

June 13, 1944.

R. E. McLEAN

2,351,531

SWING OUT OF THE WAY TYPE WALL BRACKETS

Filed April 26, 1943

2 Sheets-Sheet 1

Fig. 1.

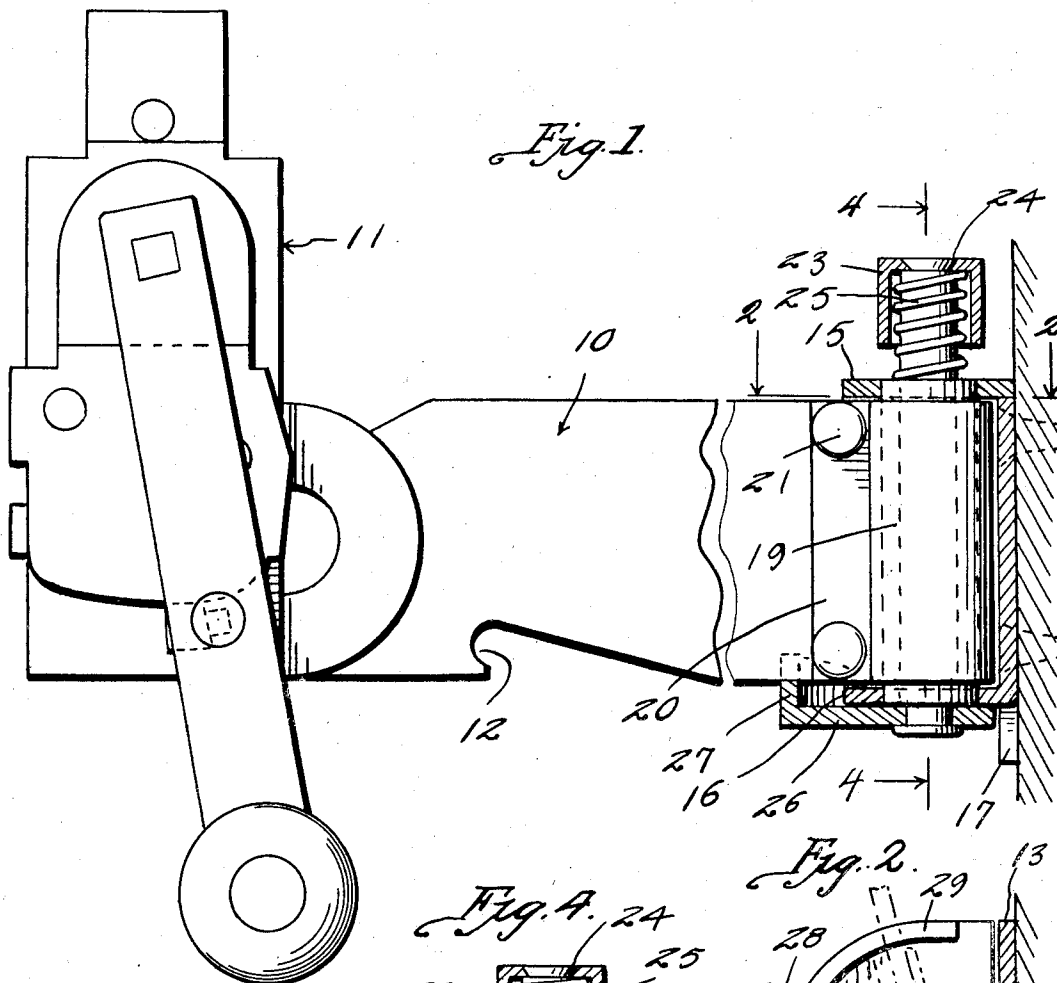


Fig. 2.

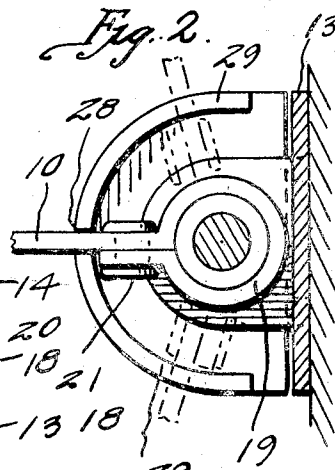


Fig. 4.

