

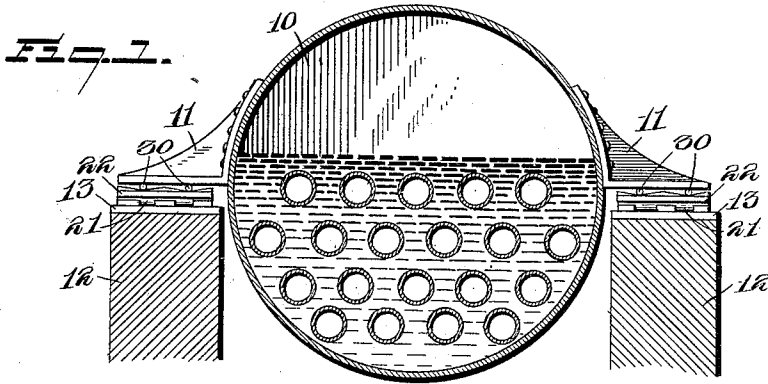
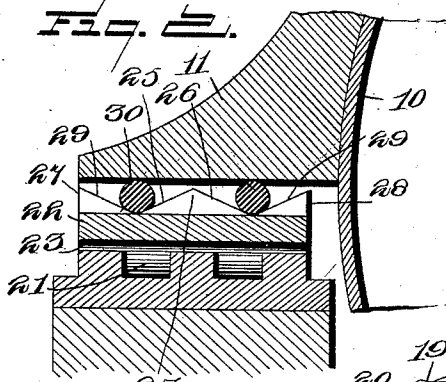
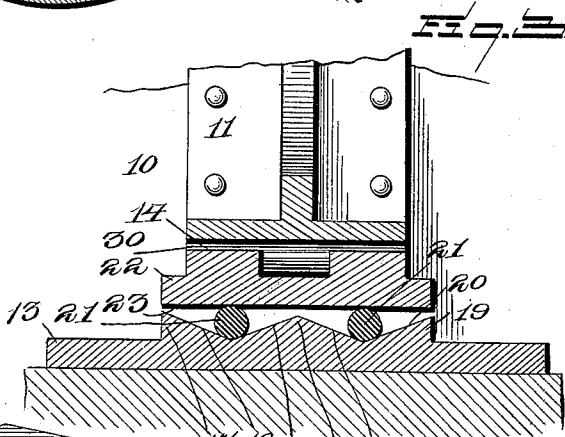
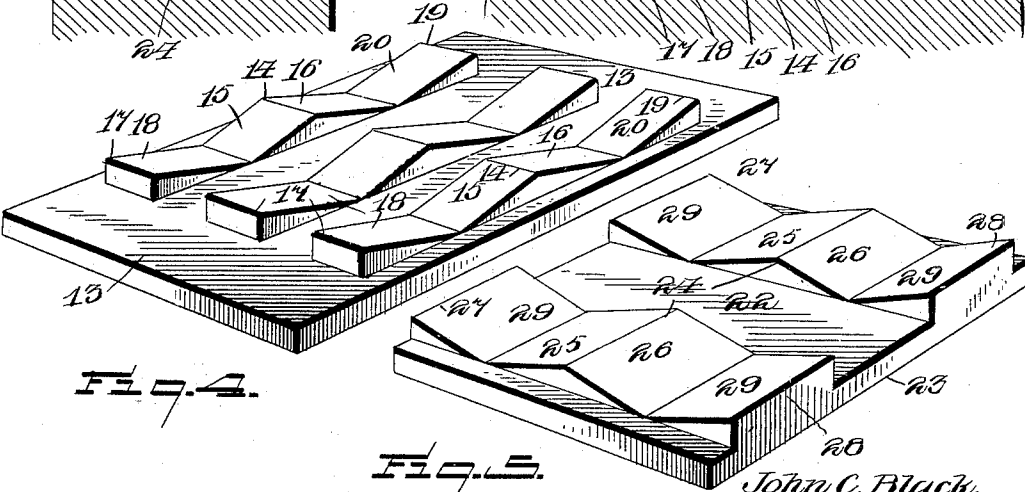
No. 652,075.

Patented June 19, 1900.

J. C. BLACK.
BOILER SETTING.

(Application filed Mar. 14, 1900.)

(No Model.)



John C. Black.
Inventor

By

E. G. Singer
Attorney

Witnesses

Geo. D. Byrne
W. A. Beulahor

UNITED STATES PATENT OFFICE.

JOHN CALVIN BLACK, OF WARREN, PENNSYLVANIA.

BOILER-SETTING.

SPECIFICATION forming part of Letters Patent No. 652,075, dated June 19, 1900.

Application filed March 14, 1900. Serial No. 8,654. (No model.)

To all whom it may concern:

Be it known that I, JOHN CALVIN BLACK, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented a new and useful Boiler-Setting, of which the following is a specification.

My invention relates to improvements in boiler-settings; and one object in view is to provide means which admits of movement of the boiler in directions to compensate for expansion and contraction both longitudinally and transversely of said boiler.

A further object is to provide an improved setting which in a measure arrests the movement of the boiler within certain limits and insures the return by gravity of the parts to normal positions, thus overcoming any tendency to breakage of the pipe connections and to injury of the parts of the setting or the boiler.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty in the combinations of devices and construction of parts will be defined by the claims.

