J. F. ALLEN.

Boiler-Saddles.

No. 214,480. Patented April 22, 1879.

Fig. III.

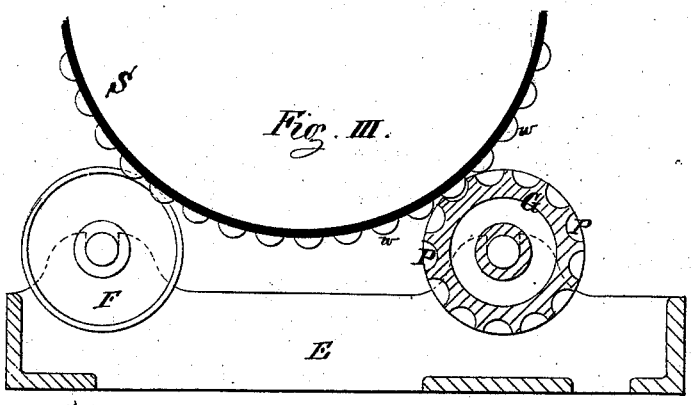


Fig. IV.

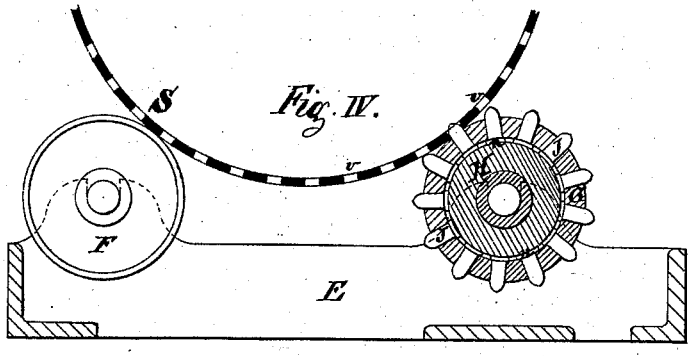


Fig. V.

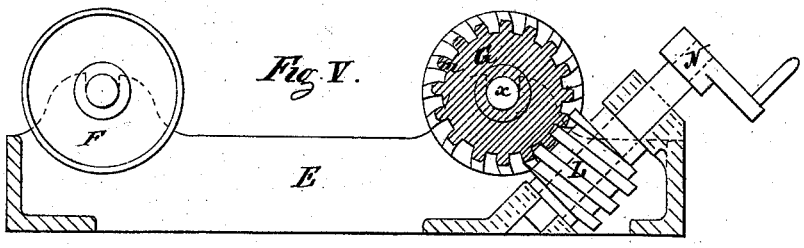


Fig. I.

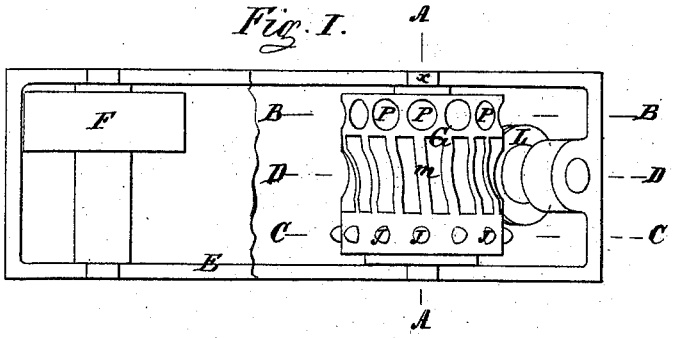
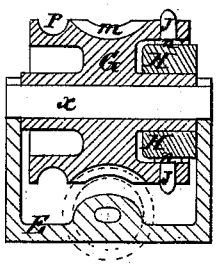


Fig. II.



Witnesses.

A. H. Phelps

Abram VanSlyck

Inventor:

John F. Allen

per Henry E. Roeder

attorney

UNITED STATES PATENT OFFICE.

JOHN F. ALLEN, OF NEW YORK, N. Y.

IMPROVEMENT IN BOILER-SADDLES.

Specification forming part of Letters Patent No. **214,480**, dated April 22, 1879; application filed August 30, 1878.

To all whom it may concern:

Be it known that I, JOHN F. ALLEN, of New York, in the State of New York, have invented a new and Improved Boiler-Saddle, of which the following is a specification.

The object of my invention is to facilitate the turning of any sized circular boiler without much manual labor, and at the same time to securely lock and hold the same in any desired position.

