

July 3, 1928.

1,675,827

A. T. SHRADER

TAKE DOWN TABLE

Filed June 30, 1925

2 Sheets-Sheet 1

Fig. 1.

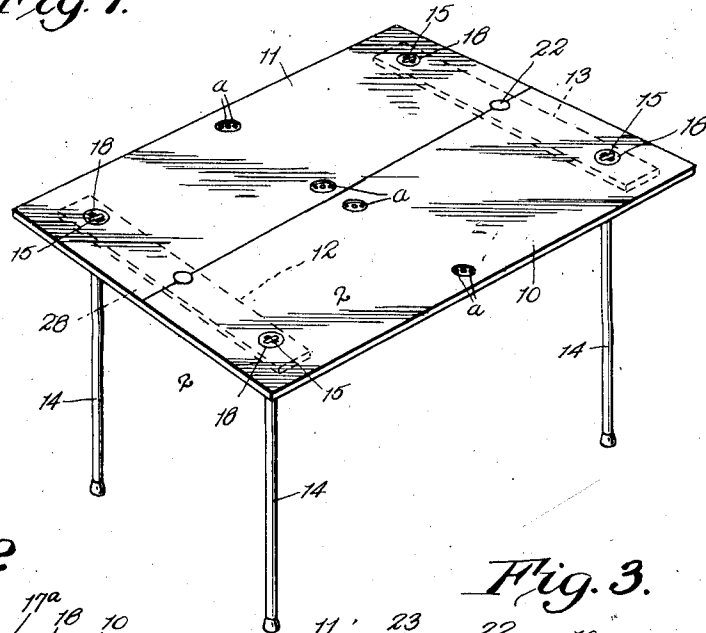


Fig. 2.

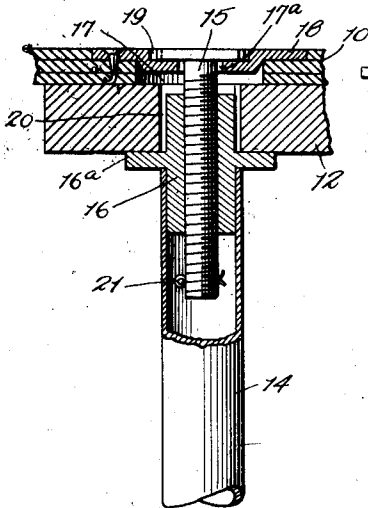
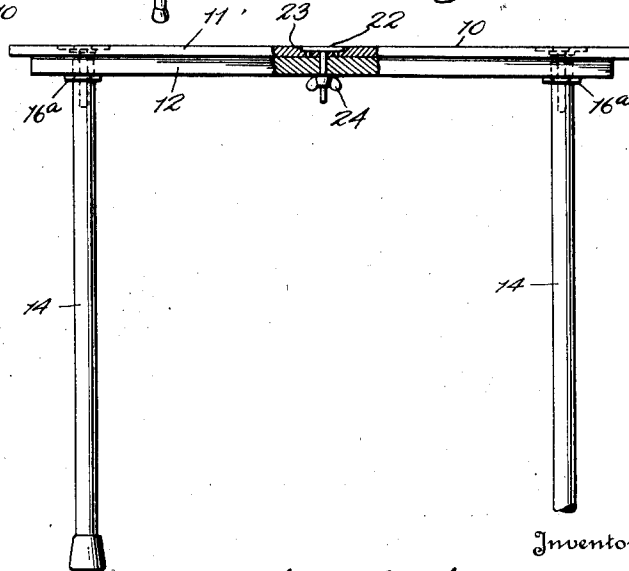


Fig. 3.



