J. W. CAMPBELL.

CONVERTIBLE CASE OR STAND.

APPLICATION FILED MAR. 25, 1915.

1,167,046.

Patented Jan. 4, 1916.

2 SHEETS—SHEET 1.

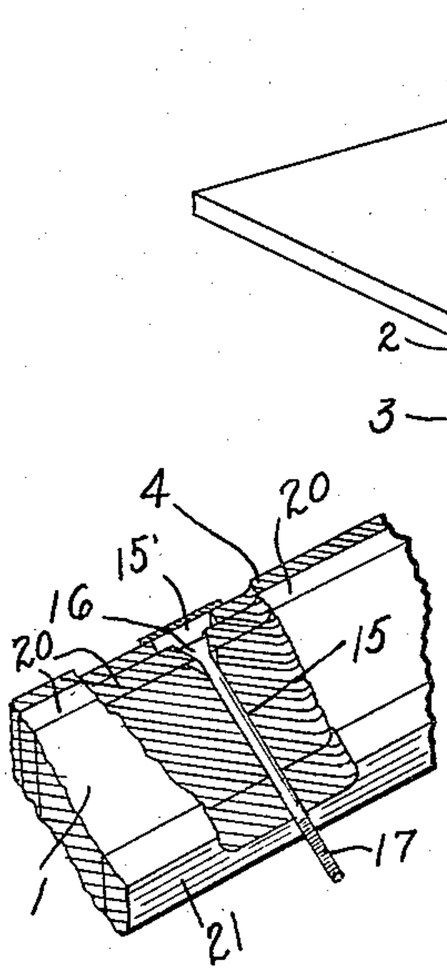

FIG. 4.

