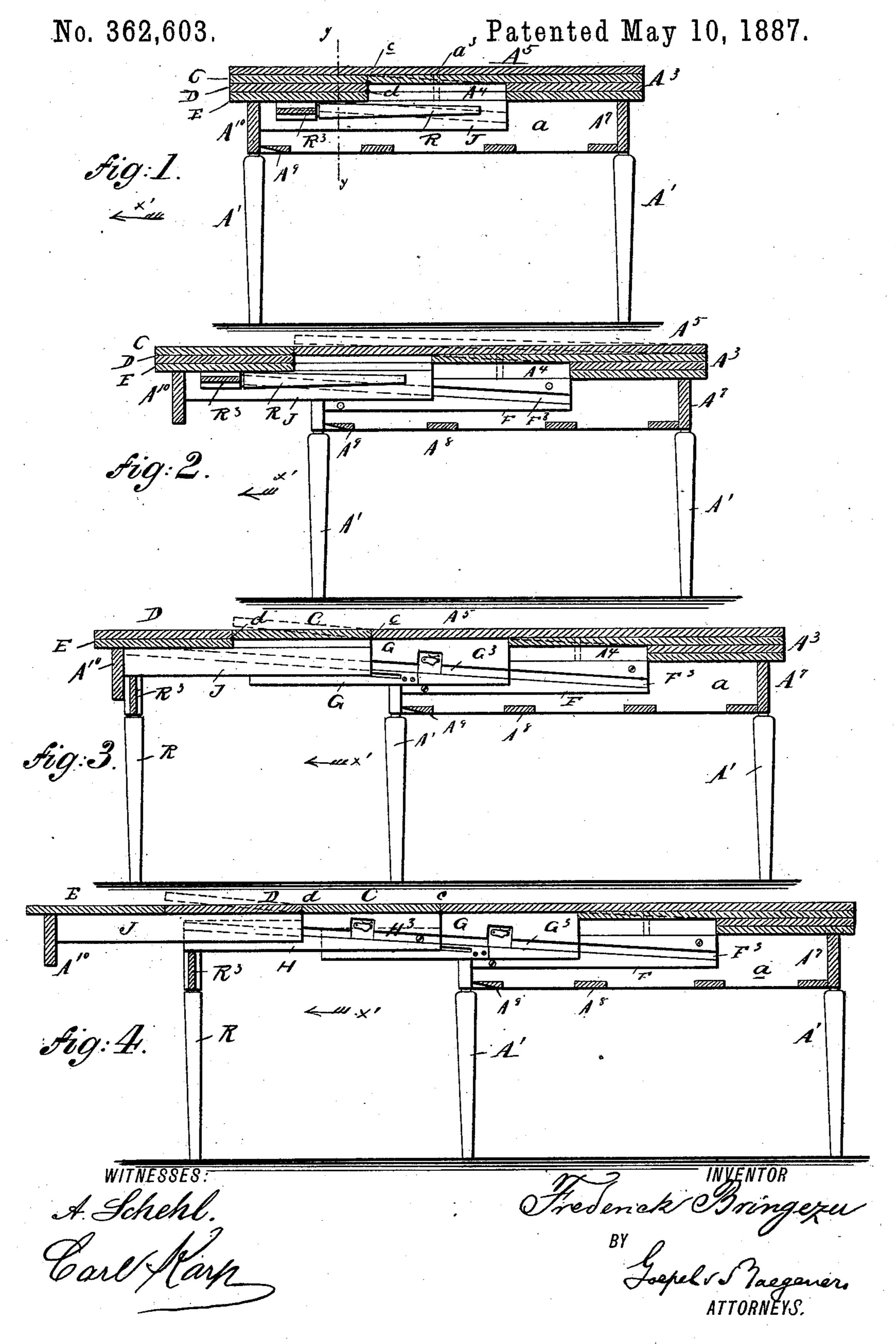
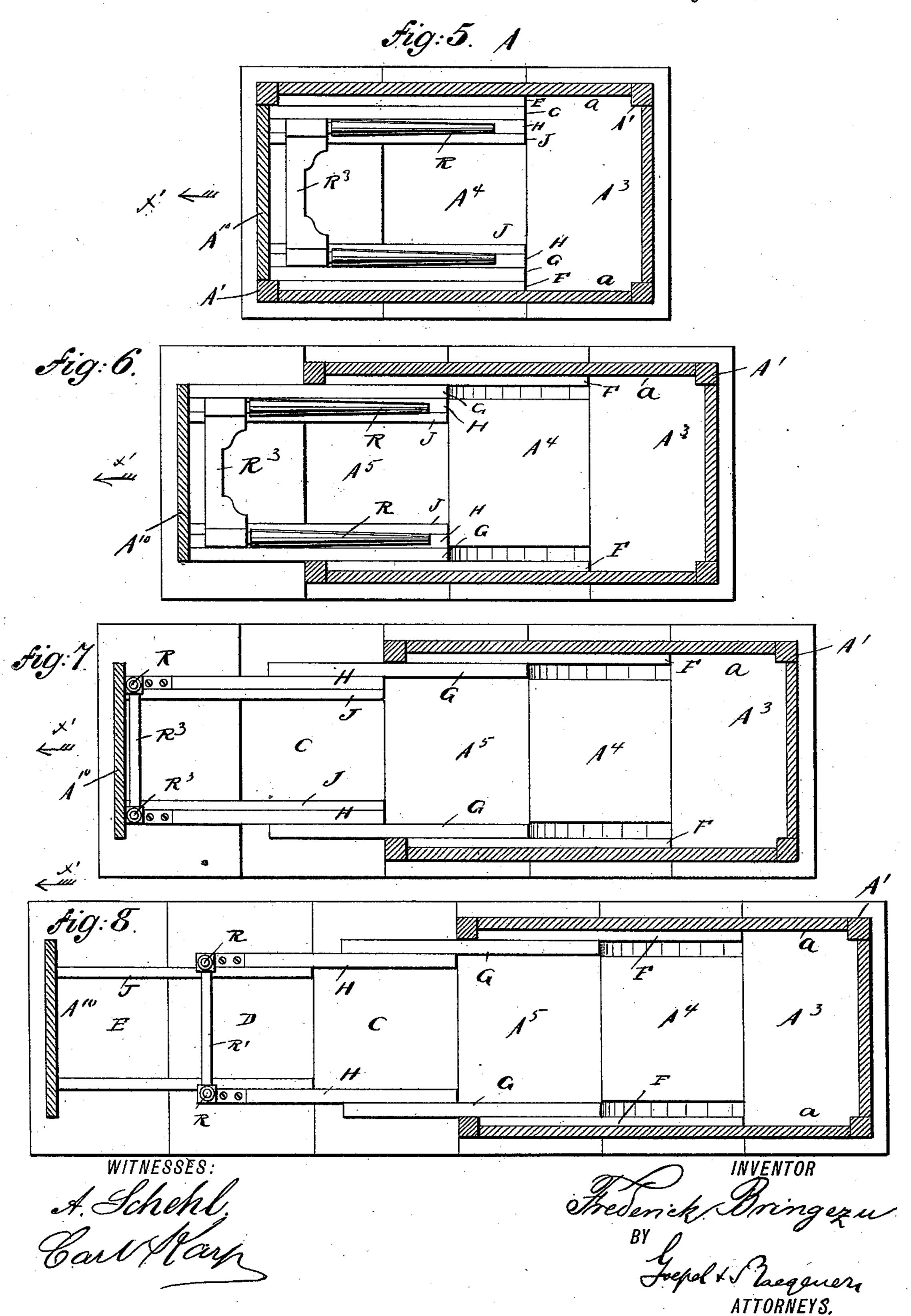
F. BRINGEZU. EXTENSION TABLE.



