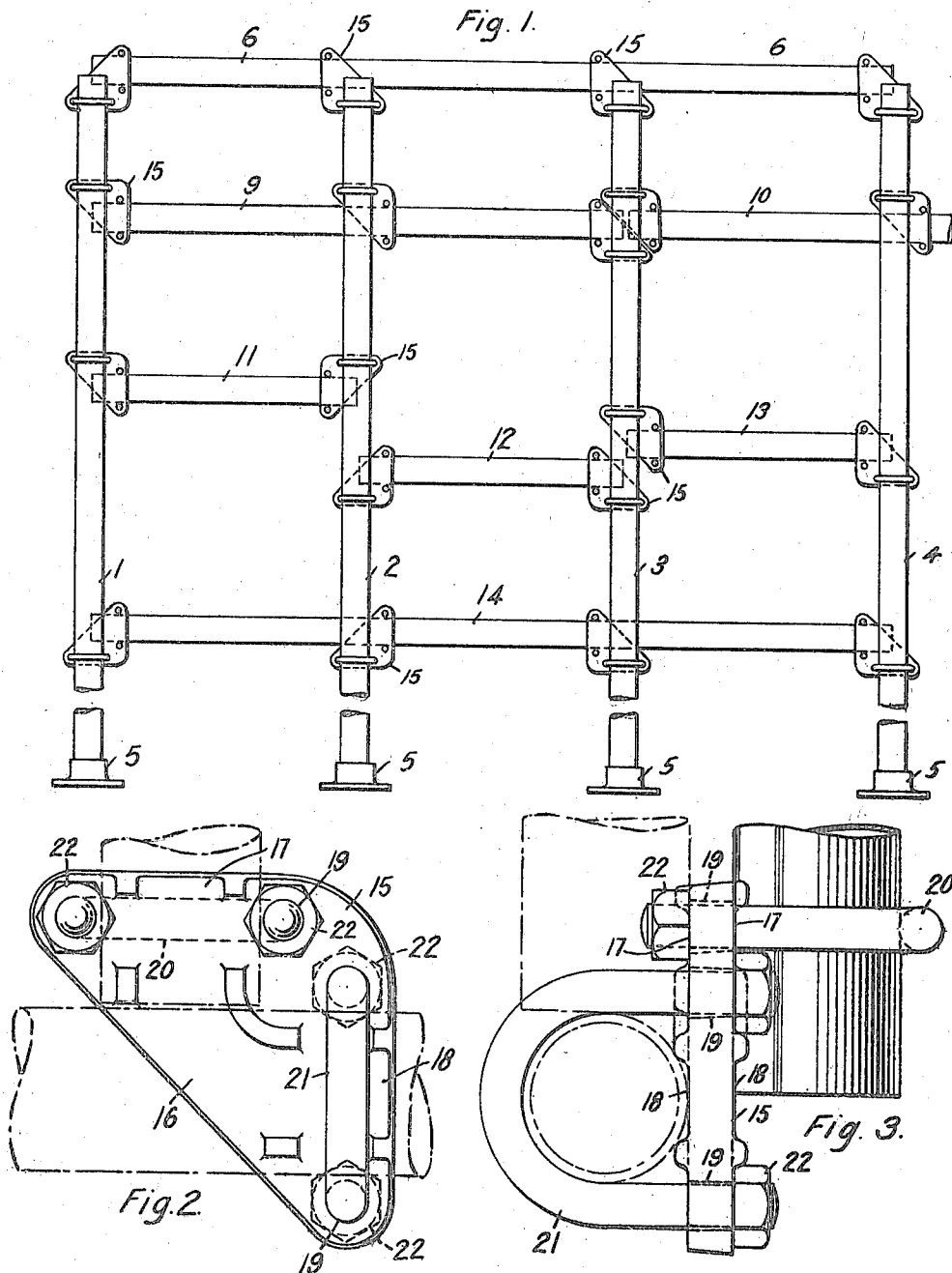


J. M. BROWN.
TUBE CLAMP.
APPLICATION FILED APR. 12, 1915.

1,248,448.

Patented Dec. 4, 1917.



WITNESSES:

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TUBE-CLAMP.

1,248,448.

Specification of Letters Patent.

Patented Dec. 4, 1917.

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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 Tube-Clamps, of which the following is a specification.

My invention relates to tube clamps and it has particular reference to clamps that are adapted to be used in switchboards constructed of tubing.

