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[54] **ADJUSTABLE SHELF BRACKET**
2 Claims, 4 Drawing Figs.

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108/6, 108/108; 248/291
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ABSTRACT: An adjustable shelf bracket is removably attachable to an elongated support secured to a wall structure wherein the support has a plurality of vertically spaced slots and a bracket member has a plurality of vertically spaced hooks adapted to be received within the slots. A bifurcated arm has one end thereof pivotally mounted on the bracket member which has a plurality of ratchet teeth on a periphery thereof. A bell crank pawl is pivotally mounted between spaced plates forming the bifurcated arm and has a plurality of ratchet teeth on an end of one arm adapted to be moved into interengagement with the ratchet teeth on the periphery of the bracket in response to a resilient member positioned in engagement with another arm of the bellcrank shaped pawl.

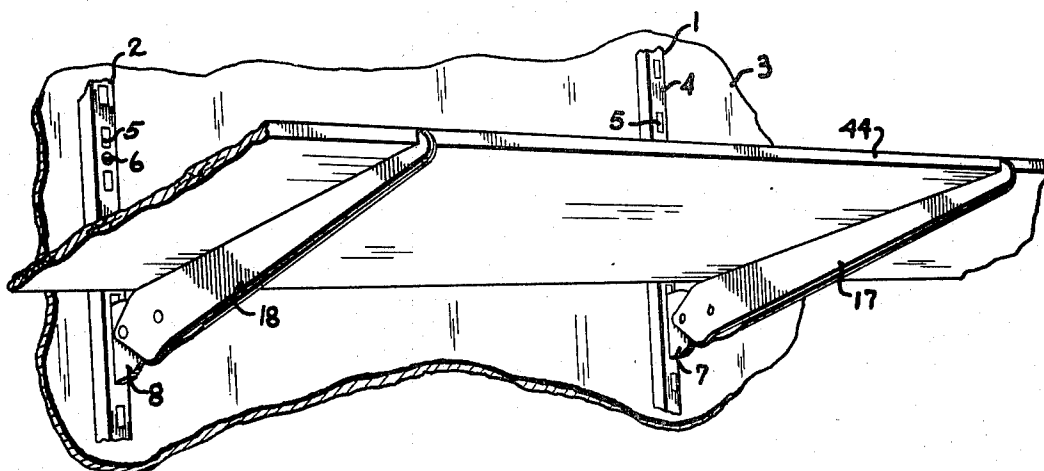


Fig. 1.

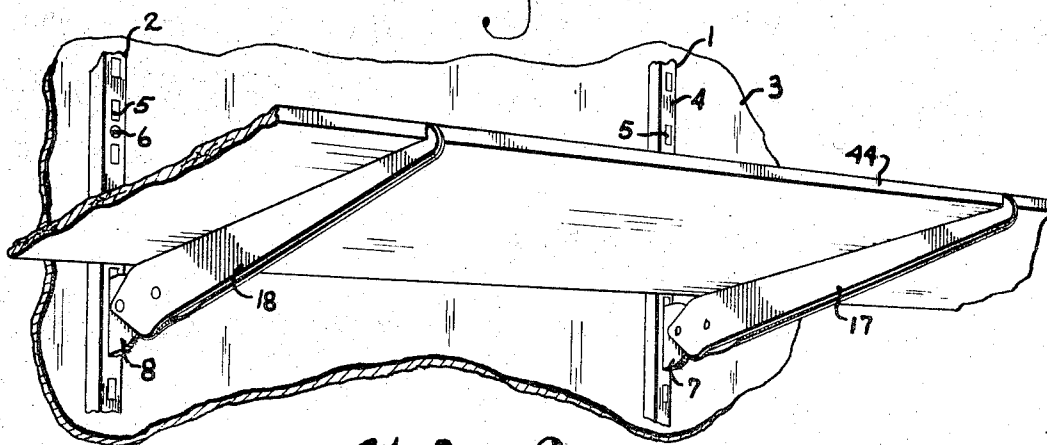


Fig. 2.