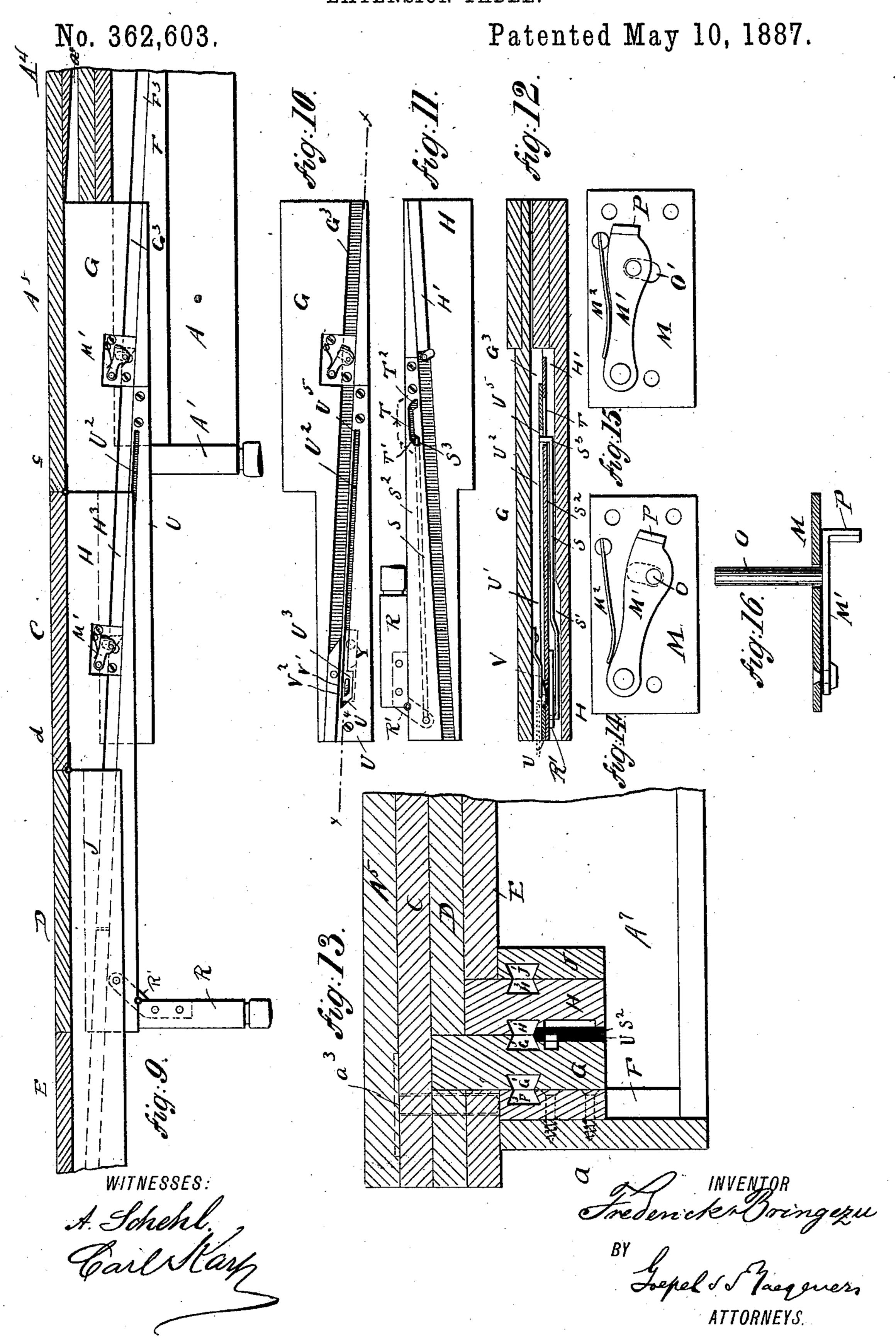
F. BRINGEZU. EXTENSION TABLE.

