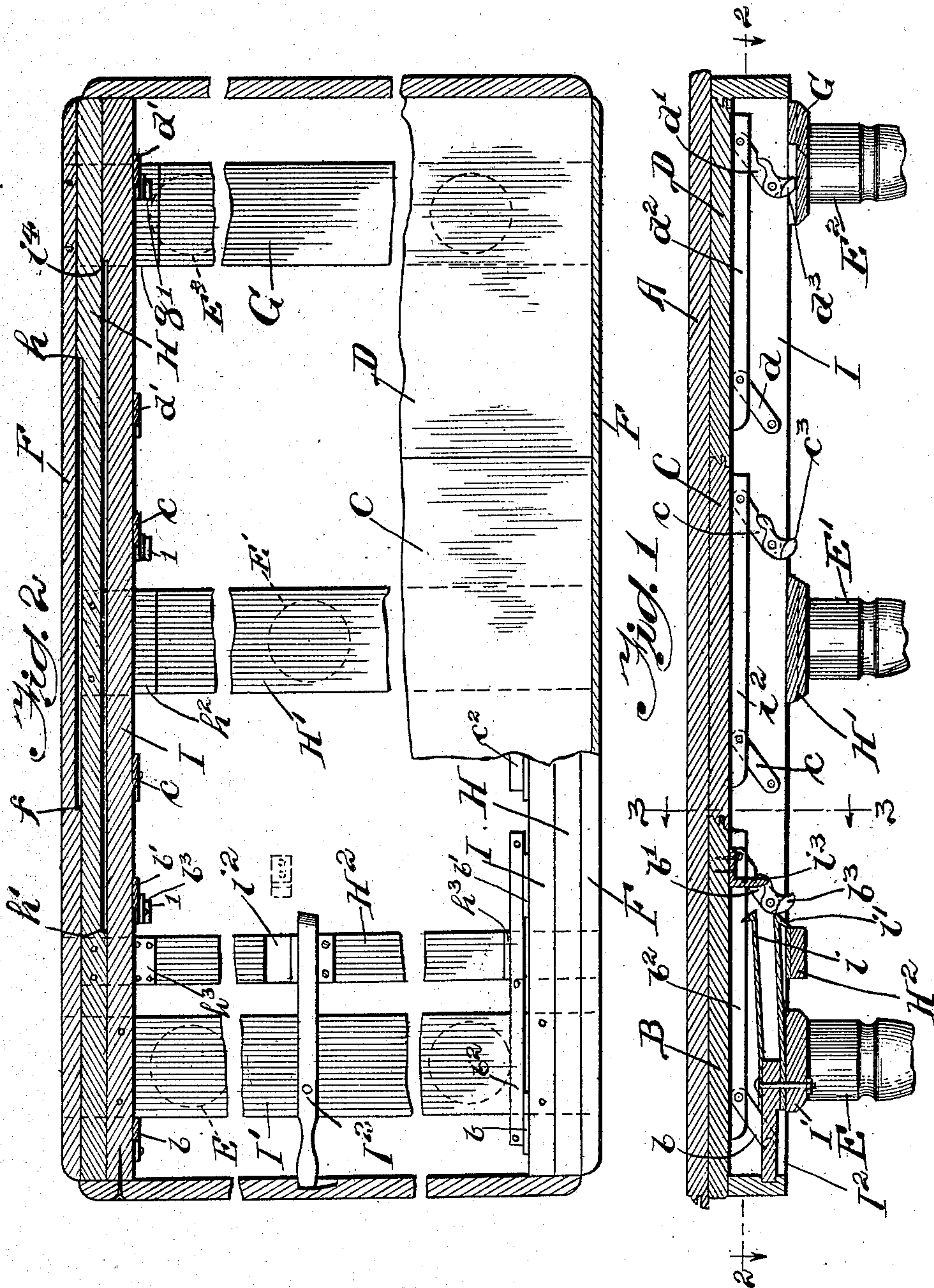
H. NONNAST & W. TESAR.

EXTENSION TABLE.

