Jan. 5, 1960 K. E. PHAIR 2,919,913

GAGE FOR SETTING ELECTRICAL OUTLET BOXES

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FIG. 1

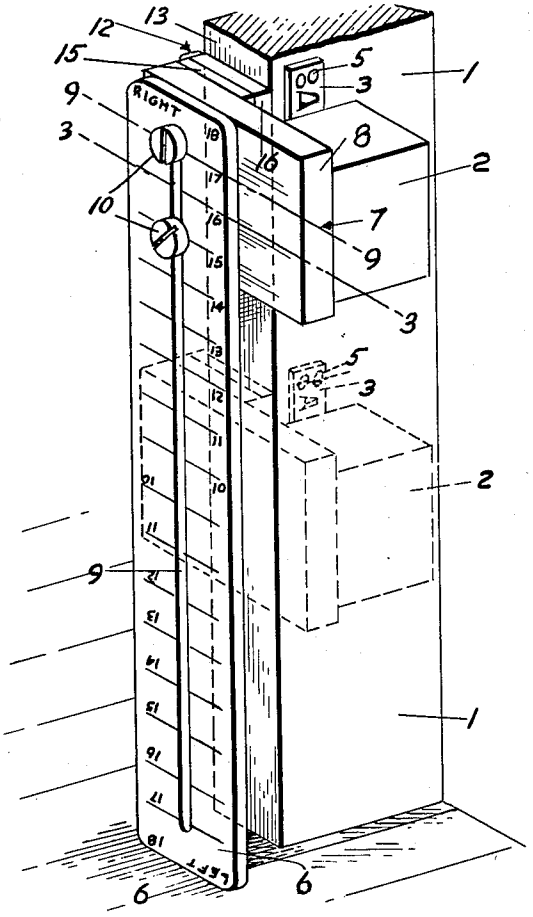


FIG. 2

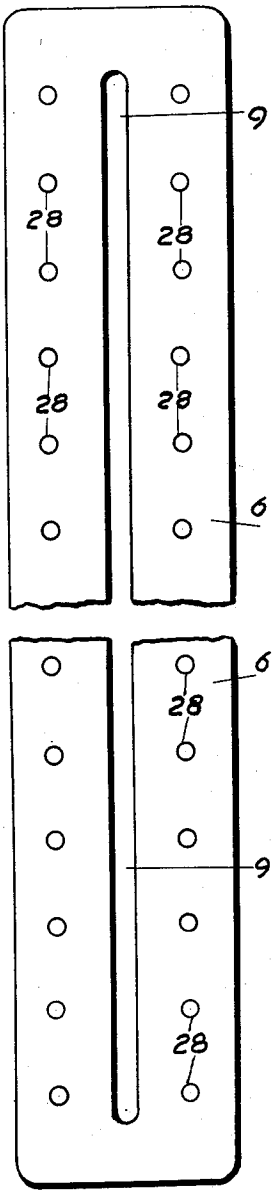
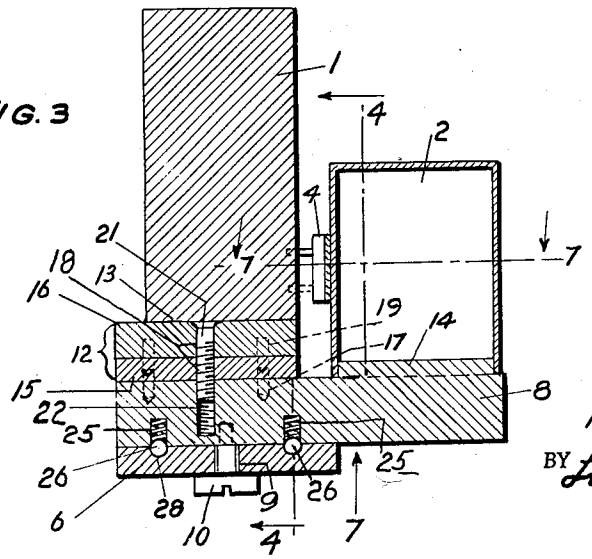