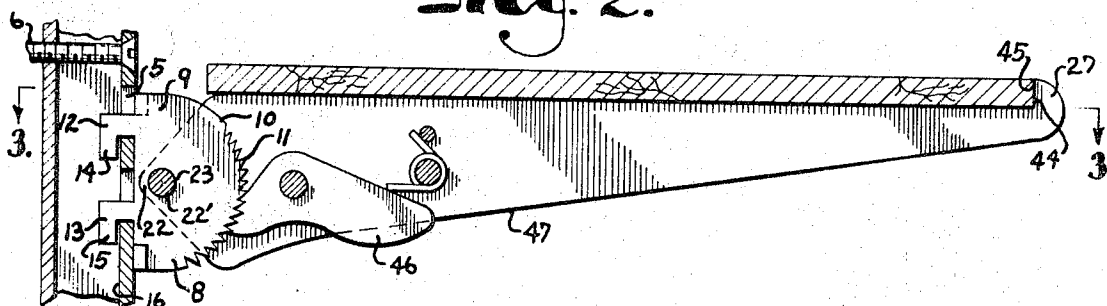


Fig. 3.

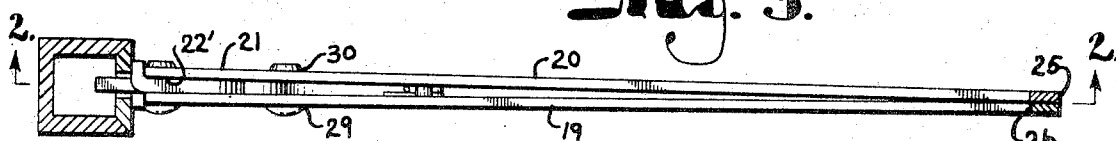
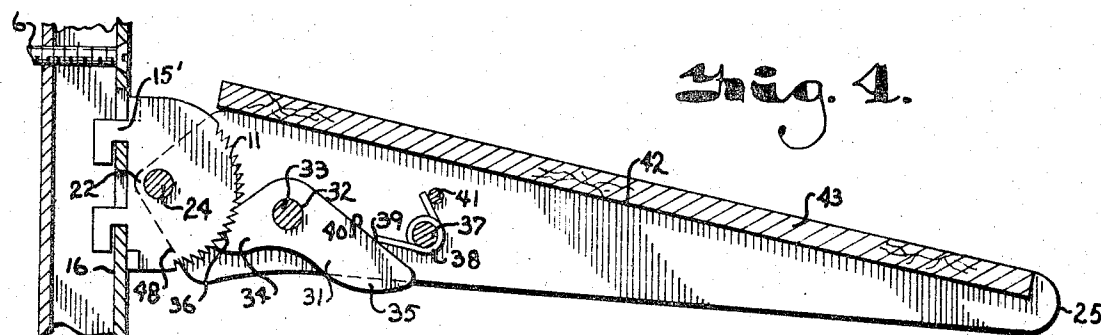


Fig. 4.



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ADJUSTABLE SHELF BRACKET

This invention relates to an adjustable bracket of the type for supporting shelves and the like and is particularly adaptable to be removably attached to a support and be adjusted in a desired position horizontally of the support or at an angle therefrom.

The principal object of the present invention is to provide a shelf of this character for displaying articles of merchandise or for placement of articles in a home for easy access or for decorative purposes.

Other objects of the present invention are to provide supports having a bar portion outwardly of a wall and secured to such wall or the like and said supports having spaced slots therein; to provide brackets for engagement with the supports, said brackets having hook members vertically spaced for engagement in a pair of said openings or slots in the supports, having the hook portion turned downwardly and the brackets having a semicircular portion outwardly of said hooks; to provide arms for pivotal attachment to said brackets, said arms having spaced ends which provide a bifurcated portion for engaging on each side of the brackets and having openings aligned with openings in the brackets for attachment thereto by a pin or the like; and to provide the semicircular portion of the brackets with serrated or ratchet teeth.