APPLICATION FILED JAN. 16, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



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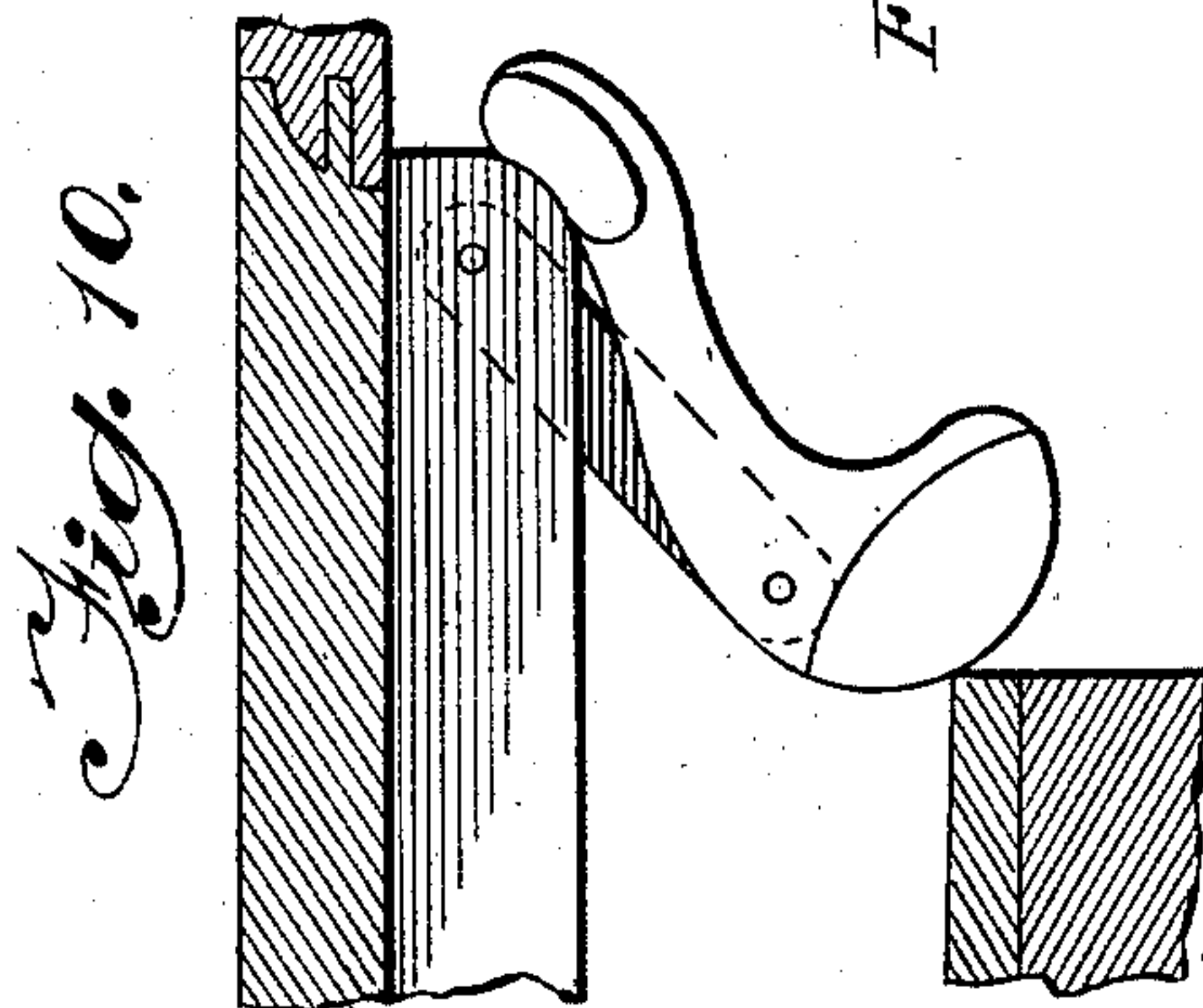
