May 2, 1961 F. H. BERLIN 2,982,344

ATTACHABLE RECEPTACLE

Filed Sept. 8, 1959

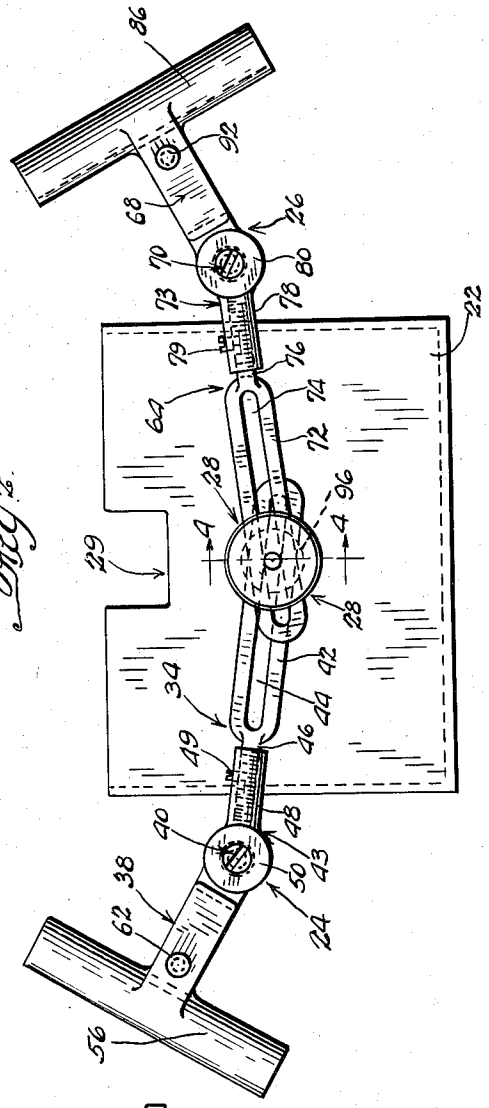


Fig. 2.

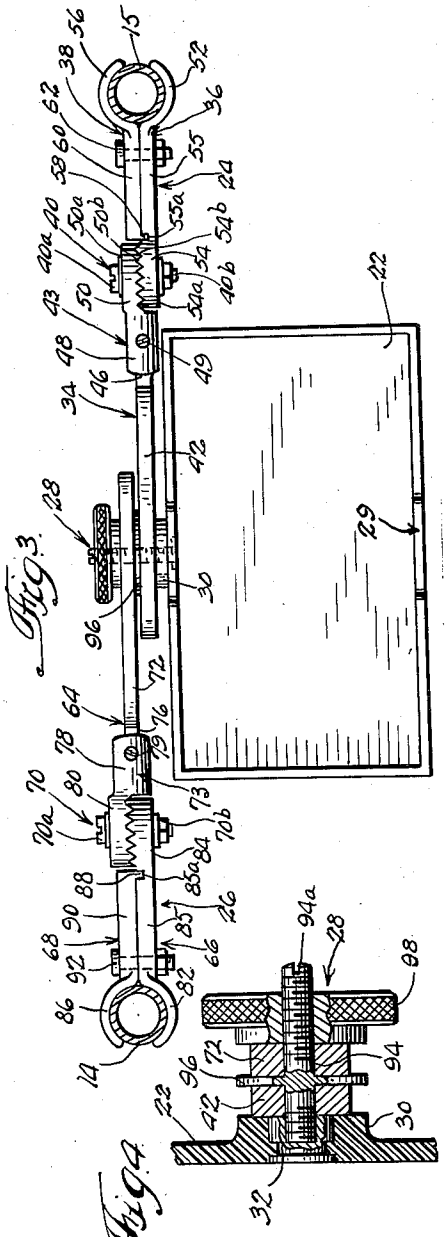


Fig. 3.

