Nov. 27, 1923. 1,475,744

J. M. BROWN

CLAMP

Filed May 4, 1920

Fig. 2.

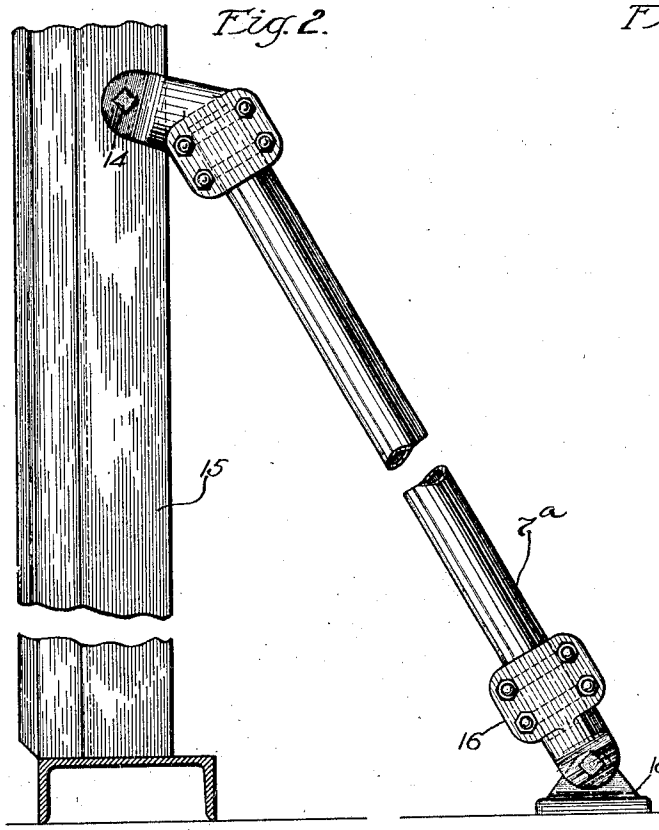


Fig. 3.

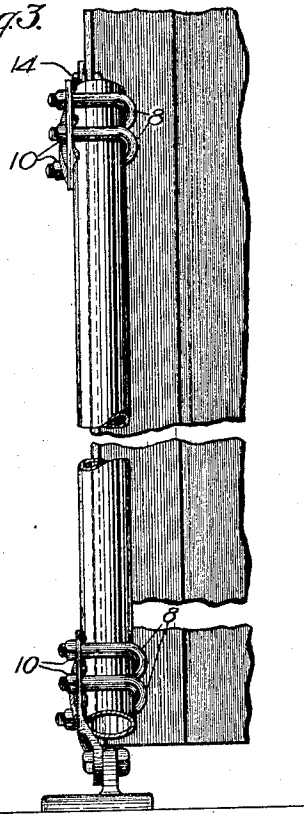
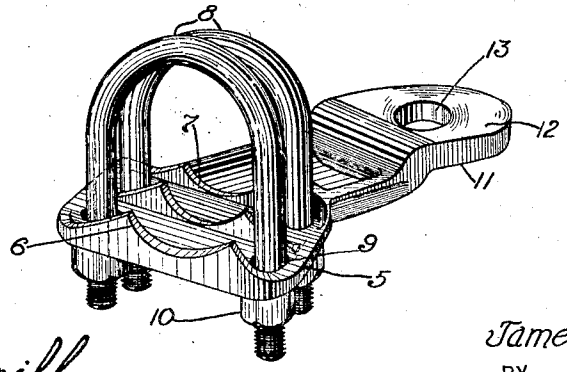


Fig. 1.



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Patented Nov. 27, 1923. 1,475,744

UNITED STATES PATENT OFFICE.

JAMES M. BROWN, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

CLAMP.

Application filed May 4, 1920. Serial No. 378,360.

To all whom it may concern:

Be it known that I, JAMES M. BROWN, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Clamps, of which the following is a specification.

My invention relates to clamps and particularly to clamps of the type employed in connection with switchboards for attaching floor braces to switchboard structures.

One object of my invention is to provide a single-piece clamp for attaching floor brace tubes to vertical angle iron standards employed in switchboard structures.

Another object is to provide a clamp having the above characteristics wherein the brace tube may be adjusted longitudinally with respect to the clamp, and wherein the clamp may be angularly adjusted with respect to the switchboard frame for the purpose of accommodating various lengths of tubing and various angles of inclination of the floor brace.

The usual practice in attaching floor braces to the vertical standards of switchboard structures has been to provide a separate clamp which is attached to the vertical standard and a clamp for the end of the brace tubing, the two clamps being secured together by bolts or other suitable fastening members.

In practicing my invention, a single clamp is used which is pivotally attached to the vertical standard of the switch structure and which is provided with tube clamping means for so adjustably attaching the tube to the clamp that the tube may be moved longitudinally with respect to the clamp. An embodiment of my invention is illustrated in the accompanying drawings, wherein:—

Fig. 1 is a perspective view of a clamp embodying my invention.

Fig. 2 is a side elevation of a section of the switchboard showing an improved clamp in assembled relation to a vertical switchboard standard and a floor brace.

