

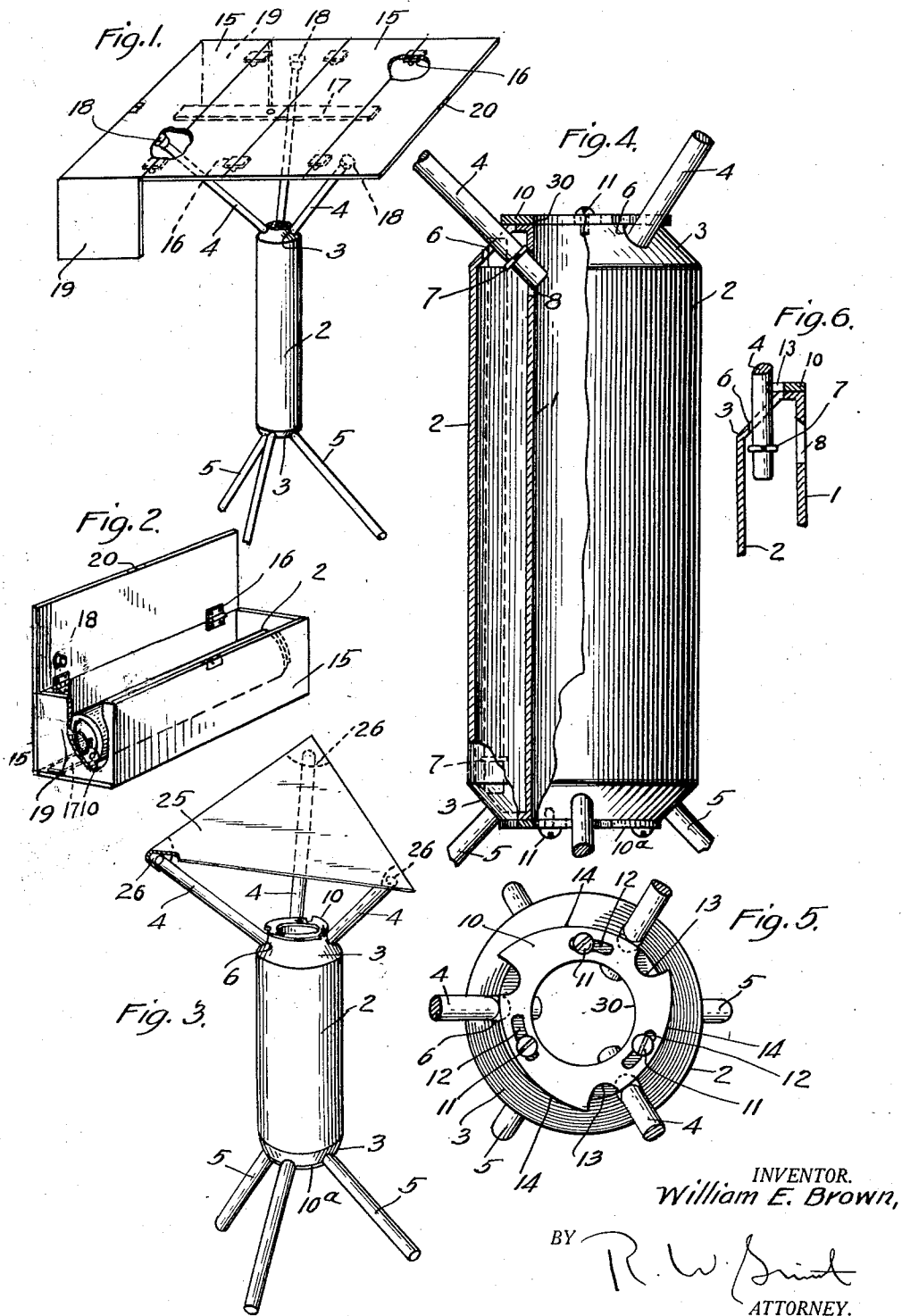
Dec. 2, 1930.

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1,783,558

FOLDING SUPPORT

Filed April 22, 1927



UNITED STATES PATENT OFFICE

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FOLDING SUPPORT

Application filed April 22, 1927. Serial No. 185,768.

This invention is a folding support particularly useful for campers and the like and adapted to form a support for a table, stool, etc.; and it is the object of the invention to provide an extremely simple construction which may be compactly collapsed and form an integral package with the table top, seat, or the like which it is adapted to support, and which may be as readily extended to operative position forming a spider support for the table top or the like.

