E. J. VOGT,

ADJUSTABLE BRACKET.

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1,254,094.

Patented Jan. 22, 1918.

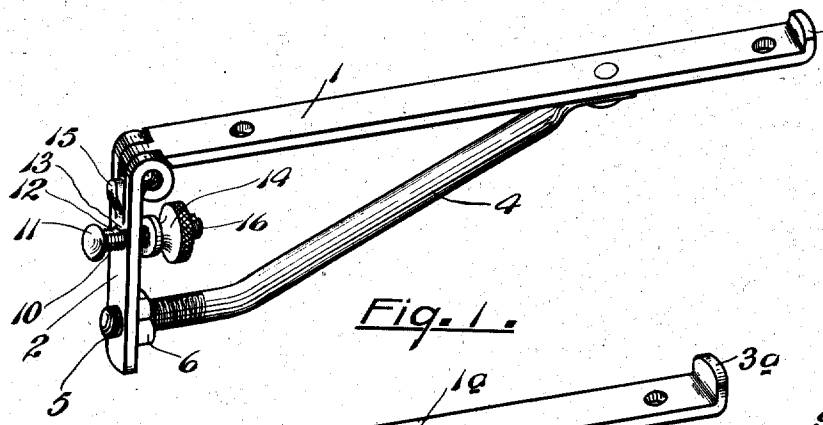


Fig. 1.

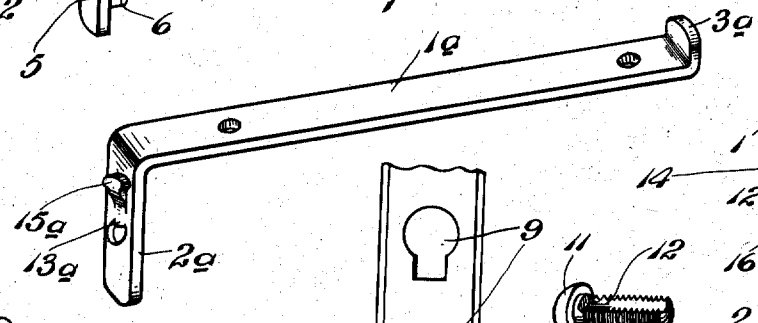


Fig. 6.

Fig. 5.

Fig. 4.

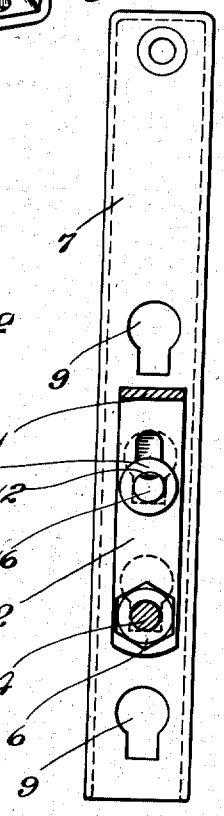


Fig. 3.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE BRACKET.

1,254,094. Specification of Letters Patent. Patented Jan. 22, 1918.

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To all whom it may concern:

Be it known that I, ENGELBERT J. VOGT, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Adjustable Brackets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to adjustable brackets made of metal and the support therefor, it being the object and purpose of the present invention to provide brackets of this character with various new and useful features of construction resulting in novel and meritorious functions as will be more clearly apparent from the description of the embodiments shown in the accompanying drawings, in which;

Figure 1 is a perspective view of the bracket.

Fig. 2 is a side elevation of the bracket connected to the support therefor.

Fig. 3 is a section taken on the line 3—3 of Fig. 2, looking in the direction indicated by the arrows.

Fig. 4 is a rear elevation of the bracket support, one bracket being connected thereto.

Fig. 5 is a perspective view of a detail of the screw threaded stud forming an element of the construction; and

Fig. 6 is a perspective view of a slight modification in the construction of the bracket.

Like reference characters refer to like parts throughout the several views of the drawings.

The bracket includes in its construction a horizontal bar 1 which at one end is turned downwardly at right angles to form an extension 2, the other end being turned in the opposite direction and forming a short lip 3. A brace 4 lies between the horizontal and vertical parts 1 and 2 of the bracket. One end of the brace is screw threaded and extends through the extension 2 as indicated at 5 projecting a short distance beyond the rear surface of said extension. A nut 6 is threaded on to the brace and bears against the front face of the extension 2 as fully shown in Figs. 1 and 2.

