Dec. 23, 1930. M. M. CLAYTON 1,786,004

CLAMP FOR CROSSBARS

Filed Jan. 30, 1929

FIG. 1.

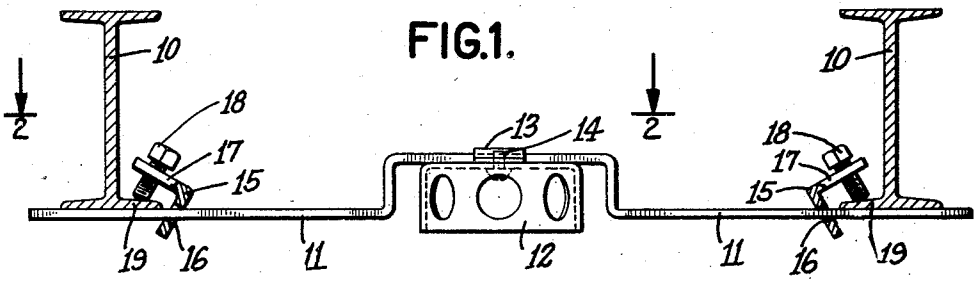


FIG. 2.

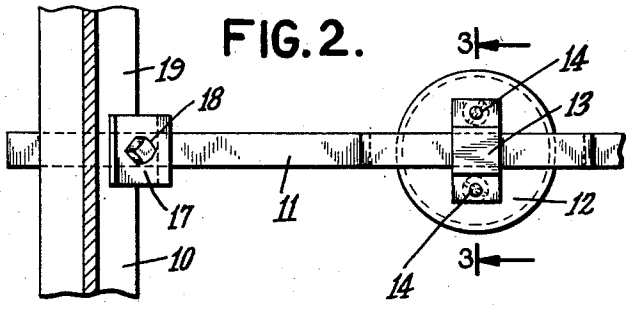


FIG. 3.

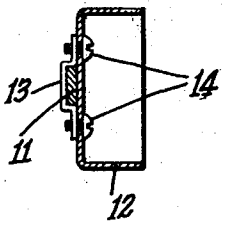


FIG. 4.

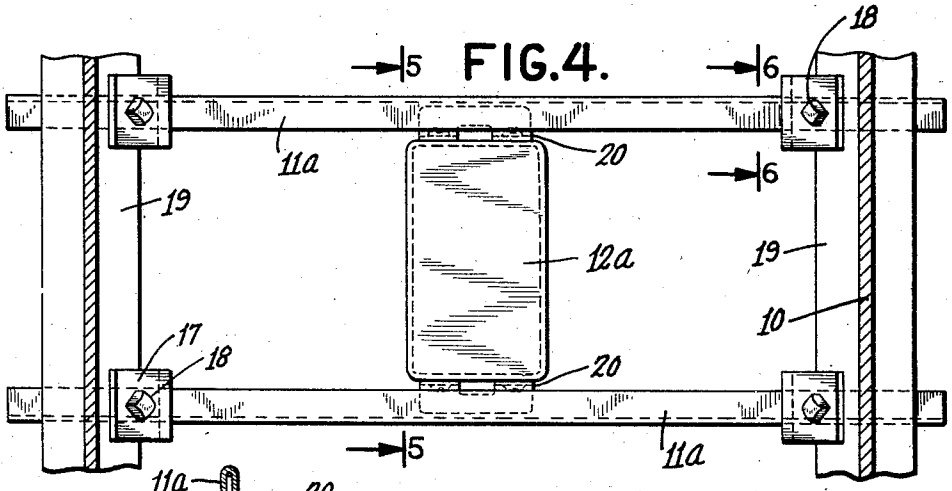


FIG. 5.

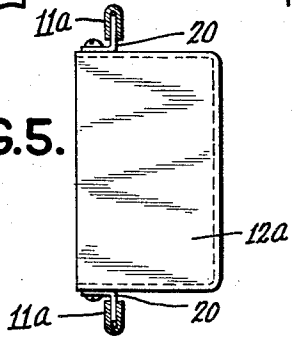
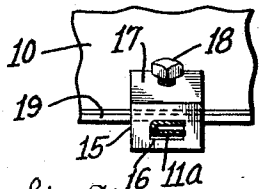


FIG. 6.



Inventor

Martin M. Clayton

By his Attorneys

Cooper, Kerr & Dunham

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UNITED STATES PATENT OFFICE

MARTIN M. CLAYTON, OF BADEN, PENNSYLVANIA, ASSIGNOR TO NATIONAL ELECTRIC PRODUCTS CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

CLAMP FOR CROSSBARS

Application filed January 30, 1929. Serial No. 336,199.

This invention relates to improved clamping means for securing the bars or members upon which electric outlet boxes are mounted to I beams or other like structural parts.

Heretofore, such outlet box supporting bars have been provided with a number of drilled openings for the reception of the fastening means which are to secure the bracket members of bars in position upon the I beams or structural parts.

Accordingly, it has been necessary heretofore, to correlate the spacing of the openings in the bars to the spacing of the I beams or other building structural parts upon which the bars are to be supported. This practice necessitates special manufacture of the bars for different installations where there are differences of I beam spacing.

The present invention relates to an improved fastening or clamping means for such bars which will obviate the foregoing disadvantages and more particularly, the invention has for its object the provision of a construction which will permit standard bar parts to be readily clamped to I beams or the like without the necessity of making special constructions of the bars or of the fastening means for different and variable I beam spacing.