Circular boilers, while being riveted either by hand or by portable machines, are generally supported upon two pairs of rollers, one pair of rolls being placed at one end of the boiler, and the other pair near its other end, and each pair of rolls are generally supported in a suitable frame or mounted on a block of timber. During the process of riveting the boiler requires to be turned around frequently, either for the convenience of the riveters, or, if the same is riveted by means of a machine, to bring the rivet-holes in line with the machine. In this latter case when working on circular joints this operation of turning the boiler requires to be done nearly as often as there are rivets to be driven. This turning around of the boiler has hitherto been done by manual labor, and if one side of the boiler was heavier than the other side, on account of having a man-hole plate or steam-dome attached, the boiler required to be supported or propped up on that side.

The nature of my invention consists in arranging on one of the rolls, forming a saddle, projections and cavities, which engage either with the rivet-holes in the boiler-shell or with the finished rivet-heads on the same, so as to form a kind of gear-wheel, whereby the boiler-shell, by the turning of said roller, can be turned around in any desired direction; and by the arrangement of a worm-wheel working into suitable teeth on the roller for the purpose of turning said roller, the boiler will be held in any position, even if one side of the boiler should be heavier than the other side.

In the accompanying drawings, Figure I represents a top view of a boiler-saddle embodying my invention. Fig. II is a vertical cross-section at line A A, Fig. I. Fig. III is a longitudinal section at line B B, Fig. I, supporting part of a boiler. Fig. IV is a longitudinal section at line C C, Fig. I, supporting part of a boiler; and Fig. V is a longitudinal section at line D D of Fig. I.

Similar letters represents similar parts in all the figures.

E represents a frame for supporting the rollers F and G in suitable bearings, upon the circumference of which the boiler S rests, as shown in Figs. III and IV. The roller G is provided on its circumference with teeth *m*, into which a worm-wheel, L, is made to work, operated by a suitable handle or wheel, N, attached to its shaft, whereby this roller G can be turned in either direction, and is held perfectly fast in any position.

It will be easily understood that, instead of arranging the teeth *m*, into which the worm-wheel L works, on the roller itself, a suitable teeth-wheel may be placed, either inside or outside of the frame E, upon this roller, spindle, or shaft *x*, for the purpose of turning said roller; and instead of turning this roller by means of a worm-wheel, as above described, any other gearing may be arranged for that purpose; or this roller may be provided with a number of holes in its circumference, into which a rod or spoke is placed for the purpose of turning the same.

P P are cavities arranged around the periphery of the roller G, of such a distance apart as to correspond nearly with the pitch of the rivet-heads *w*, made at the outside of the boiler S, (see Fig. III;) or two or more rows of similar cavities to correspond with different pitches may be arranged.

The rivet-heads *w* which have been already made on the boiler form a kind of gear-wheel with these cavities on the roller G, whereby the boiler-shell can be turned in either direction, as may be required.

J J are pins passed through the rim of the roller G, and projecting some distance outside the periphery of said roller. Small heads *n* are provided on the inner ends of these pins to prevent the same from falling out, and a ring, H, placed on the hub of the roller G and against these heads *n*, keeps the same in place. The projecting part of these pins, which are placed at such a distance apart as to correspond with the pitch of the rivet-holes *v* in the boiler-shell S, (see Fig. IV,) mesh into

these rivet-holes *v*, and form together a kind of gear-wheels, whereby, when the roller G is turned, this boiler-shell will be turned in either direction.

Two or more rows of holes may be drilled in the rim of the roller G for different pitches, when the pins J can readily be changed from one into the other, as the case may require.

Instead of pins passing through the rim of the roller G, suitable projections may be cast around the periphery of this roller, for the purpose of engaging with the rivet-holes in the boiler-shell; but in that case a different roller must be made for every difference in the pitch of the rivet-holes in the shell.

The second pair of rollers, forming the saddle at the after end of the boiler-shell, (not shown in the drawings,) are of the usual arrangement, but must correspond in diameter with the diameters of the rolls F and G.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A boiler-saddle provided with a plain smooth roller, F, and a roller, G, turned by suitable gearing, and provided with recesses or cavities P in its circumference, forming, in combination with the rivet-heads on the boiler, a gearing, substantially in the manner and for the purpose described.

2. A boiler-saddle provided with a plain smooth roller, F, and a roller, G, turned by suitable gearing, and provided with projections or projecting pins J around its circumference, forming, in combination with the rivet-holes in a boiler-shell, a gearing, substantially in the manner and for the purpose set forth.

3. A boiler-saddle provided with a smooth roller, F, and a roller, G, provided with recesses P and projections J around its periphery, and with teeth *m*, in combination with a worm-wheel, L, arranged to operate in combination with a boiler-shell, substantially in the manner and for the purpose herein described.

JOHN F. ALLEN.

Witnesses:
HENRY E. ROEDER,
ABRAM VAN BLARCOM.