

No. 695,992.

Patented Mar. 25, 1902.

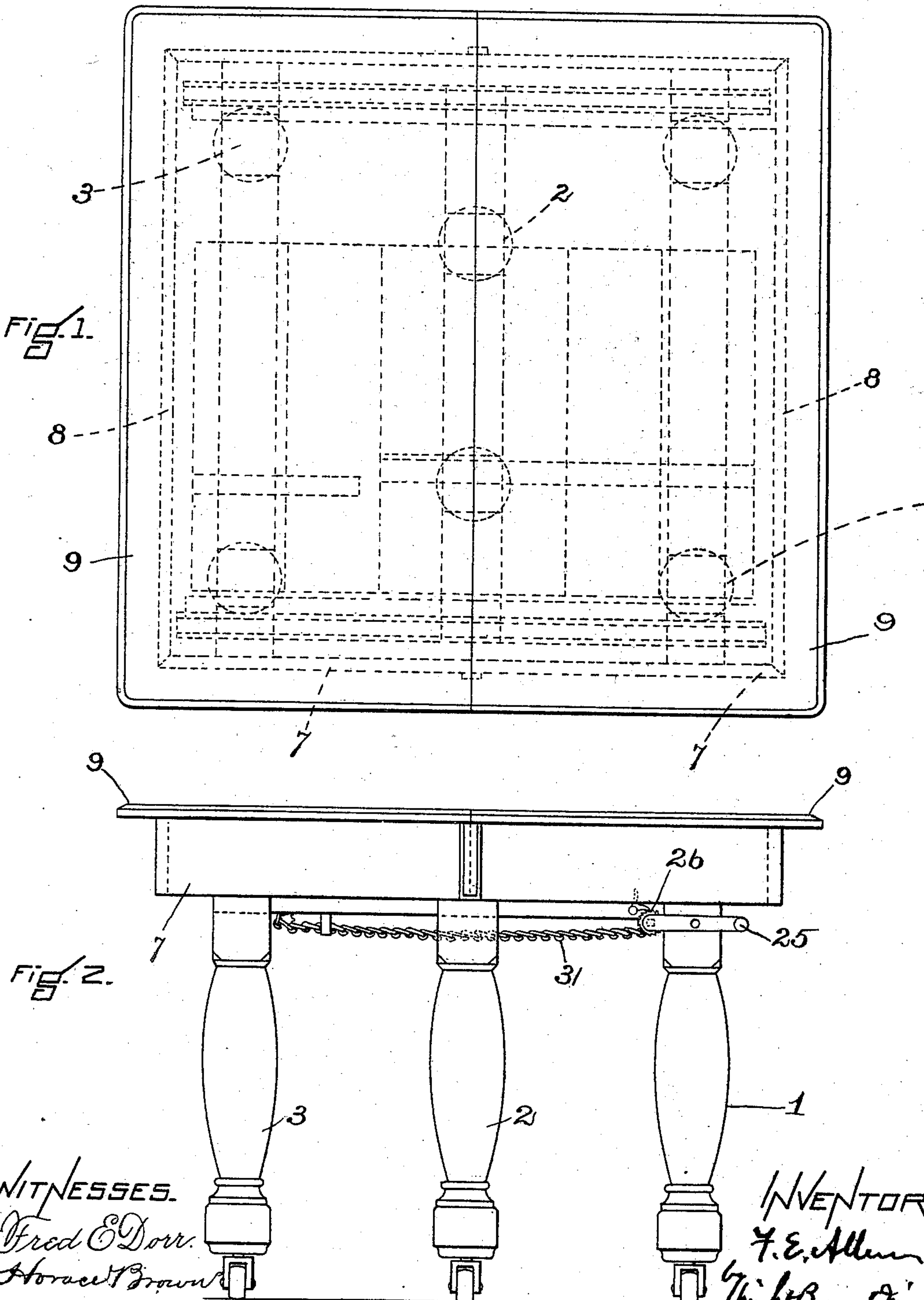
F. E. ALLEN.

SELF CONTAINED EXTENSION TABLE.

(Application filed Nov. 5, 1900.)

(No Model.)

6 Sheets—Sheet 1.



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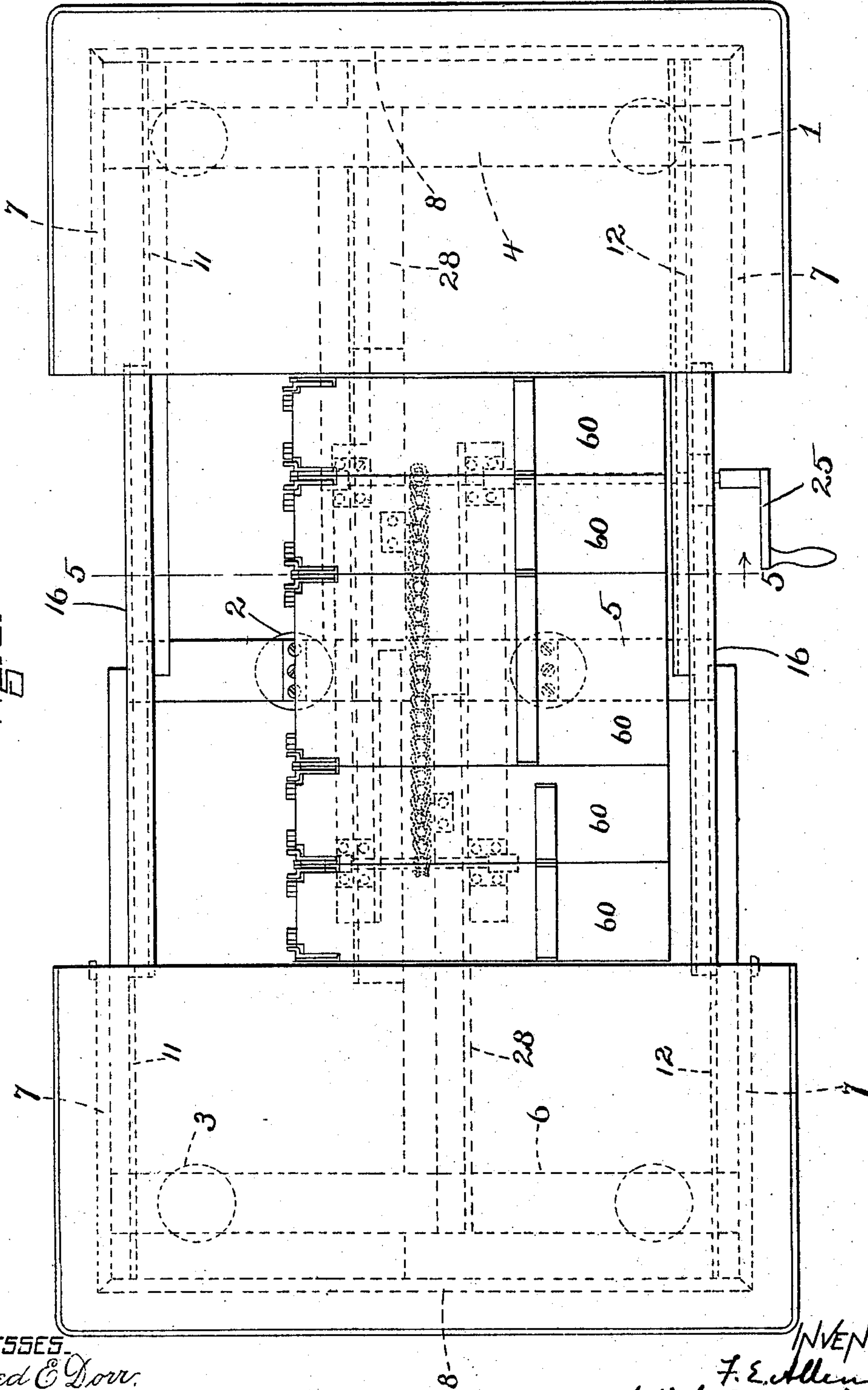
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6 Sheets—Sheet 2.