In the drawings, Figure 1 is a perspective view of a boiler equipped with a setting which is constructed in accordance with my invention. Fig. 2 is a sectional view taken transversely through the setting and a part of the boiler. Fig. 3 is a sectional elevation taken longitudinally through the boiler-setting. Fig. 4 is a perspective view of the foundation-plate. Fig. 5 is a similar view of the shiftable plate forming a part of the setting.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

The boiler 10 is equipped with the usual bearing-lug 11 and is disposed in the ordinary relation to the walls 12 for support thereon by the setting contemplated in this invention. These parts may be of the usual or any preferred construction, and the improved setting may be applied with the boiler at the time it is placed in position on the walls, or said setting may be applied subsequently to the erection of the boiler, and thus used in connection with boilers which are already set in place, the improved setting taking

the place of the ordinary means for mounting and supporting the boiler.

It is to be understood that the boiler is equipped with a series of the bearing-lugs 11, and in connection with each lug I provide the improved devices of this invention which primarily operate to compensate for expansion and contraction of the boiler both longitudinally and transversely thereof. One element of the improved setting is the foundation-plate 13, which occupies a stationary position on the wall 12, said foundation being fastened in place by embedding the same in the wall. This foundation is preferably in the form of an elongated plate, the axis of which is in a plane parallel to the longitudinal axis of the boiler, and this foundation-plate is furthermore provided with a plurality of peculiarly constructed and arranged lugs. One series of the lugs is indicated by the numeral 14 as having the reversely-inclined faces 15 16. Another series of lugs 17 is at one end of the doubled lugs 14 and provided with faces 18, which are inclined toward the faces 15 of the lugs 14, and the remaining series of lugs 19 are at the opposite ends of the lugs 14 and provided with faces 20, that are inclined toward the faces 16 of the lugs 14. The lugs 14, 17, and 19 are disposed in the same longitudinal plane and the inclination of their faces in the manner described provides depressions or pockets adapted for the accommodation of a series of rollers 21, the latter being of a diameter greater than the height of the lugs in order to support the movable plate 22 in shiftable relation to the foundation. This shiftable plate has a flat under surface 23, which rests directly upon the series of rollers 21, so as to be free to move longitudinally with respect to the foundation-plate, thus making provision for the expansion and contraction of the boiler in the direction of its length, and this shiftable plate is also provided with a series of bearing-lugs similar to the lugs of the foundation-plate, but disposed at right angles thereto for the accommodation of another series of rollers that support the bearing-lug 11 of the boiler in a manner for said bearing-lug to move in a direction at right angles to the movement of the shiftable plate, and thereby compensate

for expansion and contraction of the boiler transversely to its axis. The shiftable plate is provided on its upper side with the series of lugs 24, having the reversely-inclined faces 25 26, and also with the lugs 27 28, having the faces 29 inclined toward said faces 25 26. The form of the lugs provides depressions for the reception of the rollers 30, which are of such diameter as to sustain the bearing-lug 11 above the surface of the plate 22.

In the normal position of the parts the rollers 21 lie in the lowest points of the pockets formed by the lugs on the foundation-plate, and in like manner the rollers 30 lie at the lowest points of the pockets formed by the lugs on the shiftable plate, the rollers of one series being disposed at right angles to the rollers of the other series. The shiftable plate 22 and the rollers 21, which sustain the plate, are free to have a limited movement longitudinally on the foundation-plate under the expansion or contraction which takes place longitudinally in the boiler, and at the same time the bearing-lug 11 and the series of rollers 30 are free to have a limited movement on the bearing-rolls of the shiftable plate under the expansion and contraction which takes place transversely of the boiler. Such movement of the rollers causes them to ride upon the inclined faces of the lugs, which has a tendency to check the movement of the rollers, and thereby arrest, in a measure, the expansion and contraction of the boiler. The inclined faces of the lugs tend to return the rollers to their lowered normal positions by the action of gravity, and the entire boiler-setting has its several parts so arranged as to minimize breakage of the pipe connections as well as injury to the parts of the boiler or the setting thereof.

Changes within the scope of the appended claims may be made in the form and proportion of some of the parts, while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Although I have shown and described the improved setting device in connection with a steam-boiler, I would have it understood that said device is not restricted in its application to boilers, because it may be used as a setting for stills and other structures.

Having thus described the invention, what I claim is—

1. A setting for boilers, stills and the like,

comprising roller-bearings divided by an interposed plate, as set forth.

2. A setting for boilers, stills and the like, comprising a foundation, a shiftable plate, a lug, and roller-bearings interposed between the foundation and the shiftable plate and also between the lug and the shiftable plate, as set forth.

3. A setting for boilers, stills and the like, comprising a foundation, a series of rollers thereon, a shiftable plate supported by the rollers, a lug, and another series of rollers interposed between the lug and the shiftable plate and disposed at right angles to the first-named rollers, as set forth.

4. A setting for boilers, stills and the like, comprising a plate having the inclined faces, a series of rollers arranged to ride upon said faces, and a lug sustained by the rollers, for the purpose described, substantially as set forth.

5. A setting for boilers, stills and the like, comprising a foundation, a plate shiftable lengthwise of the foundation and having inclined faces, a bearing-lug, and rollers interposed between the bearing-lug and the plate to permit the bearing-lug to move in a path at an angle to the line of movement of the plate, as set forth.

6. The combination with a boiler or still, of a setting having its parts arranged to permit a limited transverse movement of the boiler or still under expansion and contraction thereof, as set forth.

7. The combination with a boiler or still, of a foundation, a plate shiftable on the foundation in the direction of the length of the boiler, and a bearing-lug shiftable on the plate in a path at an angle to the movement of the plate, as set forth.

8. A boiler-setting comprising bearing members movable in angularly-related paths to accommodate the expansion and contraction of the boiler in different directions.

9. A boiler-setting comprising separate series of bearing-rollers movable in paths at right angles to each other to accommodate both longitudinal and transverse expansion and contraction of the boiler.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses:

JOHN CALVIN BLACK.

Witnesses:

DARIUS MAGEE,
T. L. HAMPSON.