Inventor

Arthur T. Shrader

By *C. J. Stockman*

Attorney

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2 Sheets-Sheet 2

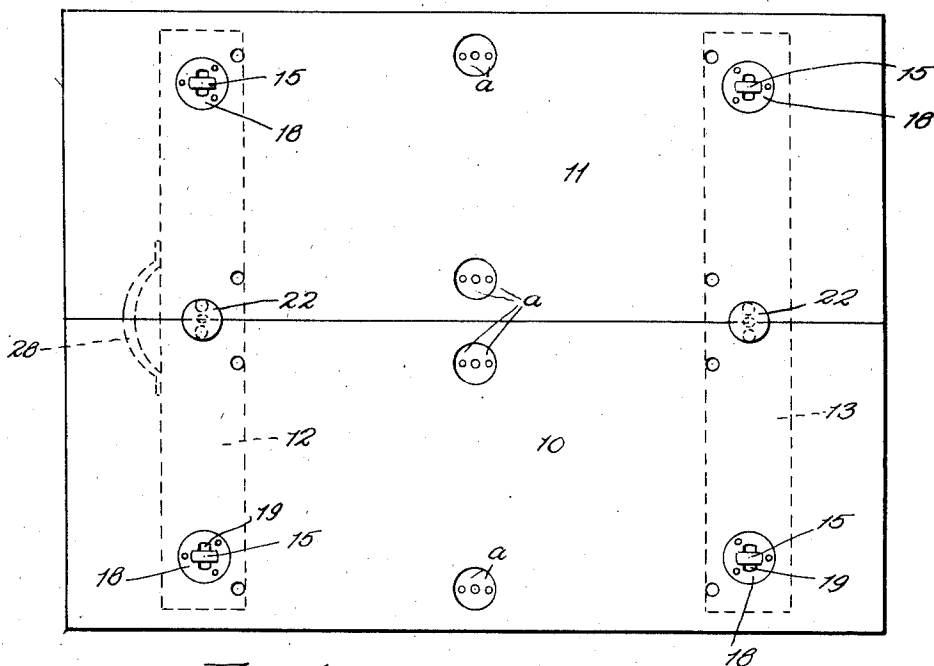


Fig. 4.

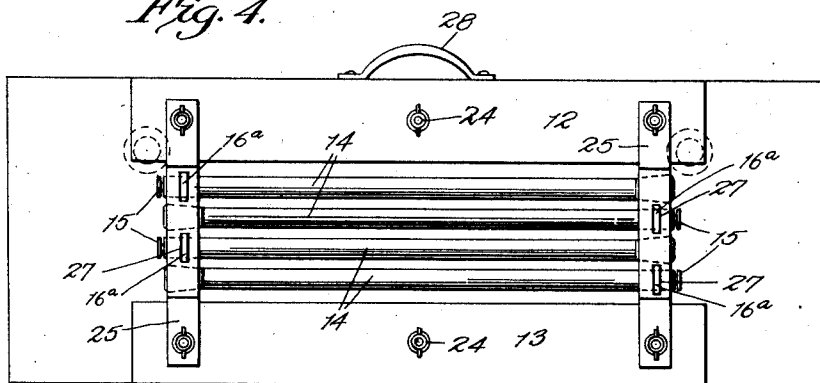


Fig. 5.

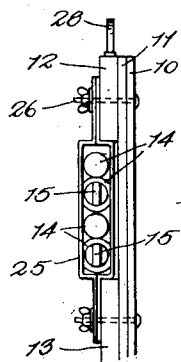


Fig. 6.

Inventor

Arthur J. Shrader

By C. J. Stockman

Attorney

UNITED STATES PATENT OFFICE.

ARTHUR T. SHRADER, OF NEW ALBANY, INDIANA.

TAKE-DOWN TABLE.

Application filed June 30, 1925. Serial No. 40,550.

This invention presents a table of take-down, or knock-down, type particularly designed for the use of automobilists while touring, but capable of a wider use. It has been my intention in the production of this table to provide one which will meet all the requirements of a practicable table of take-down type as well as certain requirements special to a table of said type for automobilists' use. Among these requirements, the following may be mentioned: (1) light weight combined with strength and durability; (2) a rigid union of all of the elements which go to make up the table, when the table is in assembled condition; (3) ease and rapidity with which the parts may be assembled and disassembled; (4) absence of liability of any of the elements from becoming lost or mislaid when the parts have been separated and arranged for storage purposes; and (5) provision for the arrangement of the parts and their maintenance in a most compact form for storage and transportation purposes.