FIG. 3.



WITNESSES.
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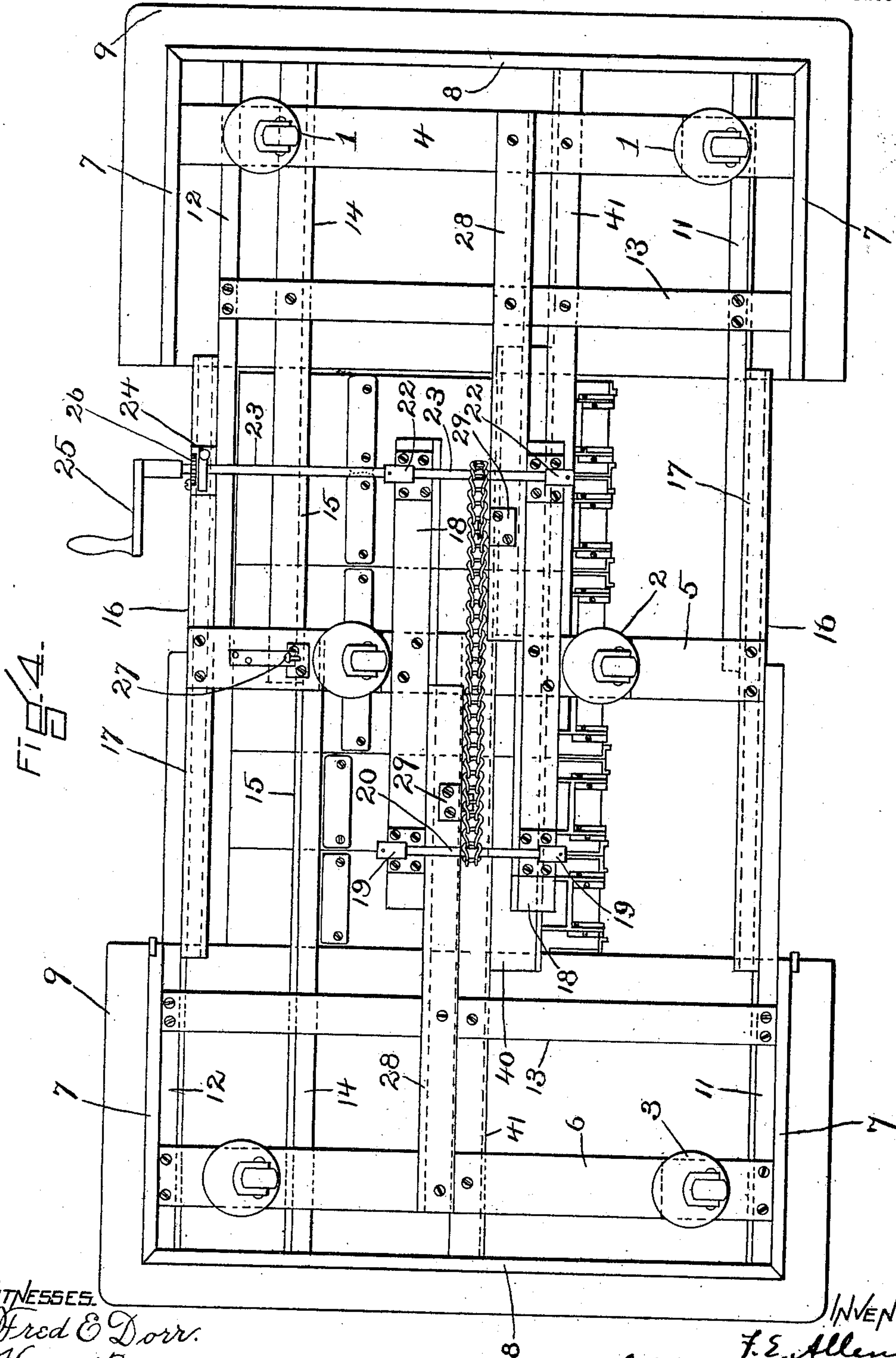
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