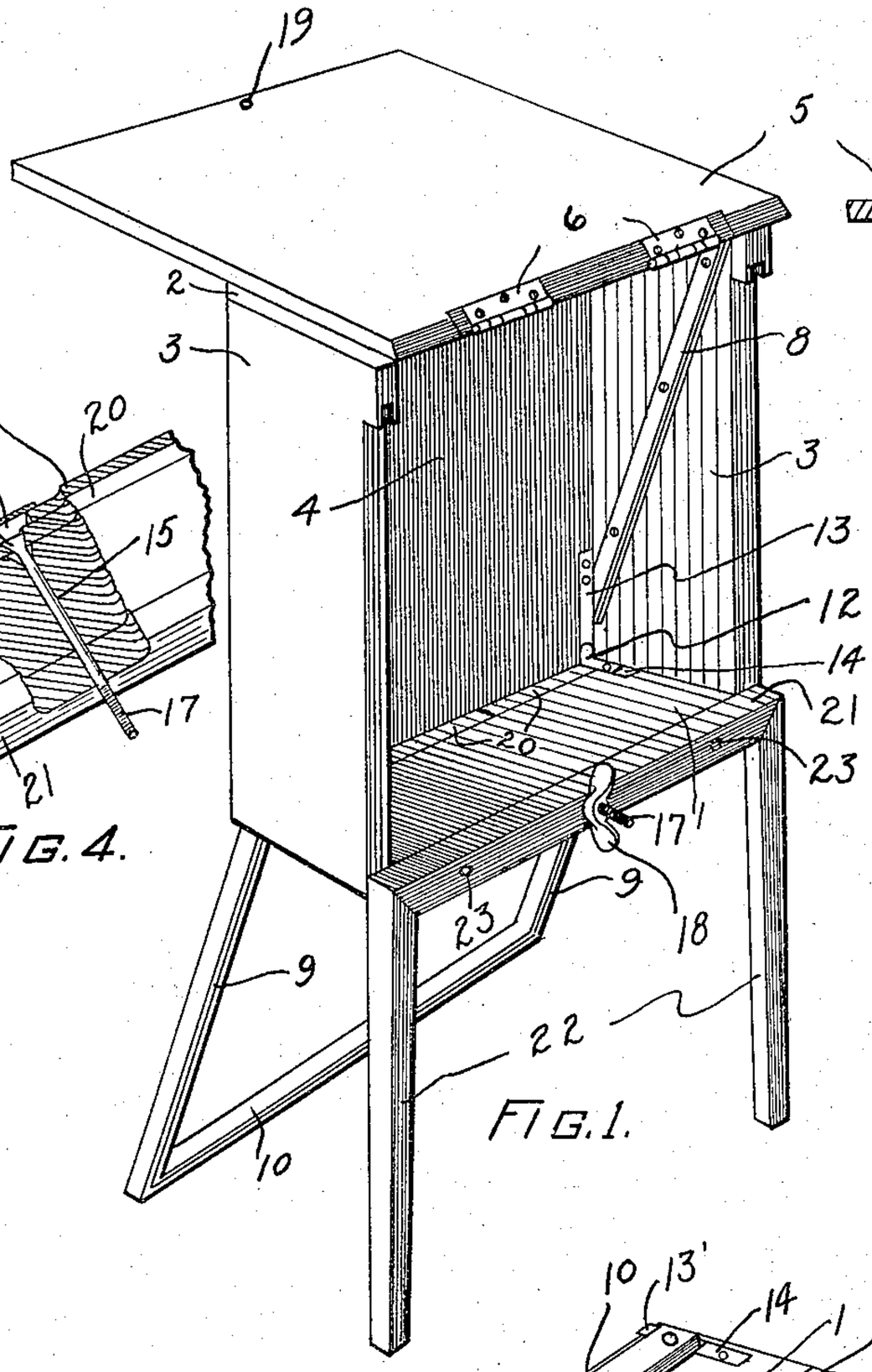

FIG. 1.

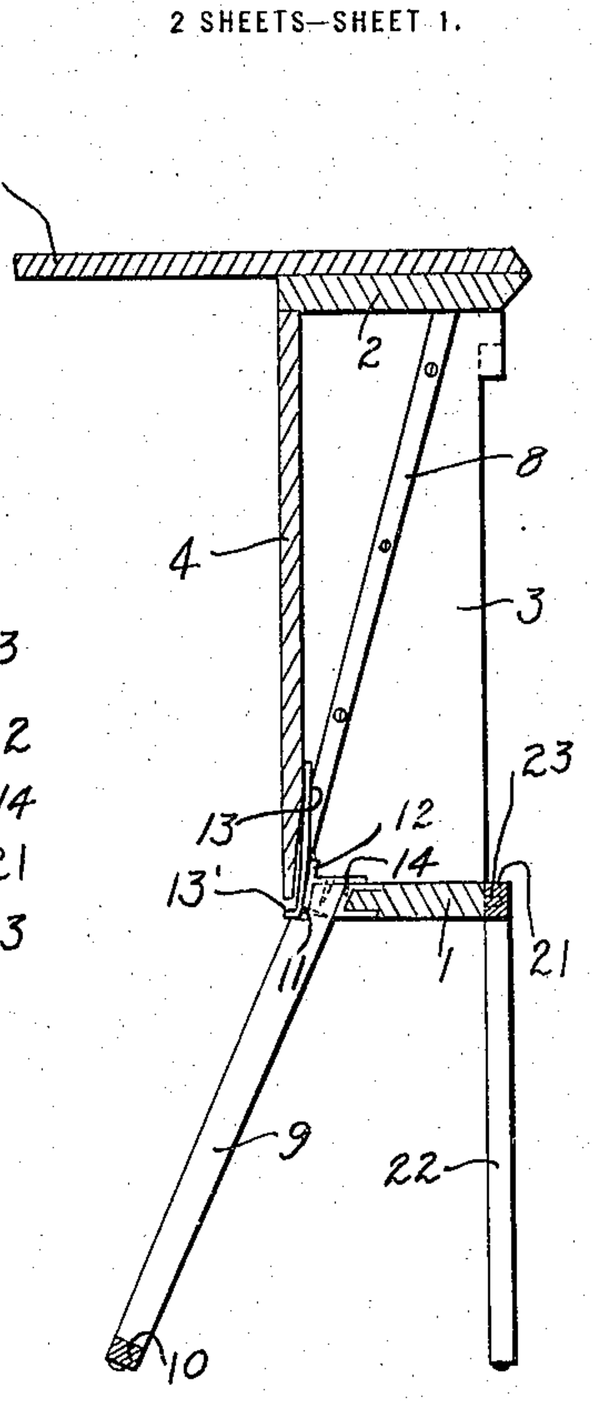

FIG. 2.

