J. R. SMITH.

SUPPORTING BRACKET.

APPLICATION FILED NOV. 18, 1912.

Patented Aug. 5, 1913.

1,069,488.

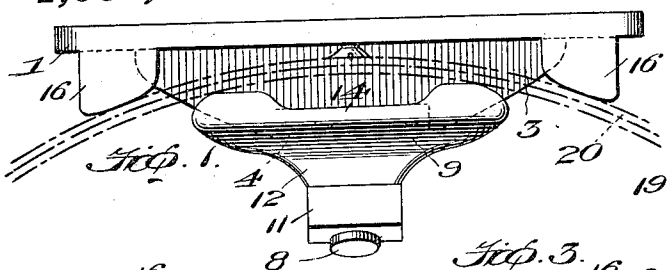

Fig. 1.

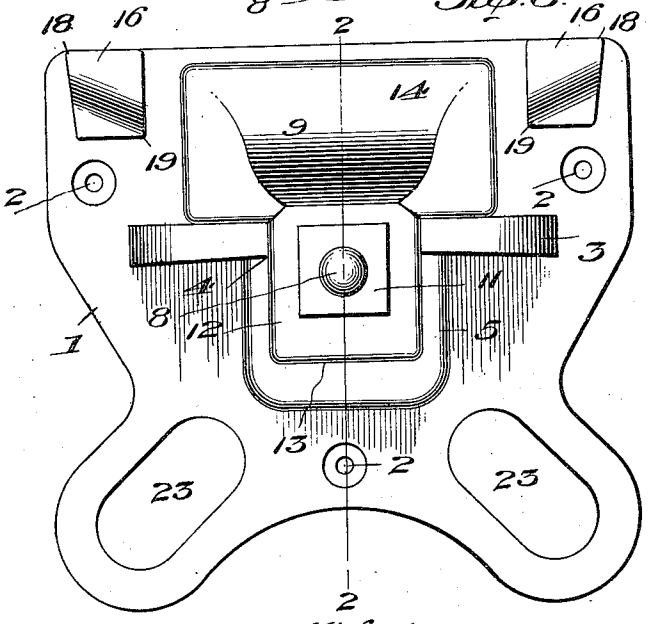

Fig. 3.

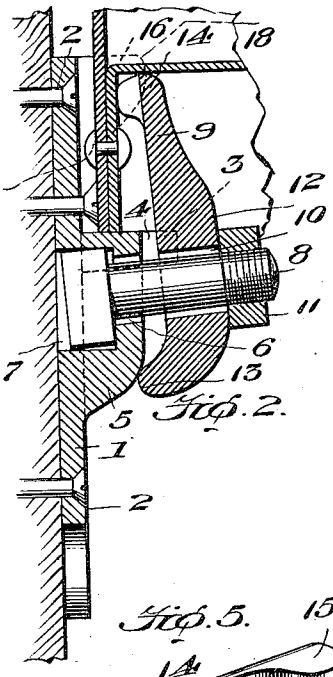

Fig. 2.

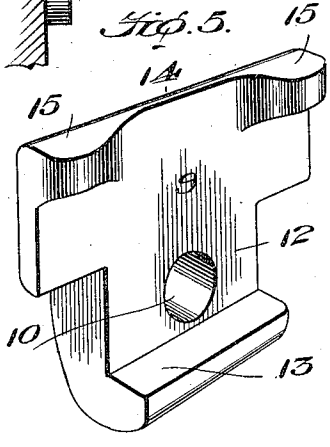

Fig. 5.

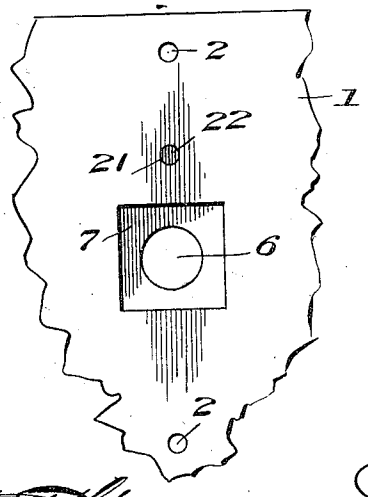

Fig. 4.

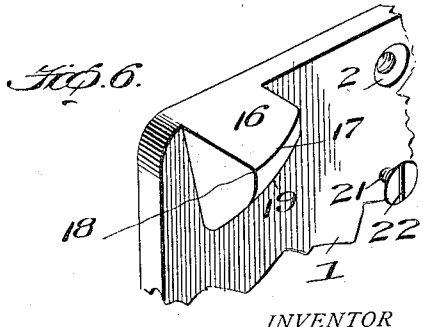

Fig. 6.

