No. 684,120. Patented Oct. 8, 1901.

C. N. SMITH.

EXTENSION TABLE.

(Application filed Feb. 26, 1901.)

(No Model.) 3 Sheets—Sheet 1.

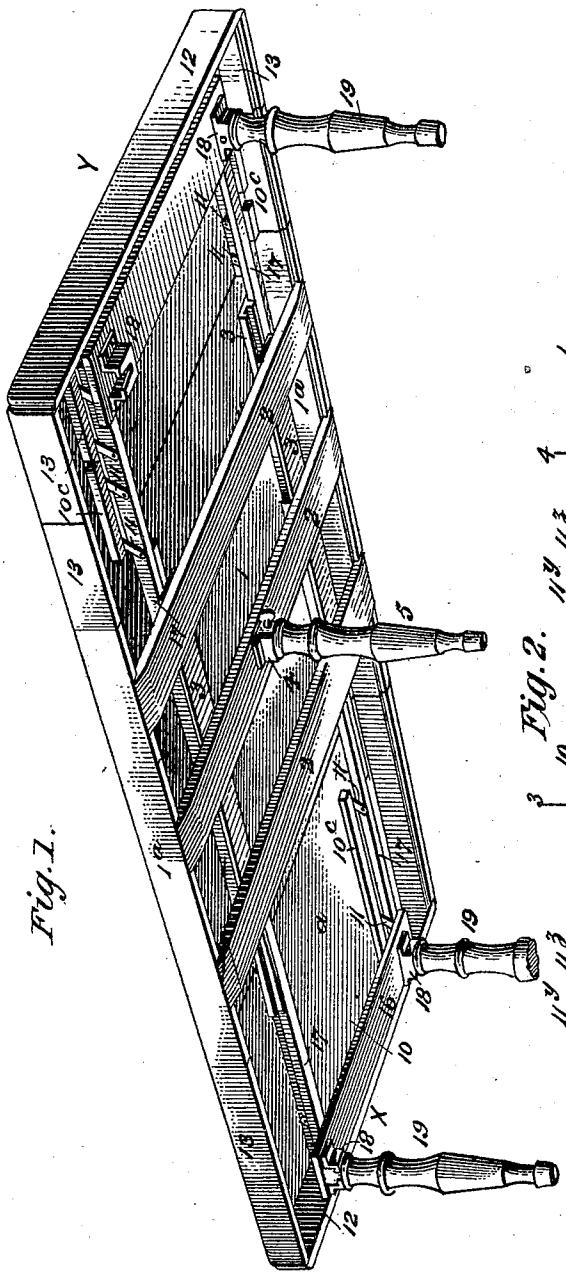


Fig. 1.

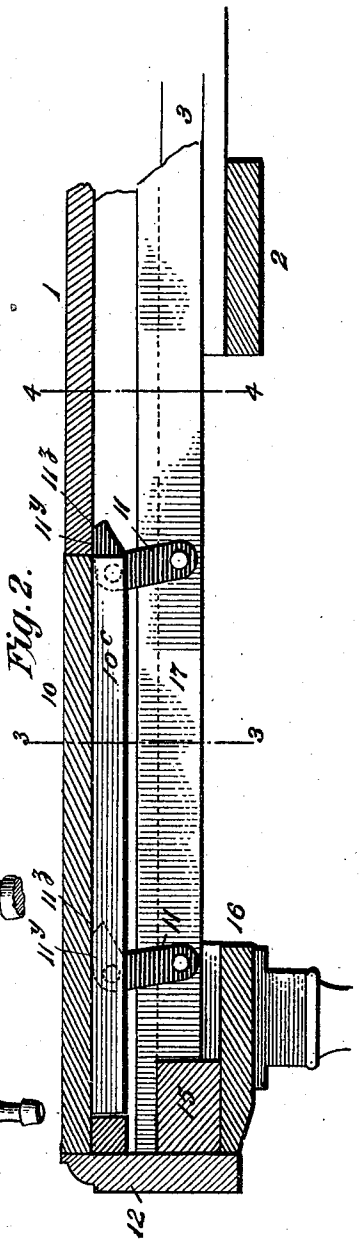


Fig. 2.