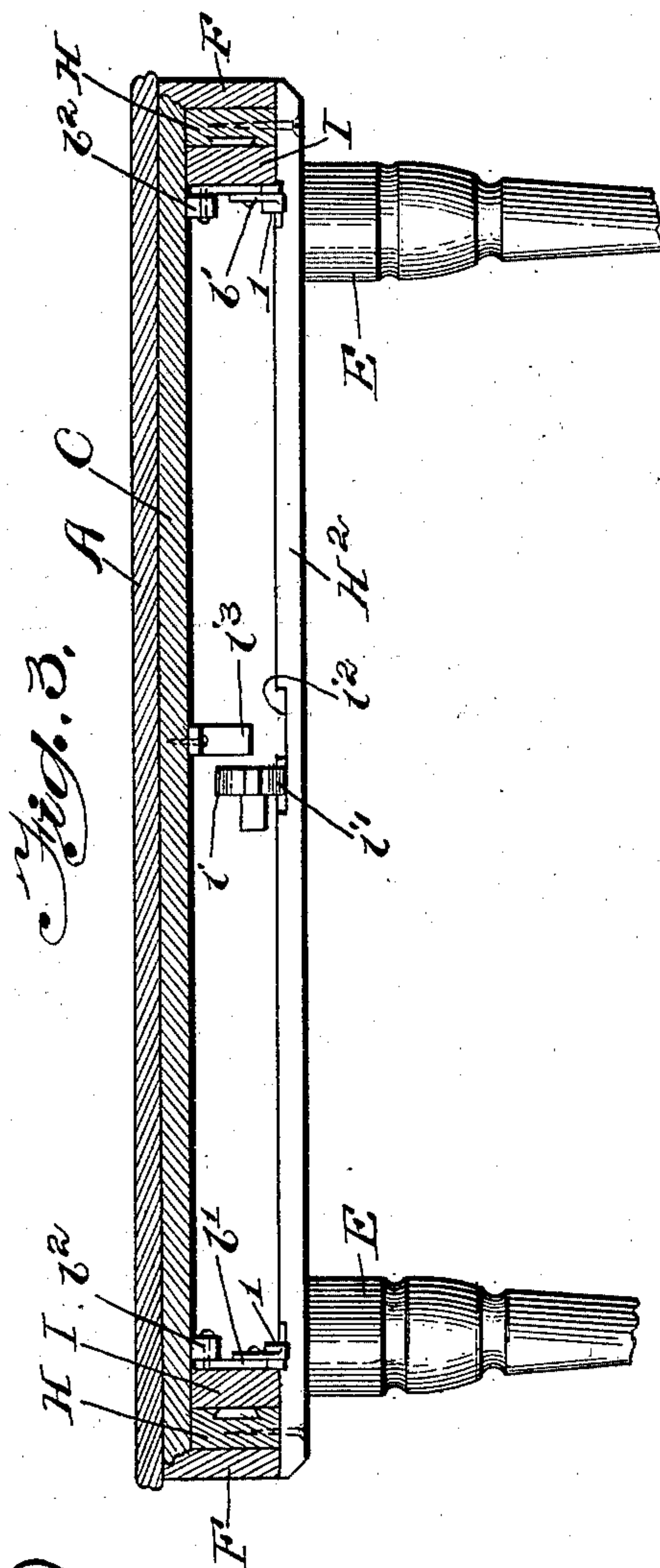
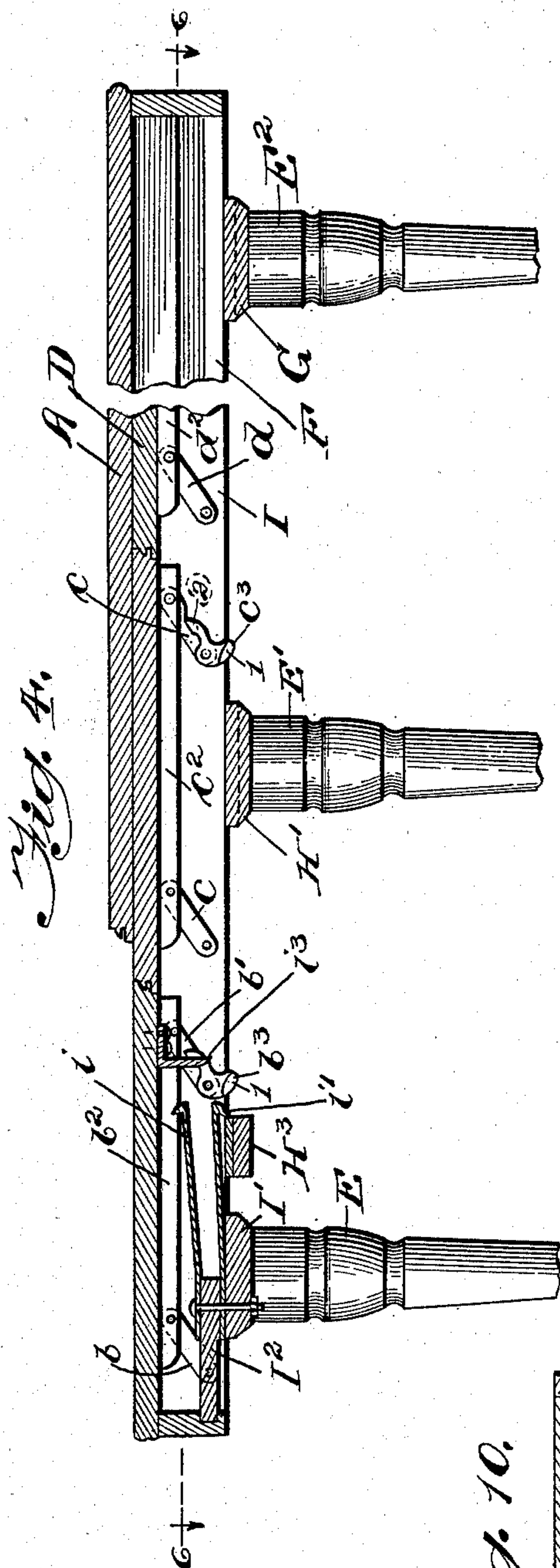
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NO MODEL.