No. 362,603.

Patented May 10, 1887.



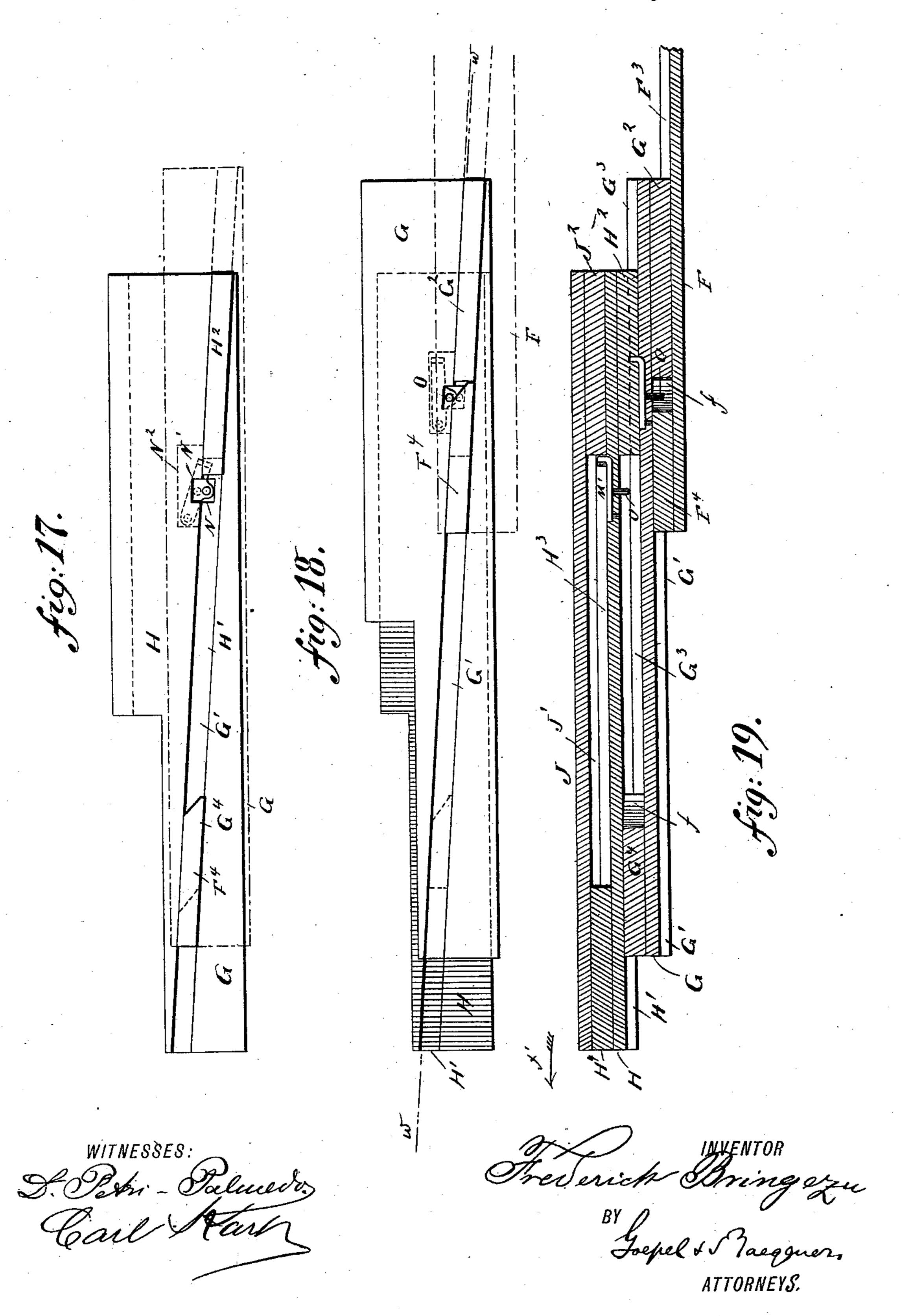
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United States Patent Office.