This invention, therefore, comprises certain novel combinations of parts correlated to answer the foregoing several requirements. More particularly expressed, the invention comprises:

(A) A table whose top is composed of upper sections having their edges in a substantially abutting relation and lower members which cross the abutting edges of the lower sections, together with legs having shoulders below their upper extremities and whose portions above said shoulders extend through the lower members and into the upper sections and are provided with fastening elements which engage the upper sections and are adapted by relative rotative movement of the shoulders and fastening elements to act through the upper sections of the top to force the lower members of the top tightly upon the shoulders and thereby unite all the parts into a rigid unitary structure;

(B) A table of take-down character comprising a top and legs, the top having openings and the legs having their upper ends provided with fastening elements which substantially form a permanent part of the legs, since they are not detached in order to apply the legs to the top, or in removing the legs from the top, the legs having shoulders positioned below their upper ends, to be engaged by the underside of the top and the

portions of the legs above said shoulders, including the fastening elements, being insertible into and removable from the openings in the top from the underside of the top, and said fastening elements and legs being relatively adjustable by relative rotation thereof to set the fastening elements into holding relation with the top and to force the top and shoulders into a close engagement with each other;

(C) A table of take-down character whose top is composed of upper sections and of lower members which cross the confronting edges of the upper sections, and is provided with means for holding said sections and members in an assembled relation while the legs are being assembled with the top or are being separated from the top and which holding means are of such character as to permit the ready separation of the sections and removal of the members for storage purposes;

(D) A table of take-down character having a top composed of separable upper sections and lower members and also having legs which are readily separable from the top, together with fastening elements so correlated with the parts of the top and with the legs that when the table is in an assembled condition, the top and legs will be rigidly united into a unitary structure and when separated may be arranged in a very compact relation, the table also comprising means for holding the parts of the top in their stored relation and which means co-operates with the lower members of the top to overcome any tendency of the upper members of the top to become warped, even when said upper members are made, as they should be for the sake of lightness of construction, of thin material, which, therefore, is highly susceptible to a warping tendency, especially when the table is subjected to outside atmospheric conditions.

The invention further consists in certain details with relation to the construction of certain of its parts, calculated to carry out the objects of the invention in a most advantageous manner.

In the accompanying drawings, wherein like characters of reference denote corresponding parts in the several views, I have illustrated an embodiment of the invention wherein the several purposes of the invention are carried out by means of most simple and practicable nature, and while I shall

describe said embodiment in detail I would have it understood that the invention is not restricted in all respects thereto and that changes may be made in details and that features of the invention may be embodied in specifically different forms without departing from the spirit of the invention as defined by appended claims. In said drawings:—

Fig. 1 is a perspective view of the table, assembled for use,

Fig. 2 is an enlarged fragmentary sectional view taken substantially on line 2—2 of Fig. 1 illustrating the detail construction of the leg fastening means and how the parts assembled for use are secured in position thereby,

Fig. 3 is an end view of the table with a portion broken away to illustrate the construction of additional securing means,

Fig. 4 is a plan view of the table as shown in Figs. 1 and 3,

Fig. 5 is a side view of the table in its knock-down condition and reassembled in a compact package for storage or transportation, and

Fig. 6 is an end view of the knock-down condition of the table as shown in Fig. 5.

The top here shown is composed of two longitudinal sections 10 and 11 whose edges are in an abutting relation when assembled, and battens or cross members 12 and 13 arranged at the ends of the table and crossing the junction at the abutting edges of the sections 10 and 11, beneath which the said cross members are arranged. All these parts are separable.

