April 15, 1924. 1,490,259

C. DE Y. ELBERTI ET AL

BOILER STAND

Filed Sept. 12, 1922

FIG. 1.

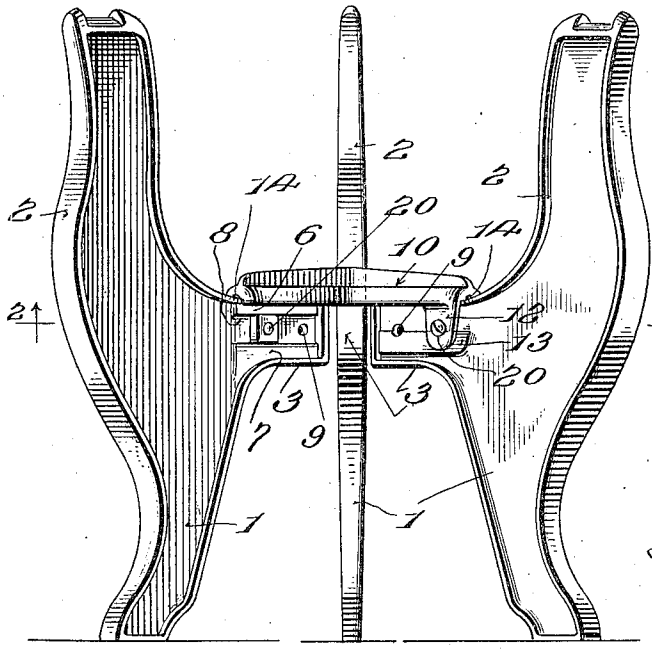

FIG. 3.

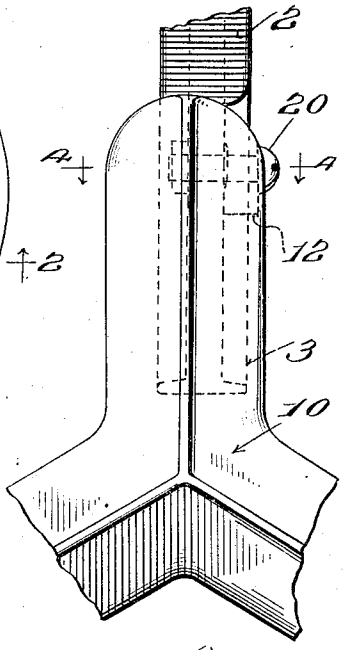

FIG. 2.

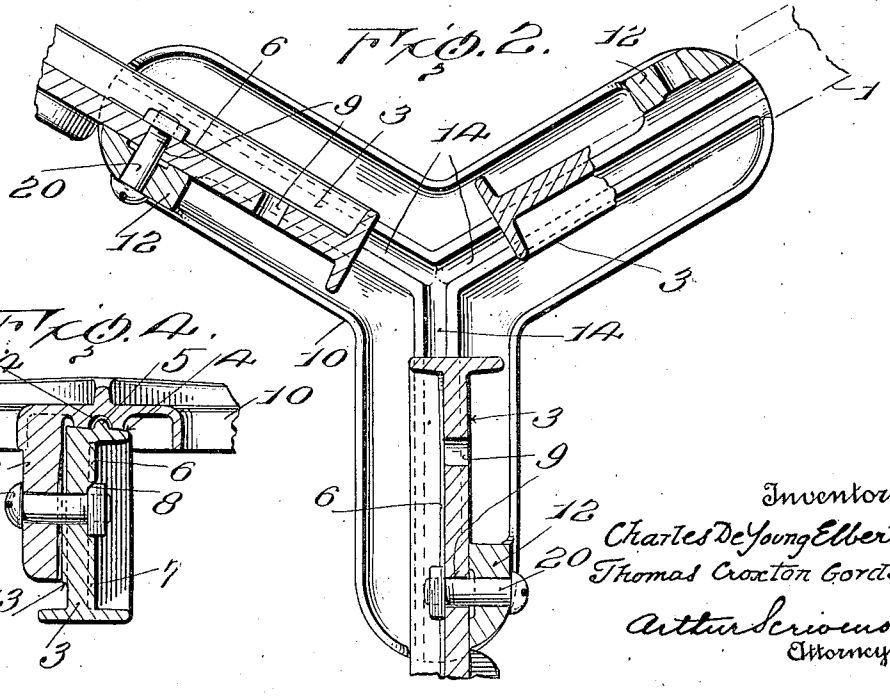

FIG. 4.

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Patented Apr. 15, 1924. 1,490,259

UNITED STATES PATENT OFFICE.

CHARLES DE YOUNG ELBERTI AND THOMAS CROXTON GORDON, OF RICHMOND, VIRGINIA, ASSIGNORS TO RICHMOND FOUNDRY AND MANUFACTURING COMPANY, OF RICHMOND, VIRGINIA, A CORPORATION OF VIRGINIA.

BOILER STAND.

Application filed September 12, 1922. Serial No. 587,856.

To all whom it may concern:

Be it known that we, CHARLES DE YOUNG ELBERTI and THOMAS CROXTON GORDON, citizens of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Boiler Stands, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to boiler stands and particularly to such as are used for supporting boilers connected with cooking ranges. The object of the invention is to provide a simple, strong and compact structure of this character adjustable for different size boilers and which may be manufactured at a minimum cost, requiring less sand in the molding of the parts, less finishing-room space for finishing the castings, and one which in knock down condition for shipping purposes will form but a small package.