It is a further object of the invention to provide a support comprising an intermediate tubular structure adapted for outwardly flaring longitudinal projection of supporting arms and legs beyond its respective ends when the support is in operative position, so that the legs may rest upon the ground and a table top, seat, etc. may be supported on the arms, the device being also arranged for telescoping of the arms and legs in the tubular structure when the support is folded, so as to occupy minimum space with the legs and arms completely concealed within and protected by the tubular structure.

It is a still further object of the invention to provide for readily locking the arms and legs in either extended or telescoped position by an extremely simple but positive and reliable locking mechanism; and to so construct the parts that when the arms and legs are locked in operative position they provide an extremely sturdy construction utilizing maximum inherent strength of the parts for supporting the weight.

It is a still further object of the invention to provide a construction particularly adapted for use as a table, the table top being arranged to fold and form a container for the folded support when the device is collapsed ready for transportation, and the table top being adapted for extension as a rigid structure which may be mounted on the extended arms of the support, when the device is set up in operative position.

Further objects of the invention will be readily understood from the following description of the accompanying drawings, in which:

Fig. 1 is a perspective view of the support

used in a table construction, with the parts extended so as to adapt the table for use.

Fig. 2 is a similar view with the parts collapsed ready for transporting the table.

Fig. 3 is a view similar to Fig. 1 showing the support adapted for use as a stool.

Fig. 4 is a side elevation of the support, partly in axial section, showing the legs and arms in operative and folded position by means of solid and broken lines respectively.

Fig. 5 is a top plan view of the support with the legs and arms extended.

Fig. 6 is a fragmentary axial section through the support, showing one of the arms in the position to which it is shifted for telescoping the same.

The support includes a tubular casing and supporting rods adapted to telescope therein or project beyond the respective ends of the casing. The casing comprises inner and outer cylinders 1 and 2 connected at their ends by angular shoulders 3 which are angularly disposed as shown in Fig. 4, the annular space between the inner and outer cylinders being adapted for reception of the supporting rods when the latter are collapsed, and the angular shoulders 3 being arranged for projection of the supporting rods therebeyond when in operative position, with the inner ends of the rods engaged by inner cylinder 1 to retain the rods in extended position.

The supporting rods form arms 4 and legs 5 adapted to project beyond the respective ends of the tubular support, said arms and legs being each circumferentially equidistantly spaced and preferably forming tripod constructions when projected, with said arms and legs circumferentially staggered with relation to one another as shown in Fig. 5 to permit reception of all of the rods in the tubular support when the device is telescoped.

The construction permitting projection or telescoping of the rods at the respective ends of the tubular structure is identical, and comprises openings 6 in shoulder 3 through which the rods are adapted to slide, the said openings being diametrically elongated radially of the tubular support as shown in Fig. 5, so that when the rods are projected they may

be swung outwardly to the angular position shown in Fig. 4.

Abutments 7, which may be split wire rings seating in annular grooves in the rods, are provided adjacent the inner ends of the arms and legs so as to engage the walls of openings 6 for preventing complete withdrawal of the rods when they are projected; and these abutments are also so positioned, that after angular projection of the rods, their inner ends may be inserted in axially elongated openings 8 in inner cylinder 1, with the said abutments engaging the walls of the openings as shown in Fig. 4 to fix the rods in their angularly projecting position.

To subsequently telescope the rods within the tubular support, it is only necessary to withdraw the rods until they are clear of openings 8, whereupon they may be swung back to position parallel to the axis of the tubular support and may then be slid through openings 6 and telescoped as shown in broken lines in Fig. 4. The rods are preferably of a length so that when telescoped their inner ends abut against the shoulder 3 at the opposite end of the tubular support with the outer ends of the rods projecting slightly beyond openings 6 to maintain the alinement of the rods.

Means are provided for locking the rods in telescoped or projected position, and for this purpose locking cams 10—10^a are adapted for rotary movement on the respective ends of the tubular support, with said rotary movement suitably limited, as for example by screws 11 extending through arcuate slots 12 in the cams and threaded into the ends of the tubular support. The outer peripheries of the cams partially overlie openings 6, but are recessed as shown at 13, so that turning the cams to their limit of movement in one direction will aline the recesses 13 with openings 6 to permit free withdrawal of the supporting rods. The outer peripheries of the cams between recesses 13 form arcuate locking surfaces 14 of gradually increasing radius, so that after the supporting rods have been projected in operative position or telescoped in inoperative position, turning of the cams to their opposite limit of movement will cause locking surfaces 14 to overlie the ends of the supporting rods when the latter are telescoped, and will cause locking surfaces 14 to wedge against the supporting rods as shown in Fig. 4 when said rods are angularly projected, thereby locking the rods in either operative or inoperative position.