This top is supported and all the parts thereof drawn tightly together and held rigidly in proper relation for use by the legs 14, the upper ends of which carry co-operating fastening means to extend through the table top sections and the transverse battens forming the top. As an example of one form of fastening means, the present embodiment shows a bolt 15, having a T head, threaded longitudinally in the upper end of each leg 14. The legs are preferably made of tubular metal and each have fitted and secured in their upper ends a boss or plug 16, each boss having an intermediate flange extending around the same to provide a shoulder or flange 16^a projecting laterally from the respective legs 14 to be engaged by and to support the top.

The top sections are formed with apertures 17 at corners corresponding to the corners of the assembled table. These apertures 17 may be in the form of elongated slots made directly in the sections 10 and 11, but, where the sections are of wood or other relatively soft material, the apertures may be enlarged openings covered by a metal plate 18 counter-sunk in the sections, each plate being formed with a slot 17^a to permit

the head of a T-bolt 15 to be inserted there-through, as shown in Fig. 2. After inserting the bolt 15 in the slots 17 from the underside of the top their heads are turned at right angles with respect to the slots to be received in a corresponding recess 19 in the plate 18. It is therefore obvious that when the heads of the bolts have been turned to register with the corresponding recesses 19 and have been seated in said recesses, the several parts composing the top may be rigidly united to each other and to the legs 14 by turning said legs, the parts of the top thereby being clamped between the shoulders 16^a and the heads of the bolts. It is, of course, understood that the battens are formed with openings 20 which align with the apertures 17 and into which the upper end of the respective legs or the boss partially extends for the purpose of centering the legs in position and giving added strength to the construction. The bolts 15 may be held in the boss against removal by pins 21 extending transversely through their inner ends.

To hold the several parts which compose the top in an assembled relation while the legs are being applied, as well as to further reinforce the table when all the parts thereof have been assembled, means of suitable nature are provided for securing the top sections 10 and 11 adjacent their abutting edges, and the lower members or battens 12 and 13 to each other. The means here shown comprise lock-bolts 22 each of which is in the form of a T-head bolt having downwardly extending prongs on the ends of the arms of said head. The shank of the bolt is received between opposing notches in the abutting edges of the sections 10 and 11, which form an opening when the sections are assembled for table purposes, and the prongs 23, respectively, engage in depressions in said sections. There are preferably two of said lock-bolts 22, one extending through an opening in the center of each batten, wing-nuts 24 being provided to hold the parts together. It will thus be seen that by tightening the wing-nut 24, the top sections and battens are clamped together along a medial line of the table, and may thereby be maintained rigidly in assembled position while the legs are being applied and tightened, or while said legs are being loosened and removed, as well as the rigidity of the top when the parts are assembled. The provision of fastening elements for securing the top sections to the battens or lower members of the top along the medial line of said sections also contributes to the durability of the top as well as to the lightness of the construction thereof, since they substantially reduce the tendency of the top sections to become warped when made of light material.

To knock-down or disassemble the table,

it is only necessary (1), to turn the legs to slacken the bolts 15 until the T-heads thereof can be removed through the slots 17, the legs being thus disconnected; and (2) to slacken the nuts 24 in order that the prongs 22 on the T-heads of the bolts 22 may be disengaged from the top sections, so that the section and batten may be separated and taken apart.

With parts thus disassembled they may be rearranged to form a compact bundle or package for easy transportation or storage.

This is accomplished by arranging the sections 10 and 11 face to face (see Fig. 6) and positioning the battens thereagainst one along each longitudinal side of the one of said sections. Thus the parts which form the top are held together in such a way as to overcome any tendency to warping when they are in a stored relation. The lock-bolts 22 are then positioned with their T-heads through aligned openings *a* located in the middle of the top sections 10 and 11 near the said edges thereof, and through the corresponding openings in the battens aligned with the openings *a* whereby the sections and the battens may be initially secured together by tightening up on the wing-nuts 24.

The legs 14 are then placed side by side in the space between the two battens 12 and 13 and in juxtaposition with one of the top sections and are held in place by two bars or strips 25 of metal, or other material, disposed to extend transversely across and overlie the ends of the legs. The strips or straps 25 are secured at their ends by bolts 26 removable extending through the battens 12 and 13 and preferably, but not necessarily, through the sections 10 and 11, as shown in Figs. 5 and 6.