FREDERIK BRINGEZU, OF NEW YORK, N. Y.

EXTENSION-TABLE.

SPECIFICATION forming part of Letters Patent No. 362,603, dated May 10, 1887.

Application filed August 20, 1886. Serial No. 211,373. (No model.)

To all whom it may concern:

Be it known that I, FREDERIK BRINGEZU, of the city, county, and State of New York, have invented certain new and useful Improvements in Extension-Tables, of which the fol-

lowing is a specification.

The object of my invention is to provide a new and improved extension table, to which the leaves used in extending the table are permanently attached and need not be removed when the table is shortened. The table is simple in construction and strong and durable, and can be extended and shortened very easily and rapidly.

The invention consists in an extension-table constructed with leaf-supporting slides, which are mounted to slide parallel with and adjacent to the side pieces of the table frame, the leaves being permanently secured on the slides.

The invention also consists in the construction and combinations of parts and details, as will be fully described and set forth herein-

after, and pointed out in the claims. In the accompanying drawings, Figure 1 is a 25 longitudinal sectional view of my improved extension-table shortened as much as possible. Fig. 2 is a longitudinal sectional elevation, the table being extended the width of one leaf. Fig. 3 is a longitudinal sectional elevation, the 30 table being extended to the width of two leaves. Fig. 4 is a longitudinal sectional elevation, the table being extended the width of three leaves. Fig. 5 is a sectional plan view of the under side of the table as shown in Fig. 1. Fig. 6 35 is a sectional plan view of the under side of the table shown in Fig. 2. Fig. 7 is a sectional plan view of the under side of the table shown in Fig. 3. Fig. 8 is a sectional plan view of the under side of the table shown in Fig. 4. 40 Fig. 9 is an enlarged sectional detail view of part of the table, showing the relative positions of the leaves and the slides supporting the same. Figs. 10 and 11 are face views of |

the same. Figs. 10 and 11 are face views of the slide-plates for actuating the swinging legs, one being inverted. Fig. 12 is a sectional plan view on the line x x, Fig. 10. Fig. 13 is an enlarged detail cross-sectional view through the slides on the line y y, Fig. 1. Figs. 14 and 15 are face views of the latches in different positions. Fig. 16 is a horizontal sectional view of the latch. Figs. 17 and 18 are en-

larged detail side views of the slides shown in

different positions. Fig. 19 is an enlarged sectional view on the line ww, Fig. 18.

Similar letters of reference indicate corre- 55

sponding parts.

The main frame A of the table is provided with four fixed legs, A', at the corners, and two-thirds of the top of the table are covered by fixed top plates. One-third of the top of 67 the table is covered by three fixed leaves, A³, of the same size, one above the other, and the middle part of the frame of the table is covered by a plate, A4, which is made integral with the uppermost plate, A³. The size of 65 the leaves A³ is equal to one half of the size of the plate A⁴. The size of the leaf A⁴ is equal to two-thirds of the entire top of the table, and the size of each leaf A³ is equal to one-third of the top of the table. Upon the 70 plates A³ and A⁴ a leaf, A⁵, is placed, which is provided at the side edges with downwardlyprojecting pins a^3 , which are passed into suitable recesses in the leaf A⁴ and the frame A. The size of the top plate, A⁵, is the same as 75 the size of three leaves—that is to say, the length of one edge of said top plate, A5, is equal to the length of one leaf of the table and the dimension of the other edge is equal to three times the width of a leaf.

When the table is folded or closed, the top plate, A⁵, covers the entire top of the table.