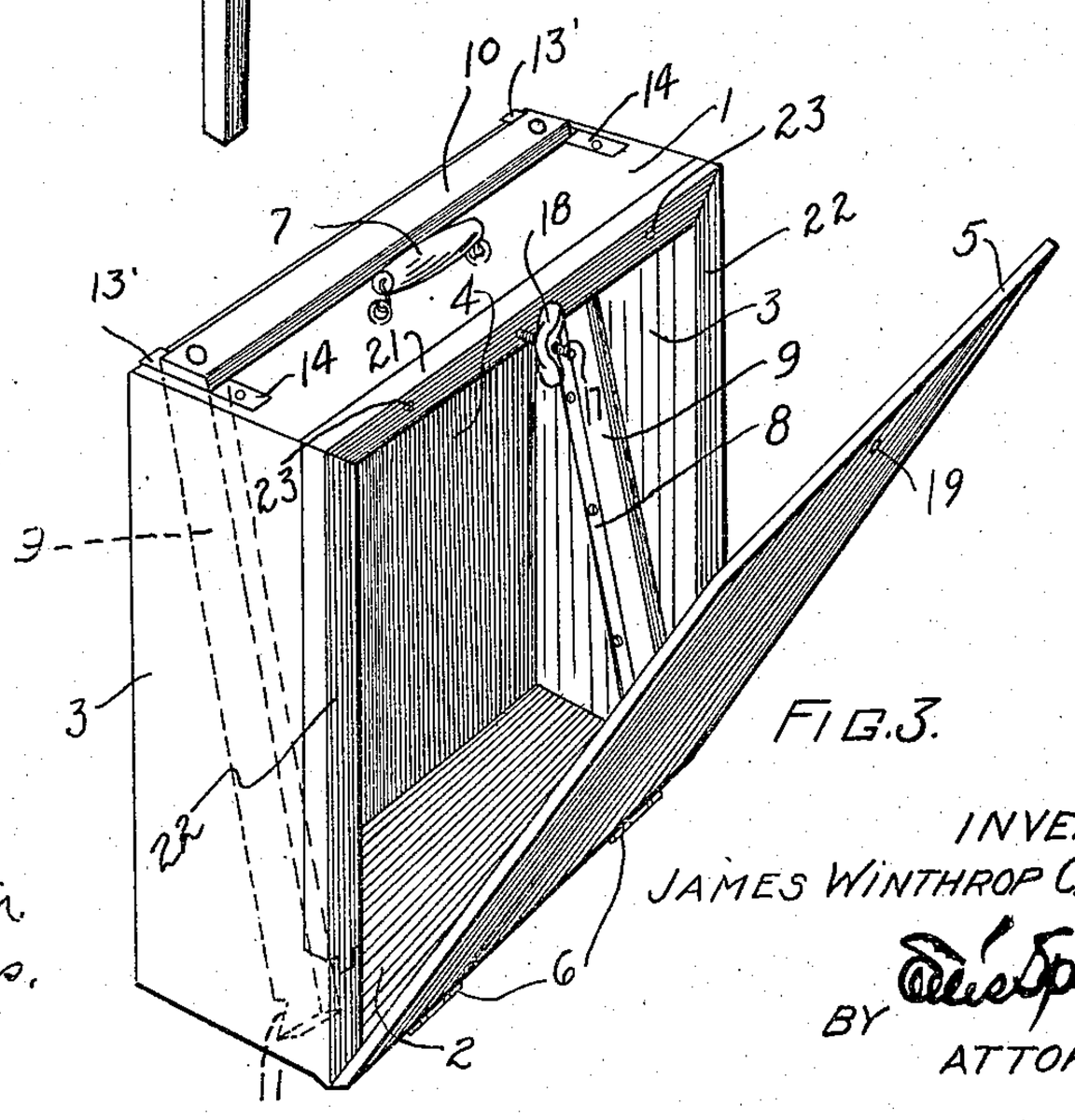

FIG. 3.