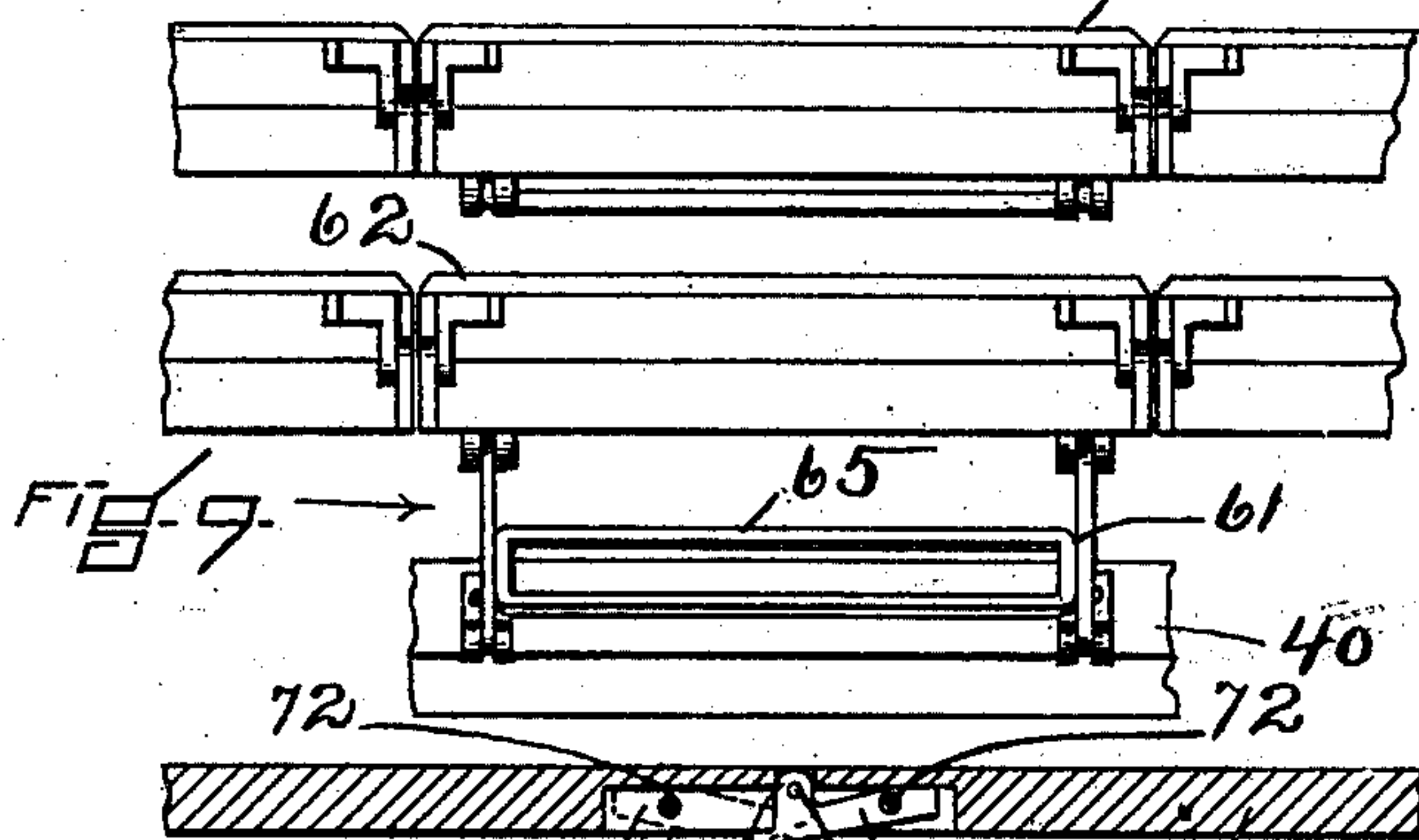
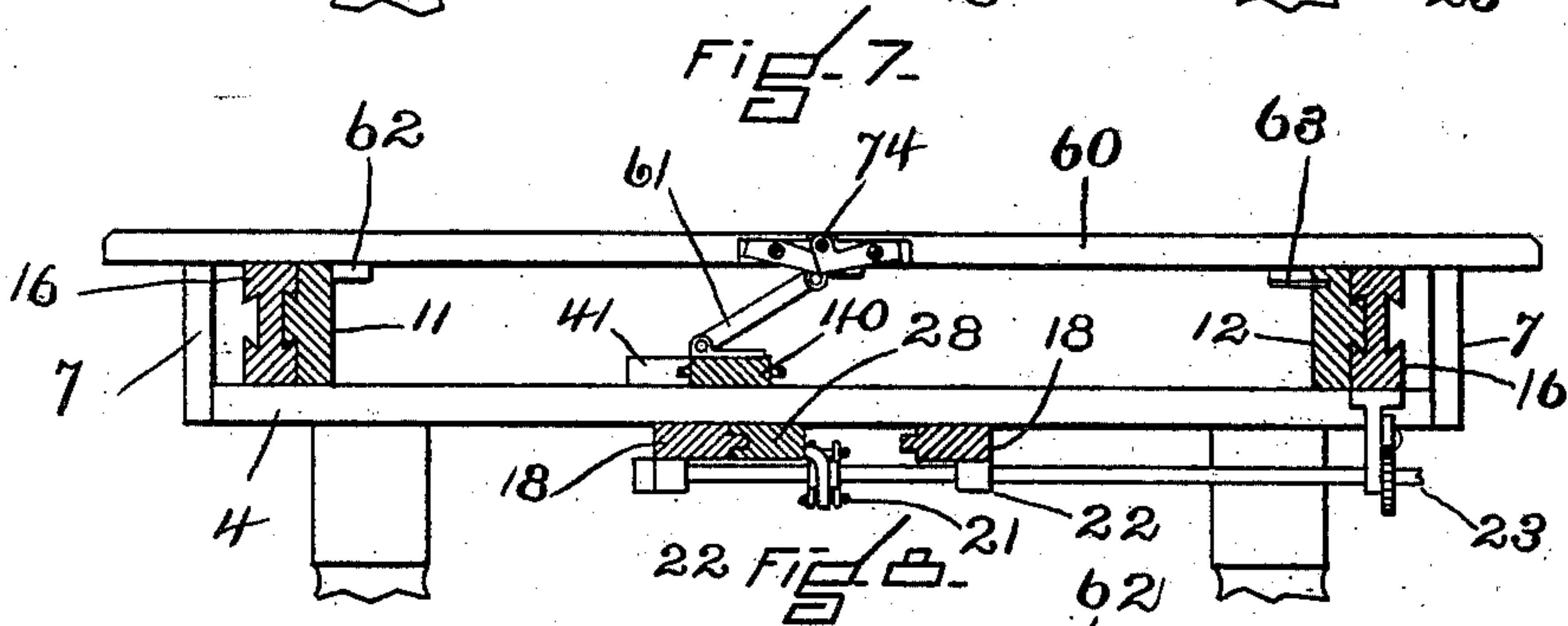
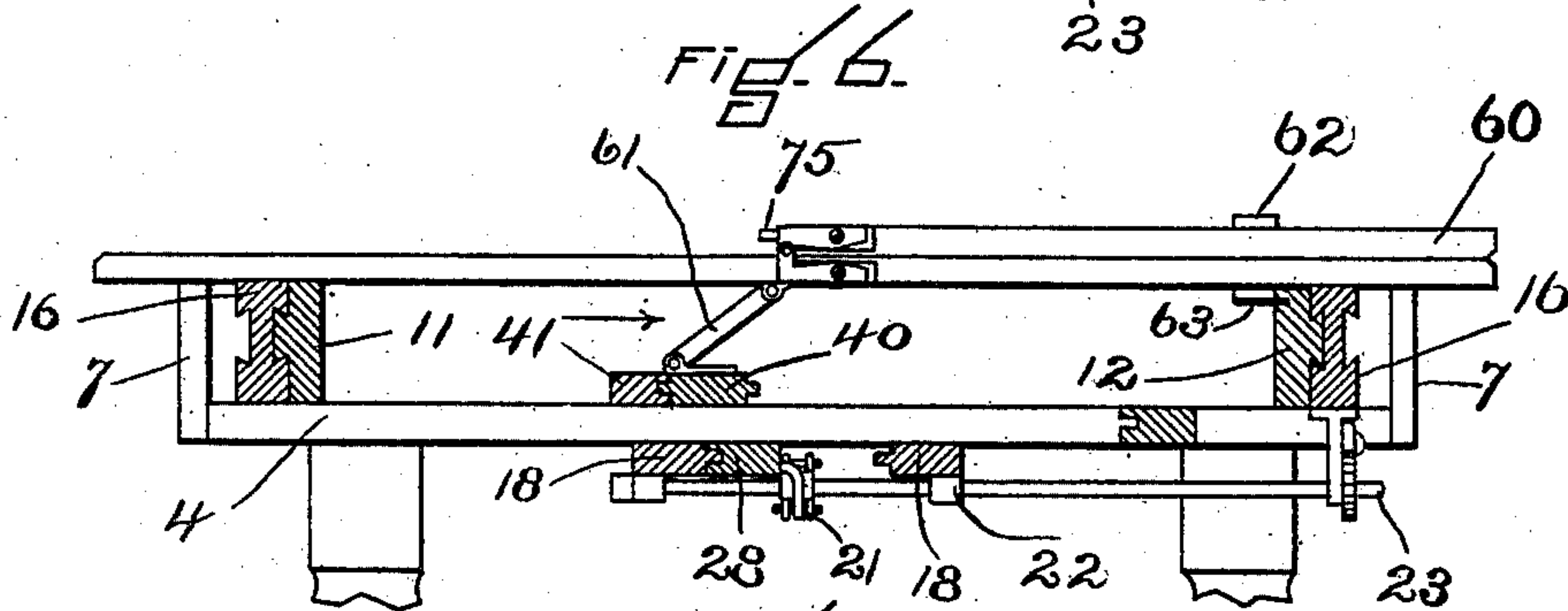