FIG. 3



INVENTOR.
KENNETH E. PHAIR
BY Louis C. Smith
ATTORNEY

Jan. 5, 1960 K. E. PHAIR 2,919,913

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FIG.4

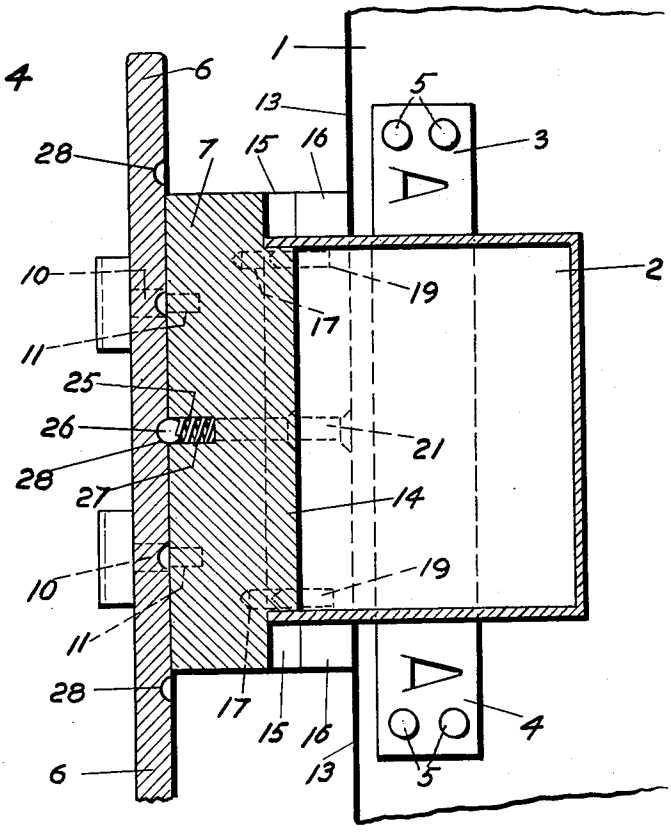
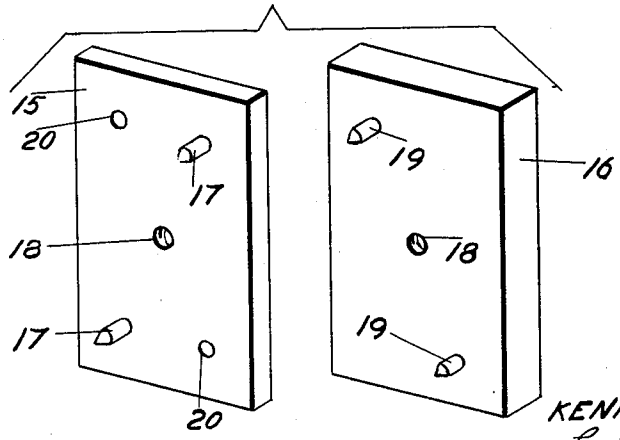