The support as thus described may be used as a table, stool, or the like by mounting a suitable supporting surface on the extended arms 4 and resting the projected legs 5 on the ground.

The table construction illustrated in Figs. 1 and 2 includes a table top formed of a plurality of leaves 15 so hinged together as

shown at 16 that they may be extended as shown in Fig. 1 to form the table top, the leaves being braced relative to one another by a pivoted support 17 which is adapted to extend transversely of the leaves and support the same, and the ends of arms 4 being detachably received in suitable sockets 18 mounted on the underside of the leaves.

When the table is folded for transportation, the arms 4 and legs 5 are telescoped in the tubular support as previously described, and the resulting compact cylindrical structure is stored in a box-like container formed of the table top. To form the container, support 17 is swung lengthwise of the leaves 15 and the leaves are then folded at their hinge connections 16 as shown in Fig. 2, the ends of the box which is thus constructed being preferably closed by panels 19 which are provided at the ends of one of the outer leaves 15 and which depend from the table top so that they are not in the way when the table top is extended for use. The opposite outer leaf of the table top forms a swinging lid for the box, and a suitable latch connection 20 may be provided for locking the lid in closed position.

In the form of the invention illustrated in Fig. 3 the arms of the telescopic support have a seat mounted thereon so as to form a stool, the seat shown at 25 being preferably of pliable material and of a shape to fit the spread of arms 4, with pockets 26 at the underside of the corners of the seat adapted to removably receive the ends of the arms. By making the seat of pliable material it forms a comfortable seating surface, and when the device is collapsed for transportation, the seat after being disengaged from arms 4 may be rolled into a small space and stored in the hollow bore of inner cylinder 1 of the folding support. To permit access to this hollow bore the cam 10 preferably has an opening 30 at its center as shown in Fig. 5, while in order to close the opposite end of the hollow bore the cam 10^a is preferably a solid disc.

I claim:

1. A device of the character described comprising a support having a radially projecting shoulder at its end, said shoulder having openings therethrough, rods adapted for projection through said openings so that the outer ends of the rods flare outwardly beyond said shoulder, the said support having openings therein adapted to removably receive the inner ends of the rods when the latter are in projected position to retain said rods in said projected position, and a locking member mounted on the shoulder and having wedging surfaces, said locking member being adapted for sliding adjustment so as to engage the projected rods by said wedging surfaces for gradually wedging the rods in projected position.

2. A device of the character described comprising a support having a radially projecting shoulder at its end, said shoulder having openings therethrough, rods adapted for projection through said openings so that the outer ends of the rods flare outwardly beyond said shoulder, the said support having openings therein adapted to removably receive the inner ends of the rods when the latter are in projected position, and the rods having abutments thereon adjacent their inner ends adapted to engage the walls of said shoulder openings for limiting projection of said rods and adapted to engage the walls of the openings in the support for limiting reception of the inner ends of the rods in said openings, and a locking member mounted on the shoulder and having wedging surfaces, said locking member being adapted for sliding adjustment so as to engage the projected rods by said wedging surfaces for gradually wedging the rods in projected position.

3. A device of the character described comprising a support having a radially projecting shoulder at its end, said shoulder having openings therethrough, rods adapted for projection through said openings so that the outer ends of the rods flare outwardly beyond said shoulder with the inner ends of the rods engaged by said support, and a locking member mounted on the shoulder and having wedging surfaces, said locking member being adapted for sliding adjustment so as to engage the projected rods by said wedging surfaces for gradually wedging the rods in projected position.

4. A device of the character described comprising a support having a radially projecting shoulder at its end, said shoulder having openings therethrough, rods adapted to slide through said openings to retracted position alongside the support or to projected position with their outer ends flaring outwardly beyond said shoulder and their inner ends engaged by the support, and a locking member mounted on the shoulder and having wedging surfaces, said locking member being adapted for sliding adjustment in opposite directions so as to selectively engage the projected rods by said wedging surfaces for gradually wedging the rods in projected position or overlie the retracted rods by the locking member so as to prevent movement of the rods to projected position.