WITNESSES

F. V. Lockwood

INVENTOR

James R. Smith

by G. M. Hamlin

Attorney

UNITED STATES PATENT OFFICE.

JAMES R. SMITH, OF MECHANICSVILLE, NEW YORK.

SUPPORTING-BRACKET.

1,069,488. Specification of Letters Patent. Patented Aug. 5, 1913.

Application filed November 18, 1912. Serial No. 732,018.

To all whom it may concern:

Be it known that I, JAMES R. SMITH, a citizen of the United States, residing at Mechanicsville, county of Saratoga, and State of New York, have invented certain new and useful Improvements in Supporting-Brackets, of which the following is a specification.

This invention relates to supporting brackets.

My invention has for its object the provision of a novel supporting bracket for the expansion tanks of hot water heating systems and for kitchen range boilers which can be quickly and easily secured to the wall or any other suitable support or object and will be adapted to clamp and support, without requiring the use of other means, the lower flanged end of the tank or boiler, enabling the tank or boiler to be readily set or positioned at any desired point and height.

In carrying out the invention, I provide a back plate having members adapted to cooperate with the edge of the tank or boiler end and of novel construction, and a clamp and adjusting means therefor coöperating with the back plate in a new manner and with it adapted to support and clamp the flange on the end of the tank or boiler whether the latter be of the riveted or electrically welded type.

The preferred embodiment of the invention is set forth hereinafter and the novel features of the device are recited in the appended claims.

In the accompanying drawings:—Figure 1 is a plan view, dotted lines showing a portion of a tank or boiler flange; Fig. 2, a vertical section on line 2—2, Fig. 3, showing the boiler flange in full lines, illustrating how the boiler is clamped and held in position; Fig. 3, a front view of the complete bracket; Fig. 4, a detail view of the back of the back plate; Fig. 5, a detail perspective, looking toward the inner face of the clamp; and Fig. 6, a detail perspective of one of the lugs on the back plate and the screw.

The metallic back plate 1 is flat on its rear surface so it will lie firmly and evenly against the wall or studding or other support to which it is to be connected, being provided with holes 2 for the reception of screws or other fastenings by which it is fastened to the wall. Formed integral with the plate 1 is a shelf 3 which has a notched or recessed part 4 and beneath which is a solid supporting brace 5 through which extends an aperture 6 communicating with a square shaped recess 7 in the rear of the plate 1 which receives and prevents from turning the head of a bolt 8 whose shank extends through the hole 6. The head of the bolt is prevented from backward movement on account of lying against the wall to which the back plate is fastened and consequently, the head of the bolt is always retained in the recess 7 and the bolt is prevented from turning.

At 9 is shown a clamp which has a somewhat elongated opening 10 in its shank for the reception of the bolt 8 and there is provided a nut 11 which bears against the shank 12 of the clamp and by which said clamp may be adjusted and made to engage the tank or boiler with any desired pressure. To prevent twisting or sidewise displacement of the clamp, its shank 12 is received in the recessed part 4 of the shelf and to afford a fulcrum to permit the tilting adjustment of the clamp, its shank is provided with a flange 13 which bears against the strengthening brace 5. The brace 5 not only trusses or braces the shelf 3 and thus takes up the weight of the tank or boiler and its contents, but it forms a solid abutment or bearing to take up the pressure exerted by the flange 13 when the nut 11 is tightened.

To increase the extent of the bearing or clamping surface engaged with the flange of the boiler or expansion tank, the relatively wide head 14 is provided on the clamp 9 and the inner face thereof is provided with separated bearing lugs 15.

On the back plate 1 are lugs 16 which are spaced apart a distance greater than the length of the head 14; these lugs being provided with rounded surfaces 17 which begin at the points 18, farthest from the plate 1 and curve inwardly and downwardly to the points 19 near or at the surface of the plate 1. This formation being somewhat or substantially opposite the general position of the bearing lugs 15, not only naturally accommodates the curvature of the flange 20 of the expansion tank or boiler, but enables the clamp head and its lugs to obtain a better grip on the flange of the tank or boiler and to wedge it under the lugs 16. The tank or boiler rests on the shelf 3 and being gripped at its inner edge, any tendency it may possess to fall forward by gravity, tends to more firmly throw and engage its flange with the said lugs as it cannot become disengaged

from said lugs on account of the pressure exerted on it by the clamp.

The back plate is provided above the shelf 3 with a screw-threaded opening 21 receiving a flat-headed short screw 22 against which the tank rests whether the latter be electrically welded or riveted, provided the diameter of the tank is such that it naturally lies away from back plate 1 between the lugs 16, due to its abutting said lugs 16, and in order to line up the tank or boiler, the screw 22 should be adjusted as desired so that it will constitute an abutment for the boiler or tank flange. If the boiler or tank is riveted the rivet heads will naturally rest against the plate 1 and by their engagement with the lugs 15 and 16 they prevent any disengagement of the boiler or tank from the support or bracket.