FIG.5



INVENTOR.
KENNETH E. PHAIR
BY Louis C. Smith
ATTORNEY

Jan. 5, 1960 K. E. PHAIR 2,919,913

GAGE FOR SETTING ELECTRICAL OUTLET BOXES

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FIG. 6

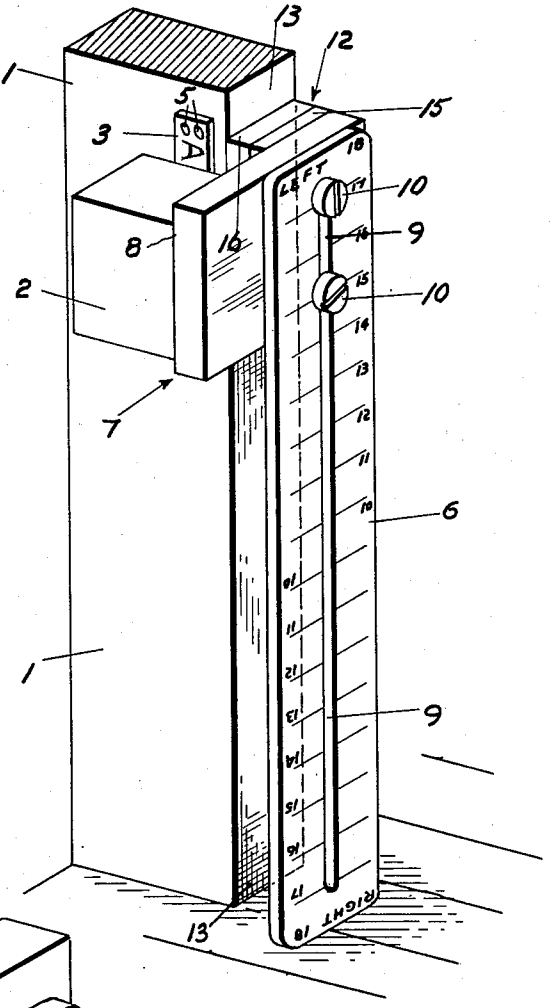


FIG. 7

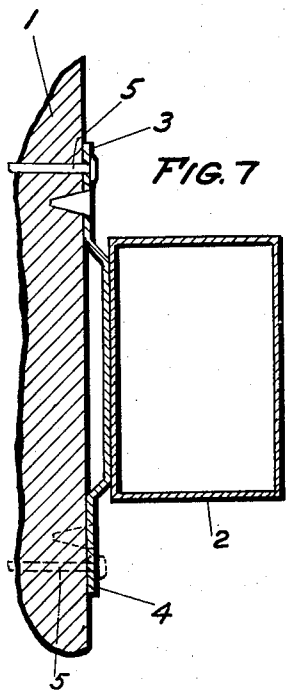
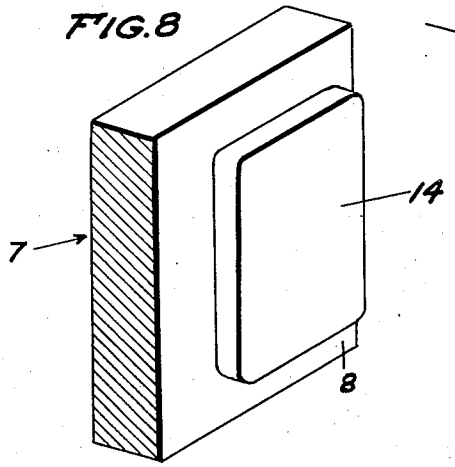


FIG. 8



INVENTOR.
KENNETH E. PHAIR
BY Louis C. Smith
ATTORNEY

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FIG. 9

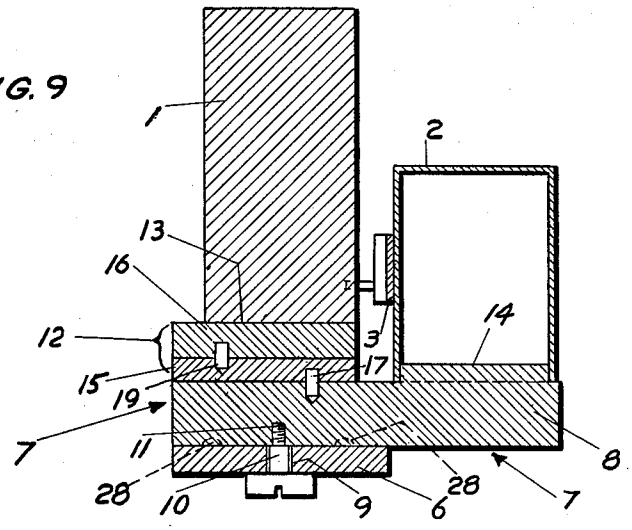


FIG. 10

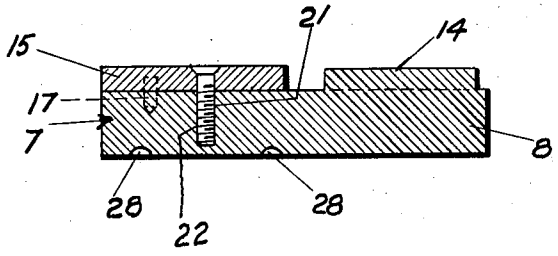
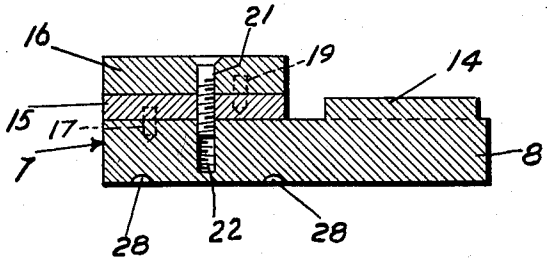


FIG. 11



INVENTOR
KENNETH E. PHAIR
BY Louis C. Smith
ATTORNEY

United States Patent Office

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GAGE FOR SETTING ELECTRICAL OUTLET BOXES

Kenneth E. Phair, East Weymouth, Mass.