3 SHEETS—SHEET 2.



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Fig. 10.

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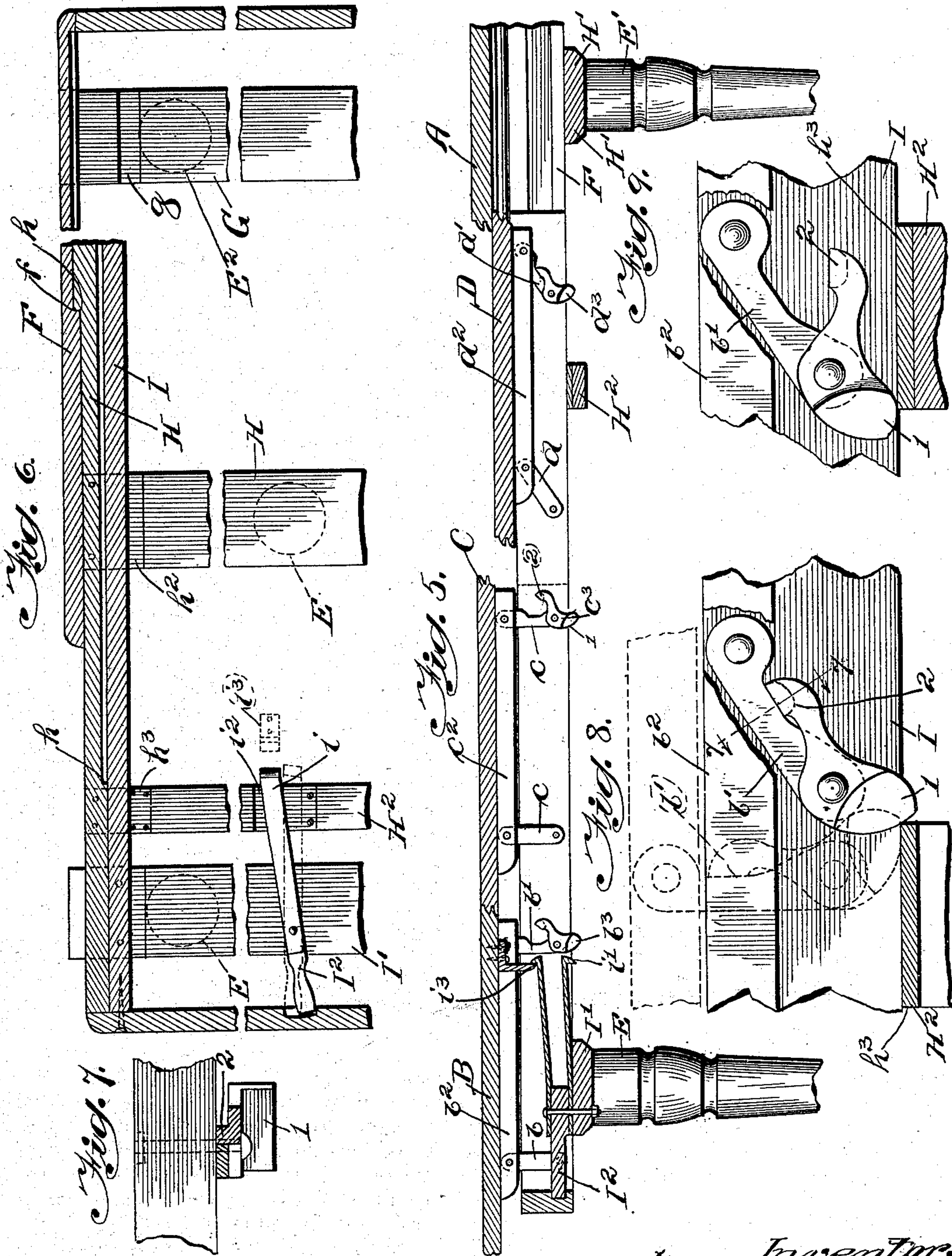
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UNITED STATES PATENT OFFICE.

HERMANN NONNAST AND WILHELM TESAR, OF CHICAGO, ILLINOIS.

EXTENSION-TABLE.

SPECIFICATION forming part of Letters Patent No. 749,320, dated January 12, 1904.

Application filed January 16, 1902. Serial No. 89,953. (No model.)

To all whom it may concern:

Be it known that we, HERMANN NONNAST and WILHELM TESAR, citizens of the United States, and residents of Chicago, Cook county, Illinois, have invented a certain new and useful Improvement in Extension-Tables, of which the following is a specification.

Our invention relates to a construction of table in which the leaves or movable sections of the table are held by and disposed within the main section of the table when the latter is closed or reduced into its smallest form and in which said leaves or movable sections are adapted and arranged to be brought into the plane of the main table-section as the leaves are drawn apart to form a table-top of larger area.

Generally stated, the object of our invention is to provide a simple, compact, and efficient construction of extension-table.

