C. A. JOHNSON.

ATTACHMENT FOR BOILER GAGES.

APPLICATION FILED MAY 24, 1910.

984,676. **Patented Feb. 21, 1911.**

2 SHEETS—SHEET 1.

Fig. 1.

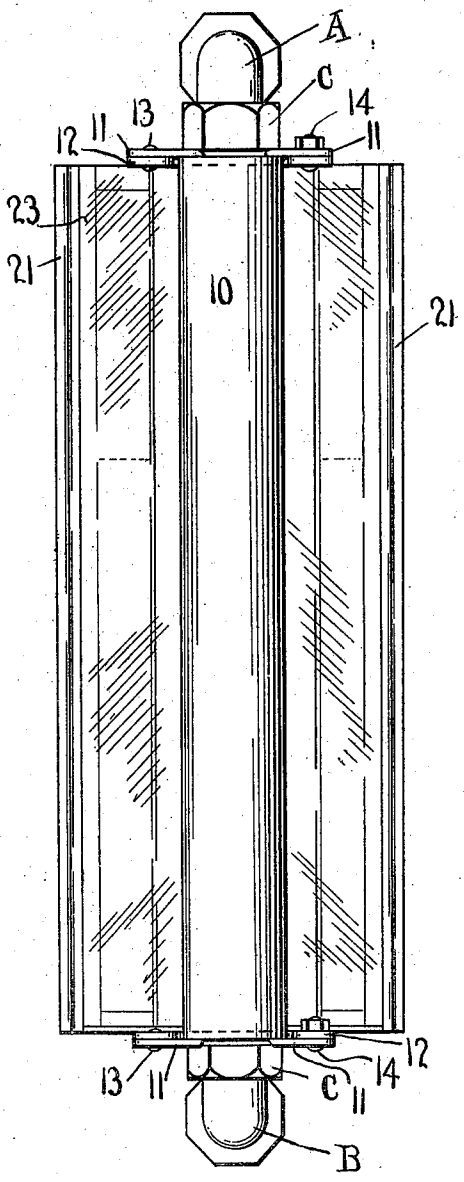
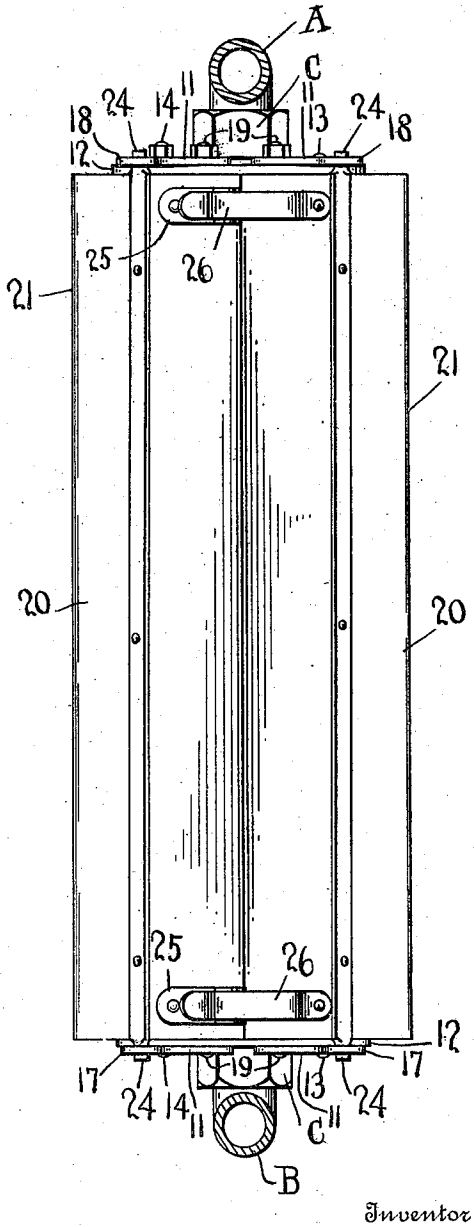


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

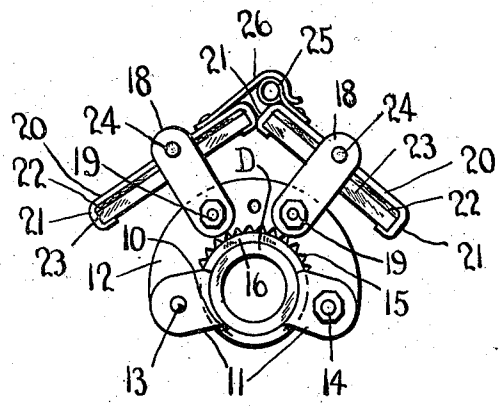


Fig. 5.