5. A device of the character described comprising a support formed by radially spaced cylinders defining an annular space between the same and connected at their ends by an annular shoulder which offers no obstruction to access to the interior of the inner cylinder which forms a storage space, said shoulder having openings therethrough, rods adapted to slide through the openings for reception in said annular space or outwardly flaring pro-

jection of the outer ends of the rods beyond the annular space with the inner ends of the rods engaged by the support, and a flexible member adapted for mounting on the flaring rods when the latter are projected and adapted for folding and storage in the inner cylinder when the rods are retracted.

6. A device of the character described comprising a support formed by radially spaced cylinders defining an annular space between the same and connected at their ends by an annular shoulder, said shoulder having openings therethrough, rods adapted to slide through the openings for reception in said annular space or outwardly flaring projection of the outer ends of the rods beyond the annular space with the inner ends of the rods engaged by the support, an annulus mounted on the annular shoulder, said shoulder and annulus offering no obstruction to access to the interior of the inner cylinder which forms a storage space, said annulus being adapted for movement to lock the rods in their flaring position, and a flexible member adapted for mounting on the flaring rods when the latter are projected and adapted for folding and storage in the inner cylinder when the rods are retracted.

7. A device of the character described comprising a support formed by radially spaced cylinders defining an annular space between the same and connected at their ends by annular shoulders, said shoulders having openings therethrough, rods adapted to slide through the openings for reception in said annular space or outwardly flaring projection of the outer ends of the rods beyond the respective ends of the annular space with the inner ends of the rods engaged by the support, an annulus mounted on one of said annular shoulders, the said shoulder and annulus offering no obstruction to access to the interior of the inner cylinder which forms a storage space, a closure plate mounted on the other of said shoulders, and closing the end of the storage space in the inner cylinder, the said annulus and closure plate being adapted for movement to lock the rods in their flaring position, and a flexible member adapted for mounting on the flaring rods at one end of the support when said rods are projected, and adapted for folding and storage in the inner cylinder when the rods are retracted.

8. A device of the character described comprising a support having a radially projecting shoulder at its end, said shoulder having openings therethrough, rods adapted for projection through said openings so that the outer ends of the rods flare outwardly beyond said shoulder with the inner ends of the rods engaged by said support, and a locking member rotatably mounted on the shoulder and having an outer periphery comprising eccentric cam surfaces of gradually increasing radius in one same circumferential direc-

tion, the said locking member being adapted to be turned so as to engage the projected rods by the cam surfaces for gradually wedging the rods in projected position.

5 9. A device of the character described comprising a support formed by radially spaced cylinders, the inner cylinder having an open
10 end with said cylinders defining an annular space between the same and connected at said open end of the inner cylinder by an annular
shoulder which offers no obstruction to access to said open end of the inner cylinder, said shoulder having openings therethrough,
15 rods adapted to slide through the openings for reception in said annular space or outwardly flaring projection of the outer ends
of the rods beyond the annular space with the inner ends of the rods engaged by the support, and a flexible member adapted for
20 mounting on the flaring rods when the latter are projected and adapted for dismounting from the rods and folding and reception
in the inner cylinder through its open end when the rods are retracted.

25 10. A device of the character described comprising a support formed by radially spaced cylinders, the inner cylinder having
an open end with said cylinders defining an annular space between the same and connected at said open end of the inner cylinder
30 by an annular shoulder which offers no obstruction to access to said open end of the inner cylinder, said shoulder having openings
therethrough, and rods adapted to slide through the openings for reception in said
35 annular space or outwardly flaring projection of the outer ends of the rods beyond the annular space with the inner ends of the rods
engaged by the support.

40 11. A device of the character described comprising a support formed by radially spaced cylinders, the inner cylinder having
an open end with said cylinders defining an annular space between the same and connected at said open end of the inner cylinder
45 by an annular shoulder, said shoulder having openings therethrough, rods adapted to slide through the openings for reception in said
annular space or outwardly flaring projection of the outer ends of the rods beyond
50 the annular space with the inner ends of the rods engaged by the support, and a locking annulus rotatably mounted on the annular
shoulder and adapted to lock the rods in their flaring position, said shoulder and
55 annulus offering no obstruction to access to the open end of the inner cylinder.

In testimony whereof he has affixed his signature to this specification.

60 WILLIAM E. BROWN.