It will be understood that where the three rigid and permanent leaves A³ are fastened one above the other, the top plate, A⁵, forms the 85 fourth layer when the table is folded or shortened, and also when the table is extended. When the table is closed, there are two layers at the middle, the leaf A⁴ and the top plate, A⁵. At that end of the frame opposite the one at 90 which the fixed leaves A³ are provided, there are also four layers—namely, the top plate, A⁵, below the same the leaf C, below that the leaf -D, and below the leaf D the leaf E, all the leaves being of the same size and the area of each 95 being equal to one-third of the area of the top plate, A^5 . At one end the side pieces, a, of the frame A are united by a cross-piece, A7, placed edgewise. At the other end the frame is open. At the bottom edges the side pieces are con- ico nected by the slats A⁸ and a slat, A⁹, at that end of the frame opposite the cross-piece A⁷, the bottom of the slat A⁹ being beveled at the middle or provided with a recess to permit the

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fingers catching on the removable cross-piece A¹⁰, which, when the table is folded or closed, fits in between those ends of the side pieces of the frame A opposite the ends to which the 5 fixed cross-piece A' is fastened; or, in other words, the said removable cross piece A¹⁰ fits in between the upper end of the legs A'. As the leaf At, above mentioned, must rest on the top edges of the side pieces of the frame A, it to is evident that the middle part of the said side pieces must be raised to such a height corresponding to the thickness of two leaves, as shown in Figs. 2 and 4.

To the innersides of the side pieces, a, of the 15 table-frame the planks F are secured lengthwise, said planks extending from the open end of the table-frame toward the closed end a distance equal to the width of two leaves—that is, equal to slightly more than two thirds of the 25 length of the table-frame. Said planks F are each provided in their inner faces—that is, the faces facing the longitudinal center plane of the table-frame--with the longitudinal groove F³, which is inclined from the front upper corner to 25 the inner lower corner of the plank. So as to avoid confusion, those faces of the slides or supports facing the longitudinal center plane of the table will be designated as the inner faces or sides, and the opposite sides or faces toward 30 the table-frame will be known as the outer sides or faces. Said groove F', as well as all other guide-grooves in the slides, are preferably dovetailed, and in front of each groove E a cleat or tongue, F, is fastened, which pro-35 jects the depth of the groove from the inner face of the plank F, the length of said tongue being equal to about one-sixth of the length (more or less) of the plank F. The inner end of that part of the tongue projecting beyond 40 the face of the plank is beveled downward and inward, as at f, Fig. 19. On the inner face of each plank F the outer face of a slide, G, rests, and on the inner face of each slide G the outer face of a slide, H, rests, and on the inner face 45 of each slide H the outer face of a slide, J, rests, the outer ends of the said slide J being united by the movable cross-piece A^{10} of the table-frame, which movable cross-piece was mentioned heretofore.

The leaf E is permanently attached to the slide J, and the leaf D is hinged at the bottom part of its rear edge to the top edges of the slide H at d, so that it can overlap or rest upon the top edges of the slides H and those 55 parts of the slides J against the inner sides of the slides H. The leaf C is pivoted to the upper edges of the slides G, at c, in the same manner that the leaf D is pivoted, so as to permit of raising said leaf slightly, which leaf (o can rest on the top edges of the slides G and those portions of the slides H resting against the sides of the slides G.

As has been stated, a tongue, F⁴, is secured in the front upper end of the inclined groove 65 F³ of each plank F, which tongue is mounted to slide in the longitudinal dovetailed groove G' in the outer face of the slide G, the inclina-

tion of said groove G' being such that when the slide G is withdrawn the grooves F³ G' will be in line. At the inner end of the said 70 inclined groove G' in the outer surface of the slide G a tongue, G², is fixed, which projects from the outer surface of the slide Ga distance equal to the depth of the groove F³ in the fixed plank: F, said tongue G^2 passing loosely into γ_5 the groove Fin the same manner as the tongue F of the plank F passes into the groove G', thus permitting the slide G to slide on the $\operatorname{plank}(\mathbf{F}_*)$. The state of the state

Adjacent to the front end of the fixed tongue 80 G² an aperture or slot, N, is formed in the back of the groove G', in the outer surface of the slide G, which slot extends through to the back of the groove G3, formed in the inner surface of the slide G and running in the same 85 direction with the groove G'. In the top of the groove G'a notch, N', is formed, and in the top of the groove G³ a larger notch, N², is formed, as shown in dotted lines in Fig. 17. A plate, M, is countersunk in the back of the 90 groove G and its notch N, and to said plate a latch, M', is pivoted, which is pressed downward by the spring M', fastened on the plate M. A pin, O, projects from said latch M' through a curved slot, O', in the plate M, and og through the slot N, so that the end of said pin O projects into the groove G', adjacent to the front end of the tongue G², as shown in Fig. 17. The latch M' is provided at its swinging end with a lug, P, which extends in an oppo- 100 site direction to the pin O and projects into the groove G3. In the front end of the groove G³ a tongue, G⁴, is fixed, which is beveled the same as the tongue F', previously described, and which tongue G4 slides in an inclined 105 dovetailed groove, H', provided in the outer face of the slide H. in the same manner as the groove G' is provided in the slide G. A tongue, H², is fastened in the rear end of the groove H'and projects into the groove G'in the inner 110 side of the slide G. The slide H is provided in its inner side with the groove H3, in the same manner as the slide G is provided with the groove G3, and a plate, M, provided with a latch in the manner described above, is fast-115 ened on the slide H in front of the tongue H2. The slide J is provided in its outer surface with a dovetailed groove, J', in the same manner as the groove G' is provided in the outer surface of the slide G.