WITNESSES

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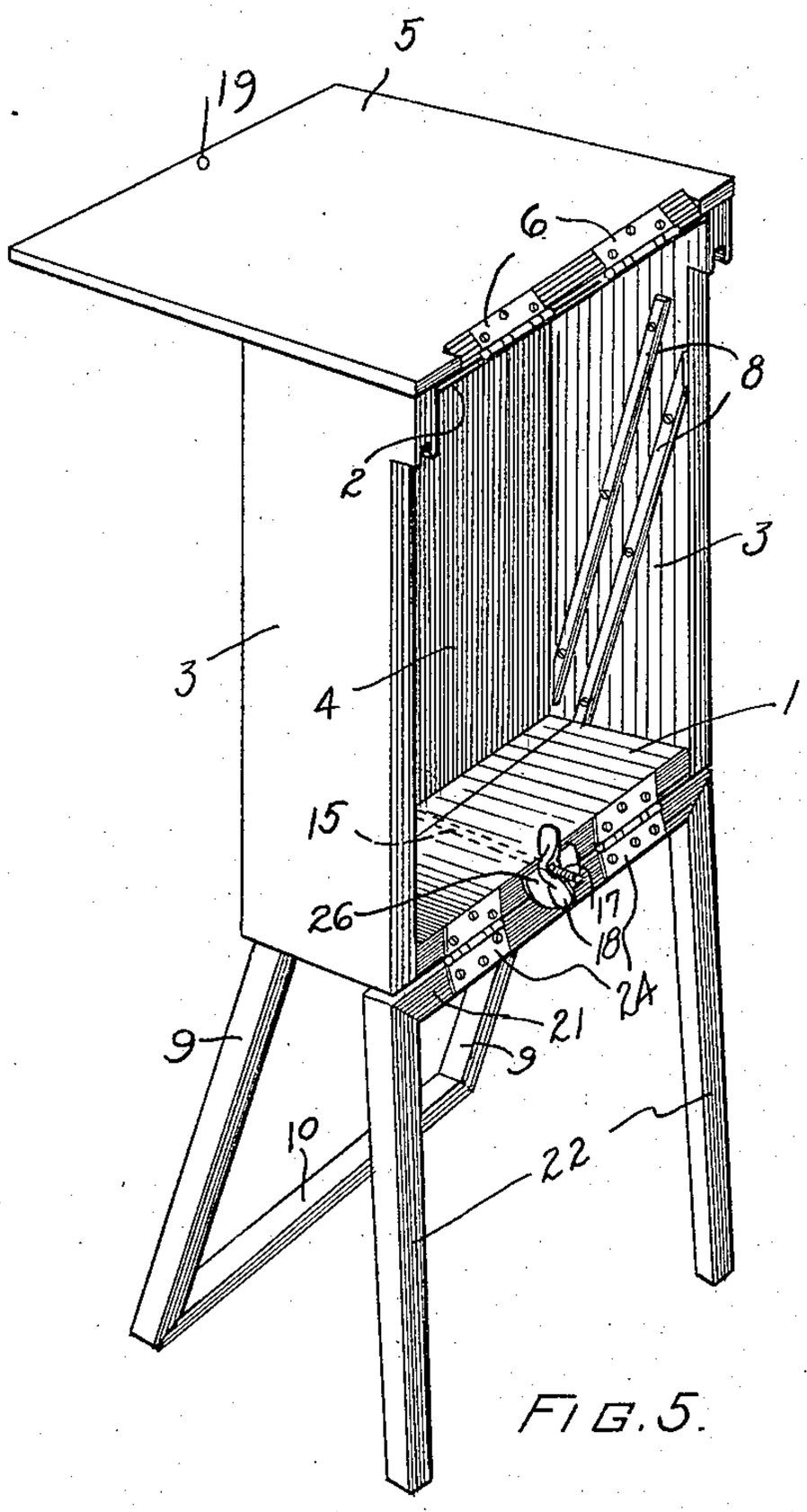

FIG. 5.