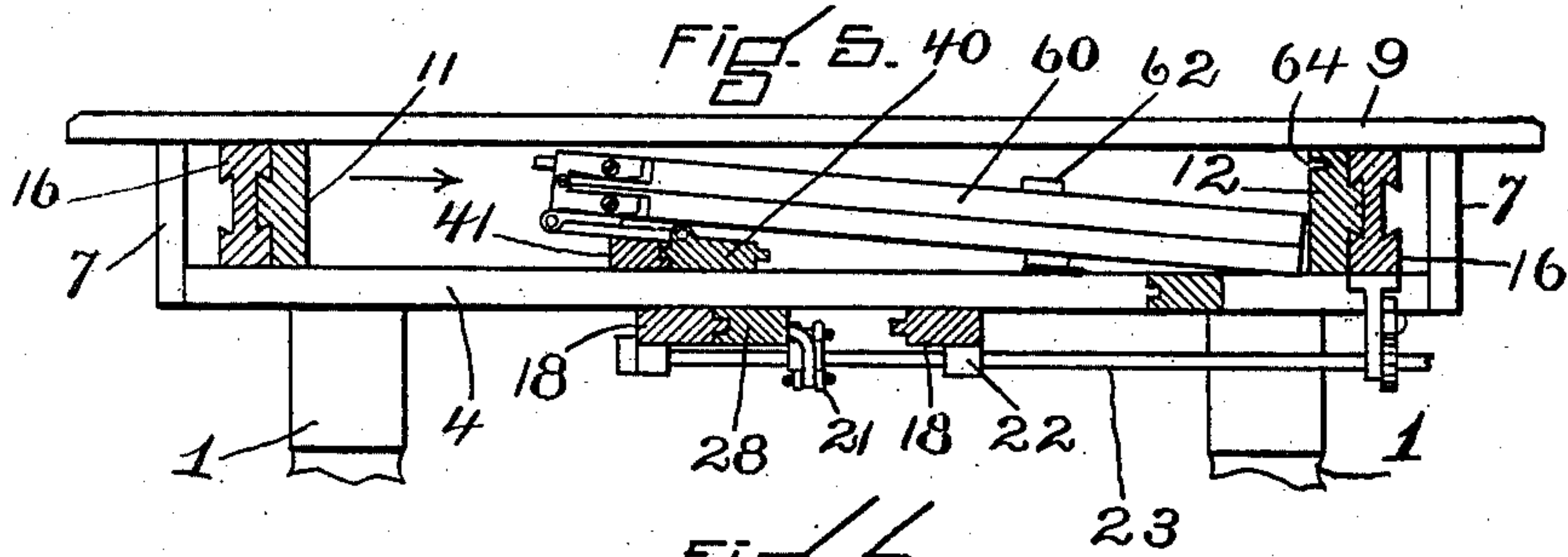
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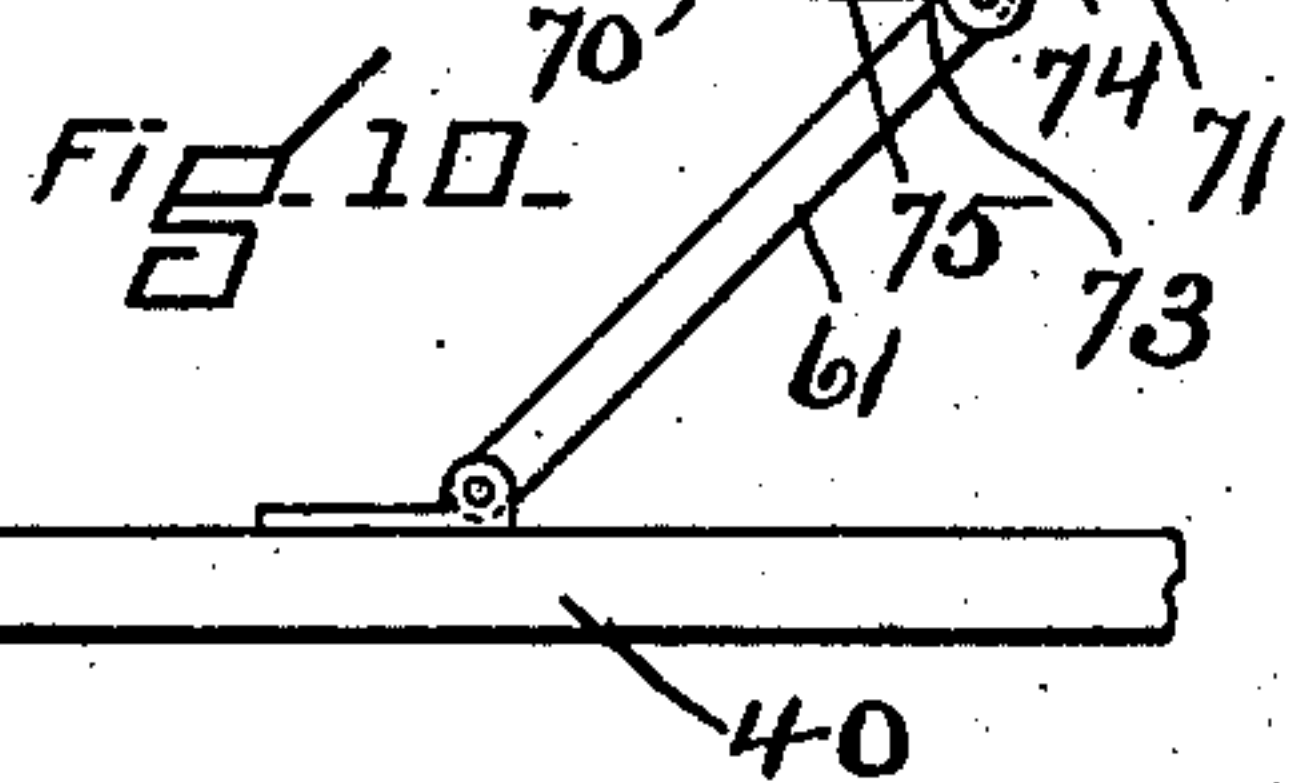
(Application filed Nov. 5, 1900.)