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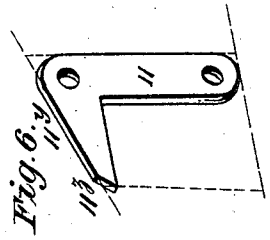


Fig. 6.

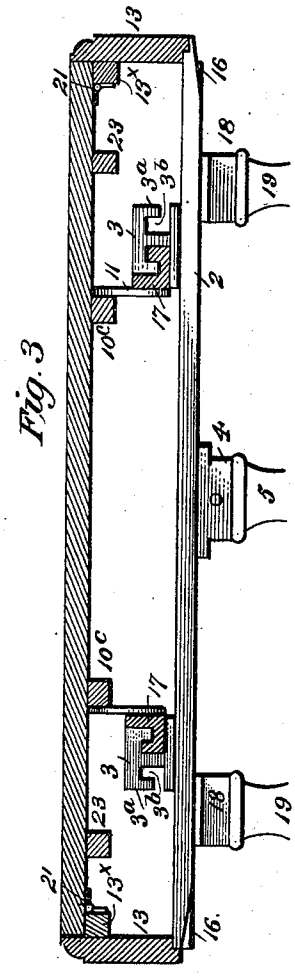


Fig. 3

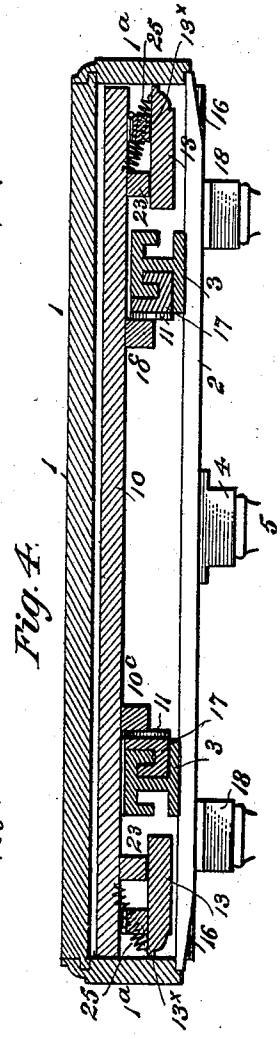


Fig. 4.

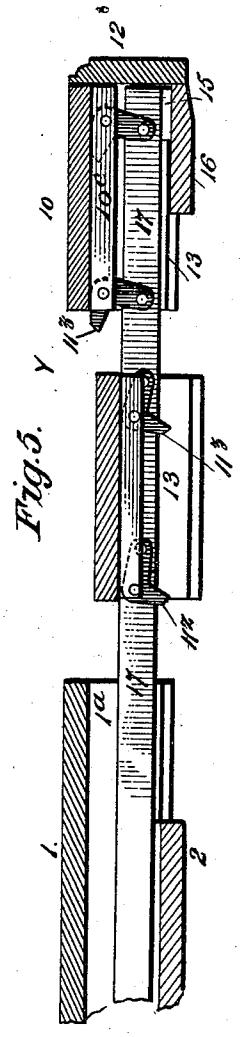


Fig. 5.

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(No Model.) 3 Sheets—Sheet 3.

Fig. 7.

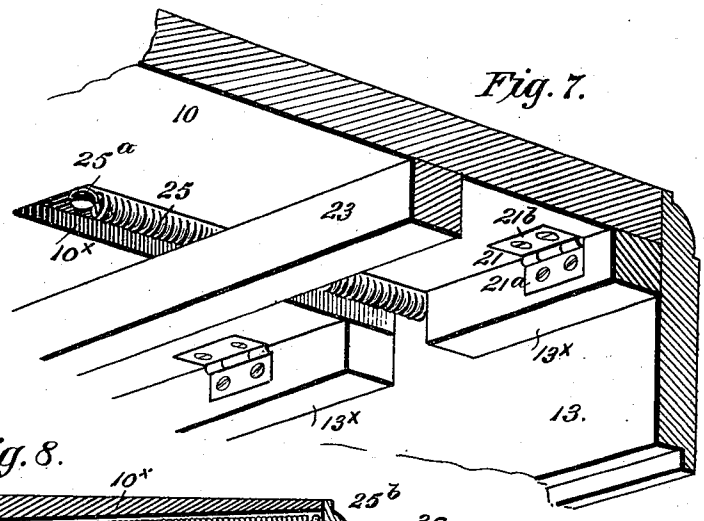


Fig. 8.