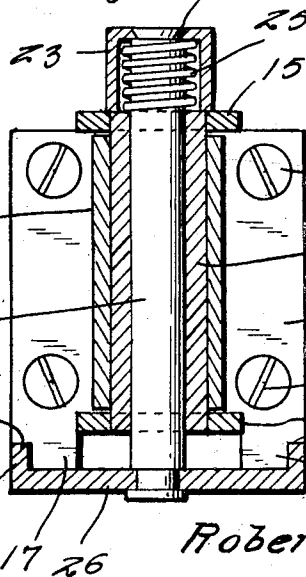
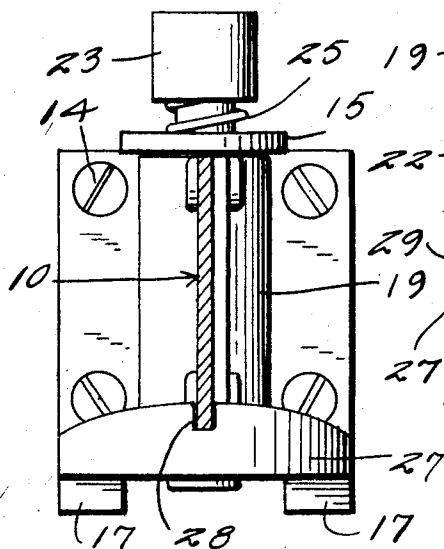


Fig. 3.



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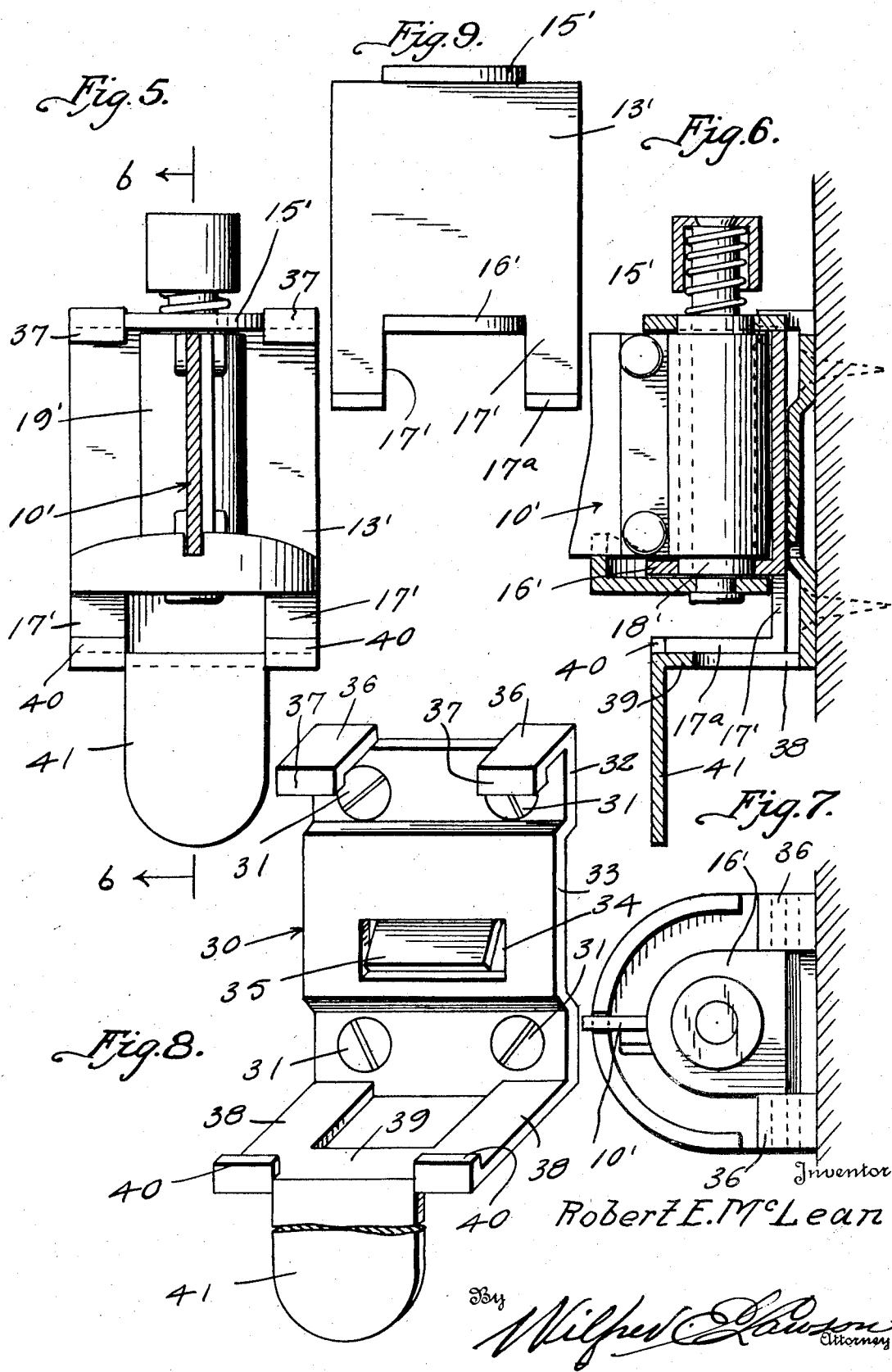
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,351,531