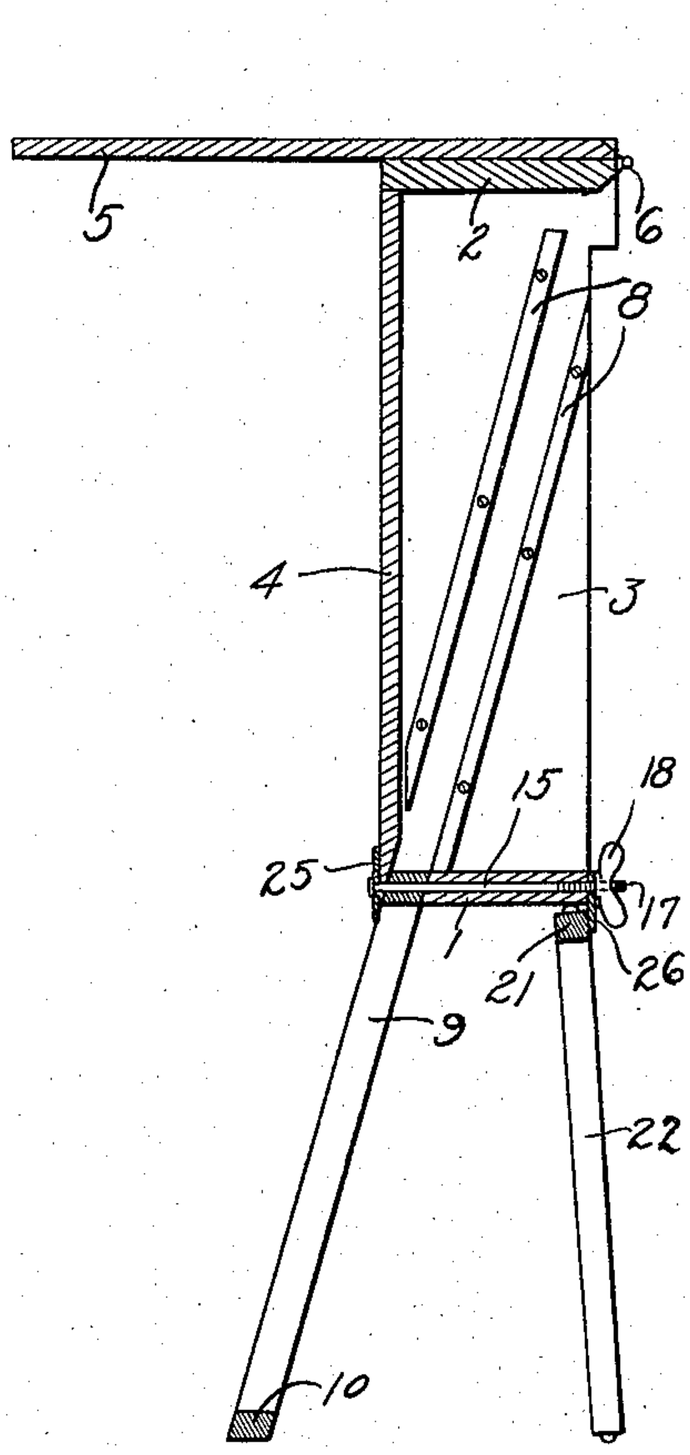

FIG. 6.

WITNESSES

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CONVERTIBLE CASE OR STAND.

1,167,046. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed March 25, 1915. Serial No. 17,033.

To all whom it may concern:

Be it known that I, JAMES WINTHROP CAMPBELL, citizen of the United States, residing at South Kingston, county of Washington, State of Rhode Island, have invented certain new and useful Improvements in Convertible Cases or Stands, of which the following is a specification.

This invention relates to portable, convertible cabinets, cases or the like and particularly to a folding carrying case which may be converted into a stand or table.

The device of the present invention may be used for various purposes where it is desired to carry articles from place to place and to provide when required a table or stand which may be readily erected by manipulating the case.

In the further treatment of my invention herein, I shall describe it in its application as a carrying case or cabinet for a typewriting, adding, sewing or other machine and the usual prerequisites therefor, and which when desired can be converted into a table or stand to permit the machine being operated without removing it from the case.

According to the preferred form of this invention the cabinet or case comprises a substantially rectangular box like structure provided with a hinged wall or cover section to the inner side of which the typewriter or other machine may be rigidly secured and which when opened out provides a table or stand for the machine whereby to permit the machine being operated without removing it from its support.