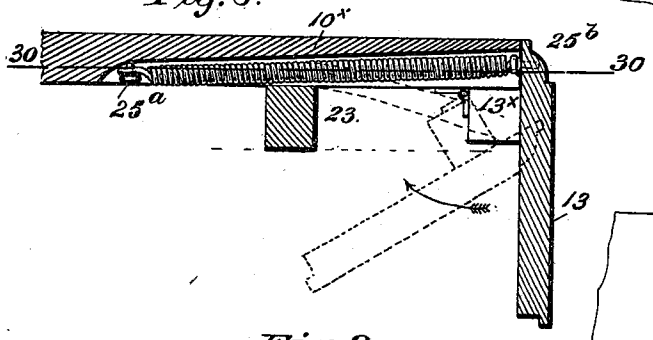


Fig. 10.

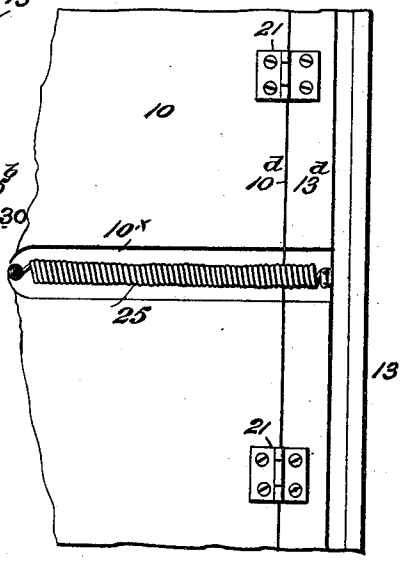


Fig. 9.

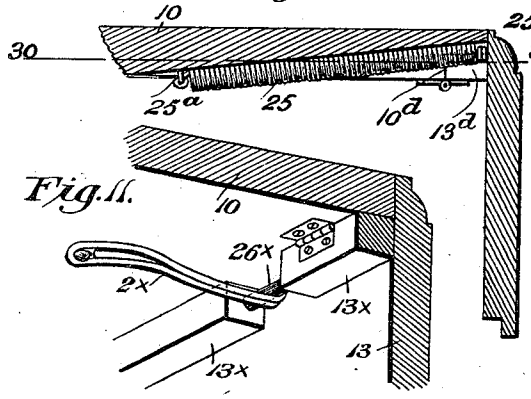
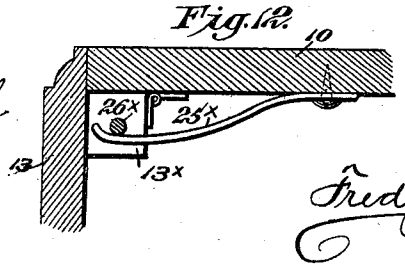


Fig. 11.

Fig. 12.



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UNITED STATES PATENT OFFICE.

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EXTENSION-TABLE.

SPECIFICATION forming part of Letters Patent No. 684,120, dated October 8, 1901.

Application filed February 26, 1901. Serial No. 48,933. (No model.)

To all whom it may concern:

Be it known that I, CHRIS N. SMITH, residing at Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Extension-Tables, of which the following is a specification.

This invention relates to that type of extension-tables having the top and side members of their extensible or end portions so arranged as to be conveniently adjusted to a plane below the top of the central or fixed part of the table, whereby said end, top, and side portions can be quickly slid under the top of the central part when the table ends are closed inward without the necessity of removing any of the several parts constituting the extensible ends.

My present invention more particularly relates to improvements on the table construction disclosed in my Patent No. 634,372, dated October 3, 1899, and primarily it seeks to provide for rendering my patented construction referred to more simple, economical, and stable.

My present invention comprehends, among other essential features, an improved means for joining the foldable or continuous side members to the vertically-adjustable extension top sections, whereby the same can be conveniently and quickly swung to their operative condition and whereby they will be automatically held locked to their turned-back or inoperative position and freed from rattling or loose setting.

