Sept. 16, 1947. R. E. McLEAN 2,427,613

TAKE-DOWN TYPE SWINGING WALL BRACKET

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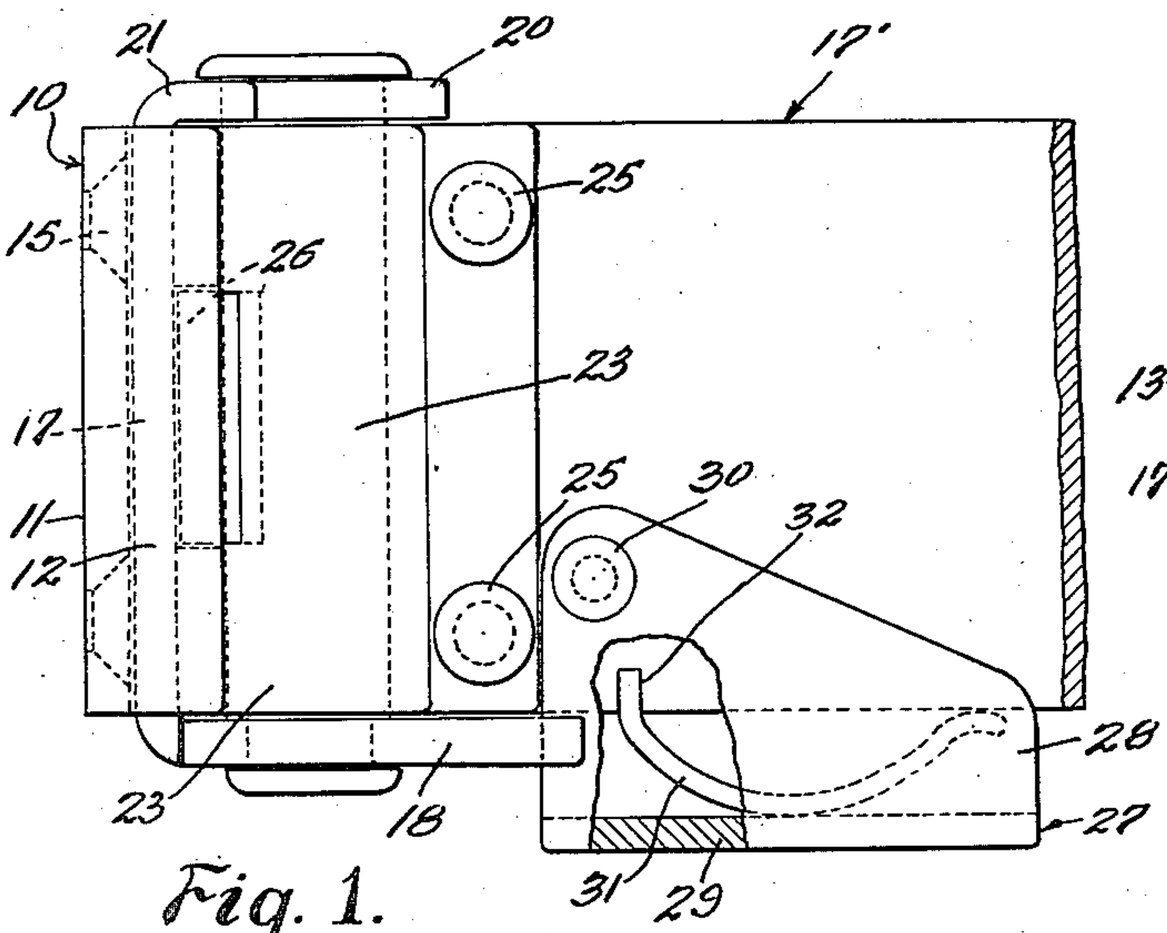

Fig. 1.