Still further objects of the present invention are to provide between the bifurcated portion of the arms a pawl or the like having serrated or ratchet teeth for engagement with the serrated or ratchet teeth on the bracket, said pawl being substantially of bellcrank shape and pivotally mounted on the arms, having the longer arm portions extending rearwardly of the arms and away from said bracket; to provide resilient means engaging the longer arm of the pawl to urge the ratchet teeth in engagement with the ratchet teeth on the bracket; and to provide the longer arm of the pawl with a portion extending below the arm when the teeth are engaged with the bracket so that to disengage the teeth the pawl may be engaged and moved upwardly against the resilient members to release the ratchet teeth from the bracket teeth to adjust the arm to the desired height; to provide the outer end of the arms with a shoulder portion; to provide a shelf for engagement on the arms; and to provide a device of this character simple and economical to manufacture.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example certain embodiments of this invention.

FIG. 1 is a perspective view, partly diagrammatic showing the shelf mechanism attached to a wall or the like.

FIG. 2 is a cross-sectional view taken on a line 2-2, FIG. 3, particularly illustrating the ratchet and pawl arrangement and the removable attachment of the brackets to the support.

FIG. 3 is a partly cross-sectional plan view taken on a line 3-3, FIG. 2.

FIG. 4 is a longitudinal cross-sectional view through the arm showing the shelf in slightly downwardly inclined position.

Referring more in detail to the drawings, 1 and 2 designate supports for attachment to a wall or the like 3. The supports are here shown to be substantially square in shape, although I do not wish to be limited to any desired type of support. Each support has an outer wall 4 with spaced openings or notches 5. The supports may be attached to the wall in any suitable manner such as by screws or the like 6 (FIG. 2).

Brackets 7 and 8 are provided for attachment to the supports 4 and 5, and as the brackets are identical, only one will be described. The brackets have a body portion 9 with a semicircular or periphery 10, a portion thereof being provided with ratchet teeth or serrations 11. The opposite sides of the brackets, or extended oppositely to the ratchet teeth, are hooks 12 and 13 with the hook portions 14 and 15 turned downwardly in the same directions and adapted to engage through the openings 5 in the supports 1 and 2. It will be obvious, of course, that the brackets 7 and 8 will be in horizontal alignment with each other, as shown later.

The hooks 12 and 13 are of a length that the combined length of the hook portion 14 and 15 and the straight portion 15' of the hook will easily be inserted through the openings 5 and be retained therein by engaging against the inside 16 of the wall 4 of the supports.

Elongated arms 17 and 18 are provided for pivotal attachment to the brackets 7 and 8. Each of the arms are identical so only one will be described. The arms 17 and 18 consist of two identical plates 19 and 20 spaced apart at the larger end 21 and angled inwardly towards the supports at a point as indicated at 22. The larger ends of the plates have aligned openings 22' (FIG. 2) and the brackets have openings 23 for receiving a pin 24 for pivotally mounting the arms to the brackets. The outer ends 25 of the arms are secured together by welding or other suitable means as indicated at 26 and have an upwardly extending portion or shoulder 27. Each of the plates 19 and 20 are tapered outwardly from the outer ends 25 so that the inward or pivoted ends are substantially larger as indicated at 28.

The plates 19 and 20 are provided with aligned openings 29 and 30 spaced from the tapered end thereof, and located between said plates is a pawl or bellcrank member 31 having an opening 32 aligning with the openings 29 and 30 and secured between the plates 19 and 20 by a pin 33 and thereby pivotally mounting the pawl between the plates. The pawl or bellcrank member has a short portion 34 and a longer portion 35. The short portion 34 is provided with ratchet teeth or serrations as indicated at 36 mating with the serrations or ratchet teeth 11 on the bracket. Spaced rearwardly from the pin 32, and substantially a distance equal to the length of the arm portion 35 of the pawl 31, and between the plates 19 and 20 is a pin 37 around which a coiled wire spring 38 is mounted having one free end 39 engaging against the surface 40 of the pawl 31 and its other free end against a pin 41 spaced upwardly of the pin 37 and both pins being mounted between the plates 19 and 20 so that the arm 39 of the springs will urge the pawls into engagement with the brackets 7 and 8.