When opened out the case is supported as a table or stand by pairs of front and rear legs. One set of legs is formed as a slidable section adapted to be wholly inclosed within the box when the structure is used as a simple carrying case, and the other set of legs is formed either as a swiveled or a hinged section adapted to be moved up against the side walls of the box and form a part thereof when the structure is used as a carrying case. Means are provided for rigidly locking both sets of legs when open and for locking these legs and the movable cover section of the box when closed. The device of my present invention therefore provides a simple and compact carrying case which by a simple manipulation may be converted into a stand or table.

The construction and operation of my invention will be more fully disclosed in the specification that follows. In the drawings forming a part of that specification I have shown two forms of cases which not only clearly illustrate the principle involved but are in themselves embodiments found satisfactory in use and well adapted to the requirements of manufacture.

Throughout specification and drawings like reference numerals are correspondingly applied and in these drawings:

Figure 1 is a perspective view of a convertible structure in accordance with my invention showing the position of the parts when the device is converted into a stand or table. Fig. 2 is a vertical section thereof. Fig. 3 is a perspective view showing the device as a simple carrying case. Fig. 4 is a detail section of the locking means for the legs, and Figs. 5 and 6 are views corresponding to Figs. 1 and 2 of a slightly modified form of my invention.

The cabinet or case consists of a preferably rectangular box like structure having a bottom wall 1, a top wall 2, side walls 3 a rear wall 4 and a front wall 5. The front wall 5 is hinged or otherwise secured to the box as indicated at 6 to provide a lid or cover therefor. The cover 5 when opened swings back until it rests flatly on the top wall 2 and provides a flat rigid support for the typewriter or other machine secured to the inner face of said cover. The cover 5 may be provided with any suitable securing means for fastening the typewriter or other machine thereto. The bottom wall 1 is provided with a suitable carrying handle 7, (see Fig. 3).

Slidable in guides 8 secured to the inner faces of the side walls 3 is a frame like structure 9 providing when the case is converted into a stand or table an angularly disposed rear supporting structure therefor. This structure consists of spaced side members 9 and a cross member 10. When the box is used as a simple carrying case the supporting structure is substantially wholly inclosed within the box as shown in Fig. 3. In this position the brace member 10 connecting the lower ends of the legs 9, considering said legs as they appear in Figs. 1 and 2, fits substantially flush with the bottom wall 1 of the box as shown in Fig. 3. When the legs are slid out to the supporting position shown in Figs. 1 and 2, the brace 10 assists with the legs to rigidly support the box.

The upper ends of the legs 9 are notched as indicated at 11, Figs. 2 and 3. These notches and the adjacent end portions of the legs may be reinforced in any desired manner as by the reinforcing pieces 12 which are secured thereto as plainly shown in Fig. 2. The pieces 12 in addition to reinforcing the legs act as runners in the guides 8 to reduce friction.

The notches 11 coöperate with suitable springs 13. The springs 13 may be simple pieces of flat spring stock fastened at their upper ends to the rear wall 4 of the box and having their free ends bent outwardly as indicated at 13′, Figs. 2 and 3, to engage the under edge of said wall. The legs 9 slide on these springs and when the legs are fully opened, the free ends 13′ of the springs engage in the notches 11 thereof whereby to lock the legs in their open position.

The material of the wall 1 adjacent the openings thereof through which the legs 9 slide may be reinforced by suitable reinforcing pieces 14. The wall 1 between these openings is formed as a pair of expansible strips 20 having their opposed ends shaped to define a conical bore in which the conical head 16 of a bolt 15 set transversely through the wall 1 is received. The opposite end of the bolt 15 is threaded as indicated at 17 to receive a wing nut 18. When the bolt is tightened the head 16 expands the strips 20 radially outward toward the sides 3 of the box to cause their free ends to engage the sides of the legs 9 and assist with the springs 13 to lock said legs in open position. The bolt 15 also serves to lock the cover 5 in closed position. This may be effected by providing the cover near its free edge with a hole 19 in which the bolt engages, the wing nut 18 being first removed to permit the cover to come flush against the sides of the box.

