No. 653,000. Patented July 3, 1900.

P. F. DUNDON.

BOILER BRACE.

(Application filed Mar. 19, 1900.)

(No Model.)

Fig. I

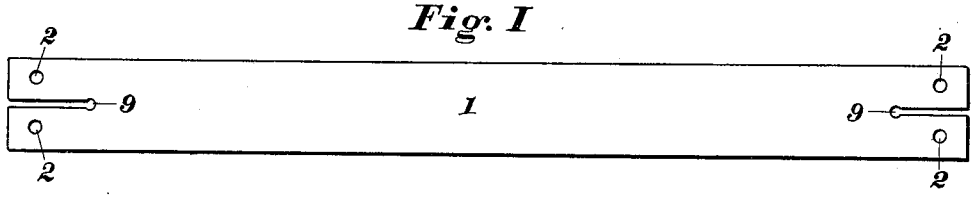


Fig. II

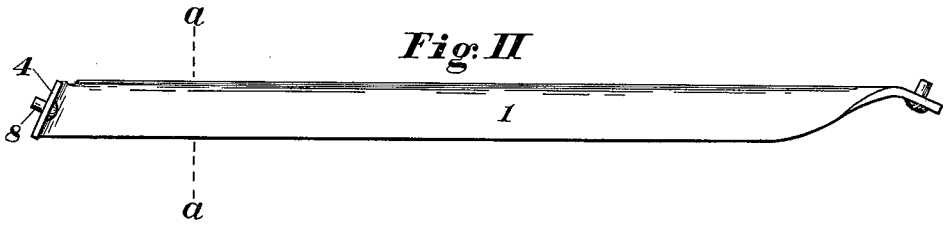


Fig. III

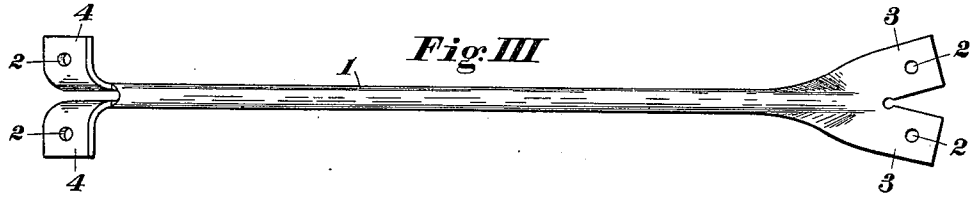


Fig. IV

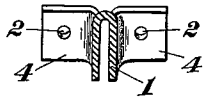
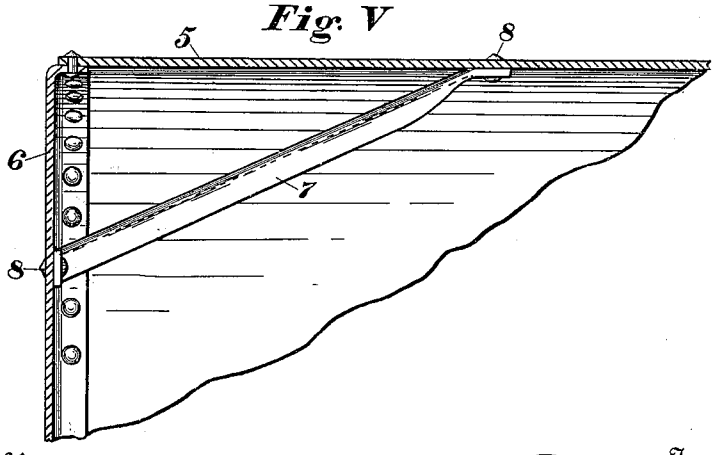


Fig. V



Witnesses.
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UNITED STATES PATENT OFFICE.

PATRICK F. DUNDON, OF SAN FRANCISCO, CALIFORNIA.

BOILER-BRACE.

SPECIFICATION forming part of Letters Patent No. 653,000, dated July 3, 1900.

Application filed March 19, 1900. Serial No. 9,254. (No model.)

To all whom it may concern:

Be it known that I, PATRICK F. DUNDON, a citizen of the United States, residing at San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Boiler-Braces; and I hereby declare the following to be a full, clear, and exact description of ths same, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to braces or stays, especially for steam-boilers, and to certain improvements therein.

My improvement consists in forming such stays from a plate or strip of metal of uniform section split at both ends and bent outward into feet or lugs that receive rivets set equidistant on each side of the line of the brace and to strains thereon, so the full strength of each rivet is attained.

The object of my invention is to provide a brace or stay made from a symmetrical piece of metal of uniform section, simple and easy to manufacture, and held by rivets, each and all of which equally sustain strains falling upon the brace or stay. To this end I construct stays or braces as shown in the drawings herewith, forming a part of this specification.

Figure I shows a plane view of a strip or plate of metal as first prepared for my improved braces. Fig. II is a side view of the same brace after it is bent, folded, and the lugs turned. Fig. III is a plan or top view of Fig. II. Fig. IV is a section on the line *a a* in Fig. II. Fig. V shows the manner of applying the brace in a common steam-boiler.

In the construction of braces or stays of the class to which my invention pertains it is customary to alter and reinforce the sections by forging and also to cut them away in their middle portions, leaving lateral lugs at one or both ends. Also it is common to employ at one or both ends two or more rivets set successively in the line of strain.

By my improvement the blank or plate of metal 1 of which the brace is formed is a plain parallel section that is punched with holes 2 to receive the rivets 8 and is slit at the ends, as shown at 9 in Fig. I. This is the first operation accomplished with simple apparatus such as is common in plate-working. The next operation is to fold the body of the brace into a section, as shown in Fig. IV, and at the same time turn outward the lugs 3 and 4, as shown in Fig. III. This completes the brace or stay.

The manner of attaching the braces in a common steam-boiler is shown in Fig. V, where 5 is a portion of a circular boiler-shell, 6 the head thereof, and 7 one of my improved braces attached by two rivets 8 at each end, so that each rivet and each lug sustain an equal strain. In this manner it will be seen that the stay or brace can be made with its several members—the body, lugs, and rivets—of equal strength, by which a greater value is attained and no metal is wasted.

It will be apparent that while I have described my improvement as relating especially to boiler braces or stays the same construction is suitable for staying or bracing the corners of any kind in plate-metal structures.

Having thus explained the nature and objects of my invention and the manner of making and applying the same, what I claim as new, and desire to secure by Letters Patent, is—

1. A brace or stay of the character described, slit at the ends to form two lugs, these latter bent outward to form footings at each end of the brace, equally at each side, and to suit the angles of the faces to which the brace is attached, substantially as specified and shown.

2. A brace or stay made of plate metal of uniform thickness and width, slit to form two lugs at each end, rivet-ways in each lug in like relation to the line of the brace and to sustain an equal strain, substantially as described.

3. A brace or stay made of plate metal, slit at the ends to form lugs 4, turned outward from the inside of the folded plate, and lugs 3 at the other end spread in an opposite plane, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PATRICK F. DUNDON.

Witnesses:

ALFRED A. ENQUIST,

H. H. BATES.