The lower part of the back plate 1 may be provided with openings 23 for the sake of lightness.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a supporting bracket, the combination with a back plate having a shelf provided with a notch in its front edge, of a clamp having a part thereof received in said notch and which is adjustable toward the back plate and adapted to clamp an article on said shelf and against the back plate.

2. In a supporting bracket, the combination with a back plate having a shelf and provided with lugs, of a clamp adapted to hold an article on the shelf and against the lugs.

3. In a supporting bracket, the combination with a back plate having a shelf provided with a recessed edge, and with lugs on said back plate, of a clamp having a part received in said recessed edge of the shelf and which is adapted to hold an article on the shelf and against the lugs.

4. In a supporting bracket, the combination with a back plate having lugs, of a clamp adjustable toward and away from said back plate and adapted to clamp an article against said lugs.

5. In a supporting bracket, a back plate provided with a shelf having a notched or recessed edge, and a brace beneath said shelf, of a clamp having a part received in said recess and bearing on the brace, said clamp being adapted to hold an article on the shelf.

6. In a supporting bracket, a back plate provided with a shelf having a notched or recessed edge, and a brace beneath said shelf, of a clamp having a part received in said recess and bearing on the brace, said clamp being adapted to hold an article on the shelf, and lugs on the back plate against which the clamp is adapted to hold the article.

7. In a supporting bracket, the combination with a back plate having a shelf and a reinforcement or abutment, of a clamp adapted to hold an article on said shelf which has a fulcrum or bearing on said abutment.

8. In a supporting bracket, the combination with a back plate having a shelf and a reinforcement or abutment, of a clamp provided with a flange bearing on said abutment, said clamp being adjustable toward and away from the back plate and adapted to hold an article on said shelf.

9. In a supporting bracket, the combination with a back plate having a shelf provided with a recessed edge, of a clamp having a shank received in said recessed edge and provided with an elongated head disposed above the shelf, and a fastening and adjusting bolt passing through the shank of the clamp.

10. In a supporting bracket, the combination with a back plate having a shelf provided with a recessed edge, of a clamp having a shank received in said recessed edge and provided with an elongated head disposed above the shelf, a fastening and adjusting bolt passing through the shank of the clamp, and lugs on the back plate above the shelf against which an article resting on the shelf is adapted to be pressed by the elongated head of the clamp.

11. In a supporting bracket, the combination with a back plate having a polygonal recess formed in its rear face of an independent clamp adapted to coöperate with the front face of said plate, a bolt having a polygonal head received in said polygonal recess and having its shank extending through the clamp, and a nut on said bolt for tensioning the clamp toward the front of the back plate.

12. In a supporting bracket, the combination with a back plate having a polygonal recess formed in its rear face, and a shelf secured to the front of the back plate, of a bolt having a polygonal head received in said polygonal recess and its shank extending through the back plate, an independent clamp adapted to coöperate with the front face of the back plate to hold an article on the shelf and through which the shank of the bolt passes, and a nut on said bolt adapted for tensioning the clamp toward the front of the back plate.

13. In a supporting bracket, the combination with a back plate provided with a polygonal recess in its rear face and with a notched shelf and lugs on its front face and a brace for said shelf, of a bolt having a polygonal head received in said polygonal recess and its shank extending through the back plate, a clamp having a shank through which the bolt passes, said shank being received in the notched part of the shelf, and

a nut on said bolt adapted for tensioning the clamp.

14. In a supporting bracket, the combination with a back plate having lugs provided with downwardly and inwardly sloping faces, of a clamp for holding an article against said faces.

15. In a supporting bracket, the combination with a back plate having lugs provided with downwardly and inwardly sloping faces, of a shelf on the back plate, and a clamp adapted to hold an article on the shelf and against the sloping faces of the lugs.

16. In a supporting bracket, the combination with a back plate having a shelf, of a member adjustably connected with the back plate above the shelf, and a clamp adapted to hold an article on the shelf and against the member aforesaid.

17. In a supporting bracket, the combination with a back plate having lugs, of a clamp adjustable toward and away from said back plate and adapted to clamp an article against said lugs, and a member adjustably engaged with the back plate and against which the article may be held by said clamp.

18. In a supporting bracket, the combination with a back plate having a shelf and provided with spaced lugs thereabove, of a clamp adjustable toward and away from the back plate and adapted to hold an article thereon against said lugs, and a screw adjustably engaged with the back plate intermediate the lugs and which may serve as an abutment for an article on the shelf.

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

JAMES R. SMITH.

Witnesses:
WM. G. DAVRY,
PATRK. CALLAHAN.