

W. A. SWARTZ.
PANEL CLAMP.

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1,379,882.

Patented May 31, 1921.

2 SHEETS—SHEET 1.

Fig. 1

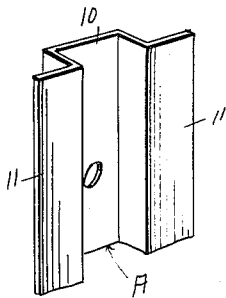


Fig. 4

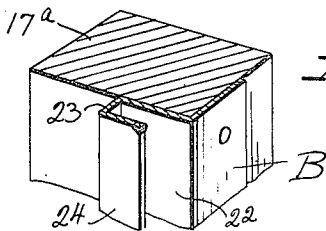
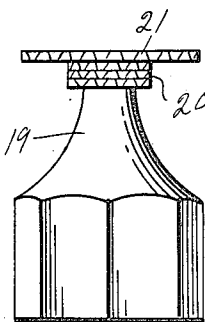


Fig. 5

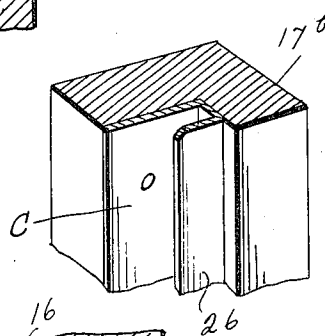


Fig. 6

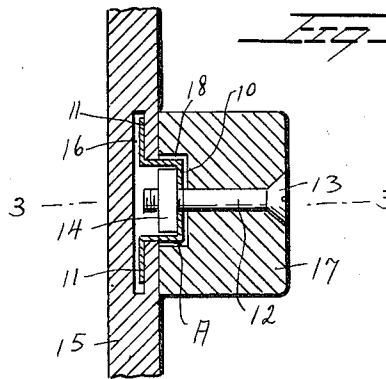


Fig. 2

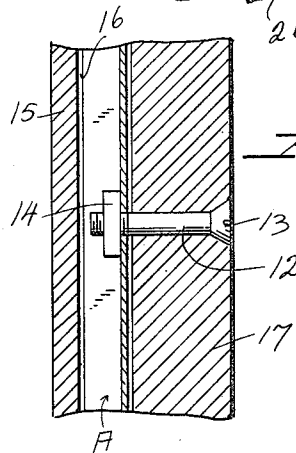


Fig. 3

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2 SHEETS—SHEET 2.



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PANEL-CLAMP.

1,379,882.

Specification of Letters Patent.

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To whom it may concern:

Be it known that I, WILLIAM A. SWARTZ, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Panel-Clamps, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to means for attaching panels to uprights, and particularly to means for attaching the panels to the posts or uprights of commercial vehicle bodies, automobiles, and like structures.

15 Heretofore, these panels have been attached to uprights or posts of vehicle bodies by screws extending through the panels into the posts, in which case the heads of the screws are either very plainly evident, thus marring the beauty of the panel, or else are concealed by plugs after the screws have been put in place. In other constructions, screws are inserted in the post and in the panel and only extend into the panel a relatively short distance so that the hold on the panel is relatively small.

The main object of the present invention is to provide a very simple means for connecting the panels to the post, which shall be entirely concealed when the panels have been put in place, and which will firmly hold the panels to the post without the necessity of boring holes through the panels, or using plugs or like devices.

35 My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of part of my panel clamp;

40 Fig. 2 is a sectional view through a panel and supporting rail showing my clamp in place;

Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 2;

45 Fig. 4 is an elevation of a cutter used for cutting the T-shaped slot in the panel;

Figs. 5 and 6 are sectional perspective views of end panel clamps;

50 Fig. 7 is a side elevation of a wagon body constructed in accordance with my invention;

Fig. 8 is a section on the line 8—8 of Fig. 7; and

Fig. 9 is a longitudinal section on an enlarged scale.

55 One form of holding device which is to be used particularly between the ends of the

panels is illustrated in Fig. 2 and consists of a metallic clamp A, which may be of any desired length or width and is made of sheet metal, this clamp being bent to form a medially disposed, rectangular channel 10, and outwardly extending, oppositely directed, marginal flanges 11. Coacting with this clamp are a plurality of wood screws 12, each provided with the usual nicked head 13 at one end and at the other being screw-threaded for engagement with a nut 14. This nut has a width approximately equal to the interior width of the channel 10 so that when the nut is in place within the channel, it cannot turn. The panels 15 are of wood, composition, or any other suitable material, and are formed with T-shaped slots 16, as illustrated in Fig. 2, the body of the slot extending longitudinally of the panel intermediate its inner and outer faces and being of such depth, width and thickness as to receive the laterally projecting flanges 11. The medial portion of the slot, which extends to the inner face of the panel, has a width equal to the width of the channelled portion of the clamp. The post or upright 17 is formed upon its outer face with a channel or groove 18 to receive the channel portion of the clamp, as indicated, and is bored for the passage of the screw 12.

In putting the clamps in place, they are inserted within the recess of the post, the nut is placed within the channel 10, and then the screw inserted through the post and engaged with the nut. The panels may then be put in place with their T-shaped grooves engaging the flanges of the clamp, and then the screws may be turned so as to turn up the nuts thereon and draw the clamp into tight engagement with the post. It will be seen that the nut is held from rotation by its engagement with the side walls of the channel 10. When the panels have been put in place, the attaching clip or clamp is entirely concealed and at the same time the panels are held to the posts very firmly, but may be disengaged therefrom at any time. It will be noted that the panels fit flat against the post so as to have a full bearing surface thereagainst.