The intermediate portions of the straps 25 are offset outwardly to accommodate the thickness of the legs and these portions are further formed with slots 27 in which the flanges or shoulders 16^a protrude, thus securely maintaining the legs against displacement. For compactness, the flanged ends of the legs are alternately arranged so that there is two slots 26 in each strap 25.

For convenience in transporting the table, a handle 28 is provided at the center of a longitudinal edge of one of said battens so that it will project upwardly into position to be readily grasped when the parts of the table are in the compact form shown in Figs. 5 and 6, but this handle will be out of the way and obscured when the table is assembled as shown in Fig. 1.

It will be apparent that the table thus described, is of extremely simple construction and that it may be taken apart and stored or transported in very compact form and very quickly and without the use of tools,

by slackening the bolts 15 until the legs can be removed, and by slackening the nuts 24. The operation of assembling the table for use is equally simple, it being only necessary to assemble the top, insert the upper ends of the legs therethrough and tighten the bolts 15 by turning the legs, and in case further rigidity is desired for the top, tighten the wing-nuts 24. When the table is assembled, the strap 25 may be suspended from the underside of the table top by the bolts 26 in order to prevent them from being misplaced.

Having now described a preferred embodiment of the invention, what is claimed is:—

1. A take-down table comprising a top and a leg; the top provided with an opening and the leg provided with a shoulder to engage the underside of the top and with a fastening element having a laterally extending head above said shoulder, the shoulder and head being relatively adjustable by relative rotation thereof to clamp the top removably to the leg and the head of the fastening element being settable into a position in which it may be inserted through the opening in the top and also settable into a position with relation to such opening in which it will engage the top at a place adjacent the opening, and said top having at the latter place a channel to receive the head and prevent rotation of the top with the shoulder.

2. A take-down table comprising a top and a leg; the leg having an internally threaded member mounted at the upper end, said member having a shoulder below its upper end to form a rest for the top, the leg also having a fastening element which forms a permanent part of the internally threaded member and is screwed therein and projects thereabove and has its upper end provided with a lateral projection; and the top having an opening to receive the portion of the internally threaded member above the shoulder and the portion of the fastening element projecting from said member, and also having a channel adjacent said opening into which the lateral projection of the fastening element may be seated by a partial rotation of the fastening element, said channel and lateral projection co-operating to hold the fastening element against rotation when the leg is being turned to draw the top into a secured engagement with the shoulder.

3. A take-down table comprising a top and a leg; the leg having a portion to engage the underside of the top to support the same, and including a fastening element which projects above the said top engaging portion and has a threaded engagement with the leg and is provided at its upper end with a lateral projection; and the top having an opening through which the fastening ele-

ment is insertible from the underside of the top in assembling the leg and top and also having a channel adjacent said opening, the said channel being positioned to receive the lateral projection from the fastening element, respectively, when the leg has been assembled with the top and has been given a partial rotation, the lateral projection and channel co-operating to hold the fastening element against rotation with the leg and thereby enabling the top and the top-engaging portion of the leg to be drawn into a secure engagement with each other by rotation of the legs.

4. A take-down table comprising a top formed of sections and provided with members which extend across the confronting edges of said sections, and supporting legs whose upper ends are provided with relatively movable devices co-operating to secure the top, cross members and legs removably together, said sections being adapted to be arranged face to face in juxta-relation when in knock-down condition, with the cross-members positioned against the outer face of one of said sections and along opposite sides thereof to provide a space between the members, in which the leg may be positioned side by side against one of the sections, and straps to extend transversely across the legs when so arranged for packing, and means for maintaining said straps, members and sections in said compacted relation.

5. A take-down table, in knock-down condition for storage and transportation, comprising a table-top, battens for the top separable therefrom and arranged longitudinally along the side edges of one face of the top, separable supporting legs attachable to the top, when the table is assembled, and arranged on and parallel with the top between said battens, and straps connecting said battens and spaced from the top to overlie said legs and maintain the same in position, and means for binding the parts together.