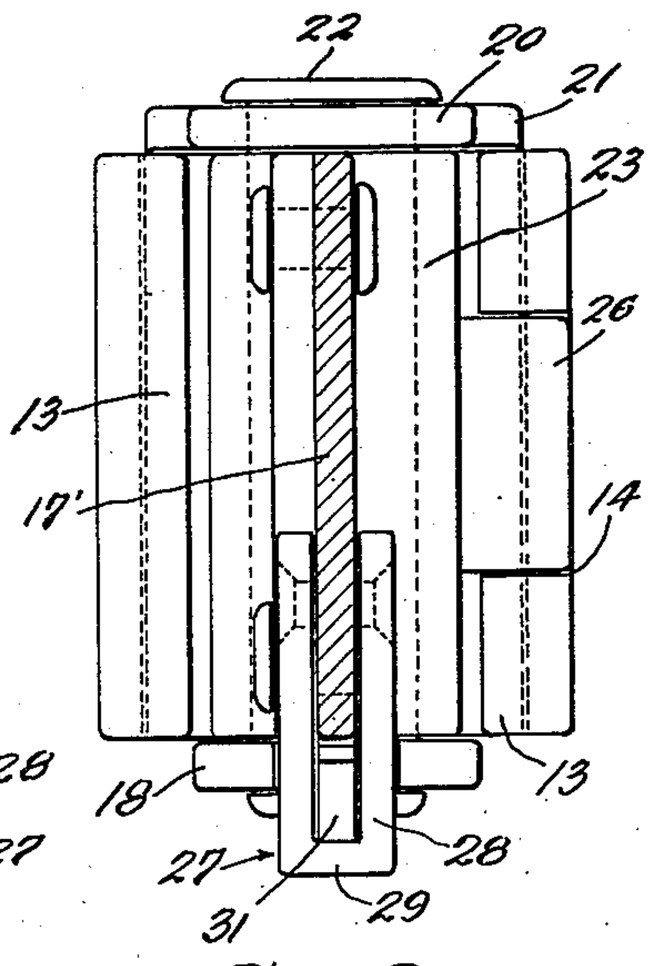

Fig. 2.