A special object of our invention is to provide a construction and arrangement adapted to permit the employment of any number of leaves or movable sections.

It is also an object of our invention to provide an arrangement whereby a table of this character may be made extensible to any desired extent from one end only.

A further object is to provide a construction which will permit any number of leaves or movable sections to be drawn out and automatically connected and to then be simultaneously adjusted into place relatively to the main or body section of the table.

In addition to these it is also an object of our invention to provide certain features of improvement whereby any one of a number of the said leaves or movable sections can be drawn out and adjusted into place independently of the remaining leaves or sections. We also provide certain details and features of improvement tending to increase the general efficiency and serviceability of a table of this description.

To the foregoing and other useful ends our invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through an extensible table embodying the principles of our

invention. Fig. 2 is a horizontal section on line 2 2 in Fig. 1. Fig. 3 is a vertical cross-section on line 3 3 of Fig. 1. Fig. 4 is a view similar to Fig. 1, but showing the table partially extended and showing the position of the parts at the moment when the first leaf or section is about to be automatically thrown up into the same plane as the main or body section of the table. Fig. 5 is a view similar to Fig. 4, but showing the table extended substantially to its full limit, the first and second leaves or movable sections being shown elevated to a position flush with the main or body section of the table and the third or remaining leaf or movable section being still down in the plane in which the leaves or movable sections occupy when closed and in their normal positions in the body of the table. Fig. 6 is a horizontal section on line 6 6 in Fig. 4. Fig. 7 is a detail section on line 7 7 of Fig. 8. Figs. 8 and 9 are enlarged detail views illustrating two positions of the dogs or devices which are employed for automatically and successively raising the leaves or table-sections into the same plane as the body-section of the table. Fig. 10 shows a modified form of the dog-and-link device shown in Figs. 8 and 9.

As thus illustrated, our invention consists of a table having a main or body section A and having also a plurality of leaves or movable sections B, C, and D. As shown in Figs. 1 and 2, the table is closed and reduced to its smallest form. In this condition the said leaves or movable sections are closed and advantageously disposed beneath the said main or body section A. The table-top thus constructed can, it will be readily understood, be supported in any suitable manner—as, for example, by the table-legs E, E', and E". Between these legs and the table-top are preferably interposed a plurality of relatively shifting or sliding members, which combine to form an extensible table-frame or body structure upon which are supported both the main and the movable sections of the table-top. For example, the main or body section A can be secured upon the parallel side beams F, which are rigidly connected by the cross-beam G. The table-legs E" are, it will be observed,

preferably secured to the under side of this cross-beam G, and in this way these legs, together with the main table-top section A and the beams F, form the stationary or body or non-extensible portion of the table. The parallel beams H, arranged one at each side of the table, are preferably located immediately inside of the side beams F. These beams H are preferably connected by cross-beam H', which is similar to the cross-beam G. The leg E' can be secured, if desired, to the under side of the middle portion of this cross-beam H'. Thus connected the two beams H constitute a sliding frame for carrying the intermediate table-leg E' and for co-operating with the leaves or movable sections and the balance of the structure in extending the area of the table-top. The relative formation of the beams F and the inner beams H is preferably such that only a limited amount of relative movement is possible. For example, the outer beams F can be provided with the shoulder f and the inner beams H can be provided with an opposing shoulder h , whereby when the table is extended or drawn out the two shoulders will meet and limit the outward sliding movement of the frame composed of the beams H and the cross-beams H'. The leaves or movable sections B, C, and D are preferably mounted upon and carried by an inner sliding frame composed of a third pair of side bars I I, arranged one at each side of the table and preferably rigidly connected by a cross-beam I'. The table-legs E can be secured to the under side of this cross-beam I'. In this way the frame intermediate of the table-top and the legs can be composed of three telescoping frames which are capable of relatively sliding movement when it is desired to increase the length of the table, and the inner one of which is preferably adapted to carry the leaves or movable table-top sections. The said leaves or movable table-top sections can be mounted on this inner sliding frame composed of the beams I I and cross-beam I' in any suitable manner—as, for example, each leaf or section can be mounted upon and supported by the pivoted or swinging arms or links $b\ b'$, $c\ c'$, $d\ d'$. As shown in Figs. 2 and 3, these links are preferably arranged flatwise against the inner surfaces of the two side beams I I and with their lower ends pivoted to these beams and their upper ends pivoted to cleats b^2 , c^2 , and d^2 on the under surfaces of the said leaves or movable sections. In their normal or closed condition said leaves or movable table-top sections rest firmly on the top or upper surface of the sliding frame composed of the beams I I, and in such condition the said links or arms incline toward the non-extensible end of the table. In this way it will be seen that a swinging movement on the part of these links or arms toward the extensible end of the table will operate to elevate or raise or lift the leaves or movable