SWING-OUT-OF-THE-WAY-TYPE WALL
BRACKET

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9 Claims. (Cl. 248—289)

This invention relates generally to the class of supports and pertains particularly to improvements in wall attached brackets for the support of household utility devices such as rotary can openers, fruit juice extractors and the like.

A principal object of the present invention is to provide an improved bracket for attachment to a wall, or other suitable vertical supporting surfaces, designed to support a rotary can opener, such, for example as those disclosed in my prior Patents No. 2,287,442, and No. 2,294,507 or any other wall attached kitchen implement, which will be maintained firmly in working position, but which may be easily and quickly swung into a position in close proximity to the wall when not in use.

Another object is to provide a supporting bracket of the character stated having an arm pivotally attached to be swung on a vertical axis, from a position perpendicular to the adjacent wall to an inoperative position substantially parallel with such wall, and in which the arm is so held at its pivoted end that no amount of lateral or vertical thrust on the arm, will dislodge the arm and allow it to be swung on its pivot, without the proper manipulation of the necessary shiftable holding or securing means for the arm.

Still another object of the invention is to provide a swingable bracket in which the means for securing the arm thereof is vertically shiftable with a portion movable relative to a horizontal edge of the arm for engagement therewith and disengagement therefrom, the said portion being manually moved in one direction through the medium of a pintle pin, about the axis of which the arm swings.

Still another object is to provide, in a device of the type above set forth, a novel means by which the swingable arm, carrying the can opener or other utility implement, when swung to an out-of-the-way position, or non-working position, is maintained in such position by a cam bearing, such cam bearing reversely functioning, when the arm is swung back to an operative or working position, to axially move the pintle, against a spring tension, into a position to facilitate locking the arm in the last mentioned position.

Other objects and advantages of the invention will readily become apparent as the description proceeds, such description, taken with the accompanying drawings, presenting desirable workable embodiments of the invention; it being understood, however, that various changes and modifications may be made so long as such changes and modifications make no material departure from

the salient features of the invention, as expressed in the appended claims.

In the drawings—

Figure 1 is a view partly in side elevation and partly in vertical section, of a bracket constructed in accordance with the present invention.

Figure 2 is a horizontal section taken on the line 2—2 of Figure 1.

Figure 3 is a view looking toward the wall attached portion of the device, the bracket arm being in transverse section.

Figure 4 is a sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a view looking toward the wall attached portion of another embodiment of the invention.

Figure 6 is a section taken on the line 6—6 of Figure 5.

Figure 7 is a view in top plan of the inner end or wall attached portion of the structure of Figure 5.

Figure 8 is a view in perspective of the wall plate per se, of the structure of Figure 5.

Figure 9 is a view in front elevation of the hinge plate for the structure of Figure 5.

Referring now more particularly to the several figures of the drawings there is shown in Figure 1 an arm 10, to the outer end of which may be attached, in any suitable manner, a rotary can opener, generally designated 11, which may represent any one of the several types illustrated and described in my prior patents, previously referred to. No detailed description is here believed to be necessary since the device carried by the arm is immaterial insofar as the invention of the present application is concerned and an illustration and description of the form of opener will be found in one of my prior patents referred to. The arm may also be employed to support a rotary fruit juice extractor or other kitchen implement.

The bottom edge of the arm 10, may be formed to provide a bottle cap remover 12, as shown, if desired.