My invention in its complete make-up also includes certain changes and improvements in the link connections that join the adjustable or swinging top sections to their holding rails or cleats, whereby when swung up in a plane with the fixed table-top sections they will be more firmly and properly held than is possible in my former patented construction of like parts and in which the use of dowels or like locking means for holding said extensible top sections are dispensed with.

In its more subordinate features my present invention embodies certain novel features of construction and peculiar combination of parts, all of which will hereinafter be fully described, and particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is an inverted perspective view of the table extended. Fig. 2 is a longitudinal section of one end of the same extended. Fig. 3 is a cross-section taken on the line 3 3 of Fig. 2. Fig. 4 is a similar view taken substantially on the line 4 4 of Fig. 2 with the end section folded under the main section. Fig. 5 is a longitudinal section of one of the extensible ends and illustrating one of the top portions thereof folded down in position to be slid under the central table-section. Fig. 6 is a detail view of one of the link members hereinafter referred to. Fig. 7 is a perspective view illustrating the preferred manner in which the continuous side piece is connected to the top section and the means for holding it automatically locked to its upright or closed-in positions. Fig. 8 is a vertical section of the same on the line 8 8 of Fig. 7. Fig. 9 is an inverted plan. Fig. 10 is a section on the line 10 10 of Fig. 9 of a slightly-modified construction of the hinge-joint for the continuous side piece. Fig. 11 is a detail perspective view, and Fig. 12 is a sectional view on the line 12 12 of Fig. 11, of a further modification of my invention.

Referring now to the accompanying drawings, in which like characters indicate like parts in all the figures, 1 designates the top of the central part of the table, which has pendent fixedly-held sides 1^a, the lower edges of which are fixedly joined to a number (three being shown) of cross-pieces 2, upon which the longitudinally-extending fixedly-held slide or guide bars 3 are held, which bars have suitable guide-flanges 3^a and grooves 3^b to receive the correspondingly-shaped runner or slide bars of the extensible end sections, presently referred to.

4 designates a metallic socket-piece fixedly and centrally secured to the under side of the central cross-piece 2, to which a central supporting-leg 5 is detachably secured in any approved manner.

The extensible end portions of the table (indicated by X and Y) are each constructed alike, and a detailed description and the mode of operation of one end portion will suffice for both. Each end portion includes a top section 10, which may consist of one solid member, as shown at *a* in Fig. 2, or several members, as shown in Fig. 5. Upon

the under side the top section 10 has a pair of longitudinally-extending cleats 10^c, to which one end of the swinging links 11, presently again referred to, are joined. When adjusted to its elevated position, the member 10 is held in a plane with the central top section 1; but when folded down it will lie in a plane below the said top section, so as to conveniently slide under the said section when the several parts are closed in, as shown in Figs. 4 and 5.

12 designates a pendent end piece fixedly secured to the cross-bar 16, and 13 13 designate the foldable side members, that form continuations of the pendent sides of the central or fixed table-section.

15 designates an inwardly-projecting cleat made fast to the end piece 12, and 16 is a cross-piece that is secured to the under side of the cleat 15.

17 17 designate the runner or slide bars, two of which are preferably connected to each extensible end section. These bars in cross-section are suitably shaped to slide freely on the fixedly-held guide-bars 3, and the said bars are made fast to the cleat 15 and the cross-piece 16, as clearly shown in the drawings. On the opposite ends the cross-bar 16 has metallic sockets 18 18 to receive the ends of the detachably-held supporting-legs 19 19.

The continuous side pieces 13, the peculiar connection of which with the top 10 forms an essential feature of my present invention, in their preferred form are joined to the member 10 in the manner best shown in Figs. 7 and 8, by reference to which it will be observed the side edges of the member 10 terminate in straight vertical portions and the sides 13 have their upper ends arranged to fit flush with the top surface of member 10 when the sides are down to their straight or pendent position.

Upon the inner face each side piece 13 has two cleats 13^x, separated at their adjacent ends, to which cleats one member 21^a of the hinges 21 are secured, the other member 21^b of which is made fast to the under side of the top section 10. As will be seen in Figs. 7 and 8, the cleats 13^x on the sides 13 and the hinged joint are relatively so disposed that when closed under the upper edge of the sides 13 will lie in a plane with the vertical side edge of the said top 10 to facilitate the sliding of the top, with its folded sides, between the stationary sides of the central part of the table.