In the drawings, Figure 1 is a view in side elevation of our improved stand. Figure 2 is a horizonal sectional view on lines 2—2, Figure 1. Figure 3 is a top plan view of a portion of the connecting clamp. Figure 4 is a sectional view on line 4—4, Figure 3.

Our improved boiler stand includes three supporting members or legs 1 preferably formed of cast iron with the usual strengthening flange 2. 3 designates a lateral extension of each leg. The upper flange of each extension is cut away on one side the remaining portion being inclined downwardly to the opposite side as indicated at 4. On the latter side of each lateral extension is a raised surface 6, having at its lower horizontal edge the beveled surface 8. Each of these extensions may have a plurality of bolt holes 9, for the purpose of adjusting the position of the legs relatively to one another for different sizes of boilers.

10 designates a trefoil clamp by which the supporting members are held in spaced relation to each other. Each arm of this clamp at its outer end, has a downwardly projecting apertured lug 12 which is adapted to engage the side of the lateral extension of the leg to which it is complementary. In the casting of the parts the engaging or the inner wall of the lug is slightly tapered and to effect firm bearing between lug and the leg extension I provide a raised portion 13 on the latter against which the lug bears. It is for the purpose of securing as close contact as possible between the lug and the leg extension that the flange on the upper left side of each lateral projection is cut away as before described. Each arm of the trefoil clamp is channeled and there is a groove 14 within which fits the stud 5 so that when the parts are assembled there can be no side play between the clamp and the legs. The under face of each clamp arm is inclined downwardly to correspond with the inclination of the upper face of the lateral extension of the legs so that when the nut of the bolt 20 is drawn tightly against the beveled edge 8 of the raised surface 6 on the side of the leg extension, the said leg extension will be drawn upwardly to a firm seat against the lug 12 and groove 14, by reason of the tendency of the inclined contacting surfaces of the leg extension and of the clamping arm to move relatively in one direction only. The joint so made is a simple one; and it is at the same time a very strong one because it calls into play not only the tensile strength of the bolt, or of the bolt threads, but also the shearing strength of the bolt, the torsional strength of the clamping arm at its junction with the lug 12, and the shearing strength of the stud 5. If the two contacting surfaces were in a plane parallel to the axis of the bolt 20, and if the nut of the bolt did not bear against an inclined surface such as the beveled edge 8 of the raised portion 6 of the leg extension, the tension on the bolt 20 would simply hold the vertical face of the leg extension against the vertical face of the lug 12. This would not form a good joint for the reason that there must be considerable play between the surface of the bolt 20 and the hole in the leg extension through which it passes.

In assembling the parts, the legs are spaced appropriate distances and the clamp is placed over the lateral extensions, a single bolt 20, appropriately nutted, forming the connecting means between each arm of the trefoil and its complementary lateral extension of the leg. When the bolt is tightened its nut will bear against the beveled edge 8 of the raised surface 6 and thus causes a drawing together of the clamp and extension, the inclined contacting faces of which through this clamping action effect

a strong connection and this firm seating of the parts is enhanced by the stud 5 fitting in the groove 14. Manifestly, because of the plurality of bolt holes, the legs may be spread further apart or brought nearer together as is necessary to accommodate the boiler to be supported.

It is to be noted that our improved boiler stand includes, practically, but four parts, and because of the fewness of elements entering into its construction we are enabled to compactly arrange these elements for shipping purposes, the space occupied by the three legs and trefoil when in knock down position occupying but little space.

We claim as our invention:

1. A boiler stand including spaced supporting legs, each having a lateral extension, the upper surface of which is inclined downwardly to one side and each provided with a plurality of bolt holes, the wall of said extensions having on the said side a raised portion, and the said raised portion having a beveled edge, a clamping member having a plurality of arms adapted to complement said lateral extensions, the under face of each arm being inclined downwardly, and a downwardly projecting lug on each arm through which such arm is bolted to its complementary lateral extension, engagement of the nut of such bolt with the beveled edge of said raised portion forcing the inclined faces of said lateral extension and said arm together.

2. A boiler stand including spaced supporting legs, each having a lateral extension, a stud projecting upwardly from said extension, a clamping member having a plurality of arms adapted to complement said lateral extensions, each of said arms being channeled on its under face and having a longitudinal groove therein, to receive the stud of said lateral extension, and a downwardly projecting lug on each arm adapted to engage one side of the lateral extension complementary to said lug, the horizontally disposed contacting surfaces of each arm and of the complementary leg extension being downwardly inclined to the side of the leg extension opposite to the lug, and a beveled surface on the vertical face of the leg extension opposite to the lug, so arranged with respect to the inclined contacting surfaces of the leg extension and of the clamping arm that bolting means bearing on said beveled surface will draw the leg extension and the clamping arm together with an upward and also with a horizontal thrust.

3. A boiler stand including spaced supporting legs having lateral extensions, a connecting member adapted to seat upon the upper surface of said extensions, the horizontally disposed contacting surfaces of the connecting member and of the lateral extensions being inclined to form an acute angle with the vertical plane of the extension member, and holding means to hold together the connecting member and the lateral extensions, the said holding means and the said inclined contacting surfaces being so disposed relatively to one another that when the holding means is tightened it will draw the leg extension and the clamping arm together with an upward and also with an horizontal thrust.

In testimony whereof we have hereunto affixed our signatures.

CHARLES DE YOUNG ELBERTI.
THOMAS CROXTON GORDON.