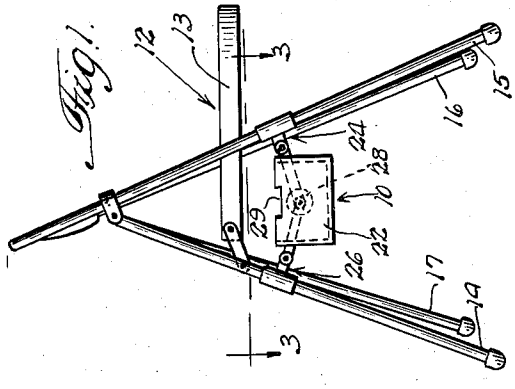


Fig. 1.

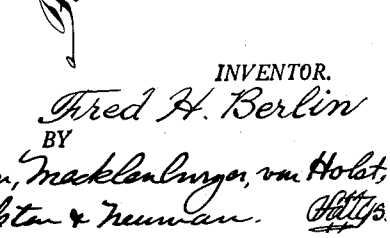


Fig. 4.

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ATTACHABLE RECEPTACLE

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7 Claims. (Cl. 155—188)

This invention relates to an improved utility receptacle which may be attached to, and positioned on, various supports. Although this invention will be described in connection with chairs, it will be understood that devices constructed in accordance with this invention may have a variety of uses with other articles of furniture or other supports.

Quite often it is necessary or very desirable to provide a storage shelf or receptacle for use in association with a chair. Heretofore most shelves and receptacles have been constructed as permanent parts of chairs, benches and the like. However, such constructions cannot be utilized where it is necessary to either remove the receptacle or fold the chair. Also, such constructions are not readily adjustable to various positions or orientations on the chair.

Accordingly, it is one object of this invention to provide a receptacle having a means thereon for effecting the attachment thereof to a chair.

It is another object of this invention to provide a receptable which may be attached to chairs of many different shapes, designs and constructions.

It is a further object of this invention to provide a receptacle which may be easily attached to and removed from a chair and which is particularly well adapted for use in connection with folding chairs.

It is still another object of this invention to provide a receptacle which may be attached to a chair and fastened in various positions of adjustment.

It is still a further object of this invention to provide a receptacle which may be positioned on a chair in a convenient location on either side, the front, or the rear of the chair.

It is still another object of this invention to provide a convenient, attachable receptacle which may be easily and quickly attached to and adjustably positioned on many different designs of furniture.

Other objects will be seen and a fuller understanding of the invention may be had by referring to the following description and claims taken in conjunction with the accompanying drawings.

This invention provides a receptacle device of novel construction for use in combination with a chair or the like having a plurality of spaced depending legs. The receptacle may be adjustably positioned on the chair and oriented so that the articles to be held therein are accesible selectively from the front, from the rear, and from the side.

In accordance with one embodiment of this invention, the device comprises a receptacle with two supporting arms, and means for adjustably connecting one end of each of the arms to the receptacle. The arms have means thereon adjacent their outermost ends for releasably gripping one of the depending legs of a chair, whereby the receptacle may be adjustably mounted on and oriented in various positions with respect to the chair.

One of the features of this invention is the novel construction of the supporting arms which permit the receptacle to be easily attached to any chair and oriented in its various positions.

Another feature of this invention is the means for independently and adjustably connecting the arms to the receptacle. This permits the easy adjustment of each arm separately and avoids the difficulty which ordinarily accompanies the necessity for adjusting two elements simultaneously.

With reference to the drawings:

Figure 1 is a side-elevation view of a chair showing a device constructed in accordance with this invention mounted thereon;

Fig. 2 is an enlarged elevation view of the device looking from the side opposite that of Fig. 1;

Fig. 3 is an enlarged top-plan view of the device; and

Fig. 4 is a sectional view of the means for independently and adjustably connecting the arms to the receptacle.

With further reference to the drawings, and more particularly to Fig. 1, the receptacle device **10** may be conveniently used with and mounted on a folding chair **12**. The chair **12** as shown is of tubular metal construction and has a seat portion **13** and four depending legs **14**, **15**, **16** and **17**. The device **10** includes a receptacle **22**, supporting arms **24** and **26**, and means preferably in the form of a threaded fastener **28** for adjustably connecting one end of each of the supporting arms to the receptacle **22**.