6. A take-down table, in knock-down condition for storage or transportation, comprising table top sections arranged face to face, battens for the top separable from the latter and positioned against the outer face of one of said sections and along opposite sides thereof, said battens being adapted to extend across confronting edges of said top sections in the assembled table, separable supporting legs for the table lying between the battens and parallel with and against one of said sections, and straps connecting said battens or overlying said leg therebetween to maintain the same in position, and means for binding the parts together.

7. A take-down table, in knock-down condition for storage or transportation, comprising table top sections arranged face to face, battens for the top separable from the

latter and positioned against the outer face of one of said sections and along opposite sides thereof, said battens being adapted to extend across confronting edges of said top sections in the assembled table, separable supporting legs for the table lying between the battens and parallel with and against one of said sections, and straps connecting said battens or overlying said leg therebetween to maintain the same in position, and lock-bolts having nuts thereon extending through the battens and said top sections for binding the battens and sections together, said bolts being also engageable between the confronting edges of the top sections while extending through the battens when the table is assembled, for binding the parts together.

8. A take-down table, in knock-down condition for storage and transportation, comprising a table-top, battens for the top separable therefrom and arranged longitudinally along the side edges on one face of the top, separable supporting legs attachable to the top, when the table is assembled, and arranged on and parallel with the top between said battens, and straps connecting said battens and spaced from the top to overlie said legs and maintain the same in position, and means for binding the parts together, said strap having slots therein in which projections on said legs extend for holding the latter against displacement.

9. A take-down table, in knock-down condition for storage and transportation, comprising a table-top, battens for the top separable therefrom and arranged longitudinally along the side edges on one face of the top, separable supporting legs attachable to the top, when the table is assembled, and arranged on and parallel with the top between said battens, and straps connecting said battens and spaced from the top to overlie said legs and maintain the same in position, means for binding the parts together, and a handle on the side edge of one of said battens.

10. In combination, a table provided with a series of openings, legs for supporting said table and adapted to be quickly attached to and detached therefrom, each of said legs comprising as a part thereof a boss having a shouldered portion for engaging the underside of the table, said boss being interiorly screw-threaded and a clamp threaded to said boss, said clamp constituting a portion of said leg and adapted to be inserted through said openings, said clamp and leg being relatively adjustable in a vertical direction whereby the rotative action of the leg serves to thread the clamp downwardly into tight engagement with the upper surface of said table to thereby secure the table top and legs together.

11. A table leg fastener comprising a plug

secured to the upper extremity of said leg, a clamp threadedly engageable in said plug and constituting an inseparable extension of said leg, said boss and clamp adapted to be
5 inserted through openings provided in a table from the underside thereof, said legs and clamp being relatively adjustable in a vertical direction by a rotary movement of said leg and boss to thereby secure the table
10 and leg together.

12. A table construction including a table top having leg openings, apertured plates secured over the openings, legs for said
15 table, each of said legs having a flange extending therearound adjacent to its upper end and having a reduced portion above said flange fitted in one of said openings, a threaded member extending into the reduced portion of each leg and engaging the
20 plate associated therewith whereby said threaded member is adapted to move the leg towards the table top to set up a binding ac-

tion between the flange and under surface of the table top upon rotative action of the leg.

25 13. A table construction including a table top having leg openings, apertured recessed plates positioned over the openings and lying flush with the table top, said plates being secured over the openings, legs for said
30 table, each of said legs having a flange extending therearound adjacent to its upper end and having a reduced portion above said flange fitted in one of said openings, a threaded member extending into the reduced
35 portion of said leg and engaging the plate associated therewith whereby said threaded member is adapted to move the leg towards the table top to set up a binding action between the flange and under surface of the
40 table top upon rotative action of the leg.

In testimony whereof I affix my signature.

ARTHUR T. SHRADER.