

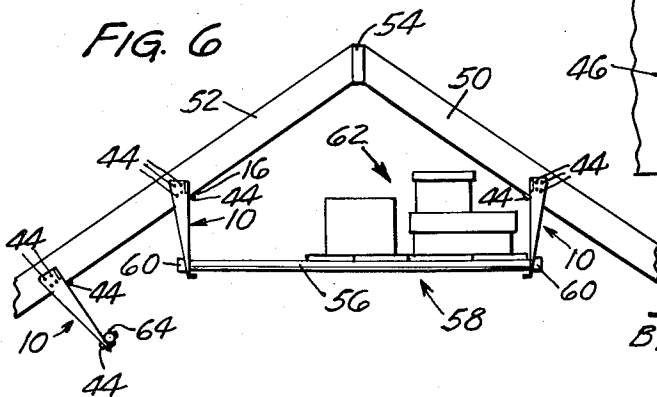
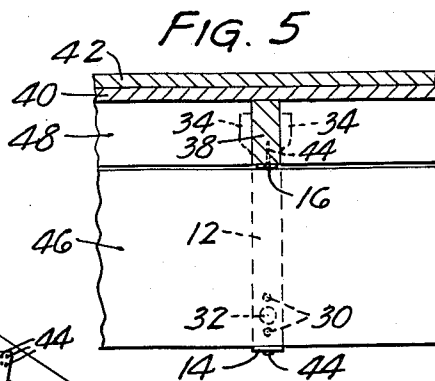
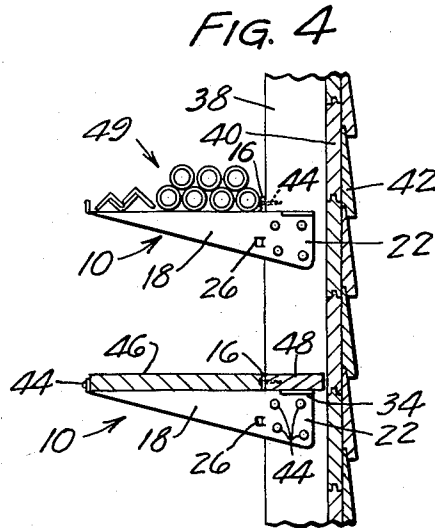
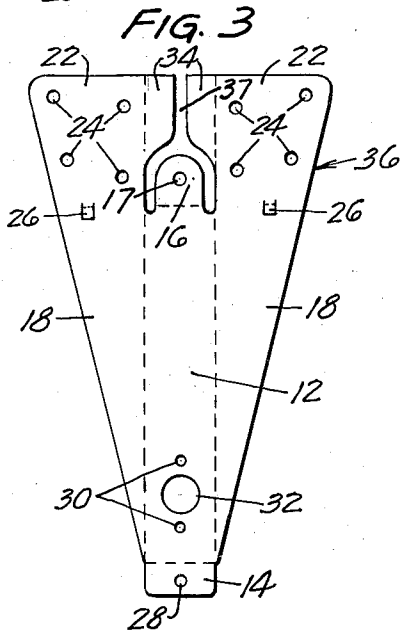
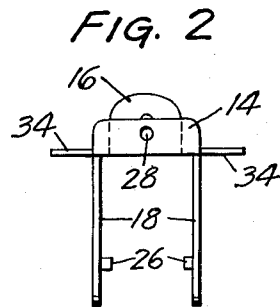
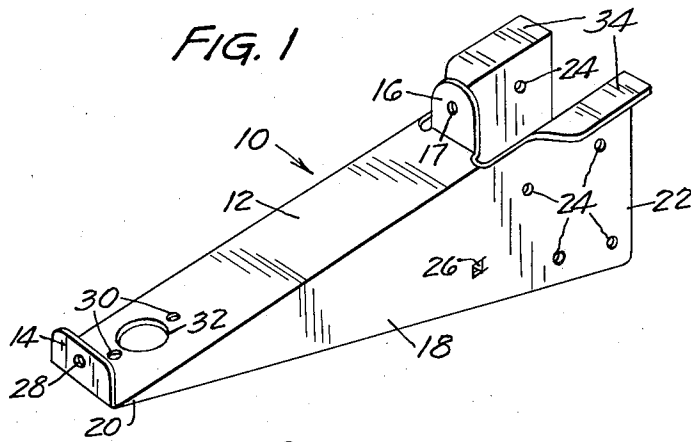
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J. W. SCHWARTZ