table-top sections into the plane occupied by the main or body section A. The links or arms constituting the rear pair for each leaf or movable section are preferably provided with pivoted dogs b^3 , c^3 , and d^3 . These dogs, it will be observed, are mounted on the pins or bolts which form the lower pivotal connections between the links or arms and the side beams I. The sliding frame composed of the beams H is provided with a cross-beam H², arranged in position to engage the dogs b^3 when the table is extended, and in this way this cross-beam H² acts as a trip to engage the said dogs and thereby throw the first leaf or table-top section B up into the plane of the main body-section A. The cross-beam I' is preferably provided with a locking-lever I², which is provided at its rear end with upper and lower hooks or pawls $i\ i'$. Normally the hook or pawl i engages the beam H², so that initially the beams I and H slide outward locked together. When the beams I reach the limit of their outward movement, the locking-lever I² can then be turned, as shown in Fig. 6, so as to allow its lower pawl or hook i' to pass through the notch i^2 . The frame carrying the leaves or movable table-top sections can then be drawn out to the full extent of its outward adjustment. The under side of the leaf or movable table-top section B is also provided with a lug or projection i^3 , which is adapted to engage the upper hook or pawl i when the leaves or movable sections are all up and ready to be moved back into engagement with the main body table-top section A. The dogs b^3 , it will be observed, are constructed to bear upon the edges of the arms to which they are allotted, and in this way the said arms or links and the dogs with which they are associated are practically rigid when the forward movement of the sliding frames is resisted by the engagement of the dogs with the cross-beams H²; but it will be observed that when the sliding frames are moved back toward the non-extensible end of the table the dogs then yield or move relatively to the links or arms, so as to permit the leaves or movable sections of the table-top to be brought back into their closed or normal condition. Any suitable relative formation of the links or arms and the dogs with which they are associated can be employed. For example, each dog can be formed with an enlarged cam portion 1, adapted to make contact with the cross-bar or tripping member and also with a portion 2, adapted to bear against the rear edge of the arm or link. In this way each dog and its allotted or associated arm or link combine to form a lever, the fulcrum of which is the lower pivotal connection of the arm or link with the side beam I. However, the lever thus formed "breaks joint," so to speak, when the sliding frames are moved toward the non-extensible end of the table. If desired, the dog can be formed as shown in Fig. 10, where it will be seen

that the upper end of the dog bears upon the cleat on the under side of the leaf or table section rather than upon the rear edge of the link or arm. The principle, however, it will be seen, is substantially the same, the arrangement in either case involving a tripping device which automatically lifts or raises a table-leaf into position when the table is extended, but which yields when the sliding frame and leaves are moved back into the chamber or recess below the main portion of the table-top.

In operation the table in its reduced or smallest form is substantially as shown in Fig. 1. When it is desired to extend the table, the sliding frames are drawn outwardly, as shown in Figs. 4 and 6, and if only one additional leaf or table-top section is desired the outward movement is only sufficient to cause the dogs b^3 to strike the cross-bar H^2 and raise the leaf or section B into the plane of the main or body section. The movable parts are then adjusted toward the non-extensible end of the table to an extent to bring the edge of section B into engagement with section A, and the area of the table-top is in this way increased by the addition of a single leaf or section. Should it be desired, however, to increase the area of the table to a greater extent, the sliding frames can be drawn farther out, so as to cause the dogs c^3 to strike the cross-beam H^2 , thereby raising or lifting the section C into position to have its rear edge moved into engagement with the forward edge of section A. A further enlargement of the table area can be obtained by drawing the sliding or telescoping frames out to the full extent of their adjustment, so as to successively bring all of the dogs into engagement with the bar H^2 , by which they are tripped, and so as to raise or lift all of the leaves or movable table-sections into the plane of the section A. This is shown substantially in Fig. 5, wherein it will be seen that the dogs d^3 are about to strike the cross-bar H^2 , so as to bring the remaining section D into position with the first and second sections. When this is done, the entire structure, composed of the sliding frames and leaves, can be moved back, so as to cause the edge of the section D to engage the edge of the section A, thereby permitting the main section and the leaves or movable sections to present smooth and even table-surfaces. It will be observed that in pushing back the leaves or sections into engagement with the main section A the leaves or sections are held in their elevated position by reason of the lug i^3 engaging the hook i . When the table is to be collapsed or closed, the locking-lever I^2 is turned back into the position shown in Fig. 2, so as to allow the lug or projection i^3 to pass the hook or pawl i . The movement of the inner sliding frame relatively to the outer sliding frame is limited by the provision of

the shoulders h' and i^4 , which are similar to the opposing shoulders f and h . The bars H' and G are preferably provided with grooves or channels h^2 and g , which permit the dogs c^3 and d^3 to pass freely in either direction. It will also be observed that the bar H^2 is preferably provided with plates h^3 , which make contact with and receive the thrust of the dogs. In drawing out or extending the leaves of the table the pawl or hook i is primarily in engagement with the bar H^2 , so as to permit the inner sliding frame to draw the outer frame with it to an extent to cause the shoulders h to engage the shoulders f . As stated, the locking-lever I^2 is then swung so as to permit the pawl or hook i' to release the bar H^2 , and thereby permit the inner sliding frame to continue its outward movement with the balance of the table structure.