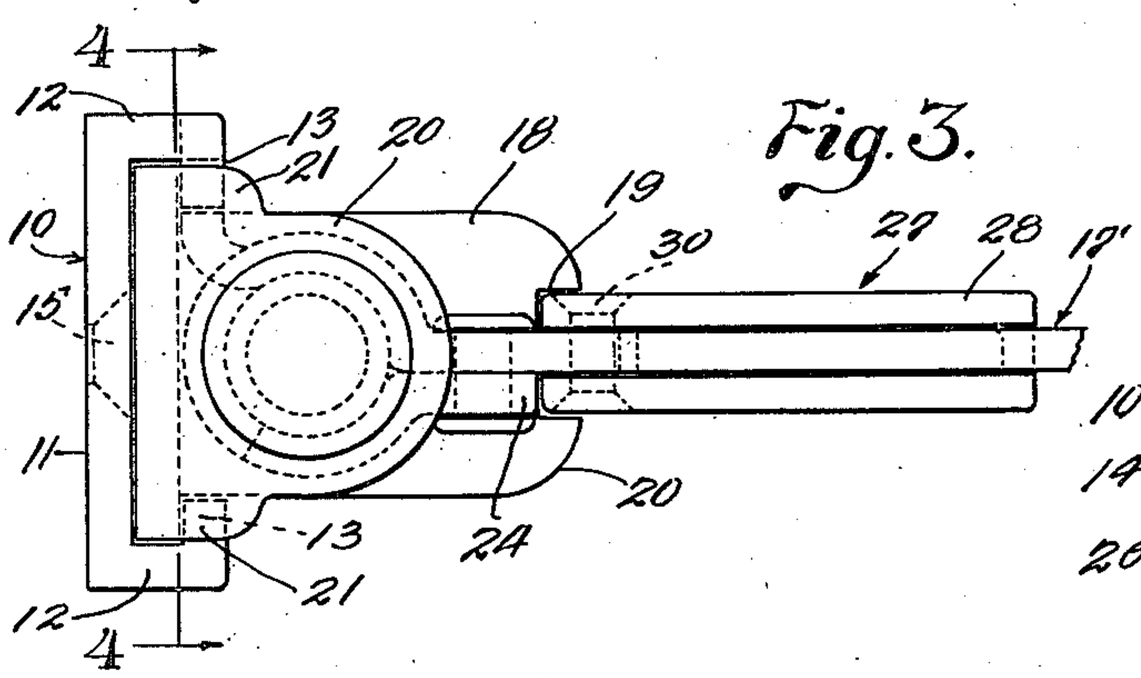

Fig. 3.

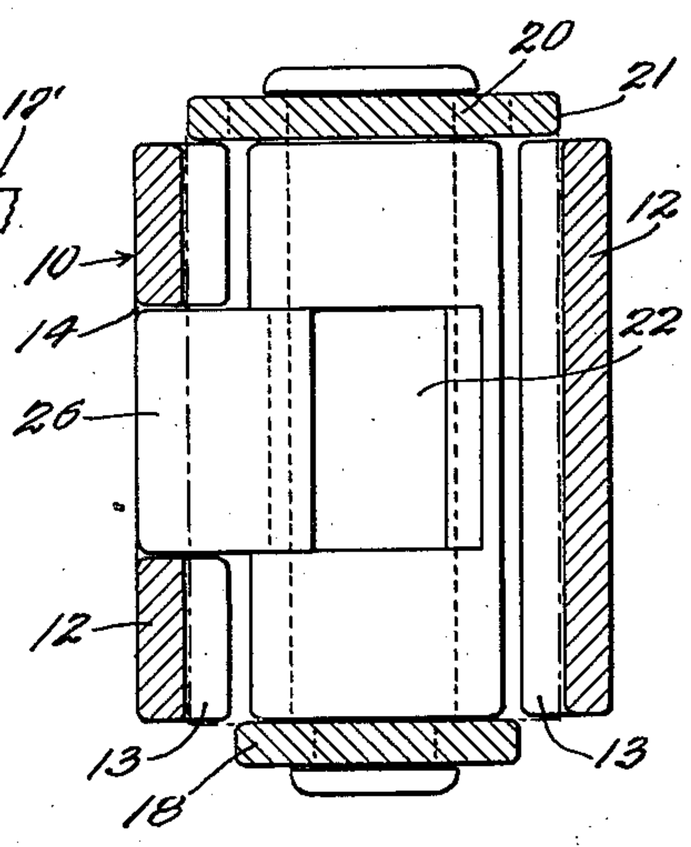

Fig. 4.