Swiveled on the free end of the bolt 15 is the cross piece 21 of a pair of front legs 22 which when open assist with the rear legs 9 to support the box. When the box is used as a carrying case, the legs 22 in this form of my invention are swung around on their pivot 17 up against the front edges of the side walls 3 whereby to form a continuation of the side walls. The legs are held in this position by the cover 5 which is swung down over these legs and locked by the wing nut 18. In order to steady the legs 22 against play on the bolt 15 when said legs are disposed in their supporting position and to center said legs as they are moved up to their closed position, the cross bar 21 is provided with two or more holes in which pins 23 mounted in the adjacent edge of the bottom wall 1 are received. In converting this form of case into a stand or table, the nut 18 is first removed from the bolt and the cover 5 swung open. The legs 22 are next swung about their pivot 17 into the position shown in Fig. 1. The legs 9 are then run down into their open position and the wing nut 18 again applied to the bolt to tighten the same. This fixes the legs 22 rigidly in place and expands the strips 20 to lock the legs 9. In closing the table, thus provided, the wing nut 18 is removed from the bolt and the legs 9 and 22 moved back into their folded positions. The cover is then swung down and the wing nut again applied to the bolt to lock the cover and thus the legs 22 in closed position.

While I have shown and described an expansible locking device for maintaining the legs 9 in open position, it will be understood that any means for effecting this may be used. It will be also understood that the various joints of the structure may be braced in any desired manner and that suitable antifriction devices may be used whenever necessary to secure a smooth and ready operation of the device.

In the form of my invention shown in Figs. 5 and 6, the structure has been modified slightly, although the principle of the device is not changed. In this form of my invention, the front supporting legs 22 are hinged as indicated at 24 to the front edge of the bottom wall 1 and the pins 23 are dispensed with. Furthermore a slightly different locking means for the rear legs 9 is used. In this embodiment the bolt 15 consists of a simple stem member run transversely through the bottom wall 1 of the box and carrying at its rear end a plate or washer 25 adapted to bear against the rear wall 4 of the box and the legs 9 when said legs are run out to their open position. The plate 25 therefore braces the legs against undue movement when open. The front end of the bolt 15 is threaded as in the embodiment first described and a wing nut corresponding to the nut 18 is set up on its threaded portion. The nut 18 carries a clamping plate 26 which is given a form whereby to engage both the front edge of the bottom wall 1 and the adjacent portion of the connecting strip 21 for the legs 22 thereby bracing said legs against movement when open.

The cover 5 has a hole corresponding to the hole 19 and adapted to be engaged in the same manner. In converting this form of my invention from a stand or table into a carrying case, the nut 18 is first run off the bolt and the bolt and washers 25 and 26 wholly removed. The legs 22 are then swung up against the sides of the box and the legs 9 are moved up into the box. The washer 25 is then applied to the bolt and the bolt run through from the opposite side of the box to engage the registering holes in the cross pieces of the legs 9 and 22 respectively. The cover 5 is now swung down to

bring its hole 19 over the threaded end of the bolt. The thumb nut and washer 26 are then applied to the bolt and tightened whereby to lock the parts in closed position.

Various other modifications in the form and construction of my device may obviously be resorted to within the limits of the appended claims.

What I therefore claim and desire to secure by Letters Patent is:

1. In a convertible device of the class described, a containing structure, and a supporting structure therefor including a section operatively connected to move into and out of said container and a section operatively connected with said container and movable thereagainst to form a continuation of certain walls thereof.

2. In a convertible device of the class described, a containing structure, and a supporting structure therefor including a section operatively connected with said container and movable thereagainst to form a part of certain walls thereof.

3. In a convertible device of the class described, a containing structure, a supporting structure therefor including a section having an effective supporting position and having a non-supporting position against said container and forming a continuation of certain walls thereof, and a cover section movably connected with said container and having a supported position when open and a covering position over said supporting section when closed whereby to hold said section in its non-supporting position.

4. In a supporting structure for a convertible case of the class described, a section having an effective supporting position relative to said case and having a non-supporting position substantially wholly inclosed in said case, and a section operatively connected with said case and having an effective supporting position and having a non-supporting position closely adjacent certain walls of said case and forming a continuation of said walls, and a cover section for said case movably connected thereto and having a supported position on said case when open and having an operative covering position over said last named supporting section when closed whereby to hold said section in non-supporting position.