The upper edges 42 of the arms 17 and 18 are plane and adapted to receive a shelf member 43 thereon, the outer side edge 44 thereof engaging against the shoulder 45 of the up-turned portion 27 of the arms 17 and 18.

When it is desired to adjust the angle of the arms with respect to the support, it will be noticed that the lower portion 46 extends below the lower edge 47 of the arms 17 and 18, particularly as illustrated in FIG. 2, and by pressing upwardly on the pawl by the fingers or hand against the tension of the spring 38, the pawl will be released from the brackets 7 and 8 and the arms may be adjusted to any desired height or angle upwardly or downwardly from the horizontal. It will be obvious that by removal of the shelf 43 the arms may be dropped to a considerably lower position than that shown in FIG. 4, although the limit of the slope of the arms up or down will be limited to the angle as indicated at 48 to the pivoted end of the arms. The brackets may be disengaged from the supports merely by raising the brackets in the openings 5 until the hooks will pass outwardly therethrough.

It will be obvious from the foregoing that I have provided an improved adjustable shelf which may be quickly and easily attached to a wall structure and one on which the arms may be adjusted to a desired elevation and also one which may be disengaged from the supports for storage or use in other places.

It is to be understood that while I have illustrated and described one form of my invention, it is not to be limited to the specific form or arrangement of parts herein described and shown except insofar as such limitations are included in the claims.

I claim:

1. An adjustable shelf structure comprising:

a. a plurality of laterally spaced elongated vertically extending supports attached to a wall structure, said supports each having a wall portion spaced from said wall structure and having a plurality of vertically spaced slots in said wall portion;

- b. a plurality of bracket members each having a pair of vertically spaced hooks adapted to extend through respective slots in respective supports for removably mounting said bracket members on said supports, said hooks each having depending portions adapted to engage an inside surface of the wall portion of said respective support, said bracket members each being planar members having a substantially semicircular outer peripheral edge provided with a plurality of ratchet teeth;
- c. a bifurcated arm for each bracket member, each arm having a pair of plate members secured together at one end and spaced apart at the other end;
- d. a pin secured to and extending between said pair of plate members adjacent the spaced apart ends of each arm, each pin being received in an opening in said respective bracket member for pivotally attaching the spaced apart ends of the respective arm thereto;
- e. a planar bellcrank shaped pawl pivotally mounted between said plate members of each arm, said pawl being pivotally mounted intermediate opposite ends thereof and having a plurality of ratchet teeth on an end of one arm of the pawl for interengaging with said ratchet teeth on said respective bracket member, said pawl having a portion of the other arm thereof extending below said plate members of said respective arm; and
- f. a resilient member mounted between said plate members of each arm and having one portion engaging an upper edge of the other arm of said pawl for urging said respec-

tive ratchet teeth of said pawl into interengagement with and retaining said respective ratchet teeth of said pawl and bracket member in interengagement, said resilient member having an other portion bearing against a member mounted between said plate members and spaced above the other arm of said pawl whereby said ratchet teeth on said pawl will be disengaged from said ratchet teeth on said bracket member in response to upward pressure on the portion of the bellcrank shaped pawl extending below said plate members of said respective arm.

2. The adjustable shelf structure set forth in claim 1 wherein:

- a. said resilient member is a coil spring sleeved on a pin extending between said plate members of said bifurcated arm;
- b. said coil spring has arms extending therefrom for bearing against said upper edge of the other arm of said pawl and for bearing against said member mounted between said plate members and spaced above the other arm of said pawl;
- c. said one arm of said pawl is shorter than said other arm thereof; and
- d. said pin having said coil spring sleeved thereon is spaced from the pivotal mounting of said pawl a distance substantially equal to the length of said one arm of said pawl.

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