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MULTIPURPOSE SUPPORTING BRACKET

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INVENTOR
JEROME W. SCHWARTZ
BY Harold J. Kinney &
Donald M. Sell
ATTORNEY

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MULTIPURPOSE SUPPORTING BRACKET

Jerome W. Schwartz, South St. Paul, Minn., assignor to
Farwell, Ozum, Kirk and Company, St. Paul, Minn., a
corporation of Minnesota

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5 Claims. (Cl. 248-248)

This invention relates to brackets and more particularly relates to new and useful multi-positionable supporting brackets for mounting on exposed building framing members in a new and useful fashion in supporting shelves and/or in the formation of suspension racks and the like.

The brackets of this invention are particularly adapted for direct attachment to or mounting on exposed building framing members, e.g. wooden two-by-fours, two-by-sixes, two-by-eights, etc., such as are commonly used as studs, joists, rafters and similar building framing members which remain uncovered on at least one side thereof. To the other side of these members may be attached siding, roofing, or flooring, or these members may form skeletal partitions or simply decorative framing which may be exposed on one or both sides thereof. Exposed framing members of this nature are customarily and usually found in storage areas and structures such as garages, cabins, attics, basements, warehouses and similar areas where inside wall covering to conceal framing members is not usually applied. While such areas are ideal for the erection of shelves, suspension racks, hangers, and the like for storage purposes, brackets specifically adapted to support shelving, racks, hangers etc. in such areas have not heretofore been developed which take advantage of the versatile mounting possibilities provided by the exposed framing members bounding these areas.

It is an important object of this invention to provide a multipositionable supporting bracket that is directly attachable to building frame members at any desired angle thereto whereby the bracket can be suspended vertically from a sloping roof rafter, or from a horizontal floor joist in its use in the formation of suspension racks and hanger supports as readily as the bracket can be cantilevered at right angles from a vertical wall stud when used as a shelf or pipe supporting bracket or the like.

Another object of the invention is to provide a supporting bracket for horizontal cantilevering from exposed wall studs which includes shelf supporting platform areas to the side of, as well as forwardly of, the supporting stud whereby shelf supporting bracket surfaces are provided between studs as well as forwardly of the studs.

It is also an object of the invention to provide a bracket for attachment to exposed building framing members which includes means for automatically positioning the bracket at right angles to the framing member to which it is to be attached; another object is to provide a bracket with means to enable the attachment thereto of pipe ends and the like in a fixed and permanent manner in the formation of suspension racks.

A further object of the invention is to provide a multipositional bracket that can be stamped from a single blank of sheet metal and formed quickly and expeditiously from such stamped blank in an economical manner to provide an extremely versatile, strong, and esthetically appealing bracket construction.

The foregoing, as well as other objects and advantages which will become apparent as the description proceeds, are achieved by the brackets of this invention, a preferred embodiment of which is illustrated in the accompanying drawing wherein:

FIGURE 1 is a perspective view of a bracket made in accordance with this invention;

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FIGURE 2 is a front view of the bracket of FIGURE 1;

FIGURE 3 is a plan view of a stamped sheet metal blank from which the bracket of FIGURES 1 and 2 can be formed;

FIGURE 4 is a side elevational view of a rough finished wall such as is usually found in garages and the like disclosing the use of these brackets cantilevered therefrom to support shelving and the like;

FIGURE 5 is a top view of the shelf assembly of FIGURE 4; and,

FIGURE 6 is a partially schematic illustration of the manner in which these brackets can be attached to sloping rafters as when used in the construction of suspension racks in attics.

Referring now to the accompanying drawings in detail, a preferred bracket construction made in accordance with the principles of this invention is illustrated in FIGURES 1 to 3, the bracket being designated by the numeral 10.