Thus it will be seen that, broadly considered, our invention contemplates a plurality of leaves or table-top sections connected and arranged to follow each other and be successively adjusted into position to increase the area of the table-top surface.

With further respect to the lifting devices for causing the leaves to follow each other and successively rise into the plane of the table-top, it will be seen that these devices—that is to say, the links or dogs, the latter being in the nature of pivoted levers—are of such character as to operatively engage the tripping member A^2 when the leaves are pulled out from beneath the table-top and to then inoperatively engage this tripping member when the leaves are pushed back beneath the table-top. In other words, these dogs or pivoted levers are operatively engaged by the tripping member when the leaves are pulled from beneath the table-top, but, on the other hand, remain inert and slide readily over this tripping member when the leaves are pushed back into their normal position beneath the table-top. Furthermore, it will be observed that the lever I^2 is adapted to not only lock the leaves in their position beneath the table-top, but is adapted also to lock the first leaf B in its elevated position when pulled from beneath the table-top.

What we claim as our invention is—

1. In an extensible table, the combination of a main table-top section, a plurality of leaves or movable table-top sections, a plurality of movable members, a locking device for locking said members against relative movement when the leaves are all beneath the table-top, and also adapted to lock the first of said leaves in its elevated position, upwardly and forwardly swinging connections intermediate of said leaves or movable table-top sections and one of said relatively movable members, and a tripping member and a plurality of dogs constructed and arranged to co-operate in causing said leaves or movable table-top sections to follow each other and successively

swing forward into the plane of said main table-top section.

2. In an extension-table, the combination of a main table-top section, an extension-leaf provided with a projection, a sliding frame, a locking-lever mounted on said frame and adapted to engage said projection, a tripping member, and a plurality of dogs and links for lifting said leaf.

3. In an extension-table, the combination of a main table-top section, a plurality of leaves or movable table-top sections adapted to be concealed beneath said main table-top section, relatively movable or sliding members, links connecting said leaves or movable sections with the inner of said relatively movable or sliding members, pivoted dogs associated with certain of said links and capable of movement relatively to the latter, a lug projecting downwardly from the under side of one of said leaves or movable table-top sections, a pivoted locking-lever carried by one of said relatively movable or sliding members, said locking-lever being adapted to engage said lug, a tripping member adapted also to be engaged by said locking-lever, so as to prevent relative movement between said relatively movable or sliding members, said tripping member being adapted and arranged to engage said dogs for the purpose of causing said leaves or movable table-top sections to follow each other and successively rise into the plane of said main table-top section.

4. In an extension-table, the combination of a main frame supporting a main table-top section, a plurality of frames telescoped within said main frame, a plurality of leaves or movable table-top sections having shifting connections with the inner of said telescoping frames, a locking device for preventing relative movement between said telescoping frames, said locking device being also adapted to prevent relative movement between one of said leaves or movable table-top sections and the inner of said telescoping frames, a plurality of dogs associated with the swinging connections between said leaves or movable table-top sections and the inner telescoping frame, and a tripping member adapted and arranged to engage and actuate said dogs for the purpose of causing said leaves or movable table-top sections to follow each other and successively rise into the plane of the said main table-top section.

5. In an extension-table, the combination of a main table-top section, a plurality of movable leaves adapted to be normally concealed beneath the said table-top, means for causing said leaves to follow each other and be successively raised into the plane of the table-top, when the leaves are pulled out from beneath the latter, and a locking device adapted to lock the leaves in their position beneath the table-top, and adapted also to lock the first

leaf in its elevated position when the same is pulled out from beneath the table-top.

6. In an extension-table, the combination of a main table-top section, a plurality of movable leaves, a pair of telescoping frames adapted to be drawn out from under the main table-top section, links connecting the leaves with the inner of said telescoping frames, a tripping-bar rigid with the outer of said frames, pivoted dogs associated with certain of said links and adapted to operatively engage said bar when the leaves are pulled from beneath the table, said dogs being adapted to inoperatively engage said bar when the leaves are pushed back beneath the main table-top section, and a pivoted lever adapted to lock the leaves in their normal position beneath the main table-top section, and adapted also to lock the first leaf in its elevated position.