5. In a combined carrying case and stand, a containing structure, comprising top, bottom, side, and front and rear walls, said front wall movably connected to an adjacent wall and providing a cover section arranged to be supported upon said top wall when open, and a supporting structure for said container including a section having a guided travel in said container and substantially wholly inclosed therein when in non-supporting position and a section operatively connected with said container and arranged to be held in non-supporting position by said cover when said cover is closed and the device is converted into a carrying case.

6. In a convertible structure of the class described, a carrying element comprising top and bottom, front and rear and side walls, said front wall hinged to swing over and rest flatly upon said top wall, and a supporting structure for said case element including a section slidable thereinto when used as a carrying case and a section operatively connected to said bottom wall and movable up against said side walls to form a continuation thereof when the structure is used as a carrying case, said hinged cover member swinging down against said supporting section to hold it in place, and means for locking said cover member and said supporting sections in either position of use.

7. In a convertible structure, a container having top, bottom, side, front and rear walls, one of said walls movably connected to an adjacent wall and providing a cover section arranged to be supported flatly on said adjacent wall when open, and a collapsible supporting structure for said container.

8. In a convertible structure, a container having top, bottom, side, front and rear walls, said front wall movably connected to said top wall and providing a cover section arranged to be supported flatly on said top wall when open, and a collapsible supporting structure for said container.

9. In a convertible structure, a walled container, one of said walls movably connected to an adjacent wall and providing a cover section, and a supporting structure for said container including a section operatively connected with a wall of the container and having a non-supporting position against certain of the walls of said container and forming a continuation of said walls and held in said position by said cover section when the cover is closed.

10. In a convertible structure, a walled container, a supporting structure therefor including a section operatively connected with a wall of the container and having an effective supporting position and a non-supporting position, and a cover section movably connected with said container and having a flat supported position on said wall to which it is connected, when open and a retaining position over said supporting section when closed whereby to hold said section in its non-supporting position.

11. In a convertible structure, a walled container, a supporting structure therefor including a section operatively connected with a wall of the container and having an effective supporting position and a non-supporting position against and forming a continuation of certain walls of the container,

and a cover section movably connected with said container and having a flat supported position on said wall to which it is connected when open and a retaining position continuously against and wholly covering said supporting section when closed whereby to hold said section in its non-supporting position.

12. In a convertible structure, a walled container, a supporting section having locking notches therein and having guided travel through an opening in a wall of said container, said sections having an effective supporting position when extended and a non-supporting position wherein it is wholly inclosed within the container, and a pair of spring detents effectively disposed adjacent said opening and arranged for locking engagement with said notches of said section to lock said section in supporting position.

13. In a convertible structure, a walled container, a supporting section thereof having guided travel through an opening in a wall of said container, and an expansible locking device for positively locking said section in one of its two positions of use.

14. In a convertible structure, a walled container, a supporting section thereof having guided travel through an opening in a wall of said container, an expansible locking device for positively locking said section in one of its two positions of use, and a spring detent coöperating with said device to lock said section.

15. In a convertible structure, a walled container, a supporting section thereof having guided travel through an opening in a wall of said container, a pair of movable members for positively locking said section in supporting position, and means having effective engagement with said members for expanding said members.

16. In a convertible structure, a walled container, a supporting section thereof having guided travel through an opening in a wall of said container, a pair of oppositely movable members for positively locking said section in supporting position, and means having a wedging engagement with said members for expanding said members in opposite directions.

17. In a convertible structure, a walled container, a supporting section thereof having guided travel through an opening in a wall of said container, a pair of oppositely movable members for positively locking said section in supporting position, and a bolt having a wedge shaped head for expanding said members in opposite directions.

18. In a convertible structure, a walled container, a supporting section thereof having guided travel through an opening in a wall of said container, a pair of oppositely movable members for positively locking said section in supporting position, a bolt having a wedge shaped head for expanding said members in opposite directions, and a spring detent coöperating with said members for locking said section.

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

JAMES WINTHROP CAMPBELL.

Witnesses:

JESSIE C. MACDONALD,

WILLIAM C. WILCOX.