Bracket 10 comprises essentially an elongated flat platform 12 having at the forward end thereof an upturned lip 14 to provide a limiting stop to prevent shelving pipes, or other articles supported on the platform surface of the bracket from sliding or rolling off, and to stiffen the forward end of the platform 12. At its rearward end the platform 12 is provided with an upstanding lug 16 for abutting a framing member upon which the bracket is mounted and serving as means for initially attaching the bracket to the framing member, having a fastener receiving aperture 17 therethrough.

Integrally depending from the side edges of the platform 12 of the bracket 10 throughout the length of the platform, and extending somewhat beyond in the rearward direction, are triangular shaped stiffening and attaching side flanges 18, each tapering downwardly from an apex 20 at the forward end of the platform 12 to wide flat bracket mounting extensions 22 extending rearwardly beyond the platform 12. These end extensions 22 provide spaced apart parallel attaching elements adapted to snugly interfit or embrace a framing member therebetween.

In attaching the bracket 10, the wide flat surfaces of extensions 22 embrace a building framing member therebetween and rest against the flat sides of the framing member throughout a considerable surface area, thereby facilitating the attachment of the bracket to such framing member at any desired angle with respect to the framing member simply by tilting the bracket to the desired angle prior to fastening the same.

The attaching elements 22 of the side flanges 18 are provided with suitable fastening apertures 24 through which screws, nails, or other fastening means may be passed in fastening the bracket to the framing member. In the event the bracket is to be mounted at any angle other than a right angle to the framing member (as for example as illustrated in FIGURE 6) the abutment lug 16 at the rearward end of platform 12 may of course be bent to correspond to the plane of the forward edge of the framing member.

To facilitate mounting the bracket at right angles to a framing member, each side flange 18 at the juncture of each rearward extension 22 is provided with an inwardly extending detent 26 (FIGURE 2) in vertical alignment with the rearward end of the flat platform 12 and, when the abutment lug 16 is disposed at right angles to the platform surface, in vertical alignment with the back face of this lug.

To augment the securement of a shelf to the bracket 10, the forward upstanding lip 14 is provided with an aperture 28 for the passage of a fastener therethrough into the outer edge of a shelf supported on the bracket.

Additional fastening apertures 30 through the platform 12 adjacent the forward end thereof may also serve to secure the bottom of a shelf to the platform surface 12 by the passage of fasteners therethrough; however, apertures 30 flank a large pipe aperture 32 and serve another purpose when utilized in conjunction with this pipe aperture 32 through the platform 12, as will be apparent in the description following.

The rearwardly extending fastening elements 22 of the triangular side flanges 18 are provided at their upper edges with outturned flanges 34 which are disposed on the same plane as the platform surface 12 and which serve as platform extensions to augment the shelf supporting surface of the bracket to provide support between stud members in a manner to be more fully described hereinafter with reference to FIGURE 4.

As illustrated in FIGURE 3, the bracket 10 is formed from a simple, generally triangular shaped, stamped piece of sheet metal 36, the various portions of the completed bracket being numbered on the blank for convenience, with the bend lines necessary to convert the blank 36 to a bracket 10 being shown in dotted outline. Centrally of the base edge, the blank 36 is provided with a generally Y-shaped cutout 37 to form platform extensions 34 and lug 16. Thus, these brackets can be quickly and conveniently formed by a simple sheet metal stamping operation followed by a subsequent bending operation.

A typical utilization of the brackets 10 is illustrated in FIGURES 4 and 5 wherein the brackets are shown cantilevered horizontally out from vertical wall studs. These studs may be the framing members for a partition or, as illustrated, for a garage wall or the like with rough siding 40 attached to the rear faces thereof and finish lap siding 42 fastened to the outer surface of the rough siding. The wall studs are exposed on the inside of the building as is typical in garages and other semi-finished structures and the attaching end extensions 22 of the flanges 18 of the brackets 10 embrace the studs 38. The detents 26 of the flanges 18 abut the front faces of the studs 38 and cooperate with the attaching lug 16 of each bracket to automatically position the bracket at right angles to each wall stud 38. A fastener 44 may be driven or screwed through the aperture 17 of each attaching lug to temporarily fix each bracket in place, and thereafter further fasteners 44 passed through flange apertures 24 to securely mount the bracket on the stud.