The inner end of the arm is secured to a wall or other vertical support by either of the two novel means shown. For the embodiment of the invention illustrated in Figures 1 to 4, inclusive, there is provided a plate 13, which may be defined as the hinge plate. This plate, in the instant embodiment, is secured directly to the wall, or other support, by screws 14 or other suitable means. At the top and bottom edges of the hinge plate are the integral, forwardly extending upper and lower tongues 15, and 16, respectively. The

lower tongue 16 is cut from the plate to be bent therefrom above the bottom edge of the plate, thereby leaving or providing the two spaced, depending ears 17.

Mounted between the tongues 15 and 16, is a tubular bearing post 18, the ends of which extend into and are fixed in openings in the tongues as best illustrated in Figure 4.

Encircling the bearing post 18 to turn freely thereon, and extending the full distance between the opposed faces of the tongues 15 and 16, is a hinge collar 19, which, as shown in Figure 2, may constitute an integral continuation of the arm 10, or it may be separate therefrom but attached thereto in a suitable manner. On the integral continuation shown, there is formed a terminal flange 20, which is secured against a side of the arm by rivets 21, or welded thereto if desired.

With the construction thus far described it will be seen that the arm may be swung freely around the bearing sleeve as a center, but such free swinging, without means of restraint, would be undesirable since the satisfactory use of the can opener or other device would not be possible. The following described novel means is therefore provided for releasably securing the arm in operative and inoperative, or swung-out-of-the-way, position.

Extending through the tubular bearing post 18, for axial movement therein, is a pintle pin 22. This pin extends at all times beyond the upper and lower ends of the bearing post.

The upper end of the pin 22, enters a hollow cap 23, and is secured in the top of the cap as indicated at 24.

Encircling the upper end of the pin 22 and extending into the pin cap 23, is a compression spring 25, one end of which bears against the underside of the top of the cap while the lower end bears against the top end of the bearing post 18. Thus this spring constantly exerts an up thrust on the pintle pin to move it up through the bearing post as far as it is permitted to go by the lock plate about to be described.

The lock plate is indicated generally by the reference numeral 26. This plate is disposed below the lower tongue 16 as best shown in Figure 1, and has a width equalling that of the hinge plate and a forward semi-circular edge outlined by an upstanding rim 27. This rim 27, has a notch 28, cut therein midway between its ends to receive the lower edge of the arm 10 and by this means the arm is firmly held against swinging and also is held perpendicular to the face of the hinge plate, and consequently to the wall also. From each side of the notch 28 to the adjacent end of the rim, the top edge of the rim slopes downwardly, as best seen in Figure 3, to form the two camming surfaces 29, which ride against the bottom edge of the arm 10.

It will be readily seen from the foregoing that in order to release the arm 10 for swinging around out-of-the-way, or to a position substantially parallel to the adjacent wall, it is necessary to press down on the cap 23. This will shift the pin 22, downward and lower the lock plate sufficiently for the arm to clear the notch 28. The arm may then be swung around, and, if the pin is released, it will ride on the underlying cam 29 and the plate and pin will move up under the urge of the tensioned spring. Due to the camming action of the edge 29, against the lower edge of the arm it will be seen that the arm will be held from swinging back unless force is used to swing it out. If this is done the arm as it rides against the

gradually rising cam edge 29, will force the lock plate and pintle down against the tension of the spring 25, until the notch is reached, whereupon the plate will be pulled up, to secure the arm in the notch.

The embodiment of the invention illustrated in Figures 5 to 9 inclusive, includes a novel means for detachably mounting the bracket on the wall or other suitable support. In this construction those parts which are identical in construction with, or similar to, corresponding parts in the first described embodiment of the invention, will be identified by the same reference characters primed.

It will be seen that the bracket arm 10' has at its inner end the hinge collar 19' which encircles the bearing post 18'.

The hinge plate 13' has the top and bottom tongues 15' and 16' but the ears 17' at the bottom are longer than the ears 17 and each terminates in the forwardly extending foot 17'.

The hinge plate is secured, in set-up position, by the mounting plate 30 which plate is secured, by screws 31, or other suitable means, to the supporting wall. This plate has a back part 32, which between its top and bottom edges has a forwardly projecting portion 33, against the face of which the hinge plate bears, when mounted on the plate 30. The portion 33, has an opening 34, from the top edge of which extends downwardly and forwardly, the spring or yieldable, tongue 35, which is flexed back by the hinge plate 13' as shown in Figure 6, and functions to hold the latter in position, as hereinafter described.