(No Model.)

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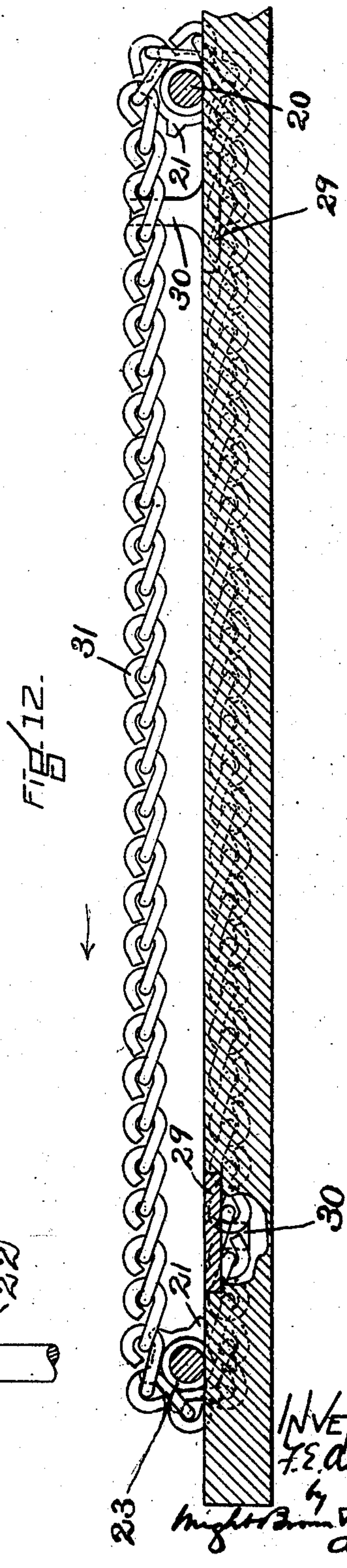
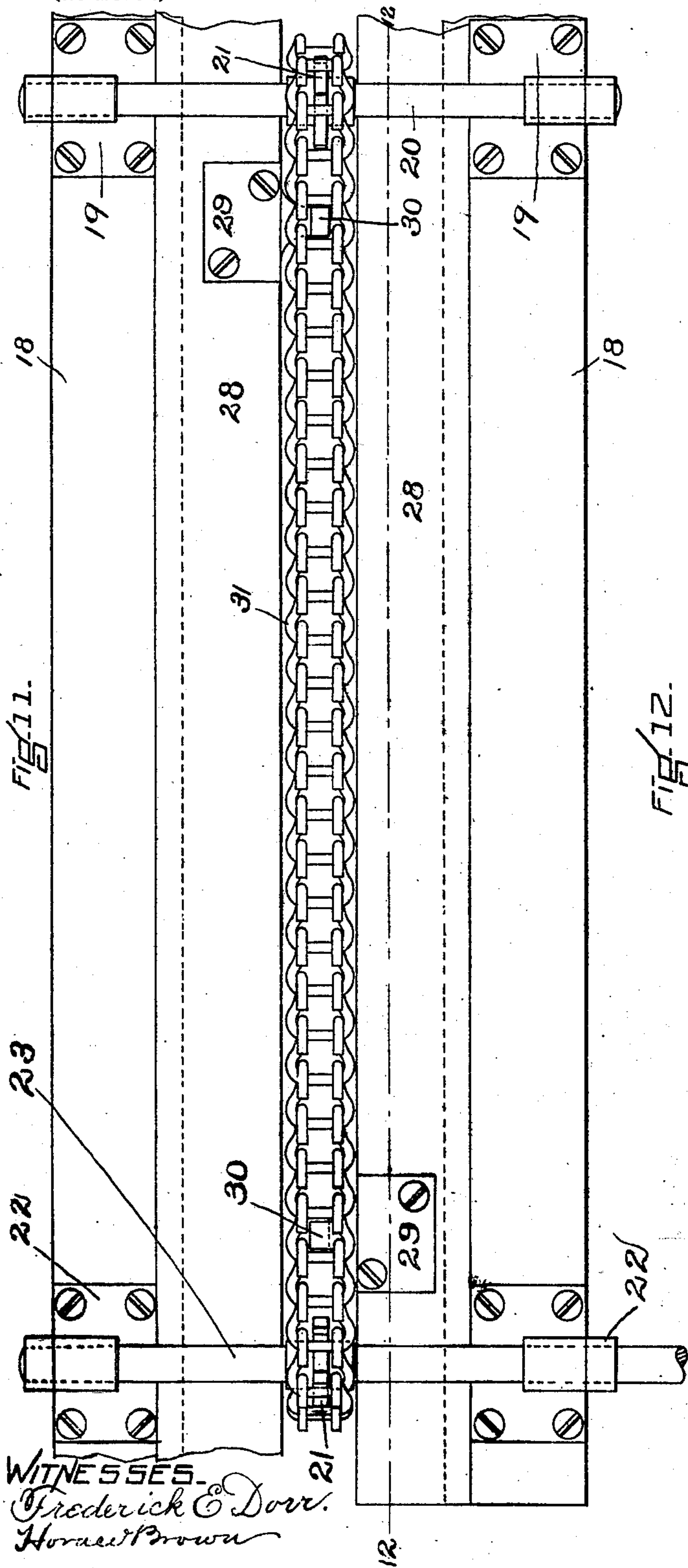
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(Application filed Nov. 5, 1900.)

(No Model.)

6 Sheets—Sheet 5.



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FIG. 13.

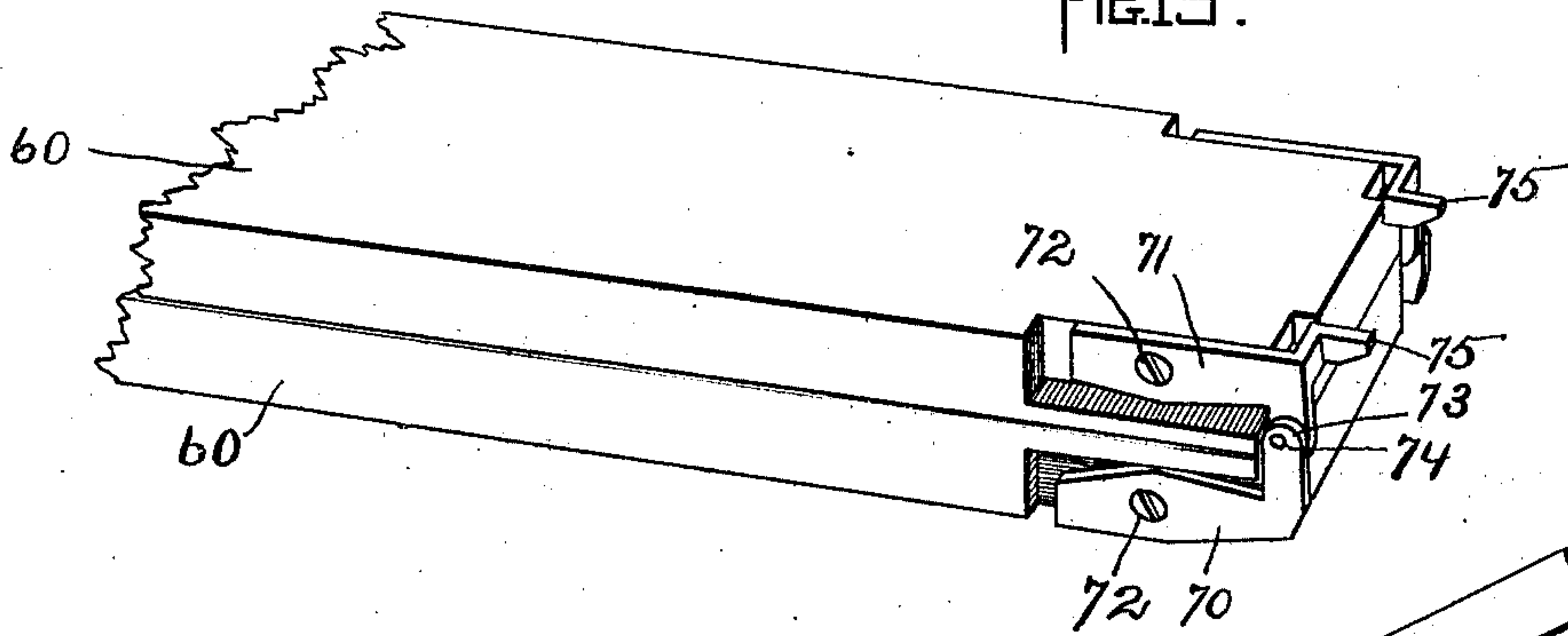


FIG. 14.