As is shown, the lowermost brackets 10 support shelf boards or the like 46 and 48 whereas the uppermost brackets 10 are disclosed as supporting metal pieces such as elongated pipes and angle irons, all of which are designated by the numeral 49. In the support of the shelving 46, fastener 44 may be driven or screwed through the aperture 28 of forward lip 14 of each bracket to fix the shelving in position.

As is best illustrated in FIGURE 5, the outturned flanges 34 along the upper edges of the rearward ends 22 of the side flanges 18 of each bracket provide platform extensions for supporting the shelf member 48 between studs 38, eliminating in the easiest possible manner the usual shelf gap between the front faces of the studs 38 and the siding 40.

The versatility and convenience of these brackets 10 becomes even more apparent in the use of the brackets illustrated in FIGURE 6. In this figure there is depicted somewhat schematically an attic storage area or the like with sloping roof rafters 50 and 52 abutting a center ridge pole 54. Brackets 10, while mounted in their usual embracing relation on the rafters 50 and 52, are suspended vertically from the rafters 50 and 52 rather than at right angles thereto and are disposed opposite one another. The abutment lug 16 of the bracket may again serve as a convenient first attaching point by driving a fastener therethrough; thereafter the bracket can be readily moved to a vertical position (detents 26 may be bent out of the way but preferably the flanges 18 are simply

flexed to allow passage of the detents over the rafter) prior to driving fasteners 44 home through apertures 24 into the rafters 50 and 52.

Then, by bridging the space between opposed brackets 10 with pipes 56 passed through the pipe apertures 32 and by having parallel assemblies on spaced parallel rafters 50 and 52 there is provided an overhead suspension storage rack. The rack, designated in its entirety by the numeral 58, provides a handy means for supporting luggage, bedding and the like, 62. To secure the pipes 56 in place, pipe end caps 60 or the like are mounted on the ends of the pipes 56 which project through the openings 32 of the brackets and these caps are in turn secured to the brackets 10 by fasteners through the platform apertures 30 flanking the pipe apertures 32 (FIGURES 1 and 3).

As also illustrated in FIGURE 6, brackets 10 mounted on the rafters 50 and 52 at right angles to the rafters can be used to support clothes poles and the like 64 with the clothes pole resting on the lips 14 of the brackets and being secured thereto by a suitable fastener 44 through the pole and platform aperture 30 whereby a readily accessible hanger arrangement may be provided for hanging various articles of clothing and the like.

It is apparent that many other storage arrangements lend themselves to ready construction by means of these brackets. For example, in the overhead suspension rack of FIGURE 6 in place of a pipe 56 or the like, a simple wooden beam can be utilized, the ends resting on the lips 14 and being secured fixedly to the brackets by means of fasteners through apertures 30 in the platform surface 12 thereof. With masonry walls of concrete, cement blocks, or cinder blocks and the like, upright wooden framing members of conventional framing lumber such as two-by-fours, two-by-sixes, or the like, may be secured thereto and the brackets thereafter mounted thereon in the formation of shelves, suspension racks, and the like. Also shelf brackets can be extended from opposite faces of a dividing wall formed of spaced, vertical framing members.

When packaging and/or space are significant factors in transporting the brackets from a metal stamping location to a remote distributing location, the brackets 10 can be simply shipped as stacked bundles of blanks 36 and formed to bracket shape on suitable forming apparatus at the distributing location.

Such forming is readily done since the Y-shaped slot or cutout 37 extending vertically, inwardly from the central portion of the essentially isosceles triangular shaped blank 36 defines the bending areas for forming the completed bracket. The transverse distance between the divergent ends of the furcations of the Y define the width of a central strip extending to the triangle apex forming the main supporting platform 12, the areas defined by the slot edges and a vertical line drawn from the divergent end of each slot furcation forming the platform extensions 34. The triangular areas along opposite side edges of the platform forming strip form, upon bending, the bracket side flanges 18 with the base portions thereof adjacent the Y-shaped slot 37 being suitably apertured and detented to enable mounting and positioning of the completed bracket.