The receptacle **22** is preferably a box constructed of a colorful plastic material, which box is adapted to hold hymnals, song books, Sunday school papers and lessons, or other similar articles. This box is open at one end and may conveniently be provided with thumb recesses **29** in its sides adjacent the open end to facilitate the insertion and removal of books. An exterior protrusion **30** is molded integrally with one side of the receptacle. (See Figs. 3 and 4.)

An internally threaded metal insert **32** is preferably embedded in the protrusion **30**, and this insert thus becomes in effect an integral part of the receptacle **22**. This insert is the preferred means for providing an internally threaded hole in the side of the receptacle **22**, although it will be understood that there are various other well-known ways in which such a tapped hole may be provided. The purpose for this tapped hole will be hereinafter explained.

As best seen in Figs. 3 and 4, supporting arms **24** and **26** are identically constructed. Supporting arm **24** includes an elongate section **34**, a pair of gripping elements **36** and **38**, and fastening means preferably in the form of a threaded fastener **40** pivotally connecting the gripping elements **36** and **38** to the elongate section **34**. The elongate section **34** of the supporting arm **24** comprises an end element **42** and a connector **43** threadably engaged therewith. The end element **42** is long and slender and has a longitudinal slot **44** formed therein, and a threaded longitudinal extension **46** protruding therefrom.

The connector **43** includes a cylindriform internally threaded portion **48** and a toothed clutch portion **50**. Threaded portion **48** is threadably connected to the extension **46** of the elongate section **34**, and thus the connector **43** may be rotatably and adjustably moved about the axis of extension **46**. A set screw **49** may be provided to maintain the connector **43** and end element **42** in the desired position relative to one another. As best seen in Fig. 3, clutch portion **50** is substantially circular, and a hole is centrally located therein, the axis of the hole being normal to the axis of the cylindriform portion **48** and of end element **42**.

In the preferred embodiment exterior surface **50*a*** of the clutch portion **50** is substantially flat or planar, and the opposite or interior surface **50*b*** is toothed, the teeth being disposed radially and protruding outwardly in a direction normal to the plane of the surface **50*a***.

The gripping element 36 includes a jaw portion 52 which is preferably curved or semi-cylindrical and a clutch portion 54, which is connected to the jaw portion 52 by a linking arm 55. The clutch portion 54 of this gripping element is substantially circular. The exterior surface 54*a* of clutch portion 54 is substantially flat or planar, and the opposite or interior surface 54*b* is toothed and adapted to mate with the toothed surface 50*b* of the clutch portion of connector 43. The teeth on surface 54*b* thus are disposed radially and protrude outwardly in a direction substantially normal to the planar exterior surface of the clutch portion 54. A hole is located centrally in clutch portion 54 and extends perpendicular to the axis of the jaw portion 52. A transverse slot 55*a* is provided in linking arm 55 adjacent clutch portion 54.

The gripping element 38 includes a jaw portion 56 and an inwardly extending flange portion 58, which is connected to the jaw portion 56 by a linking arm 60. The flange portion 58 of this gripping element is adapted to mate with the transverse slot 55*a*, and the linking arms 55 and 60 are releasably interconnected by means of a threaded fastener 62, the axis of which extends parallel to the centrally located holes in the clutch portions 50 and 54 of the connector 43 and the gripping element 36, respectively.