Extending forwardly from the top edge of the mounting plate 30 are the two resilient fingers 36, which are designed to extend across the top edge of the hinge plate 13', on either side of the tongue 15', and each finger 36 terminates in a downturned flange 37, which forms a hook to engage the plate 13' as shown in Figures 5 and 6.

Extending forwardly from the bottom of the bracket plate are two resilient arms 38, similar to but longer than the fingers 36, which are connected at their outer ends by the cross piece 39. At the outer end of each arm 38, is an upturned flange or hook 40, and between these hooks 40, there is attached to the cross piece the finger grip 41, by means of which the arms 38, are flexed to facilitate placing in position and removing the hinge plate 13'.

It will be readily seen from the foregoing that when the hinge plate is mounted the hooks 37 will catch over the top edge thereof while the forwardly extending feet 17' will rest upon the arms 38 and will be engaged, at their forward ends, behind the hooks 40 of the arms. The back of the hinge plate will be engaged by the spring tongue, which tends to urge the hinge plate forward to establish the desired tight engagement of the same with the hooks 37 and 40. It is necessary, in placing the hinge plate in position to first engage the top edge behind the top hooks 37, and then, by grasping the finger grip 41 and bearing down and back thereon, flexing the arms 38 until the hooks 40, are lowered sufficiently to swing the bottom edge of the hinge plate in over them, whereupon, upon the release of the part 41, the arms 38, will return to position to engage the hooks 40 across the front ends of the arms 17', as shown in Figure 6.

To release and remove the hinge plate, and the entire bracket unit, the reverse of the just described procedure is followed.

From the foregoing many advantages are ac-

complished in the present invention, as will, it is believed, be readily apparent, as, for example:

The device is substantial, durable, and exceptionally rigid. Bearing surfaces are unusually large in proportion to size of device.

The device is exceptionally safe. Extension arm bearing can opener or other device can not escape from said wall bracket; said extension arm is positively maintained in desired position, and there can be no vertical movement. No amount of force or thrust exerted on extension arm bearing can opener or other device—regardless of kind of thrust—can effect any movement of said extension arm in said bracket, nor can it have any effect upon the position of the cam plate, the notch of which straddles said extension arm.

The device is compact and simple and easy to operate. Merely depressing the cap atop the vertical pin through the device disengages the cam plate from the extension arm bearing the can opener or other device. As soon as said extension arm is swung clear of the notch in said cam plate, said extension arm may be swung without depressing said cap atop vertical pin through the device. To again engage said extension arm in the notch of said cam plate, it is only necessary to merely swing said extension arm to position and the spring atop the device pulls cam plate astraddle said extension arm. The cams on cam plate maintain the extension arm against or near the wall, once said extension arm has been swung to that position—either to the right or to the left.

The device can be produced at a very reasonable cost.

As previously stated the second embodiment is the same as the first embodiment, except that provision is made for removing, by manipulation and without tools, the entire device (except a portion which is securely fixed to the wall or other upright surface by screws or similar method and extends perpendicularly therefrom approximately one-half or three-quarters of an inch). This second embodiment has all the features and properties of the first embodiment.

The design of the bracket that is secured to the wall or other upright surface is such that the device, when inserted or installed therein, is securely and rigidly held at four rectangularly related points, and the device can have no lateral, vertical, rotatable, or other movement in the said wall bracket until manually and purposely released therefrom by the operator.

The fulcrum of the wall bracket, supplemented if desired by the raised tensioned portion illustrated in the fulcrum portion of the bracket, provides for engaging the device in the said wall bracket under sufficient tension to maintain the device and the said wall bracket as a single unit at all times while so installed and until released therefrom at the will of the operator. The said wall bracket would either be manufactured of material possessing the required amount of resiliency to permit the outer ends of the two lower perpendicularly extending fingers to be forced downwardly, when the depending tongue is depressed toward the wall or other upright surface by the operator, sufficiently to clear the two co-operating perpendicularly extending fingers of the device in order that the device may be removed from the said wall bracket by lifting upwardly on the extension arm of the device, or the said wall bracket could be terminated at its lowest point of contact with the wall or other upright surface and a part similar in construction to the