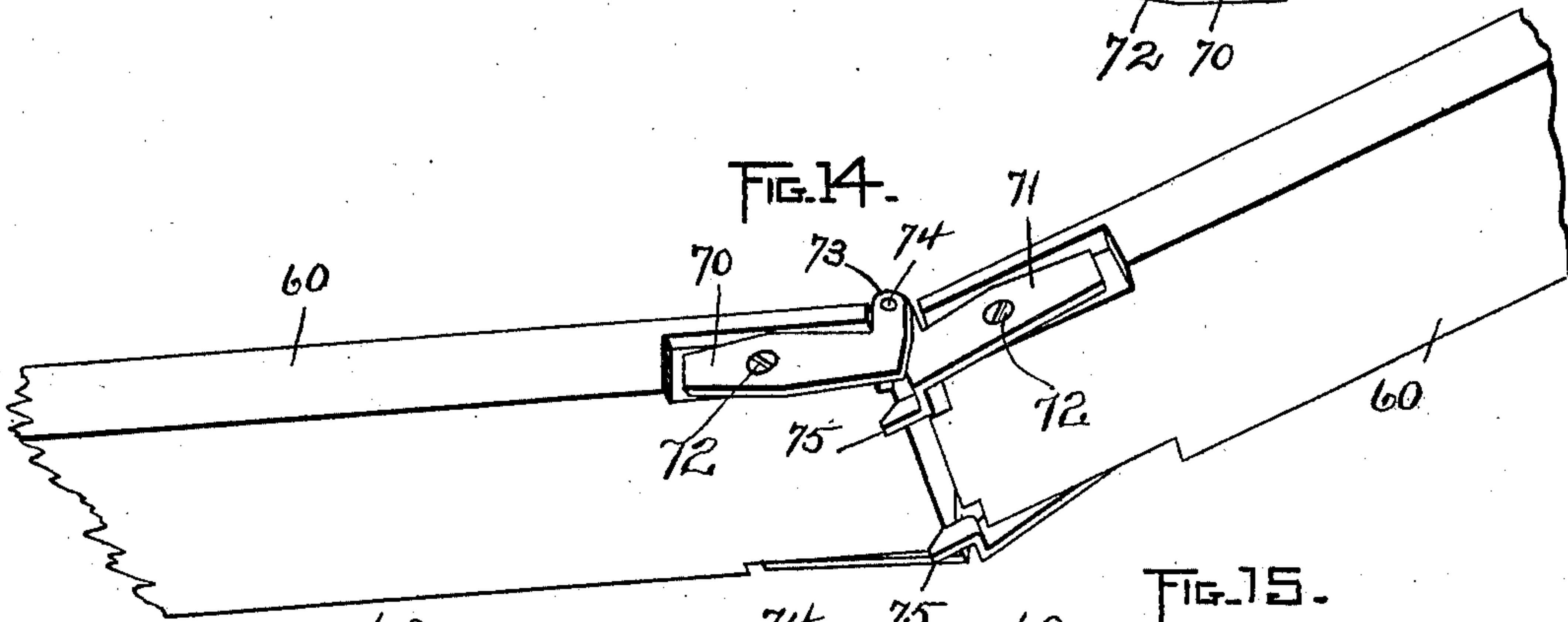


FIG. 15.

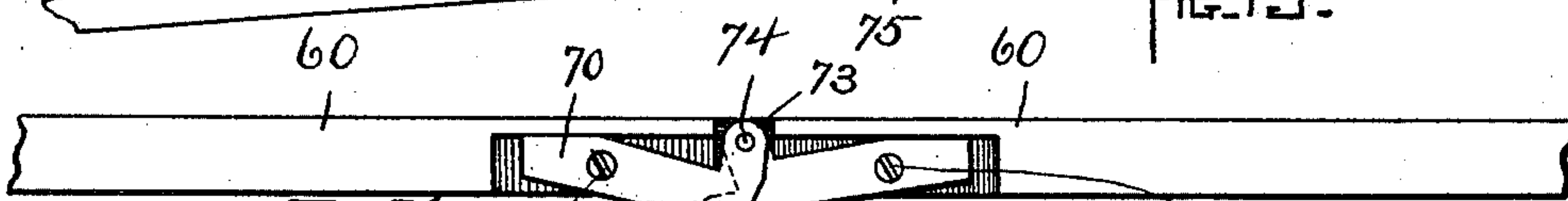
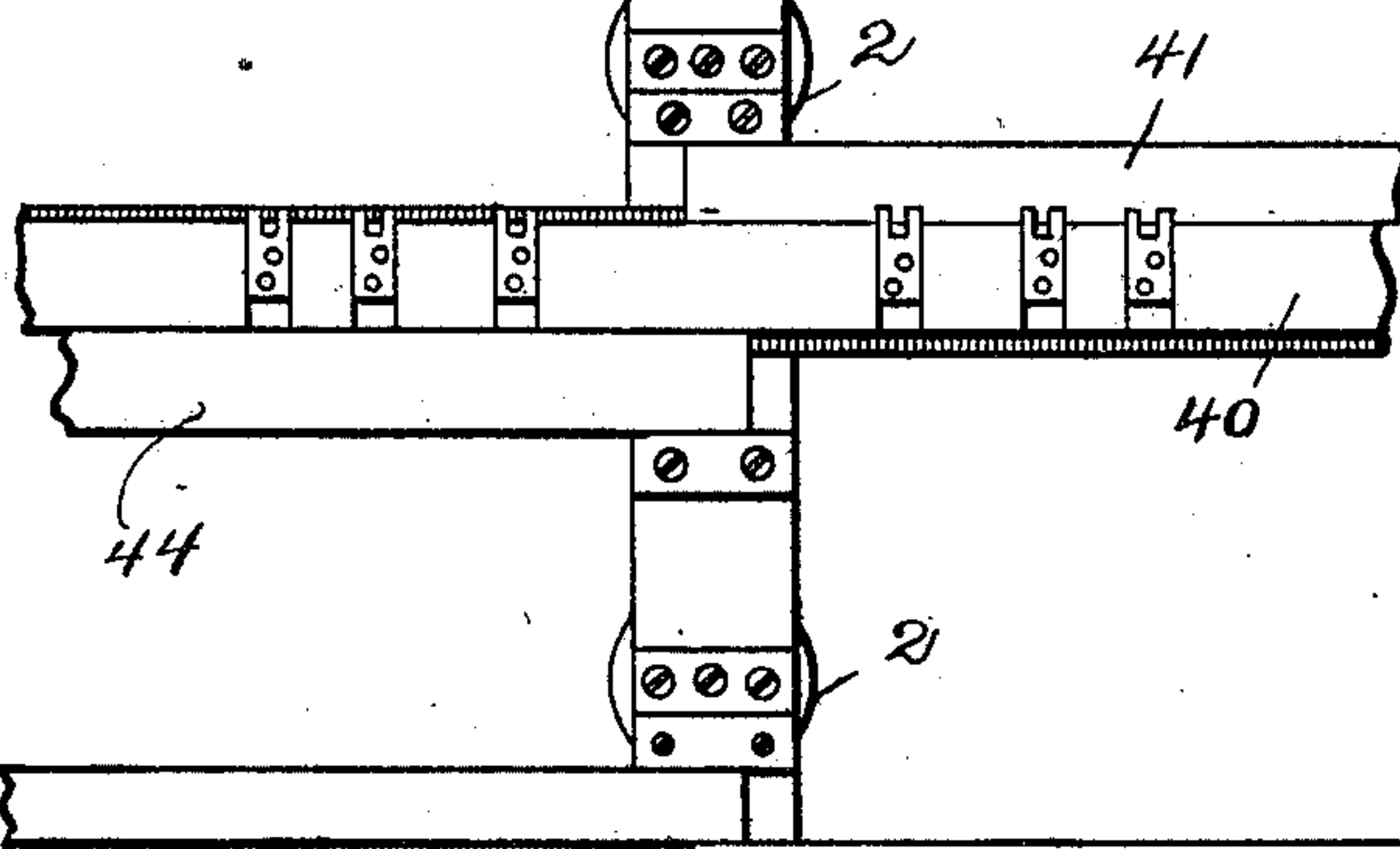
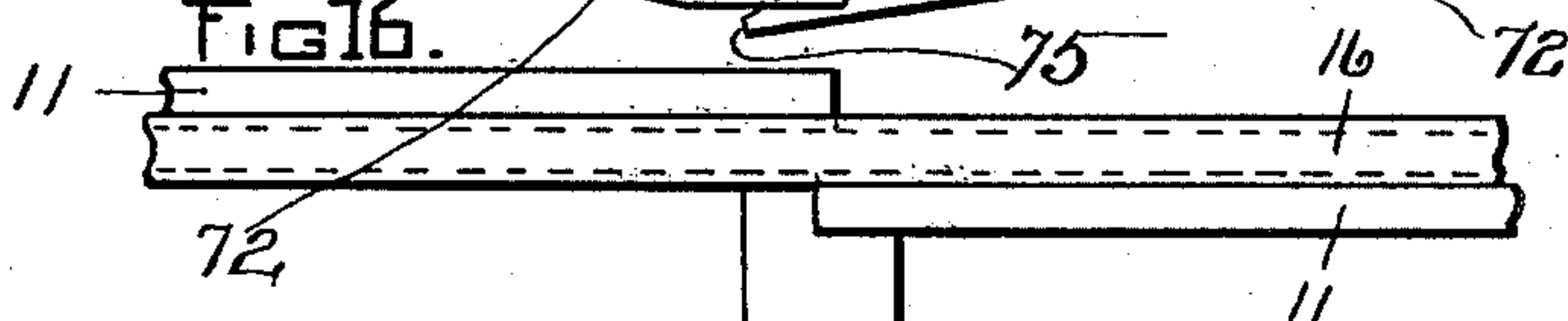


FIG. 16.