Threaded fastener 40, which pivotally connects the clutch portions of the gripping element 36 and the connector 43, includes a bolt 40*a* and a nut 40*b*. Bolt 40*a* extends through the aligned holes in the clutch portions, and with these holes oriented as illustrated and described, the gripping elements are pivotally movable about threaded fastener 40 in the plane of the axis of curvature of the jaw portions. The head of bolt 40*a* bears against the planar exterior surface 50*a* of the clutch portion 50 on the connector 43, and the nut 40*b* bears against the exterior surface 54*a* of the clutch portion 54 on the gripping element 36. When the threaded fastener 40 is tightened, it will be seen that the clutch portions 54 and 50 of the gripping element 36 and the connector 43, respectively, are forced tightly into interengagement. Gripping element 36 is thus locked in position with respect to connector 43, and the gripping elements 36 and 38 are locked together and forced inwardly toward each other by means of threaded fastener 62 in conjunction with the mating of flange portion 58 and transverse slot 55*a*. The jaw portions 52 and 56 thus tightly grip leg 15 of the chair. The curved or semi-cylindrical configuration of the jaw portions 52 and 56 substantially conform to the configuration of the tubular leg 15 of the chair. Other configurations may be easily formed in these jaw portions to facilitate the mating of these portions with the leg structure of the chair. With the chair leg firmly gripped by jaw portions 52 and 56, the arm 24 is rigidly connected to the chair.

The supporting arm 26, which is identical in construction with arm 24, comprises an elongate section 64, a pair of gripping elements 66 and 68, and a fastening means preferably in the form of a threaded fastener 70 pivotally connecting the gripping elements 66 and 68 to the elongate section 64.

The elongate section 64 includes an end element 72 and a connector 73. A longitudinal slot 74 formed in the end element 72 corresponds to the longitudinal slot 44 in the end element 42 of supporting arm 24. The connector 73 includes a cylindriform, internally threaded portion 78 and a toothed clutch portion 80. The portion 78 is threadably connected to a longitudinal extension 76 of the end element 72, and the connector may be rotatably and adjustably moved about the axis of the extension 76 and of the end element 72. A set screw 79 permits connector 73 to be in the desired position with respect to end element 72. Clutch portion 80 is substantially circular and has a central hole located therein, the axis of which is substantially normal to the axis of the cylindriform portion 78 and to the axis of end element 72. The interior surface of the clutch portion 80 is toothed.

The gripping element 66 includes a jaw portion 82, which is preferably curved or semi-cylindrical, and a toothed clutch portion 84 connected to the jaw portion by a linking arm 85. The clutch portion 84 is adapted to mate with the clutch portion on connector 73 and this clutch portion corresponds to the clutch portion 54 of the gripping element 36 on the supporting arm 24 and has a hole therein, the axis of which is perpendicular to the exterior surface thereof and to the axis of curvature of the jaw portion 82. A transverse slot 85*a* is provided in linking arm 85 adjacent clutch portion 84.

The opposite gripping element 68 on arm 26 includes a curved or semi-cylindrical jaw portion 86 and an inwardly extending flange portion 88, which is connected to the jaw portion 86 by a linking arm 90. The flange portion is adapted to mate with the transverse slot 85*a*, and the linking arms 85 and 90 are releasably interconnected by means of a threaded fastener 92 corresponding to threaded fastener 62 on the supporting arm 24.

The threaded fastener 70, which pivotally interconnects the clutch portions of the gripping element 66 and the connector 73, includes a bolt 70*a* and a nut 70*b*. The bolt extends through the aligned holes in the clutch portions 84 and 80 of the gripping element 66 and the connector 73, respectively. The threaded fastener 70, when tightened, forces the clutch portions of the gripping element 66 and the connector 73 together, resulting in the intermeshing of the teeth on these clutch portions.

Means is provided for adjustably connecting the arms 24 and 26 to the receptacle 22. For this purpose, a threaded fastener 28 of special design is employed. This threaded fastener includes an externally threaded stud 94 adapted to threadably engage the insert 32 which is molded into the wall of receptacle 22. Stud 94 has a disk or washer 96 rigidly affixed to its mid-portion. When stud 94 is threaded into insert 32, disk 96 rotates with the stud and is moved with the portions of the stud toward and away from the wall of receptacle 22. As best illustrated in Figs. 3 and 4, disk 96 is disposed between the end elements 42 and 72 of arms 24 and 26, respectively, and the stud 94 extends through the slots 44 and 74. Stud 94 is provided with a slot 94*a* in its outer end, and the stud may thus be rotatably manipulated by means of screw driver. End element 42 is thus clamped in position between disk 96 and protrusion 30 on the wall of container 22 when stud 94 is tightened.