Application August 14, 1958, Serial No. 754,982

6 Claims. (Cl. 269—115)

This invention relates to a gage for assisting a workman in setting electrical outlet boxes in the walls of a building which is under construction.

In frame buildings where the walls are formed of studding, it is customary to mount on the studs the electrical outlet boxes which are to be in the walls of the building. This operation of mounting the electrical outlet boxes on the studs is usually accomplished after the studding for the walls has been erected and before the wall finish is applied to the studding. Such wall outlet boxes are frequently placed in the lower portion of the wall within a foot or two of the floor.

Many houses are built with a wall finish which is known to the trade as a "dry wall application" and which consists of sheets of some suitable material such as plasterboard, plywood, etc., which are nailed to the studs. Such sheets vary in thickness according to the character of the material from which they are made. Some sheets may be ¼ inch thick, some may be ½ inch thick, and some may be ¾ inch thick.

When any outlet box is nailed to a stud, it is important that it be positioned with its front edge projecting the correct distance beyond the face of the stud so that when the wall finish is applied, such front edge will be substantially flush with the finish.

One object of the invention is to provide a gage which, when used, makes it easy for a workman to mount an outlet box on the studding correctly for any of the various types of wall finish which may be used.

Another object of the invention is to provide a simple gage device which assists the workman in mounting the outlet boxes on the studding in proper vertical alignment and at the required distance from the floor.

In the drawings wherein I have illustrated a preferred embodiment of my invention,

Fig. 1 is a perspective view showing the gage in use and holding an outlet box in proper position for being secured to the right side of a stud.

Fig. 2 is an enlarged view of the body portion of the gage.

Fig. 3 is a section on the line 3—3, Fig. 1.

Fig. 4 is an enlarged section on the line 4—4, Fig. 3.

Fig. 5 is a view showing in perspective the two sections of the depth gage element of the device.

Fig. 6 is a view similar to Fig. 1 but showing the gage adjusted for positioning an outlet box on the left side of the supporting stud.

Fig. 7 is a section on the line 7—7, Fig. 3.

Fig. 8 is a fragmentary perspective view showing the means employed for mounting an outlet box on the box-positioning element.

Fig. 9 is a section on the line 9—9, Fig. 1.

Fig. 10 is a fragmentary sectional view showing the depth gage set for positioning an outlet box for a wall which is to be finished with a thin dry wall finish material such as plasterboard.

Fig. 11 is a fragmentary sectional view showing the depth gage set for positioning an outlet box for a wall which has a thicker dry wall finish material.

In the drawings, 1 indicates one of the studs in a wall of a building to which an outlet box 2 is to be attached. This outlet box is of the known type which has on one side an upwardly extending arm 3 and a downwardly extending arm 4, said arms being provided with apertures to receive nails 5 by which the outlet box is secured to the stud 1.

The gage embodying this invention comprises an elongated body member 6 having a front face and a rear face and a box-positioning member 7 which is mounted on the rear face of the body member 6 for adjustment in the direction of the length thereof. The box-positioning member 7 extends laterally beyond the body member 6 on one side thereof, as shown at 8, so that when the body member is placed in an upright position in front of the stud 1 and with its rear face facing the stud, the portion 8 of the box-positioning member will be located at one side of said stud.

The box-positioning member 7 may be adjustably secured to the body member 6 in any way suitable. As herein shown, the body member 6 is provided with a central slot 9 extending longitudinally thereof, and said positioning member 7 is secured to the rear face of the body 6 by means of two shouldered screws 10 which occupy said slot, the end 11 of each screw being screw threaded and having screw-threaded engagement with the box-positioning member 7, as shown in Fig. 9.

The positioning member 7 has secured to its rear face a depth gage element 12 which, when the gage is in use, rests against the front face 13 of the stud.

The box-positioning member 7 is formed on its rear face with a raised portion 14 having a shape corresponding to that of the opening in the outlet box so that when the box is mounted on the positioning member 7, the raised portion 14 fills the box opening while the edges of the box are resting against the back face of the positioning member as shown in Figs. 4 and 9.