Fig. 3 is a rear elevation of the structure illustrated in Fig. 2.

Referring to the drawings, the clamp comprises a rectangular body portion 5 provided with a plurality of tube seating ridges 6 having concave tube receiving surfaces 7 adapted to engage the outer surface of a tubular brace, such, for instance, as that illustrated in Figs. 2 and 3. As shown in the said figures, the body is clamped to the upper end of the brace tube 7^a by a pair of clamping yokes 8 of U-shape having threaded ends which project through perforations 9 provided near the edges of the body portion, and which receive the threaded nuts 10.

The clamp body portion 5 is provided at one end with an angularly disposed integral wing or extension 11 which is offset with relation to the body, as shown in Figs. 1 and 3, for the purpose of causing the engaging face 12 of the extension to lie in a plane adjacent to the axis of the brace tube when the clamp is assembled with the tube. The extension is provided with a perforation 13 through which a bolt 14 is inserted for pivotally attaching the bracket to the vertical angle iron standard 15 which forms a part of the switchboard frame.

By reference to Fig. 2, it will be seen that, by reason of the angularly disposed extension, the angle between the brace and the vertical standard 15, as illustrated, could be considerably decreased without interference, but that a clamp 16, such as shown attached to the lower end of the tube 7^a would not provide sufficient clearance to permit the brace to occupy the position illustrated in Fig. 2. If a clamp similar to the clamp 16 were employed for joining the brace tube to the vertical standard 15, the floor clip 18, to which the clamp is attached, would necessarily be located considerably farther from the switchboard and, therefore, more floor space would be required. The clamp having the angularly disposed extension is more flexible than the clamp 16 in that it permits of greater angular adjustment of the floor brace and the floor clip 18 may, therefore, be located close to the switchboard.

The arrangement shown for attaching the clamp to the brace tube which permits longitudinal adjustment thereof with respect to the clamp, is preferable to the usual threaded end clip for the reason that the tube may be adjusted to support the switchboard at the desired angle without necessitating the removal or separation of the clamps from the board standard or the floor clip.

While I have described and illustrated but one embodiment of my invention, it will be apparent to those skilled in the art that

various changes, modifications, substitutions, additions and omissions may be made in the apparatus described without departing from the spirit and scope of the invention as set forth by the appended claims.

I claim as my invention:

1. A clamp comprising a flat body portion having a tube seat extending longitudinally thereof and provided at one end with an angularly disposed extension having an attaching face spaced from the axis of the tube seat, and lying in a plane substantially parallel to that of the flat body portion.

2. A clamp comprising a flat body portion having a tube seat extending longitudinally thereof and provided at one end with an angularly disposed extension having an attaching face offset with respect to the tube seat and provided with an attaching means spaced from the axis of the tube seat, the said attaching face lying in a plane, substantially parallel to that of the flat body portion.

3. A clamp comprising a flat body portion having transverse seating ridges constituting a tube seat extending longitudinally of the body portion, the latter being provided at one end with an angularly disposed extension having an attaching face disposed in a plane parallel with the plane of the body portion, the said body portion and extension being provided with perforations for receiving fastening members.

4. A clamp for joining flat and tubular members in angular relation comprising a body portion provided with a longitudinally extending seat for receiving a tubular member and at one end with an angularly disposed extension having a seat extending in a plane parallel to that of the first seat for engaging a flat member, and means for attaching the extension and the body portion to the said flat and tubular members respectively.

5. A clamp for joining flat and tubular members in angular relation comprising a body portion provided with a concave longitudinally extending seat for receiving a tubular member and at one end with an angularly disposed extension having a flat seat extending in a plane parallel to that of the concave seat for engaging the flat member, and means for attaching the extension and the body portion to the flat and tubular members respectively.

6. A clamp for joining flat and tubular members in angular relation comprising a body portion provided with a concave longitudinally extending seat for receiving a tubular member and at one end with an angularly disposed extension having a flat seat extending in a plane parallel to that of the concave seat for engaging the flat member, the said body portion being provided with a clamping member, adapted to adjustably clamp the tubular member to the body for permitting longitudinal adjustment of the tube with respect to the seat, and the said extension being provided with a clamping member adapted to adjustably clamp the flat member to the extension for angular adjustment with respect to the flat member.

7. A clamp for joining flat and tubular members in angular relation comprising a body portion provided with a longitudinally extending seat for receiving a tubular member and at one end with an angularly disposed extension having a seat for receiving a flat member disposed in offset relation with the seat and in a plane parallel to that of the first seat for the tubular member, the said body portion and extension being provided with means for attaching them respectively to the tubular and flat members.

In testimony whereof, I have hereunto subscribed my name this 30th day of April, 1920.

JAMES M. BROWN.

Certificate of Correction.

It is hereby certified that in Letters Patent No. 1,475,744, granted November 27, 1923, upon the application of James M. Brown, of Pittsburgh, Pennsylvania, for an improvement in "Clamps." an error appears in the printed specification requiring correction as follows: Page 2, lines 82 and 83, claim 7, strike out the words "and in a plane parallel to that of the first seat" and insert the same to follow after the syllable "ber" in line 84; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 8th day of January, A. D., 1924.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.