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UNITED STATES PATENT OFFICE.

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SELF-CONTAINED EXTENSION-TABLE.

SPECIFICATION forming part of Letters Patent No. 695,992, dated March 25, 1902.

Application filed November 5, 1900. Serial No. 35,434. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. ALLEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Self-Contained Extension-Tables, of which the following is a specification.

This invention relates to a new and improved self-contained extension-table; and it consists in the novel features of construction and relative arrangement of parts hereinafter fully described in the specification, clearly illustrated in the drawings, and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this application, in which like characters indicate like parts in all of the figures.

Figure 1 represents a top plan view of a table constructed in accordance with my invention, showing the said table in its contracted position with the extra leaves underneath the surface of the table. Fig. 2 is an end elevation of the table in the position in which it appears in Fig. 1. Fig. 3 is a top plan view of the table extended, showing the extra leaves nested and folded ready to be unfolded and inserted in place. Fig. 4 is an inverted bottom plan view of the table as shown in Fig. 3. Fig. 5 is a cross-sectional view on the line 5 5 of Fig. 3, showing one pair of leaves folded and stored beneath the top of the table. Fig. 6 is a like view showing the first position taken by the leaves in unfolding them. Fig. 7 shows a pair of leaves unfolded and placed in position for use. Fig. 8 represents an end view of the leaves and their hinges looking in the direction of the arrow in Fig. 5. Fig. 9 is a view of the hinges and strut looking in the direction of the arrow in Fig. 6. Fig. 10 is a side elevation of the hinges and strut looking in the direction of the arrow in Fig. 9. Fig. 11 is a bottom plan view of the chain and mechanism for contracting and extending the table. Fig. 12 is a cross-sectional view on the line 12 12 of Fig. 11. Fig. 13 is an enlarged perspective view of one of the leaves folded and its hinges. Fig. 14 is a perspective view of the same opened. Fig. 15 shows in side elevation the

leaves unfolded and the hinge depressed below the surface of the table. Fig. 16 is a top plan view of the central part of the framework.

The table is provided with three sets of legs 1 2 3. The legs 1 are secured to a cross-piece 4, the legs 2 to a cross-piece 5, and the legs 3 to a cross-piece 6.

7 7 represents side pieces secured to the cross-piece 4, and 8 represents an end piece joining the outer ends of the two side pieces 7. The cross-piece 6 is also provided with side pieces 7, that are joined together by the end piece 8.

9 9 represent permanent leaves or tops secured in any desired way at each end of the table upon the pieces 7 and 8.

As one end of the table is a duplicate of the other, a description of the parts of one will suffice for both, the table in effect comprising two duplicate ends and a central portion carrying the operating mechanism, the central portion being carried by the legs of the cross-piece 5.

11 11 represent guide-pieces, one secured to the cross-piece 4, the other secured to the cross-piece 6 and extending out beyond the leaves 9 toward each other.

12 represents similar guide-pieces on the opposite side of the table.

13 represents cross-pieces at each end of the table connected to the guide-pieces 11 and 12.

The guide-pieces 11 and 12 are adapted for engagement with the complementary part of the guide-piece in the central part of the table, hereinafter described.

14 represents guide-pieces connected to the cross-piece 13 on each end of the table and to other parts of the end of the table to secure rigidity. The guide-pieces 14 are longer than the guide-pieces 11, and they are arranged to have a tongue-and-groove engagement 15 15 with each other. (See Fig. 4.) The cross-piece 5 carries at either end a guide-piece 16. Each guide-piece 16 has a tongue-and-groove connection 17 with the guide-pieces 11 11 and 12 12. By this arrangement as the two ends of the table are pushed toward or withdrawn from the central portion the parts of the table are stiffened and

strengthened and kept in alinement by means of the guide-pieces 11, 12, 14, and 16. Further, the guide-pieces 11, 12, 14, and 16 form the sill that supports the top or permanent leaves 9 and the movable leaves, hereinafter described.

18 represents two bars carried by the cross-piece 5. These bars are arranged centrally in the table and near one end provided with bearings 19 19, in which is mounted the shaft 20, carrying a sprocket-wheel 21. The bars 18 at their opposite ends carry bearings 22, in which is mounted a shaft 23. The shaft 23 is extended across the table and held at its outer end by a bearing 24, carried by one of the guide-pieces 16. (See particularly Figs. 2 and 4.) The shaft 23 at its outer end is provided with a removable crank 25, that may be removed when not in use and hung upon a pin 27 upon the under side of the cross-piece 5. The shaft 23, near the bearing 24, carries a pawl-and-ratchet device 26, adapted to hold the shaft in any desired position, the teeth of the ratchet being arranged so that after the table has been assembled in any desired width it cannot be accidentally extended or its leaves cannot be accidentally separated, it being impossible to extend the table or separate the leaves without releasing the pawl from the ratchet.

A draw-bar 28 is secured by screws to the cross-pieces 4 13, and a draw-bar 28 in like manner is secured to the cross-pieces 6 13. (See Fig. 4.) By means of the draw-bars 28 the table may be expanded or contracted by moving the cross-bars out or in. Each of these draw-bars carries a casting 29. Each casting 29 is formed with a lug or finger 30, arranged to project between the sides and be engaged by one of the links of a sprocket-chain 31, carried by the sprocket-wheels 21. (See particularly Figs. 4, 11, and 12.) Looking at Fig. 12 it will be seen that one of the lugs 30 engages a link on the under side of the chain 31, while the other lug engages a link on the upper side of the chain 31, so that when the chain is moved in the direction of the arrow in Fig. 13 the two lugs will be brought toward each other. Assuming the lugs to be at the center in Fig. 1, or the position which they would occupy in the contracted condition of the table, with the two leaves 9 9 in engagement, and, further, assuming the lugs to be moved opposite to the direction of the arrow in Fig. 12 until the lugs occupy the position shown in Fig. 12, this will bring the leaves or tops 9 9 to the position shown in Fig. 3. Undue outward or extending movement is prevented by the engagement of the lugs 30 with the wheels 21, the arrangement of the pawl and ratchet 26 being to maintain the table in its contracted position and prevent its accidental extension, the tendency of extension-tables being to pull apart.