At suitable points inside its edges supplemental cleats 23 are made fast on the under side of the top 10, against which the inner ends of the sides close when turned under, as shown in Figs. 7 and 8.

In my other patent referred to I have shown the continuous sides as foldable onto the top of the member 10, suitable pivotal link devices being shown for that purpose. In the construction shown in my other patent the link connections do not keep the foldable sides from loosely seating on the top 10 and from rattling. Furthermore, such arrangement is objectionable, as it tends to mar or otherwise mutilate the table-top.

I have found it preferable to fold the continuous side portions under the table and to hold them automatically locked in either the vertical or horizontal positions. For this purpose I employ an ordinary stout wire spring 25, which, as will be clearly seen by reference to Figs. 7 and 8, is seated in a recess 10^x, the outer end of which registers with the space between the hinge-cleats 13^x. The recess 10^x is made tapering from its inner end outward, (see Fig. 8,) whereby its outer end will have greater depth than the inner end, the purpose of which will presently appear.

The inner end of the spring 25 is secured to a stud 25^a, fixedly held in the inner or shallow end of the recess 10^x, and the outer end of such spring is made fast to the stud 25^b on the upper end of the side piece 13.

By making the recess 10^x tapering, in the manner shown and described, it permits fastening the opposite ends of the spring 25 in such manner that by reason of the draft or tension line thereof it will serve to automatically pull the member 13 when partly shifted by hand to either its open or vertical position or its folded horizontal position. Thus when the member 13 is pulled down to its pendent position and the outer end of the spring 25 passes above the horizontal plane or hinge-point of member 13 (indicated by the broken line 30 in Fig. 8) the spring will exert an inward pull on the upper end of the member 13 and in consequence hold it firmly locked to its vertical position and from loose play or rattling.

When the member 13 is partly turned under to its folded position, as indicated in dotted lines in Fig. 11, to bring the outer end of the spring 25 below the hinge axis or line 30, the spring draft or pull will draw the member 13 up to its horizontal position and hold it locked from rattling or loose play.

In my patent hereinbefore referred to the swinging top sections 10 are joined to the slide-bars by links; but the arrangement of the said links is such that dowels or other like devices are required to maintain the tops 10 in a proper level position.

In my present construction the links 11 are joined to the slide-bars 17 and the tops 10 in substantially the same manner as that shown in my patent aforesaid. The shape of the links 11 in the present case is, however, different, and they serve an additional function.

The head portions 11^x of the links 11 in the present case are extended in a forward direction to produce elongated flat bearing-surfaces 11^y to engage the under side of the top when it is elevated and provide a solid rest therefor. In placing the links 11 in position the forward links for each swinging top section are pivotally joined to the bar 17 and the

cleats 10^c, so that when to the vertical position the nose or front end 11^z thereof will project beyond the front edge of the top section, to which it joins, and extend under the adjacent edge of the fixed table-top or the next forward top section 10, as clearly shown in Fig. 4. This provides a solid bearing for the rear edges of the fixed and movable top sections, keeps said edges and the front edges of the adjacent sections in a proper alinement, and dispenses with the use of dowels or kindred devices usually employed for such purposes.

Figs. 9 and 10 illustrate a slightly-modified way of joining the hinged sides 13 to the top 10. The outer edges of the top are rabbeted, as at 10^d, to receive the rabbeted edges 13^d of the members 13. In the latter construction the supplemental cleats are dispensed with.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the complete operation and the advantages of my improvement will be readily understood.

To extend one or both ends of the table, the extensions are pulled out, the continuous side members are adjusted to their vertical position, the top is pulled up, and the extension pushed back to bring the forward edge of the top to about the adjacent end of the central or fixedly-held top 1 and the projecting or nose portions of the forward links 11 under said edge of top section 1.