In using the gage, the positioning member 7 will be adjusted to the height at which the box is to be attached to the stud 1; and the open side of the outlet box will be placed over the raised portion 14, as shown in Figs. 3 and 9. The gage, with the box thus mounted thereon, is then placed in front of the stud 1 with the depth gage 12 resting against the front face 13 thereof, with the lower end resting on the floor and with the box 2 located at one side of the stud. With this arrangement, the box will be located with its front edge in a vertical plane and at a distance in front of the face 13 of the stud equal to the thickness of the depth gage 12.

With the box thus held, it can be attached to the stud by means of nails 5 driven through the openings in the arms 3 and 4.

When the outlet box is thus attached to the stud, the open end thereof will project beyond the front face 13 of the stud 1 by a distance equal to the thickness of the depth gage 12. The depth gage 12 is constructed so that it may provide gages of different thicknesses corresponding to dry wall finish sheets of different thicknesses.

For this purpose, the depth gage 12 is made in two sections of different thickness, shown at 15 and 16, which may be used separately or together. The section 15 has a thickness which may be approximately equal to that of a plasterboard wall finish; and the section 16 may be of a thickness corresponding to that of a finish sheet of plywood or some other material; while when the two sections 15 and 16 are assembled together, as shown in Figs. 3 and 9, the gage 12 will position the outlet box properly for a wall which has a wall finish of extra thickness.

The two depth gage sections 15 and 16 may be secured in position in any suitable way. As herein shown,

the depth gage section 15 is provided with two pins or projections 17 which are received in openings formed in the back face of the member 7. Said gage section 15 is provided with a central opening 18 to receive a screw 21 by which said gage section can be secured to the member 7, the latter having a screw-threaded socket 22 to receive said screw.

The depth gage section 16 is also provided with two pins or projections 19 adapted to fit into openings 20 with which the depth section 15 is provided. When both of the depth gage sections are used, as shown in Figs. 3 and 4, an attaching screw 21 will be used which is long enough to extend through both of the gage sections and screw into screw-threaded socket 22 with which the member 7 is provided.

As stated above, when the depth gage section 15 is used alone, as shown in Fig. 10, the gage structure is set for properly locating an outlet box on a stud for a wall which is to have a plasterboard finish. If the wall is to have a wall finish which is slightly thicker than plasterboard, then the gage section 15 may be replaced by the gage section 16, while if the wall is to have an extra thick dry wall finish, the two sections 15 and 16 may be used together as shown in Fig. 11.

While the depth gage 12 is herein shown as composed of two sections, yet if desired, it might be made of more than two sections if it was desired to have a gage which could provide a greater number of depth adjustments than that provided by the two-section depth gage. The depth gage 12 may be so designed that when the two sections are used together as shown in Fig. 11, it may be used to properly position an outlet box on a stud of a wall that is to have a lath and plaster finish.

The body member 6 will preferably be provided on its front face with a scale 23 which may be in inches or in any other desirable measurement. In making the vertical adjustment of the box-positioning member 7, the box-positioning member 7 may then be moved up or down to bring the top edge thereof into registry with any of the markings on the scale, depending upon the height at which it is desired that the outlet boxes should be located.

In the construction shown, I have provided means whereby the box-positioning member 7 may be yieldingly held in any adjusted position by sufficient friction so that said positioning member can be readily shifted from one position to another without loosening the clamping screws 21. As herein shown, the positioning member 7 is provided with recesses 25 in which balls 26 are received, each ball being backed by a spring 27 located in the corresponding recess. The body member 6 is provided with a series of indentations 28 in which the balls are partially received when said positioning member is set at any of the measurements indicated on the scale. When the box-positioning member is set at any point with the balls 26 occupying the recesses 28, the said positioning member will be held sufficiently firmly in its adjusted position for ordinary use.

With this construction, however, if some pressure is applied in a vertical direction on the box-positioning member 7, the balls 26 will be pushed out of the recesses 28 against the action of the springs 25, thus freeing the positioning member for vertical adjustment. When the proper adjustment has been made, the balls 26 will again drop into the corresponding recesses 28, thus holding the positioning member in its adjusted position.

In the construction shown in Fig. 1, the gage is set up to position an outlet box on the right side of a stud 1. The gage can also be set up so that it will function in the same way to position an outlet box on the left side of a stud, as shown in Fig. 3. For this purpose, the body member 6 is made as a double-ended member; that is, one end functions when it is set up to position a box on the right side of the stud, and the other end is used

when it is set up to position an outlet box on the left side of the stud.