remaining lower portion of the illustrated said wall bracket and possessing the required amount of resiliency could be extended upwardly on the said altered wall bracket to a point immediately above the heads of the lower attaching screws and securely fastened to the said altered wall bracket and the wall or other upright surface by the lower attaching screws. To reinstall the device in the said wall bracket, the upper portion of the device is placed under the two upper perpendicularly extending hooks of the said wall bracket, the said two upper hooks straddling the perpendicularly extending upper ear of the device, and the extension arm of the device is then forced downwardly until the device is in illustrated position. This movement forces the outer ends of the two lower perpendicularly extending fingers of the said wall bracket downwardly until the device is in illustrated position, at which time the tension of the two said fingers urge them upwardly until in the illustrated position, in which position they securely and rigidly hold the device until released at the will of the operator.

What is claimed is:

25 1. A swingable bracket, comprising an arm, a plate adapted to be secured vertically to a supporting body, a hinge coupling between an end of the arm and the plate facilitating swinging the arm on a vertical axis, a pin supported for longitudinal movement on a path paralleling the pivotal axis of the hinge, a plate attached to the pin and disposed across the arm to be moved relative to the arm by the pin, locking means carried by the second mentioned plate for partially receiving and holding the arm when the arm is swung to one position, and means urging the second mentioned plate toward the arm for engagement of the arm in the locking means.

40 2. A structure as set forth in claim 1, including a camming means forming a part of the locking means and engaged by the arm when the arm is out of the receiving means therefor, for effecting shifting of the plate and the locking means in one direction against the urging means when the arm is swung.

45 3. A swingable bracket, comprising a plate for attachment to a support, a pair of vertically spaced ears carried by the plate, a tubular hinge post secured between the ears, an article supporting arm having one end joined to said post for turning thereabout, a pin extending through and slidable in said post, a locking plate carried by the pin at one end and disposed across the arm for movement relative to the arm, the plate having means for receiving the arm when the arm is swung to one position to hold the arm against swinging, and means for urging movement of the pin and lock plate in a direction to maintain engagement of the lock plate with the arm.

60 4. A structure as set forth in claim 3, in which the said locking plate structure includes an arcuate cam upstanding on the locking plate upon each side of the arm receiving means and concentric with said hinge sleeve, said arm riding on one cam when swung toward the receiving means to shift the lock plate away from the arm.

65 5. A swingable bracket, comprising a hinge plate adapted to be mounted on a suitable supporting body, a hinge post carried by the plate, an arm having one end coupled with said post for swinging movement about the post as an axis, a pin supported by the post for movement longitudinally thereof, a notched plate carried by the pin and disposed across the arm and adapted to

receive and hold the arm in the notch thereof, and spring means coupled with the pin for constantly urging the movement of the pin in a direction to maintain the notched plate in contact with the arm.

6. A swingable bracket, comprising a hinge plate adapted to be mounted upon a suitable supporting body, a hinge post carried by the plate, an arm having one end coupled with said post for swinging movement about the post as an axis, a pin supported by the post for movement longitudinally thereof, a plate carried by the pin and disposed across the arm, means carried by the post to receive and hold the arm in a prescribed position, and means constantly urging movement of the pin and the plate in a direction to dispose the plate with the arm engaged in said means.

7. In an article supporting, swingable bracket, a mounting plate adapted to be secured to a support, two parallel ears integral with and perpendicular to the mounting plate, an arm having an end snugly positioned between said ears, a cylindrical pivot post secured at its ends between said ears and having the said end of the arm connected therewith for swinging movement

thereabout, a pin slidably extending through the cylindrical post and projecting at its ends beyond said ears, a member connected with the lower end of the pin below the lower ear and carrying an upwardly directed arcuate flange directed toward the lower edge of said arm and concentric with said pin, the flange having a notch therein for the reception of the adjacent edge of the arm, and spring means connected between the upper end of the pin and the upper end of the cylindrical post and normally urging movement of the pin and the flange carrying means upwardly.

8. An article supporting bracket as set forth in claim 7 in which said flange has its top edge sloped downwardly from each side of the notch to form a cam against which the lower edge of the arm is adapted to slide when the arm is swung about the post.

9. An article supporting bracket as set forth in claim 7 with a cap mounted upon and enclosing a portion of the upper end of said pin and having the upper end of the spring extended thereinto.

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