A tongue, H', is fastened in the groove H' in the inner face of the slide H at the front end, said tongue passing and sliding in the groove J' in the outer face of the slide J; but said tongue H4 is not beveled at its rear end, 125 as a bevel is not necessary. A tongue, J2, is fixed in the rear end of the groove J' in the outer face of the slide J, and passes into the groove H³ in the inner face of the slide H.

When the table is folded, as shown in Figs. 130 1 and 5, and is to be extended, the cross-piece A¹⁰ is seized and pulled outward—that is, in the direction of the arrow x'. The cross-piece A¹⁰, which is pulled in the direction of the ar-

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row x', is connected only with the slide J, and thus said slides are pulled out in the direction of the arrow x'. As the lug P of the latch M' fastened on the slide H, rests against the front 5 end of the tongue J² of the slide J, as shown in Fig. 19, said latch is also moved in the direction of the arrow x', and as said latch is fastened on the slide H the slide H is moved in the same direction. The front end of the tongue 10 H² of the slide H rests against the lug P of the latch M' on the slide G, and thus said slide G is also moved in the direction of the arrow x', and thus the slides J, H, and G are moved in the direction of the arrow x' altogether, the slide 15 G sliding on the fixed plank F. Such movement in the direction of the arrow x' can take place a distance equal to the width of one leaf, and thereby the leaves C, D, and E are drawn from under the top plate, A6, which is slightly 20 raised, as shown in Fig. 2 in dotted lines. When the said slides have moved the distance of one leaf, the pin O of the latch M' on the slide G strikes against the bevel f of the tongue F⁴, fixed in the front end of the 25 groove F³ of the fixed plank F, whereby said pin O and the latch M' are raised, and thereby the lug P of the said latch is lifted up into the recess N² and above the top edge of the tongue H2, fastened in the rear end of the groove H' 30 in the outer face of the slide H, and thus said tongue H² is disengaged from the lug of the latch, permitting the slide H to move in the direction of the arrow x': The slide G can move no farther in the direction of the arrow 35 x', as the inner end-of the tongue F^4 abuts against the front end of the tongue G2, fixed on the said slide G. As stated, the slide H now moves in the direction of the arrow x' and the slide J moves with it, as the slides H J are still 40 connected by the latch M' on the said slide H. The slides H and J are moved together a distance equal to the width of one of the leaves, and all parts are brought into the position shown in Fig. 3, the leaves D E being moved 45 from under the leaf C, which swings down and rests upon the slides G and the slides H J, as shown in Fig. 7. During the time that the slides H J are moved this distance the beveled end of the cleat G4, projecting from the 50 inner surface of the slide G, strikes the pin O of the latch M', pivoted on the slide H, whereby said latch is raised in the manner previously described, and the slide J is disengaged from the slide H as the lug P of the 55 said latch M' on the slide H is lifted above the top of the tongue J² on the slide J, in the direction of the arrow x', the slide H being held as the front end of its tongue H² rests against the beveled end of the tongue G2 of the slide G.

The slide J is moved in the direction of the arrow x' until the front end of its tongue J^2 abuts against the inner end of the tongue J^4 on the slide H. By the time that the slide J is stopped in the manner described—that is, when the front end of the tongue J^2 rests against the rear end of the tongue H^4 —the slide J will have moved a distance equal to the width of

one leaf, whereby the leaf E is moved in front of the leaf D, said leaf D resting on the slide H and the slide J. The table is now fully ex-70 tended, and is in the position shown in Figs. 4 and 8. The outer ends of the slides H are supported by the legs R, which are pivoted, as will be described hereinafter.

The plate A⁴ has beveled grooves a⁴ in its 75 under side, to permit the slides G moving upward at the same time that they are being moved outward.