A further object of the present invention resides in the provision of a simple form of clamping means which is adapted to be slid along an outlet or switch box supporting bar to any desired position along the length of the bar and then tightened in such a manner that the clamping means is firmly secured both to the structural supporting parts or I beams and also to the bar itself. Furthermore, by tightening up the clamping means or fastening means the bar itself is also firmly clamped against the structural supporting parts or I beams.

Other objects will be hereinafter set forth in the accompanying specification and claims and shown in the drawings, which by way of illustration show preferred embodiments of the invention.

In the drawings:

Figure 1 is a view showing an outlet box bar clamped to a pair of I beams by means of my improved clamping or fastening means;

Fig. 2 is a detail view taken on line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2 and showing the manner of mounting an outlet box upon the bar;

Fig. 4 is a view showing my improved clamp used with a different form of bar, which bar is shown as supporting a switch box;

Figs. 5 and 6 are detail views taken respectively on lines 5—5 and 6—6 of Fig. 4.

Referring to Figs. 1 to 3 inclusive, 10 are the I beams or other structural parts upon which one or more of the bars 11, each carrying an outlet box 12 are to be mounted. The outlet box 12 is supported upon the bar in any desired manner as by means of the strap 13 and screws 14. The improved clamping means comprises an L-shaped piece or member 15 having one portion thereof provided with a rectangular opening 16 to permit the bar 11 to be passed therethrough. The other arm or toe portion 17 of the L-shaped member is drilled and threaded to receive a set screw 18.

When it is desired to clamp a bar to a pair of I beams or to other structural parts which are provided with flanges similar to the flanges 19 upon the I beams 10, two of the clamping means are slipped upon the bar and slid along it until the toe portions 17 project over the flanges of the I beam. The set screws 18 are then tightened so that the clamping pieces are tipped in such a manner as to cause the sharp edges of the rectangular openings 16 to bite into the metal of the bars and secure the clamping pieces against further endwise displacement along the bar. The tightening of the set screws also draws the bar 11 itself up against the bottom flange of the I beam and thus effects an additional clamping action. Thus the tightening of the set screws not only clamps the clamping parts to the bars at any desired position along their length, but it also clamps the bar to the I beam.

The foregoing construction of clamp obviously permits standard bars to be used upon

I beams or other structural parts which have a variable center spacing and thus obviates the necessity of making up special bars and specially drilling the same in accordance with the center spacing of such I beams or structural parts.

According to the embodiments shown in Figs. 4 to 6 inclusive, the same clamping means is utilized but the supporting bars 11*a* are of folded or U-shaped configuration. This configuration of the bars permits two of the bars being used to receive a switch or outlet box 12*a*, which switch or outlet box is provided with lugs or ears 20 to enter the recess in the U-shaped bars. By providing such a construction the switch box can be slid along the bars to any desired position. With this construction the clamping bars 11*a* may be shipped out from the factory in long lengths and cut to shorter lengths by the contractor. Such practice can also be followed with the bar construction shown in Fig. 1 provided the hump in the bar 11 be dispensed with or provided that the contractor bends the bars after the installation of the boxes thereon.

Obviously the invention is not limited solely to use upon I beams, but finds utility in supporting and clamping bars upon structural shapes of any desired configuration. In order to use the clamps it is only necessary that such structural parts have suitable flange portions 19 to provide for the reception of the toe portions 17 over such flanges.

What I claim is:

1. A fastening and clamping means for securing outlet box carrying bars to I beams or the like, comprising a clamping member with an opening therethrough to slidably receive a bar to be clamped and provided with a toe portion adapted to project over a flange of an I beam or the like and carrying a set screw which is laterally offset with respect to the opening in the clamping member and adapted to be tightened upon the flange whereby the clamping means is tipped and secured to the bar and whereby the bar is secured to the I beam or the like.

2. A fastening and clamping means for securing outlet box carrying bars to structural supporting parts provided with flanged portions, said clamping means comprising an L-shaped member having one portion thereof provided with an opening to freely slidably receive a bar, said opening being considerably larger than the cross-sectional area of the bar passing therethrough so that upon the tipping of the clamping member said member will grip the bar, said clamping means also having the other portion of the member which constitutes a toe portion provided with a set screw for engaging the flanged portions of structural parts whereby tipping of the clamping means is effected.

3. A clamping device for securing a bar to a structural supporting part which is provided with a flanged portion, said clamping device having an apertured portion adapted for tilting movement with respect to the bar, said aperture in said portion being also adapted to freely slidably receive a bar and to also grip the bar when the device is tipped, said clamping device also carrying engaging means adapted for adjustment and cooperation with the flange of a structural supporting part to cause the tipping of the apertured portion of the clamping device.

4. A clamping means for securing a bar to a structural part which is provided with a flanged portion, said clamping means comprising a tiltably mounted member having apertured portions adapted to freely slidably receive the bar to be clamped and to grip the bar by biting the edges of the apertured portions into the bar when the member is tipped, and with relatively sharp marginal edge portions for the apertured portions means on the clamping member for engaging the flange of a structural part and for tipping the clamping member to grip and draw up the bar tightly against the structural supporting part.

In testimony whereof I hereto affix my signature.

MARTIN M. CLAYTON.

CERTIFICATE OF CORRECTION.

Patent No. 1,786,004. Granted December 23, 1930, to

MARTIN M. CLAYTON.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, lines 85 and 86, claim 4, strike out the words "with relatively sharp marginal edge portions for the apertured portions" and insert same to follow after the word "and" in line 82, same claim; and that the said Letters Patent should be read with this corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 27th day of January, A. D. 1931.

M. J. Moore,
Acting Commissioner of Patents.

(Seal)