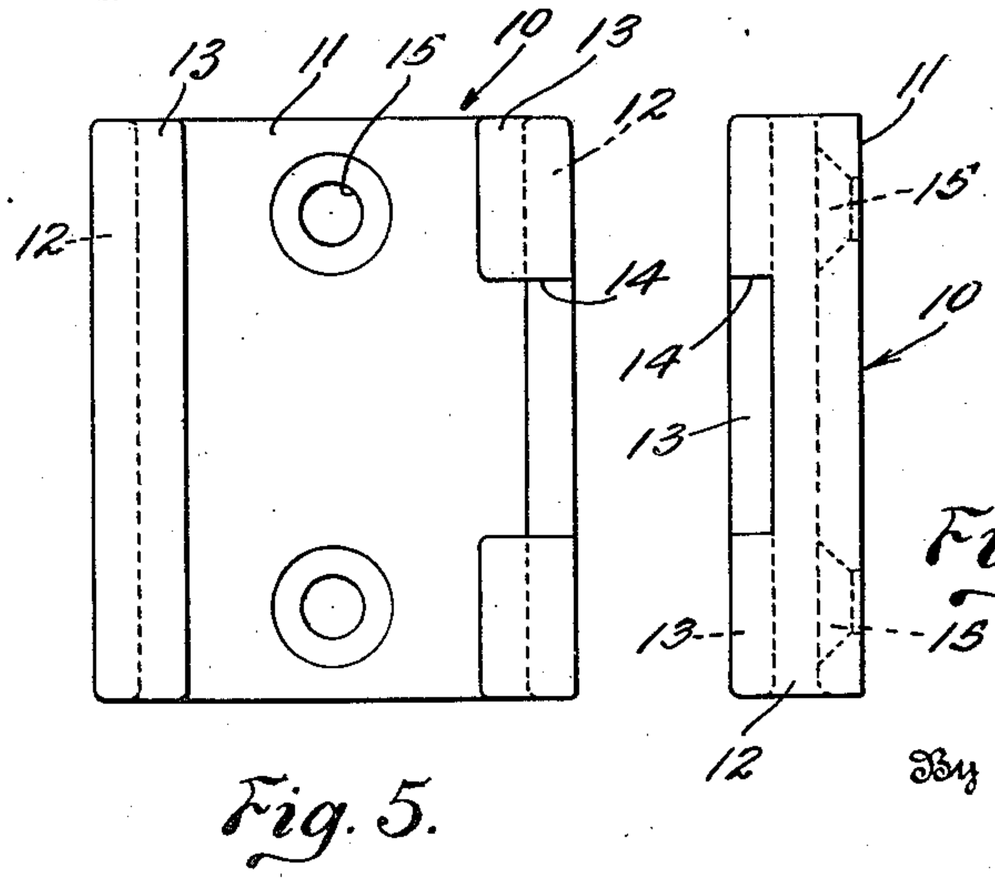

Fig. 5.

Fig. 6.

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TAKEDOWN TYPE SWINGING WALL BRACKET

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12 Claims. (Cl. 248—224)

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This invention relates generally to the class of supports and pertains particularly to improvements in swingable, take-down type wall brackets designed for the support of rotary can openers, fruit juicers or other kitchen conveniences which are designed to be mounted on a wall or other support for use.

A principal object of the present invention is to provide an article supporting wall bracket of the character stated which is of extremely simple design and which is so constructed as to give complete safety to the user.

Another object of the invention is to provide an article supporting wall bracket of the character stated, which is pivotally connected to an element which is designed to be fixed to a wall or other suitable support, with means for automatically locking an article supporting arm portion of the bracket when such arm is swung to operative position, so that all danger of the arm moving upwardly or laterally during the use of the article supported thereon, is entirely prevented.

Another object of the invention is to provide in an article supporting wall bracket of the character stated, a plate member designed to be secured to a wall or other suitable support and a hinge plate with which a supporting arm is pivotally coupled, with novel means for coupling together the hinge plate and the wall carried plate, whereby the two plates will be automatically locked together against relative movement when the arm is swung into operative position, but will be readily relatively positioned for separation when the arm is oscillated out of its operative position.

Other objects and advantages of the invention will become apparent as the description of the same proceeds and the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming a part of the specification, with the understanding, however, that slight changes and modifications may be made in the structure as illustrated, so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Figure 1 is a view in side elevation of the device of the present invention, the outer end portion of the supporting arm being broken away.

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Figure 2 is a view in front elevation of the device, the arm being in transverse section.

Figure 3 is a view in top plan of the device as illustrated in Figure 1.

Figure 4 is a sectional view taken substantially on the line line 4—4 of Figure 3.

Figure 5 is a face view of the wall plate per se.

Figure 6 is a view in edge elevation of the wall plate.

Referring now more particularly to the drawing wherein like numerals of reference designate corresponding parts throughout the several views, the numeral 10 generally designates the wall plate of the present device, which plate is designed to be permanently secured to a wall, window or door frame, or other suitable support.

The wall plate comprises a flat back portion 11 having at opposite sides the forwardly extending flanges 12 which are vertically arranged when the plate is mounted in operative position. Each of these flanges 12 has formed integrally therewith the inturned lip 13 which are in edge-opposed spaced relation as shown and one of these lips is cut away transversely midway between its ends to provide the lock slot 14 which extends into the adjacent flange 12 to a depth equal to the thickness of the lip 13.