Since the foregoing, as well as various other modifications in both the manners of use and in the structure of the bracket itself will occur to those skilled in the art after a perusal of the foregoing description taken in conjunction with the accompanying drawing, it is not desired to limit the invention to the exact construction shown and described, but all suitable modifications are contemplated which fall within the ambit of the appended claims.

I claim:

1. A multi-positionable supporting bracket for mounting on an exposed building framing member comprising an elongated central platform having side flanges integrally depending therefrom, said side flanges having

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portions extending beyond one end of said central platform for embracing a building framing member therebetween and fastening said bracket to such building framing member, said depending side flanges each having an outwardly extending edge flange projecting therefrom on a plane with said central platform for supporting a shelf member between framing members.

2. A multi-purpose supporting bracket for mounting on an exposed building framing member comprising an elongated flat central platform having a lug disposed at an angle to the platform at the rearward end thereof for abutment against a building framing member, side flanges depending from the side edges of said flat platform substantially throughout the length of said platform, and having wide, flat end portions extending beyond said platform for embracing such building framing member, said side flange end portions having apertures therethrough for the passage of fasteners therethrough to attach said bracket to the framing member, and having inwardly projecting detents for abutting the framing member and cooperating with said abutment lug in positioning said bracket at a particular angle with respect to said framing member.

3. A multipositionable one piece sheet metal supporting bracket bent from a sheet metal blank and comprising an elongated supporting platform having forward and rearward ends, triangular side flanges integrally depending from the side edges of said platform, said side flanges having flat parallel rearward extensions thereon projecting beyond the rearward end of said platform for snugly interfitting a framing member therebetween, means on said side flange below the rearward end of said platform for cooperatively engaging the front face of a framing member with the rearward end of said platform and positioning said bracket at a predetermined angle with respect to such framing member, said rearward extensions of said side flanges having out-turned flanges along the top edges thereof, said out-turned flanges being on a plane with said platform and serving as platform extensions to provide platform support between framing members.

4. A sheet metal blank adapted to be bent into a multipositionable supporting bracket, said blank comprising an elongated, substantially flat isosceles triangle having a generally Y-shaped slot formed in the base portion thereof, the stem of said slot opening centrally into the base edge of said blank, the transverse distance between the divergent

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ends of the forks of said Y-shaped slot defining the rearward end of an elongated central platform forming strip extending from the tips of said forks to the apex end of said blank, the triangular areas formed at opposite side edges of said central platform forming strip of said blank forming side flanges which depend from said strip upon bending, the portions of said triangular areas adjacent the base edge of said blank and spaced from the stem of said Y-shaped cutout having apertures therein for the passage of fasteners therethrough when the blank is bent to bracket shape, the blank material contained in the area bounded by said triangular areas, the base edge of said blank, and the edges of said blank forming the stem and forks of said Y-shaped slot, comprising platform continuations adapted to be bent outwardly at an angle to said flanges to form platform extensions rearwardly of the area of the blank providing said platform forming strip.

5. A sheet metal blank adapted to be bent into a multipositionable supporting bracket, said blank comprising an elongated, substantially flat isosceles triangle having a generally Y-shaped slot formed in the base portion thereof, the stem of said slot opening centrally into the base edge of said blank and the forks of the slot opening toward the apex of the blank, the transverse distance between the divergent ends of the forks of said Y-shaped slot defining the rearward end of an elongated central platform forming strip extending from the tips of said forks to the apex end of said blank, the triangular areas formed at opposite side edges of said central platform forming strip of said blank forming side flanges which depend from said platform forming strip upon bending, the blank material contained in the area bounded by said triangular areas, the base edge of said blank, and the edges of said blank forming the stem and forks of said Y-shaped slot, comprising platform continuations adapted to be bent outwardly at an angle to said flanges to form platform extensions rearwardly said platform forming strip.

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