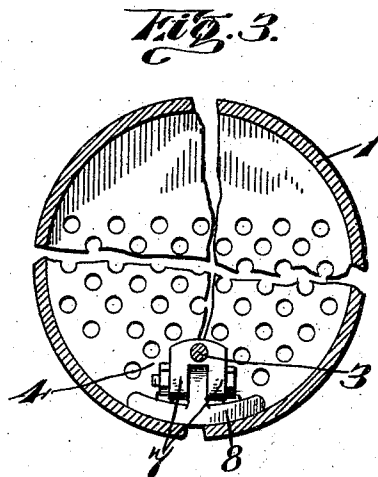
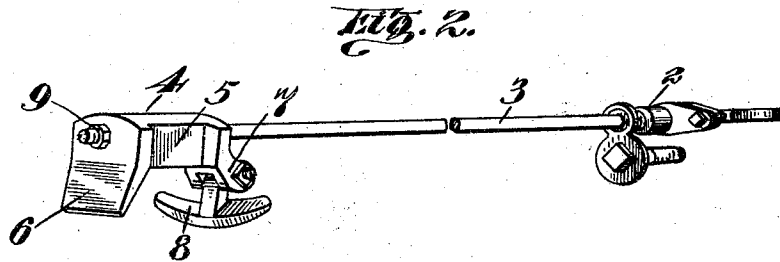
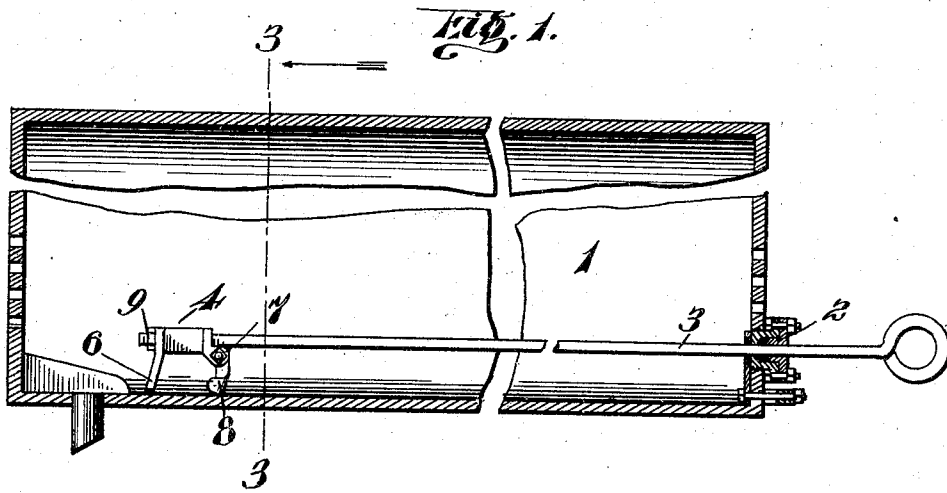


No. 785,192.

PATENTED MAR. 21, 1905.

T. S. BLY.
BOILER SCALE REMOVER.
APPLICATION FILED AUG. 4, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

THEARON S. BLY, OF WEBB CITY, MISSOURI.

BOILER-SCALE REMOVER.

SPECIFICATION forming part of Letters Patent No. 785,192, dated March 21, 1905.

Application filed August 4, 1904. Serial No. 219,575.

To all whom it may concern:

Be it known that I, THEARON S. BLY, a citizen of the United States, residing at Webb City, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Boiler-Scale Removers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in devices for removing scale and sediment from the bottom of fire-tube boilers.

The object of the invention is to provide a device of this character whereby the scales and sediment which gathers on the bottom of boilers of this class may be effectually removed from the boiler.

A further object is to provide a boiler-cleaning device which may be applied to the boiler at either end by attaching the same and inserting a stuffing-box in said end through which the operating-rod of the cleaning device is adapted to pass.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view through a boiler, showing the application of the device to the same. Fig. 2 is an enlarged perspective view of the device removed from the boiler; and Fig. 3 is a vertical transverse sectional view of a boiler, showing the device in position.

Referring more particularly to the drawings, 1 denotes a boiler in one of the ends of which is arranged a stuffing-box 2, through which is adapted to pass an operating-rod 3, on the end of which is secured the scale and sediment removing device 4.

The scale and sediment removing device 4 consists of a body portion 5, having on its outer end an integrally-formed downwardly-projecting narrow scraping-plate 6. On the opposite end of the body portion 5 are formed downwardly-projecting apertured lugs 7, to

which is hingedly connected a swinging blade or scraper 8, the lower edge of which is curved slightly to conform to the shape of the bottom of the boiler.

The operating-rod 3 may be secured to the scraping device 4 in any suitable manner, but is here shown as being passed through the same and having applied to its projecting end a nut 9, thereby removably connecting the scraping device to the end of said rod.

In operation when the operating-rod 3 is drawn outwardly from the stuffing-box 2 the hinged scraping-blade will swing inwardly and slide loosely over the sediment and scales in the boiler, and when said rod is pushed inwardly said swinging blade will drop to a position at approximately right angles to the body portion of the scraping device, in which position it will be held against backward movement by engaging the lower side of the operating-rod, and thus when pushed back across the boiler will scrape and push the scale and sediment through said boiler toward the blow-out in the opposite end of the same, where the same will be carried off. When said blow-off is open, two or three reciprocations of the scraping device will be sufficient to remove and carry off the scale and sediment formed or collected in the bottom of the boiler.

The narrow fixed scraper-blade on the outer end of the body portion 5 is adapted to pass between the stay-bolts of the flue-sheets, thereby removing the scale and sediment from this particular place in the boiler.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

A boiler scale and sediment remover, consisting of a body portion having at one end a

rigid downwardly and forwardly projecting
scraping-blade, apertured lugs formed on the
opposite end of said body portion, an inwardly-
swinging scraping-blade having a curved
5 lower edge and hinged to said lugs, and a rod
or bar connected to the inner end of said body
portion and adapted to project through one
of the heads of said boiler whereby said body
portion and said scraping-blade may be recip-

rocated along the bottom of a boiler, substan- 10
tially as described.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

THEARON S. BLY.

Witnesses:

G. MORRISON PRITCHETT,
THOMAS J. RONEY.