It will be observed from Figs. 1 and 6 that each end of the body member 6 carries a scale 23, the higher numbers being at the outer ends of the body member and the lower numbers being near the center thereof. To convert the gage from a right-hand gage shown in Fig. 3 to a left-hand gage shown in Fig. 6, the positioning member 7 will be adjusted from a working position at one end of the body member to a working position at the other end thereof. By reversing the body member, the positioning member which was adjusted to the lower end of the member shown in Fig. 1 will then be at the top of the body member but with the portion 8 extending to the left of the body member, as shown in Fig. 6.

In some electrical outlet boxes, the supporting arms 3 and 4 have a portion struck up therefrom to provide a spur, as shown at 35, which may be driven into the stud when the box is held in its correct position by the gage, thereby to hold the box in its position while the nails 5 are being driven.

In using the gage for holding a box of this type, the workman will strike the arms 3 and 4 with a hammer after the box has been properly positioned, and then the gage may be removed during the operation of driving the nails 5, since the engagement of the spurs with the stud will hold the box in its proper position during the nail-driving operation.

I claim:

1. A gage for setting an electrical outlet box on the side of a stud in a wall of a building which is being erected, said gage comprising an elongated body member, an electrical outlet box-positioning element mounted thereon for adjustment longitudinally thereof, said box-positioning element extending laterally beyond one side edge of said body member, a depth gage member carried by the box-positioning element and situated directly back of the body member in a position to engage the front face of the stud to which an outlet box is to be secured when said gage is placed in its operative vertical position in front of said stud, and means carried by the laterally extending portion of the box-positioning element and operative to hold an outlet box in the correct position to be attached to the side of said stud.

2. A gage for setting an electrical outlet box on the side of a stud in a wall of a building which is being erected, said gage comprising an elongated body member having a front face and a back face, a box-positioning element mounted on the back face thereof and having a portion extending laterally beyond one side of said body member, a depth gage member carried by the box-positioning element and adapted to engage the front face of the stud to which an outlet box is to be secured when said gage is placed in its operative vertical position in front of said stud, and means carried by the back face of the laterally extending portion of the box-positioning element and cooperating with an open side of an outlet box to hold it in correct position to be attached to the side of said stud.

3. A gage for setting an electrical outlet box on the side of a stud in a wall of a building which is being erected as defined in claim 1 in which the means carried by the box-positioning element for holding the box in its correct position is in the form of a raised portion on said box-positioning element which is of a size and shape to fit within the open side of the outlet box which is to be secured to the stud.

4. A gage for setting an electrical outlet box on a stud in a wall of a building as defined in claim 1 in which the depth gage is adjustable as to its transverse dimension, whereby the box-positioning element may be positioned at different distances from the front face of the stud.

5. A gage for setting an electrical outlet box on the side of a stud in a wall of a building which is being erected, said gage comprising an elongated body member,

an electrical outlet box-positioning element mounted thereon and extending laterally beyond one side edge thereof, a depth gage member carried by the box-positioning element and situated directly back of the body member in a position to engage the front face of the stud to which an outlet box is to be secured when said gage is placed in its operative vertical position in front of said stud, and means carried by the laterally extending portion of the box-positioning element and operative to hold an outlet box in the correct position to be attached to the side of said stud, said depth gage being made in a plurality of sections which can be used either in superposed relation or singly thereby to provide either a relatively thick depth gage or a relatively thin depth gage depending on the distance which it is desired to place the front edge of the outlet box in front of the front face of the stud.

6. A gage for setting electrical outlet boxes on the studs of a wall of a building which is being erected, said gage comprising an elongated body member, a box-positioning element mounted thereon for longitudinal adjustment on said body member from one end to the other end thereof,

said box-positioning element extending laterally beyond one edge of the body member, a depth gage carried by the box-positioning element at the portion thereof opposite the body member, and box-holding means carried by the box-positioning member on the laterally extending portion thereof, said gage being reversible whereby when the gage is held in its operative position relative to a stud with the box-positioning element at one end of the body member the box-holding means will be situated on one side of said stud, while when the box-positioning means is shifted to the other end of the body member and the gage is reversed and again held in said operative position the box-holding means will be on the other side of said stud.

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