In order to clamp end element 72 of arm 26 in position with respect to receptacle 22, a suitable internally threaded nut-like knob 98 is provided. This knob threadably engages the outer portion of stud 94 and is threadably movable on the stud toward and away from disk 96 to respectively clamp and release the end element of the arm 26. It may be seen that the threaded fastener 28 is capable of separately locking the supporting arms 24 and 26 to receptacle 22. This permits the arms to be easily positioned and adjusted and avoids the difficulty which ordinarily accompanies the necessity for adjusting two elements simultaneously. When the end sections of the supporting arms are released by threaded fastener 28, they may be rotated in the desired position about the axis of stud 94, and they may be moved axially between the limits of their respective slots.

The arms are rotatably adjustable also at the juncture between the end element and the connector. If, for example, it is desired that receptacle 22 open toward the side of the chair in Fig. 1, set screws 49 and 79 may be loosened, and the receptacle needs only to be tilted into the desired position and re-fastened. If it is desired to have the receptacle open rearwardly or frontwardly, threaded fastener 28 may be released, and the box pivoted into the desired position, whereupon the threaded fastener would be re-tightened. The pivotal

adjustment between the connector and the gripping elements on each arm permits the receptacle to be mounted on almost any conceivable design of chair or table, or other article. The device is extremely universal in its application and may be adapted to a number of uses.

The device may be easily disassembled for storage or shipment. Arms 24 and 26 may be removed by removing knob 98 and stud 94. The end elements 42 and 72 may be threadably uncoupled from their connectors 43 and 73, respectively. The clamping elements may be separated from the respective connectors by removal of the respective threaded fasteners 40 and 70.

Although the invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and that many modifications and changes in various details may be resorted to without departing from the spirit and scope of the invention, as hereinafter claimed.

What is claimed is:

1. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; at least one supporting arm including an elongate, longitudinally extending, slotted element, a connector having a toothed clutch portion, said connector being joined to said slotted element and pivotally movable about the axis thereof, a pair of gripping elements having cooperating jaw portions for gripping a depending leg of the chair, at least one of said gripping elements having a toothed clutch portion adapted to mate with the toothed clutch portion of said connector, and fastening means for pivotally connecting said gripping elements to said connector with the toothed clutch portions thereof juxtaposed and for releasably locking said clutch portions together, whereby said gripping elements and said connector may be maintained in a pre-selected position of pivotal adjustment; and means for adjustably connecting the elongate, slotted element to said receptacle, whereby said receptacle may be attached to and positioned on the chair.

2. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; at least one supporting arm including an elongate, longitudinally extending, slotted element, a connector having a toothed clutch portion, said connector being joined to said slotted element and pivotally movable about the axis thereof, a pair of gripping elements having cooperating jaw portions for gripping a depending leg of the chair, at least one of said gripping elements having a toothed clutch portion adapted to mate with the toothed clutch portion of said connector, and fastening means pivotally connecting said gripping elements to said connector for movement about an axis transverse to the axis of said slotted element with the toothed clutch portions of said connector and said gripping element juxtaposed, said fastening means being effective to releasably lock said clutch portions together and to force the cooperating jaw portions of said gripping elements closed, whereby said gripping elements and said connector may be maintained in a pre-selected position of pivotal adjustment and the jaw portions may firmly grip a depending leg of the chair; and means for adjustably connecting the elongate, slotted element to said receptacle, whereby said receptacle may be attached to and positioned on the chair.

3. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; two supporting arms, each including an elongate, longitudinally slotted element, a connector joined to said slotted element and pivotally movable about the axis thereof, a pair of gripping elements for gripping a depending leg of the chair, and means for pivotally connecting said gripping elements to said connector and for selectively locking said gripping elements and said connector in a pre-selected position of pivotal adjustment; and means for adjustably and independently connecting the elongate, slotted element of each of said supporting arms to said receptacle, whereby said receptacle may be attached to and positioned on the chair; said adjustable connecting means including a threaded stud extending outwardly from said receptacle through the slotted element of each supporting arm, and two enlarged bearing elements mounted on said stud, the first of said bearing elements being disposed intermediate said slotted elements and movable toward and away from said receptacle to selectively clamp one of said slotted elements therebetween, the second of said bearing elements being disposed outwardly from said first bearing element and movable toward and away from said first bearing element to selectively clamp the other of said slotted elements therebetween.

4. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; two supporting arms, each having an elongate, longitudinally slotted element, a connector having a toothed clutch portion, said connector being joined to said slotted element and pivotally movable about the axis thereof, a pair of gripping elements having cooperative jaw portions for gripping a depending leg of the chair, at least one of said gripping elements having a toothed clutch portion adapted to mate with the toothed clutch portion of said connector, and fastening means pivotally connecting said gripping elements to said connector for movement about an axis transverse to the axis of said slotted element, the toothed clutch portions of said connector and said one gripping element being juxtaposed, said fastening means being effective to releasably lock said clutch portions together and to force the cooperating jaw portions of said gripping elements closed, whereby said gripping elements and said connector may be maintained in a pre-selected position of pivotal adjustment and the jaw portions may firmly grip the depending chair leg; and means for adjustably and independently connecting the elongate, slotted element of each of said supporting arms to said receptacle, whereby said receptacle may be attached to and positioned on the chair; said adjustable connecting means including a threaded stud extending outwardly from said receptacle through the slotted element of each supporting arm, and two enlarged bearing elements mounted on said stud, the first of said bearing elements being fixed on said stud and disposed intermediate said slotted elements and movable with said stud toward and away from said receptacle to selectively clamp one of said slotted elements therebetween, the second of said bearing elements being disposed outwardly from said first bearing element and threadably movable on said stud toward and away from said first bearing element to selectively clamp the other of said slotted elements therebetween.

5. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; two supporting arms each including an elongate, longitudinally slotted element, a connector joined to said slotted element and pivotally movable about the axis thereof, a pair of gripping elements for gripping a depending leg of the chair, and means for pivotally connecting said gripping elements to said connector and for selectively locking said gripping elements and said connector in preselected positions of pivotal adjustment; and means for adjustably and independently connecting the elongate, slotted element of each of said supporting arms to said receptacle, whereby said receptacle may be attached to and positioned on the chair.

6. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; two supporting arms, each including an elongate element, a connector joined to said element and pivotally movable about the axis thereof, a pair of gripping elements for gripping a depending leg of the chair, and means for pivotally connecting said gripping element to said connector and for selectively lock-

ing said gripping elements and said connector in a preselected position of pivotal adjustment; and means for adjustably and independently connecting the elongate element of each of said supporting arms to said receptacle, whereby said receptacle may be attached to and positioned on the chair; said adjustable connecting means including a threaded stud extending outwardly from said receptacle, and two bearing elements, one of said bearing elements being disposed intermediate said elongate elements and movable toward and away from said receptacle to selectively clamp one of said elongate elements therebetween, the second of said bearing elements being disposed outwardly from said first bearing element and movable toward and away from said first bearing element to selectively clamp the other of said elongate elements therebetween.

7. A device for use in combination with a chair or the like having a plurality of spaced, depending legs, said device comprising a receptacle; two supporting arms, each having an elongate element, a connector having a toothed clutch portion, said connector being joined to said elongate element and pivotally movable about the axis thereof, a pair of gripping elements having cooperating jaw portions for gripping a depending leg of the chair, at least one of said gripping elements having a toothed clutch portion adapted to mate with the toothed clutch portion of said connector, and fastening means for pivotally connecting said gripping elements to said connector with the toothed clutch portions thereof juxtaposed and for releasably locking said clutch portions together, whereby said gripping elements and said connector may be maintained in a preselected position of pivotal adjustment; and means for adjustably and independently connecting said elongate elements to said receptacle, whereby said receptacle may be attached to and positioned on the chair.

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