The table is shortened or folded, or brought from the position shown in Fig. 4 to the posi- 80 tion shown in Fig. 1, in the following manner: The leaf D is lifted, as shown in dotted lines in Fig. 4, and the leaf E and slides J moved in the inverse direction of the arrow x'. Then the leaf C is raised, as shown in Fig. 3, and 85 the slides J and H and the leaf E are moved in the inverse direction of the arrow x' and the leaves D and E passed under the leaf C, and then all three leaves are passed under the top plate, A5, which is raised, as shown in 90 dotted lines in Fig. 2, and the slides J, H, and G and leaves C, D, and E are pushed inward in the inverse direction of the arrow x'. When the slides J are pushed inward, the latches in the slides H are still held raised by the bevels 95 of the tongues G'on the slides H and the pins O on the latches M' of the slides, thus permitting the moving the tongues J² of the slides J under the raised lugs P of the latches M' of the slides H. When said slides J have been pushed on inward, they act on the slides H, which are then pushed inward, whereby the bevels of the tongues G4 of the slides G are removed from under the pins of the latches M' on the slides H, thus permitting the latches to drop in front 105 of the tongues J², whereby said slides J and H are locked together. The table can thus be lengthened the width of one, two, or three leaves, the top surface always remaining level, and all the leaves remaining on the table, 110 whether the same are in use or not. As the guide-grooves in the planks F and the slides GHJ are inclined said slides rise as they are moved outward, thus keeping the top of the table at the same level. As the slides rise in 115 moving outward, and the bottoms of the legs R are to rest on the floor when the table is extended, it is evident that said legs R cannot be fixed, but must be pivoted, for if they were fixed they would prevent the slides from mov- 120 ing down along the inclined grooves. The legs R can be adjusted to be swung under the top plates into the position shown in Fig. 2 by hand or automatically. I prefer to use the automatic device, which is constructed in the 125 following manner:

The legs R are connected by a cross-piece, R³, and are each pivoted to the bottom edges of the slides H, near the outer ends of the same, in such a manner that they can be swung inward and toward the under side of the top of the table. A flat angle-lever, R', is fastened and countersunk in each leg, the pivot of the end of the leg being at the turning-point of the

angle-iron, and the other part of the angle-1 the part T and pass over the shoulders Y and iron is connected to a rod, S, which moves in a longitudinal recess or groove, S', in the outer face of the slide H, said recess or groove being 5 covered by a plate, S², fastened on the outer face of the slide, and having at its inner end the slot T, provided at the ends with the parts or notches $T'(T^2)$, inclined toward the top edge of the slide G and from each other, the said to slide G being shown inverted in Fig. 11. The inner end of the rod S is bent at right angles to form a lug, S³, which is passed through the slot T, and also passes into a longitudinal slot, U², formed in a plate, U, fastened on the inner 15 face of the slide G, and covering a groove or recess, U', in the same. At the front end of the slide G the slot U² is provided with a downwardly extending enlargement, U³, the front end edge, U^t, of which is beveled downward 20 and inward, as shown in Fig. 10. A spring, V, is fastened in the groove or recess U', and at its free end is provided with a prong, V', which is located in the enlargement U³ of the slot U². Said prong has its face beveled out-25 ward in the direction from the fixed end to the free end of the spring, as shown in Fig. 12, and that end of the tooth facing the inclined end U of the enlargement U of the slot U is provided with a bevel, V².

The operation of the leg device is as follows: When the legs are raised, the lug Son the end of the rod S is in the end T' of the slot T, and is also in the end U⁵ of the slot U². When the slides H and J are moved in the direction of 35 the arrow x', the lug S³ on the inner end of the rod S slides along the groove U' until it strikes the prong V' of the spring V, and as the said prong is beveled, the lug S³ presses the spring V inward, and after said lug S³ has 10 passed, the spring V snaps outward, the said lug S³ and the rod S being in the position shown in dotted lines in Fig. 12. By this time the free ends of the legs have been withdrawn from under the cross-piece A⁹. The lug S³ strikes 45 against the beveled end U4 of the enlargement U³ of the slot U², and thereby the lug S³ is moved in the direction indicated in dotted lines and arrows in Fig. 11, whereby the legs are swung down. The legs are locked in place 50 by the lug S³, which rests against the end of the beveled prong V' of the spring V. As stated

moved in the inverse direction of the arrow x', which does not affect the legs R; but as soon 55 as the slides H are moved in the inverse direction of the arrow x' the rods S, which are in said slide H, are also moved in the same direction, and the lugs S³ are pressed against the beveled ends V² of the prongs V', whereby the 60 lugs S³ are moved downward and out of the

above, to fold the table the slides J are first

ends T² of the slots T into said slot. The lugs S³ strike against the shoulder Y of the enlargement U³, whereby said lugs are moved in the inverse direction of the arrow-line, shown dot-

65 ted in Fig. 11. When said lugs S³ reach the ends of the slots T, they are moved upward by

along the slots U^2 .

By the above described movements the legs are swung up, and by the time their free ends 70 arrive at the cross-piece A3 they are above the same and pass over the same and the several cross-pieces, as shown in Fig. 1. The legs are thus swung down as soon as the slides H are withdrawn and swung up as soon as the 75 slides H are pushed inward.