The body 11 of the wall plate is provided with suitable countersunk screw openings 15 for the reception of wood screws of the flat head type, the heads of the screws being flush with the forward face of the body when in applied position. While only two screw holes are shown it will be readily obvious that any number may be provided as desired.

The numeral 17 designates the hinge plate to which the article supporting arm, generally designated 17', is pivotally connected.

The hinge plate 17 is of a width substantially equal to the distance between the inner faces of the wall plate flanges 12 between which it is designed to position, and is of a length or height somewhat greater than the height of the wall plate 10.

Integral with the lower end of the hinge plate 17 is the right angularly related forwardly extending and relatively long bottom ear 18. The width of this bottom ear is slightly less than the

distance between the opposed edges of the lips 13 so that when the hinge plate is slipped down into position between the flanges 12 for engagement behind the flange lips 13, the bottom ear will pass down freely between the lips to the position in which it is shown in Figures 1, 2 and 4.

The forward edge of the ear 18 is provided with a latch or keeper notch 19 and the adjacent corners of the ear are rounded off as indicated at 20 for the purpose hereinafter described.

At its top end the hinge plate 17 has formed integrally therewith the top forwardly extended ear 20 which, at its inner end, is of the same width as the plate 17, for a short extent of its length to provide the side or lateral wings 21 designed to engage upon the upper ends of the flange lips 13 as shown in Figure 3 to limit the downward movement of the plate 17 between the wall plate flanges 12. From these wings outwardly, the upper or top ear 20 is of reduced width. This upper ear is also of less length than the lower ear 18 and is preferably substantially semi-circular at its forward end as shown in Figure 3.

The ears 18 and 20 have aligned openings through which are extended a pivot pin 22, the ends of the pin being turned or headed to engage the remote faces of the ears for the maintenance of the pin in the proper position.

The arm 17' is formed from a flat bar of metal and has a portion of one end turned to form the hinge bearing sleeve 23. This sleeve is positioned between the ears 18 and 20 and has the pivot pin 22 extended therethrough to be maintained by the pin for turning movement between the ears.

The turned end portion of the arm, at the bearing sleeve 23, is designated 24 and is secured to the body of the arm by the rivets 25.

Cut from the rear or inner side of the bearing sleeve 23 is the securing tongue 26. This tongue is bent to extend laterally tangentially to the sleeve 23 as shown in Figure 2 and is positioned between the ends of the sleeve so as to be engageable in the recess or notch 14 of the wall plate, when the article supporting arm 17' is turned to extend forwardly from the wall plate, after the hinge plate has been properly mounted in the wall plate. This is the operative position of the supporting arm and is the position in which the arm is shown in the Figures 1, 2 and 3 of the drawing.

The numeral 27 generally designates a latch member which comprises a metal body shaped to have a substantially U cross sectional design, thus providing the spaced parallel side portions 28 and the intermediate connecting bottom portion 29. The lower edge of the bracket arm 17' is disposed between the portions 28 of the latch and these portions are pivotally attached to the arm by the rivet 30 so that the bottom portion 29 is maintained spaced from the lower edge of the arm as shown in Figure 1. The supporting pivot 30 for the latch is so placed that when the arm 17' is in operative position to extend forwardly in perpendicular relation with the wall plate, the rear part or the rear vertical edges of the portions 28, of the latch member may engage in the keeper notch 19 and thus hold the arm against swinging movement. When in this position, as previously stated, the locking tongue 26 will be engaged in the notch 14 and will hold the arm and hinge plate against vertical movement.

The free end edge of the portion 24 is so located with respect to the rear part of the latch 27 that when the latch is disengaged from the keeper notch 19 and the arm is swung to the left to assume a parallel relation with the wall plate, it will act as a stop for the latch to maintain it substantially in horizontal position below the arm.