The object of my invention is to provide a clamp that shall be adapted to be utilized in the construction of switchboards of the tube type.

Figure 1 of the accompanying drawings, is a front elevational view of the frame work of a switchboard of the tube type embodying my invention; Fig. 2 is a detailed front elevational view of a clamp embodying my invention; and Fig. 3 is a detailed side elevational view of the clamp shown in Fig. 2.

A plurality of vertically disposed tubes or rods 1, 2, 3 and 4 are severally provided, at their lower ends, with flanges 5 for attaching the same to a base plate (not shown) or to the floor. A horizontal tube or rod 6 is provided at the upper end for strengthening the structure and it is connected to the pipes 1, 2, 3 and 4 by clamping members 15 embodying my invention. In order to mount electrical apparatus, such as measuring instruments and switches, upon the structure thus constituted, tubes 9, 10, 11, 12, 13 and 14 are provided. These tubes are disposed substantially at right angles to the tubes 1, 2, 3 and 4 and are supported therefrom by a plurality of clamps 15 disposed in various positions.

Each of the clamps 15 comprises a body portion 16 of substantially triangular or L-shape, with channels 17 and 18 formed into both faces thereof. The channels 17 and 18, on the respective faces, are disposed substantially at right angles with respect to each other and are of such dimensions as to seat the tubes to be clamped. The body portion 16 is provided with four openings 19, arranged in pairs along the legs, one opening being disposed on each side of each of the channels 17 and 18. Two members 20 and 21, of substantial U-shape having screw threaded ends, are disposed in the openings

19 and are provided with nuts 22 for the purpose of cooperating with the base member 16 for clamping the tubes in position.

The clamps 15 are made triangular in shape in order that two tubes 9 and 10, for example, may be clamped in alinement or in order that, for a further example, two tubes 12 and 13 may be offset with respect to each other. By constructing the clamps in accordance with my invention, the tubes that are clamped to the right and the left hand sides of the tubes 1, 2, 3 and 4 do not interfere with each other, and they may all be in the same or different vertical planes either in front of, or in back of, the plane of the tubes 1, 2, 3 and 4. Fig. 1 of the drawing illustrates a plurality of arrangements that may be obtained by the use of the clamps 15.

While I have shown a particular construction of my device, it will be understood that various structural modifications may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

I claim as my invention:

1. A clamp comprising a substantially triangular shaped body member having openings in the legs thereof, and clamping means associated with the said body member and disposed in the openings.

2. A clamping device comprising a triangular shaped body member having angularly disposed channels therein and a pair of openings in adjacent sides thereof, and binding means disposed in the openings.

3. A clamping device comprising a member of substantially L-shape having channels formed in the faces thereof substantially at right angles to each other and a plurality of openings therein, and members disposed in the openings.

4. A tube clamping device comprising a triangular shaped main body portion having projections on both faces thereof for positioning the tubes to be clamped, said projections on each face being disposed substantially at right angles to each other, and means for clamping the tubes in position.

5. A tube clamping device comprising a triangular shaped main body portion having projections on both faces thereof for positioning the tubes to be clamped, said projections on each face being disposed substantially at right angles with respect to each

other, and U-shape members associated with the body member for clamping the tubes in position.

5 6. A clamping device comprising means for clamping horizontally-disposed tubes in direct alinement on either side of vertically-disposed tubes.

10 7. A clamping device comprising clamping members of substantially L-shape that are adapted to clamp horizontally-disposed tubes on either side of vertically-disposed tubes.

15 8. A clamping device comprising body members of substantially triangular shape, and means for so clamping horizontally-disposed tubes to the body members that they may be disposed on either side of vertically-disposed tubes, said horizontally-disposed tubes being in direct alinement with respect
20 to each other.

9. A tube clamping device comprising a main body portion of substantially triangular shape having projections on both faces thereof for positioning the tubes to be

clamped and clamping members associated 25 with the body member for clamping the tubes in any desired position with respect to each other.

10. A clamping device comprising clamping members of substantially L-shape that 30 are adapted to clamp horizontally-disposed tubes in direct alinement on either side of a vertically-disposed tube.

11. A clamping device comprising two triangular shaped members having means for 35 clamping two tubes in direct alinement on either side of another tube.

12. A clamping device comprising two triangular shaped members having positioning means thereon, and means for cooperating 40 with the said members for clamping two tubes in direct alinement on either side of another tube.

In testimony whereof, I have hereunto subscribed my name this 31st day of March, 45 1915.

JAMES M. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."