The support for the bracket on which it may be adjustably mounted is of channel iron construction having a web 7 and two rearwardly extending flanges 8. In the web a plurality of key-hole slots 9 are cut. At a distance above the end 5 of the rod 4 a screw threaded stud 10 passes through the extension 2 of the bracket, it having a head 11 lying back of said extension and being grooved throughout substantially its entire length as shown at 12. The opening in the extension through which this stud passes is of circular outline except that a projection 13 extends into said opening from one side and is of such formation that it fits the groove 12 in the stud 10. A nut 14 is threaded on the stud. A short distance above the stud a portion of the part 2 of the bracket is struck outwardly forming the lug 15. The distance between the upper edge of the lug 15 and the underside of the stud 10 is the vertical distance from the top to the bottom of a keyhole slot 9 and it is apparent that when the head 11 is inserted in the upper enlarged portion of a slot 9 and then dropped downwardly so that the shank of the stud rests in the narrow lower portion of the said slot, the lug 15 passes within the slot and at its upper edge is closely adjacent to the upper boundary of the slot. The nut 14 may then be tightened to retain the bracket in position on the support. It may also be noted that the end 5 of the brace 4 is located with reference to the stud 10 such that when the bracket is attached to its support with the stud seated in the lowermost part of one keyhole slot 9 the end 5 will enter the similar portion of the slot 9 next below. In practice after the stud 10 has been passed through the extension 2 and the nut 14 turned thereon, the end of the stud is enlarged making what is known as a "staked bolt", so that the nut cannot lose from the stud in transportation. Furthermore it is intended to place at the end of the horizontal portions 1 of the bracket a clip 17 of metal which is securely fastened and turns around the lip 3 as shown in Fig. 2, serving to hold a shelf placed on the bracket from movement outwardly. Normally the lip 3 is sufficient to prohibit this movement but at times the front edge of a shelf may be raised above the lip 3 and moved forward on the brackets. The clip 17 prohibits movements of this character.

In Fig. 6 a slight modification in construction is indicated, the bracket comprising a

horizontal portion 1^a, a vertical portion 2^a at one end and a lip 3^a at the other end similar in all respects to the bracket previously described excepting that the vertical section 2^a is of comparatively short length. No brace rod 4 is used with this bracket. An opening for the passage of the stud 11 having a projection 13^a similar to the projection 13 heretofore described and a lug 15^a similar to the lug 15 described in connection with the bracket shown in Fig. 1 are formed in the vertical portions 2^a of the bracket. This bracket can be connected in a manner similar to that described with reference to the bracket shown in Fig. 2 except that the end of a brace rod is not inserted in a keyhole slot 9. The lug 15 preferably is enlarged at its upper end and formed to fit in the keyhole slot 9 having lateral projections as shown in Fig. 6 which prevent any turning movement of the bracket with reference to the support.

From the foregoing it will be apparent that I have provided a bracket of very simple construction and one serving many useful functions. By use of the lug 15, and especially with that modification thereof shown in Fig. 6, the brace rod is eliminated and the bracket is held against turning movement with respect to its support the same as if the brace rod heretofore used was present. Also heretofore if the nut 14 should become loosened it was very easy to elevate the bracket and disconnect it from the slots in the support therefor. In the present construction the lug 15 serves as a stop against this upward movement which cannot occur unless the nut 14 is loosened sufficient to withdraw the lug 15 from a slot 9. Furthermore the grooved stud and the projection on the bracket coacting therewith holds the stud against turning when it is desired to operate the nut 14 thereof and the staked character of the stud is an insurance against loss of the securing nuts 14 when the brackets are shipped.

I claim:—

1. In combination, a supporting bar provided with keyhole slots, a bracket consisting of a bar bent to form outwardly extending and vertical arms, a headed stud attached to the vertical arm and a lug struck from the vertical arm above the headed stud, said lug and stud both projecting to the rear of said arm and both being received within a single keyhole slot on the supporting bar, substantially as described.

2. In combination, a supporting bar provided with slots, each having a relatively narrow lower portion and a wider upper portion, a bracket comprised of a bar bent to form outwardly extending and vertical arms, a headed stud attached to the vertical arm, and a lug projecting from and secured to the vertical arm above the stud, both the head of said stud and lug extending to the rear of said vertical arm and both being received within a single slot in the supporting bar, with said head seated back of the narrower portion of the slot and the lug at its upper end filling substantially the upper portion of the slot, substantially as described.

3. In combination, a bracket comprised of a bar bent to form horizontal and vertical arms, said vertical arm having an opening therethrough with a projection extending into the opening, a headed and screw-threaded stud having a groove throughout its length inserted through the opening with the projection inserted in the groove, and a nut on the end of the stud, substantially as described.

4. In combination, a bracket comprised of a bar bent to form horizontal and vertical arms, said vertical arm having an opening therethrough with a projection extending into the opening, a headed and screw-threaded stud having a groove formed lengthwise thereof inserted through the opening with the projection received in the groove, and a nut threaded on the stud, said stud after placing the nut thereon being staked to prevent removal of the nut, substantially as described.

5. In combination, a bracket comprised of a bar bent to form horizontal and vertical arms, said vertical arm having an opening therethrough with a projection extending into the opening, a headed and screw-threaded stud having a groove lengthwise thereof inserted through the opening with the projection received in the groove, a nut threaded on the stud, said stud after placing the nut thereon being staked to prevent removal of the nut, a lug struck from the vertical arm above the stud, a lip turned upwardly from the end of the horizontal arm, and a clip secured to said horizontal arm having a horizontal portion extending backward over the lip, substantially as described.

In testimony whereof I affix my signature.

ENGELBERT J. VOGT.