In order to insure the positive engagement of the latch 27 in the keeper notch 19, there is interposed between the bottom portion 29 of the latch and the lower edge of the arm, the longitudinally bowed spring 31, one end of which is fixed in a recess 32 in the bottom edge of the arm while the other end engages the bottom edge of the arm adjacent the outer or free end portion of the latch, the intermediate part of the spring bearing down against the portion 29 of the latch.

In the use of the present support the wall plate 10 is mounted to maintain a fixed position upon a wall or other suitable support. With the supporting arm 17' turned to the left away from the keeper notch 19, the hinge plate is then inserted between the back of the wall plate and the lips 13 and slid downwardly until the wing portions 21 of the top ear 20 come to rest upon the top edges of the lips 13. The arm 17' may then be swung around until it assumes a position perpendicular to the back of the wall plate, at which time the locking tongue 26 will enter the notch 14 so as to prevent the hinge plate from being moved upwardly and detached from the wall plate and at the same time the latch 27 will ride over the adjacent rounded corner 20' of the bottom ear and, when the arm 17' is in proper position, will be caused to engage in the keeper notch 19 by the spring 31. Thus it will be seen that the supporting arm will be securely locked against swinging movement and the entire unit consisting of the arm, hinge plate and connected parts will be securely held against upward movement with respect to the wall plate. Consequently, there is no danger of the supporting arm shifting from position when the can opener or other implement which it may be designed to support, is operated, regardless of the strains or thrusts which may be applied to the arm.

I claim:

1. A support of the character described, comprising a unit designed to be mounted in a fixed position, said unit being formed to provide a pair of vertical spaced guides, a plate adapted to be freely slidably introduced and removed from between said guides, means for limiting the sliding movement of the plate in one direction between the guides, an article supporting arm pivotally coupled with the plate for swinging about a vertical axis when the plate is mounted between the guides, means holding the arm against movement longitudinally of said axis relative to the plate, means for latching the arm in one position relative to the plate, and means for locking the plate and arm to the unit for securing the plate and arm against disconnection from the unit.

2. A support of the character described, comprising a unit designed to be mounted in a fixed position, a plate, means for slidably coupling the plate with the unit, an arm pivoted to the plate to swing on a vertical axis when the plate and unit are coupled together, means holding the arm against movement longitudinally of said axis relative to the plate, means for securing the plate and arm against relative movement when the arm is swung to one position relative to the plate, and means functioning when the arm is swung

to the said one position to lock the arm and plate to the unit to prevent uncoupling of the plate from the unit.

3. A support of the character described, comprising a unit designed to be fixed to a supporting body, a hinge plate, means for effecting a sliding coupling between the unit and hinge plate, the hinge plate including a pair of spaced ears, an arm pivotally mounted between said ears and secured against movement longitudinally of its pivot axis between the ears, means for latching the arm and hinge plate together when the arm is swung to one position with respect to the plate, and means establishing a locking connection between the arm and the unit when the arm is swung to the said one position to hold the arm and hinge plate against movement relative to the unit.

4. A support of the character set forth in claim 3 wherein the said means for securing the arm and hinge plate against movement relative to the unit, comprises a rigid unit connected with the arm to swing therewith, and means forming a part of the first unit for receiving the rigid unit when arm is swung to the said one position.

5. A support of the character described, comprising a wall plate, the wall plate structure including a pair of spaced guides, a hinge plate designed to be slid into position between said guides to assume a parallel relation with the wall plate, means carried by the hinge plate for limiting the sliding movement thereof relative to the wall plate, an arm pivotally attached to the hinge plate, a rigid element carried by the arm for movement relative to the wall plate upon the swinging of the arm, means forming a part of the wall plate to receive the rigid element upon the swinging of the arm to a predetermined position, and means for latching the arm against swinging movement relative to the hinge plate when the arm has been swung to the said predetermined position.