In Figs. 11 and 12 are illustrated further modifications relating to the the spring connection that joins the continuous foldable sides with the top sections. In this form the spring member is in the nature of a spring-wire 25^x, the inner end of which is made fast to the under side of the top piece 10, while its outer end laps over a stud-pin 26^x, that extends over the space between the adjacent ends of the members 13^x, and, as best shown in Fig. 12, the said pin 26^x lies in a plane below the fixedly-held inner end. Thus the tension of the spring 25^x will hold the continuous side piece 13 to either of its adjustments mentioned at end of specifications, so that by reason of the peculiar construction of the members 11 and the connection with the members 17 and 10^c, and particularly the angle of the surface 11^y, to a line taken longitudinally through the two pivot-points of the said members 11, the swinging leaf members when raised to a plane with the fixed table-top will remain supported in their elevated position without leaning against or upon the ends of the table.

The hinge members, one of which is illustrated in Fig. 6, may be made of a rectangular body, as indicated in dotted lines in said Fig. 6, or the same have other shapes; but in all forms, however, the angle of the top surface and the correlation therewith of the two pivotal points must be maintained, as shown in full lines in Fig. 6.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an extension-table of the character described, the combination with the extensible slides; of a top member adjustable in different horizontal planes, and swinging link members pivotally joining said movable top with the extensible slides, said link members having flat bearing-surfaces, and portions adapted to project beyond the forward edge of the movable top section, whereby to extend under the bottom of an adjacent top section, as set forth.

2. In an extension-table of the character described, the combination with the fixedly-held table-top and the extensible slides; of a drop-top having pendent cleats, and a plurality of swinging links 11, said links each consisting of a pendent shank, pivotally connected to the pendent cleats, a forwardly-extending angular portion formed with a flat bearing-surface to engage the bottom of the drop-section when said section is in its elevated position, the forward one of said links being joined with the slide and the top cleat, in such manner that the outer end of its angle portion projects beyond the front edge of the movable top to engage the under face of the adjacent end of the fixedly-held top section when the extensible top section is closed thereagainst, for the purposes specified.

3. In an extension-table, the combination with the fixedly-held slides, and the fixedly-held top having pendent sides; of the extensible slides, a drop-leaf or top member carried thereon, pendent side members, hinged to the said drop-leaf to close thereunder to permit said drop-leaf passing under the fixed top, and automatically-operating means for holding said hinged sides to their vertical positions to form continuations of the fixedly-held sides, and for holding said hinged sides folded up under the drop-top, as specified.

4. In an extension-table, the combination with the fixedly-held top and its slides, said top having fixedly-held pendent sides; of the extensible slide members, a leaf or top member supported thereon for vertical adjustment, and adapted to fold down on the extensible slides in a plane below the fixedly-held table-top, said leaf having sides hinged thereto, and adapted, when swung to a vertical position, to form continuations of the fixedly-held sides, and means for holding the sides held locked to the vertical and the folded-under positions, for the purposes described.

5. In an extension-table as described, the combination with the foldable table-top section; of side members hinged thereto, to fold thereunder in a horizontal plane, said sides having their upper ends held to abut the outer edges of the top section when turned to their vertical position, and a spring, one end of which is secured to the table-top in a horizontal plane below the hinge-point of the sides, its other end being secured to the sides at a

point above said hinge-point, substantially as shown and for the purposes described.

6. In an extension-table of the character described, the combination with the main or fixed table-top, its fixed pendent sides, and the slide-guides of the extensible slides, the drop-top sections movable in different horizontal planes, pivotal connections joining said drop-sections with the extensible slides, said drop-sections including pendent sides in a plane with the said drop-sections, and to extend inward in a plane inside the fixedly-held pendent sides, for the purposes specified.

7. In a table of the character described, an extensible section including a top movable in different horizontal planes, said section having hinged pendent sides to fold in a plane parallel with the top, and means for automatically holding the said pendent sides locked to their horizontal or vertical adjustments, as set forth.

8. In an extension-table of the character described, the combination with the extensible slides and the drop-top; of the links 11, said links having a pivotal connection at one end with the top and at the other end with the slides, and having an upper bearing edge inclined at an acute angle to a line running longitudinally through the two pivotal points thereof, for the purposes set forth.

9. In an extension-table of the character described, the combination with the main table-section, having pendent sides; of an extensible top section foldable in a plane below the main top section, said extensible top having sides hinged thereto to form continuations of the main sides, and an automatically-operating means adapted to hold the said sides under tension to their vertical position when swung manually to such position and likewise to their horizontal or folded-in positions when turned inward, for the purposes specified.

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R. N. B. ASFORD.