Referring to Figs. 3, 4, 5, 6, and 7, 40 represents a strut-support on the top of the cross-piece 5 and extending therefrom toward each

end of the table. 41 represents guide-pieces secured to the tops of the cross-pieces 5 13 and 6 13, respectively. The free ends of these guide-pieces have a tongue-and-groove engagement with the strut-support 40. While the end leaves or tops 9 9 are composed of a single piece, the intermediate leaves 60 are divided midway their length, as shown in Figs. 5, 6, and 7. Referring to Fig. 6, it will be seen that the leaves 60 are hinged together and carried by a strut 61, that has a hinged connection with the strut-support 40 as well as with the leaves 60. By this construction the leaves 60 can be housed beneath the ends 9 of the table and the cross-pieces 4 and the guide-pieces 11, 12, and 16. If it is desired to extend the table, the ends of the table are pulled apart by means of the chain 31 to the desired extent and as many of the folded leaves 60 extended to the position shown in Fig. 7 as desired, whereupon the ends 9 are forced up against the divided leaves 60 and retained by the ratchet 24. One of the leaves 60 carries a cleat 62 and the other a tongue 63. The tongue 63 is arranged to enter a groove 64 in the piece 12, while the cleat 62 is thereafter impinged against the piece 11, thus holding the leaf 60 rigidly in place against endwise displacement. The strut 61, as shown, is composed of a rectangular-shaped frame 65, hinged at one end to the strut-support 40 and at its other end to that particular member of the leaf 60 that carries the tongue 63. The hinged connection of the strut 61 with the leaf 60 is entirely distinct from the hinged connection that unites the two parts of the said leaf. The particular member of the leaf 60 that carries the tongue 63 is provided with a hinge member 70 at its inner end, while that particular member of the leaf 60 that carries the cleat 62 is provided with the hinge member 71. Each of these hinge members 70 and 71 are pivotally connected to the inner ends of the divided leaf 60 by pivotal pins 72, so that said hinge members have a pivotal action with relation to the leaf, as well as with relation to each other, for a purpose hereinafter set out. Each hinge member 70 and 71 is formed with an upwardly-projecting lug or ear 73, said ears being connected by a pin 74. The hinge member 71, or the hinge member connected to that part of the divided leaf 60 that carries the cleat 62, is formed with a finger 75, that is arranged to be engaged by the under side of the opposite leaf when the two leaves are extended in order to pull the pintle 74 down beneath the surface of the table, the hinge members swinging on their pivots 72. It being desired to extend the table, the leaves or tops 9 9 are separated, as shown, for instance, in Fig. 3, in order to utilize as many of the leaves 60 as is desired. Thereafter one or more of the leaves 60 are placed in the following manner: Referring to Fig. 5, the leaves are first lifted bodily to the position shown in Fig. 6 and the tongue 63 engaged in the groove 64. (See Fig.

6.) Thereafter the leaf carrying the cleat 62 is swung down into the position shown in Fig. 7. The cleat and the tongue not only lock the leaf against sidewise displacement, but also in connection with the strut 61 serve to support the leaf against movement in a vertical plane. As the leaf bearing the cleat 62 is swung to position the finger 75, engaging the lower side of the companion leaf, draws the pintle 74 down below the surface of the table. (See Figs. 7 and 10.) The other leaves are mounted in position the same way. When the leaves have been mounted as just described, they cannot be accidentally displaced or even partially moved so as to disturb the cloth or articles spread thereon for the following reasons: The cleats 62 and tongues 63 form stops which prevent any endwise movement, as is obvious. Referring to Fig. 7, it will be seen that a person accidentally leaning heavily on the projecting end of the leaf cannot cause the center to rise to the slightest extent, even when the leaves project considerably more than illustrated, because a lift at the center is resisted by the strut which acts as a rigid link or stop to hold said center down. Such a tendency to rise at the center would also be resisted by the tongue 63 in the groove 64, because neither leaf could be lifted in the center of the table without causing the other to rise, and said tongue 63 is sufficiently far from the side piece 7 to act as a stop at the right in Fig. 7 to resist any upward movement, since such movement would necessarily be accompanied by a downward pressure on said piece 7. Therefore the leaves 60 can only be displaced by a preliminary, positive, and decided upward movement of the part carrying the cleat 62, and such movement cannot accidentally occur. Furthermore, the strut 61 supports the center with certainty, because the tongue 63 acts as a stop to prevent the endwise movement that the leaf would have to take to permit the strut to swing downwardly, and the cleat 62 acts as a stop to prevent the endwise movement of the leaf that would necessarily accompany any reverse swinging movement of the strut. When it is desired to contract the table, as many leaves as desired are swung from the position shown in Fig. 7 to the position shown in Fig. 6 and then to the position shown in Fig. 5. Thereafter the tops 9 9 are forced against each other or any remaining leaf. From the foregoing it will be seen that by my invention a self-contained extension-table is produced, wherein the additional leaves when not in use are housed beneath the top of the table and connected to the framework of the table ready for use as desired. Having thus explained the nature of my invention and described a way of constructing and using the same, though without attempting to set out all the forms in which it may be made or all the modes of its use, what I claim, and desire to secure by Letters Patent, is—

1. In an extension-table, two movable end members carrying permanent tops, a relatively fixed central member, one or more independent supplemental leaves, means connecting each leaf and said central member whereby each leaf is confined against lateral motion but movement thereof is permitted in a plane at an angle to the top of the table whereby each leaf occupies a predetermined place when in operative position or when housed and may be positioned for use or housed by a movement in the same plane, and stops whereby the supplemental leaves are held from endwise or vertical movements when positioned for use.

2. An extension-table comprising two end members carrying permanent tops, a central member carrying one or more supplemental divided leaves normally arranged below the surface of the top, a hinge connecting the two parts of said leaves, and means when said leaves are extended to form a part of the top of the table, to draw the pintle of said hinge below the surface of the table.

3. An extension-table comprising two end members carrying permanent tops, a central member carrying one or more supplemental divided leaves normally arranged below the surface of the top, a hinge connecting the two parts of said leaves, and means when said leaves are extended to form a part of the top of the table, to draw the pintle of said hinge below the surface of the table, the butts of said hinge being yieldingly attached to said leaves, and means connected to one member of said hinge whereby the butts may be moved with relation to the leaves, as the latter are brought into alinement to depress the pintle of the hinge below the top of the table.

4. A hinge comprising two butts, each having a pintle member arranged at an angle to its butt, means for uniting said members, one of the hinge members being formed with a toe-piece extending toward the other hinge member when the hinge member is extended, adapted for engagement by some part moving with its complementary hinge member, for the purpose described.

5. In an extension-table, two end members carrying permanent tops, an independent supplemental leaf laterally divided to form two members, a hinge joining said members, and means for causing said hinge to be depressed below the surface of said leaf when its members are unfolded in the plane of said tops.

6. In an extension-table, two end members carrying permanent tops, an independent supplemental leaf laterally divided to form two members, a hinge joining said members, pivotal connections joining said leaf to the framework, and provisions on the leaf for cooperating with said connections to maintain the leaf in its operative position.

7. In an extension-table, two end members carrying permanent tops, a supplemental leaf arranged to be normally housed below the surface of the top of the table and confined

against lateral movement, a strut having a pivotal connection with said leaf at one end, and with the table at the other, whereby said leaf may be brought into or out of the plane of the top of the table by a vertical movement of translation, and a stop on the under side of the leaf and adapted to coact with the frame of the table to resist a downward swinging movement of the strut.

10 8. In an extension-table, two end members carrying permanent tops, two or more independent supplemental leaves arranged to be normally housed below the surface of the top of the table, means for confining them against lateral movement, said leaves being pivotally connected to the framework of said table, whereby each leaf when housed will occupy a position directly under the position occupied by said leaf when elevated to the plane of the top, said supplemental leaves having stops to prevent their endwise movement when elevated.

9. In an extension-table, two end members

carrying permanent tops, an independent supplemental leaf laterally divided to form two members, a hinge joining said members, a pivotal strut-support joining said leaf to said frame, and stops carried by said leaf to prevent endwise movement when the leaf is in raised position.

10. In an extension-table, two end members carrying permanent tops, a laterally-divided fixedly-positioned supplemental leaf, and hinge connections between said leaf and the framework of the table, constructed so as to permit the housing or positioning of the leaf in a vertical plane only, said leaf having stops to prevent endwise movement when in raised position for use.

In testimony whereof I have affixed my signature in presence of two witnesses.

FREDERICK E. ALLEN.

Witnesses:

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