The clamps heretofore described are particularly adapted for engaging the middle portions of the panels and holding them to the middle or intermediate posts between the end posts. In Fig. 6 I show one form of end post clamp wherein the clamp B is

composed of a strip of sheet metal, angularly bent along one margin, as at 22, so as to rest against the front of the post 17^a and against one side face thereof, the front portion of the clamp being outwardly bent, as at 23, then laterally bent, as at 24, parallel to the base of the clamp so as to engage with the longitudinally extending edge slot 25 formed in the panel. The portion 22 of the clamp is nailed or otherwise attached to the post 17^a.

In Fig. 5 I show another form of end clamp, that is a clamp to be used with end posts, which is used where the face of the panel is to be disposed flush with the end post. In this case, the clamp C is formed of a strip of metal and bent to provide a base attached by nailing or otherwise to the face of a recess in the post 17^b, then outwardly bent along the end wall of the recess and then laterally bent, as at 26, for insertion in the groove 25 in the edge of the panel. It will be seen that with the construction illustrated in Fig. 5, the panel can be slipped into engagement with the flange 24 and with the previous clamp A, and then the clamp B may be nailed or otherwise attached to the post 17^a.

In Fig. 7 I show a wagon body to illustrate how my panel clamps may be used. The end posts are designated 17^a and 17^b and the intermediate posts 17. The clamps A, B, and C are applied to these end posts and intermediate posts in the manner illustrated. The clamps extend the full height of the wagon body and are attached at proper places to the vertical posts that constitute the frame. The main panel D is made in one piece and extends from the rear end of the body to the window panel E, this window panel being made as a separate piece. The "letter panel" E extends the full length of the body from the back post to the front post, but is spaced from the main panel D a slight distance to permit a filling piece of wood to be disposed over the joint. Below the letter panel is illustrated a panel F which also runs the full length of the body and is separated from the letter panel by a slight space which is afterward to be filled in with a filling piece. Of course, it will be understood that where the space is divided as it is in Fig. 7, into three panels, namely the panels D, E, and F, the clamps will be formed, in sections having the same height as the panels. Thus, the panel F is about 14" high and the clamps will have the same height. The letter panel E is about 8" high and the clamps will be 8" high, while the clamps for the upper panel D will be about 28" in height. Of course, the top rail is bolted to the uprights 17, 17^a, and 17^b. The clamp C is used to connect the panels to the rear end rail 17^b in Fig. 7, while the clamp

B is used to connect the panel D to the rail 17^a. By the use of these panel clamps, vehicle bodies may be built of detachable panels and posts so that they may be knocked down and crated.

The device is very simple, may be cheaply made, and this method of attaching the panels to the post has been found thoroughly effective in actual practice. The edges of the panels may be cut by means of the tool shown in Fig. 4, wherein the shank of the tool 19 carries a plurality of relatively small circular saws 20 and a relatively large circular saw 21 or rotary cutter, and by this device it is an easy matter to cut the T-shaped slot in the edge of panel.

I claim:—

1. The combination with an upright and panels disposed thereagainst, the panels being provided in one face with a T-shaped slot and the upright with a recess, of means for holding the panel to the upright comprising a clamp bent to form a channel adapted to be disposed in the recess of the upright and having laterally disposed flanges, extending into the T-shaped slot of the panel, the bottom of said channel being perforated, and the post being correspondingly perforated, a nut disposed in and fitting the channel whereby the nut is held from turning, and a screw passing through the perforation of the upright and channel and engaging said nut.
2. In a construction of the character described, the combination with end uprights and intermediate uprights, of panels detachably engaged therewith, of means for holding the panels to the intermediate posts comprising a clamp bent to form a channel, the intermediate post being longitudinally recessed to receive said channel and the clamp having laterally disposed flanges spaced from the face of the post, the panel being provided with a T-shaped slot extending from the inside face of the panel in which said laterally disposed flanges are engaged, the bottom of the clamp channel being perforated and the post being correspondingly perforated, a nut disposed in and fitting the channel whereby the nut is held from turning and a screw passing through the perforations of the upright and channel and engaging said nut, the end posts having clamps attached thereto, each formed to provide a base, and a laterally extending flange bent over upon the base and extending parallel thereto and spaced therefrom, the front and rear edges of the panel being vertically slotted to receive said flanges.
3. In a construction of the character described, the combination with end uprights and intermediate uprights, of panels detachably engaged therewith, of means for hold-

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ing the panels to the intermediate posts comprising a clamp bent to form a channel, the intermediate post being longitudinally recessed to receive said channel and the
5 clamp having laterally disposed flanges spaced from the face of the post, the panel being provided with a T-shaped slot disposed between the ends of the panel and extending from the inside face of the panel
10 in which said laterally disposed flanges are engaged, the bottom of the clamp channel being perforated and the post being correspondingly perforated, a nut disposed in and fitting the channel whereby the nut is
15 held from turning, and a screw passing through the perforations of the upright and channel and engaging said nut, the end posts having clamps, one of said clamps being formed to provide a base resting against

the upright, and a flange resting against the 20 side of the upright and attached thereto, the base extending outward from the post and then laterally, the panel being slotted to receive the flange thus formed, the other upright being recessed upon its face, and a 25 clamp attached thereto comprising a base portion, and a laterally extending flange spaced from the base, the corresponding edge of the panel being slotted to receive said clamp and rest flush with the outer 30 face of the post.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WILLIAM A. SWARTZ.

Witnesses:

CHAS. MESSERSMITH,
ELLA F. WILT.