7. An extension-table comprising a main table-top section, a pair of telescoping frames capable of relative sliding movement, a plurality of leaves or movable table-top sections connected by links to the inner of said sliding frames, and a plurality of dogs and a tripping member adapted and arranged to cooperate in successively raising or lifting said leaves into the plane of said main table-top section, said frames when pulled apart causing the said movable table-top sections to follow each other and successively rise into the plane of the said main table-top section, and said dogs being adapted to be operatively engaged by said tripping member when the leaves are pulled apart, and to inoperatively engage said member when the leaves are pushed under the table-top.

8. In an extension-table, the combination of a table-top, a plurality of leaves normally concealed beneath said table-top, lifting devices for causing said leaves to follow each other and to rise successively into the plane of the table-top when the same are pulled out from beneath the latter, said lifting device remaining inert or inoperative when the leaves are pushed back beneath the table-top, and a locking device adapted to lock the leaves in their position beneath the table-top, and adapted also to lock the first of said leaves in its elevated position when pulled from beneath the table-top.

9. In an extension-table, the combination of a main table-top section, a sliding member, a plurality of movable table-top sections, a plurality of links connecting the under side of each movable table-top section with the said sliding member, the said movable sections being adapted to be normally concealed beneath the main table-top section, a plurality of short levers associated with said movable table-top sections, a tripping member adapted to be successively engaged by said levers, said levers when engaged by the tripping member causing the said movable table-top sections to fol-

low each other and rise successively into the plane of said main table-top section, the said levers being adapted to slide readily and inoperatively over the said tripping member when the sliding member and the movable table-top sections are moved back below the main table-top section.

10. An extension-table comprising a main table-top section, a plurality of leaves or movable table-top sections normally concealed beneath said main table-top section, a pair of telescoping or sliding frames, table-legs rigidly connected with the inner sliding frame, an intermediate table-leg rigidly connected with the outer of said sliding frames, a plurality of links for connecting each movable table-top section with the inner of said frames, a plurality of short lever-like members each associated with one of said links, and a tripping member whereby an outward movement on the part of said frames causes said leaves or movable table-top sections to be successively lifted in the plane of said main table-top section, said lever-like members being successively engaged and operated by said tripping member as the leaves are pulled out, but each lever-like member being adapted to remain inert while the leaves are being folded or pushed under the table-top, the said frames serving as medium of connection between the said legs and table-top sections.

11. In an extensible table, the combination of a main table-top section, a plurality of leaves or movable table-top sections, a sliding frame, links connecting said leaves with said sliding frame, pivoted dogs associated with certain of said links and capable of movement relatively to the latter, and a tripping member for successively engaging said dogs, so as to successively lift said leaves or movable table-top sections, said dogs being adapted to inoperatively engage and pass the said tripping member when the leaves are pushed back beneath the table-top.

12. In an extension-table, the combination of a main table-top section, a plurality of leaves or movable table-top sections normally concealed beneath said table-top section, relatively adjustable legs, and a plurality of relatively adjustable members arranged intermediate of said legs and table-top sections, said leaves or movable table-top sections following each other and successively moving into position to extend the area of the table-top when said relatively adjustable members are pulled apart, and a locking device for locking and

holding the first of said leaves in its elevated position.

13. In an extensible table, the combination of a main table-top section, a plurality of leaves or movable table-top sections normally concealed beneath said main table-top section, and a tripping member and a plurality of articulated levers for causing said leaves or movable table-top sections to follow each other and successively rise into the plane of said main table-top section, and a tripping member arranged to successively engage said levers when the leaves are unfolded or pulled out from beneath the table-top, said levers being adapted to inoperatively engage said tripping member when the leaves are pushed back beneath the table-top.

14. In an extensible table, the combination of an extension-leaf, a sliding frame, a link connecting the leaf with said sliding frame, a pivoted dog associated with said link and capable of movement relative to the latter, and a tripping member for engaging and actuating said dog when the leaf is pulled out from beneath the table-top, said dog being adapted to remain inert and slide readily over said tripping member when the leaf is pushed back beneath the table-top.

15. In an extension-table, the combination of a main table-top section, a pair of telescoping frames or relatively sliding members, a plurality of leaves or movable table-top sections adapted and arranged to follow each other and successively rise into the plane of said main table-top section, said frames being arranged beneath the said table-top sections, a plurality of dogs, and a tripping member adapted to engage said dogs and thereby cause the said successive movements of the leaves or movable table-top sections into position when the said frames are pulled apart, said movable table-top sections being connected by a number of links with the inner of said telescoping frames, each dog being associated with one of said links, the said dogs being pivoted and adapted to hang inert and slide readily over said tripping member when the leaves are pushed under the table-top.

Signed by us at Chicago, Cook county, Illinois, this 11th day of January, 1902.

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