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I am aware that sliding tables have been constructed in which the extension plates moved on inclines; but in such tables the plates were supported by lugs of different 80 height, which lugs were mounted to slide on the inclined tracks. I am also aware that in extension tables the end wings were provided with folding legs. I am also aware that in extension-tables the leaves were supported by 85 swinging clips for the purpose of raising and lowering the wings or leaves, so that when the table is extended the leaves or top plates will: be in the same plane. All this I do not claim,

broadly, as my construction is different. Having thus described my invention, I claim as new and desire to secure by Letters Patent-

1. An extension-table provided with a series of slides sliding parallel with and adjacent to the side pieces of the table-frame, and of leaves 95 fixed directly to said slides, substantially as shown and described.

2. An extension table constructed with slides which are mounted to slide parallel with and adjacent to the side pieces of the frame, 100 inclined grooves in said slides, tongues on each slide passing into the grooves of an adjacent slide, and leaves permanently attached to the slides, substantially as shown and described.

3. An extension-table constructed with a 105 series of slides mounted to slide parallel with and adjacent to the sides of the frame, said slides having inclined grooves in both faces, tongues on each slide passing into grooves of the adjacent slides, and leaves permanently 110 attached to the slides, substantially as shown and described.

4. In an extension-table, the combination, with the table-frame having fixed plates covering two thirds of the area of the top of the 115 same, of a movable plate covering the entire area of the top of the table, slides mounted to slide parallel with and adjacent to the side pieces of the frame, and leaves secured permanently to the slides, substantially as shown 120 and described.

5. In an extension-table, the combination, with the table-frame, of the three leaves A³, one secured above the other and covering onethird of the area of the top of the table, the 125 leaf A4, covering the middle third of the top of the table, and the removable top plate covering the entire area of the top of the table, slides mounted to slide parallel with and adjacent to the side pieces of the frame, and 130 leaves attached to the slides, substantially as shown and described.

6. The combination, with a table-frame, of the fixed leaves A³, fixed leaf A⁴, having the inclined grooves a^4 in the under side, slides having inclined grooves, leaves fixed to the 5 slides, and a removable top plate, substan-

tially as shown and described.

7. In an extension-table, the combination, with the table-frame, of slides on the same, leaves fastened to the slides, tongues on the 10 slides, and latches provided on the slides and operated by the tongues on the slides, which latches lock the slides together until said latches are operated, substantially as shown and described.

8. In an extension table, the combination, with the frame, of a series of slides having inclined longitudinal grooves in both faces, a tongue fastened in each of said grooves, one tongue being provided at one end of each slide 20 and the tongue or tongues of one slide passing into the grooves of the adjacent slides, and of latches pivoted to the slides and having projections extending into both grooves of the slide on which the latch is fastened, and of 25 leaves fastened to the slides, substantially as shown and described.

9. The combination, with the table-frame with slides, each having a longitudinally-inclined groove in each face, of a tongue being 30 fastened in each groove of each slide, the tongues of one slide being at opposite ends and sides of the same, a latch pivoted on each slide in front of one of the tongues, the tongue opposite the one at which the latch is provided 35 having a bevel in the end facing the latch, a pin projecting from one side of each latch into one of the grooves and a lug projecting from each latch into the groove, and leaves on the slides, substantially as shown and described.

40 10. The combination, with the table-frame, of a series of slides having longitudinal inclined grooves, tongues fastened in the grooves and having beveled ends, latches pivoted on the slides, said latches having pins on which

45 the bevels of the tongues can act, and of leaves |

on the slides, substantially as shown and described.

11. The combination, with the table frame, of slides mounted to slide parallel with and adjacent to the side pieces of the frame, a pair 50 of legs pivoted to one of the slides, angle-pieces connected to the legs, rods connected with the angle-pieces and passing through recesses in the slides to which the legs are pivoted, and plates secured on the slides adjacent thereto, to which 55 the legs are pivoted, which plates are provided with slots in which the ends of the above-mentioned rods can pass, substantially as shown and described.

12. In an extension-table, the combination, 60 with the frame, of slides mounted to slide parallel with and adjacent to the side pieces of the frame, legs pivoted to one part of the slides, angle-pieces fastened to the legs, rods S, attached to the angle-pieces and passed through 65 the recesses or grooves in one pair of the slides, plates fastened to those slides to which the legs are pivoted and provided with the slots T, lugs on the ends of the rods, which lugs pass through the ends of the slots, plates U, fast- 70 ened to the ends of the slides adjacent to those to which the plates are pivoted, which plates are provided with grooves U' and enlargements U³, and of leaves on the slides, substantially as shown and described.

13. The combination, with the frame, of slides mounted to slide parallel with and adjacent to the side pieces of the frame, leaves fixed on said slides, latches for locking the slides together, and beveled projections on the 80 slides for disengaging the latches, substan-

tially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FREDERIK BRINGEZU.

Witnesses: OSCAR F. GUNZ, CARL KARP.