6. A support of the character described, comprising a wall plate including spaced parallel flanges each terminating in an inturned lip to form spaced guides, one of said lips having a notch cut therein, a hinge plate designed to be slid into position between and in edge engagement with said guides, an arm pivotally attached to the hinge plate for oscillation on an axis paralleling the hinge plate, a rigid element connected with the arm and positioned to engage in said notch when the arm is swung to one position while the plates are coupled together, and means for securing the arm against swinging relative to the hinge plate when the arm has been swung to the said one position.

7. A support of the character stated, comprising a wall plate formed to provide two spaced parallel guides, a hinge plate designed to be slid into position between said guides, said hinge plate having a pair of spaced parallel ears, means forming a part of one of the ears for engagement with the guides to limit the sliding movement of the hinge plate relative to the wall plate, an arm having an end positioned between and pivotally coupled to said ears to swing on an axis paralleling the hinge plate, a latch means for coupling the arm with one of the ears to maintain the arm in one position relative to the hinge plate, and means forming an interlocking connection between the arm and the wall plate when the arm is swung to the said one position to maintain the arm and hinge plate against disconnection from the wall plate.

8. A support of the character set forth in claim 7, wherein the said interlocking connection comprises a rigid tongue connected with the arm and a notch formed in an adjacent part of the wall plate to receive the tongue.

9. A support of the character described, comprising a wall plate designed to be mounted in a fixed position and including a pair of spaced parallel guides, a hinge plate adapted to be slid into mounted position between said guides, said hinge plate including a pair of spaced parallel ears, lateral wings carried by the hinge plate to engage an end of the wall plate to limit the sliding movement of the hinge plate relative to the wall plate, an arm formed at one end to provide a hinge sleeve disposed between said ears, a pivot pin extending through said ears and through said sleeve, spring actuated means carried by the arm for coupling the arm with an ear to secure the arm when moved to one position, against swinging movement relative to the hinge plate, and means forming an interlocking connection between said sleeve and the wall plate.

10. A support of the character described, comprising a unit designed to be mounted in a fixed position, said unit being formed to provide a pair of vertical spaced guides, a plate adapted to be freely slidably introduced and removed from between said guides, means for limiting the sliding movement of the plate in one direction between the guides, an article supporting arm pivotally coupled with the plate for swinging about a vertical axis when the plate is mounted between the guides, means for latching the arm in and when swung to one position relative to the plate, and means adapted to function by the swinging of the arm to and when the arm is latched in the said one position to lock the plate and arm to the unit whereby to prevent movement of the plate and arm longitudinally of and from between the spaced guides.

11. A support of the character described, comprising a unit designed to be mounted in a fixed position, said unit being formed to provide a pair of vertical spaced parallel guides, a plate having parallel side edges adapted to be freely slidably engaged between said guides, lateral wings integral with the top of the plate to engage the top ends of the guides and limit the sliding movement of the plate in one direction between the guides, an article supporting arm pivotally coupled with the plate for movement about an axis paralleling the said parallel edges of the plate, means for latching the arm in one position relative to the plate, and a rigid element integral with the arm and adapted for locking connection with a guide when the arm is swung to said one position for locking the plate and arm to the unit to secure the plate and arm against disconnection from the unit.

12. A support of the character described, comprising a wall plate designed to be mounted in a fixed position and including a pair of spaced parallel guides, a hinge plate adapted to be slid into mounted position between said guides, said hinge plate including a pair of spaced parallel ears, means for limiting the sliding movement of the hinge plate relative to the wall plate, an arm formed at one end to provide a hinge sleeve disposed between said ears, a pivot pin extending through said ears and through said sleeve, means for coupling the arm with an ear to maintain the arm in one position against swinging movement relative to the hinge plate, and means forming an interlocking connection between said

sleeve and the wall plate, the said means forming the interlocking connection comprising a tongue formed from the body of said sleeve and extending laterally in substantially perpendicular relation with the arm for engagement across one guide when the arm is secured in the said one position, and a notch formed in the said one guide to receive the tongue.

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