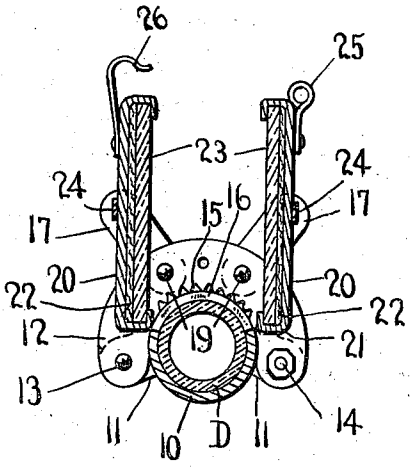
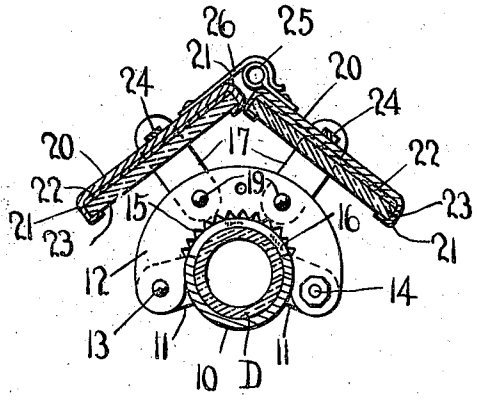


Fig. 4.



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ATTACHMENT FOR BOILER-GAGES.

984,676. Specification of Letters Patent. Patented Feb. 21, 1911.

Application filed May 24, 1910. Serial No. 563,119.

To all whom it may concern:

Be it known that I, CHARLES A. JOHNSON, a citizen of the United States, residing at Creston, in the county of Union, State of Iowa, have invented certain new and useful Improvements in Attachments for Boiler-Gages; and I do hereby 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 boiler gages and has special reference to an attachment for boiler gages.

One object of the invention is to provide a novel form of attachment designed to shield the front of a gage glass so that the breaking of a glass will not scald the boiler attendant.

A second object of the invention is to provide a device of this character in which the gage glass will be visible in either of a pair of reflectors which are so arranged that upon the bursting of the glass the reflectors swing upon their centers to assist in shielding the face of the attendant.

With the above and other objects in view, the invention consists in general of a frame including a shield adapted to be positioned on a boiler gage so that the shield lies in front of the gage glass, in combination with a novel arrangement of reflectors.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a front elevation of the invention as applied to a boiler gage. Fig. 2 is a rear elevation thereof. Fig. 3 is a top plan view thereof. Fig. 4 is a transverse section showing the reflectors in their normal position. Fig. 5 is a similar section showing the position assumed by the reflectors when the gage glass breaks.

In order to better illustrate the manner of using the invention there has been here shown the steam pipe A, water pipe B, packing glands C and gage glass D of an ordinary boiler water gage of the type employing a glass tube.

The attachment itself comprises an elongated shield 10 arcuate in cross section and of sufficient length to extend entirely over the gage glass D. At each end of this arcuate shield is a pair of projecting wings 11.

At 12 are indicated certain arcuate clamps each having one end pivoted to one of the wings of a respective pair as at 13 while the other end is detachably connected to the other wing of said pair by means of a bolt 14. These clamps are provided with serrations 15 around a portion of their inner edge, said serrations embracing the usual rubber gasket 16 which surrounds the respective end of the tube D. Projecting from one of these clamps 12, the same being preferably the bottom clamp, is a spaced pair of arms 17 while the other of said clamps is provided with a similar pair of spaced arms 18. The first mentioned arms 17 are preferably fixed to the respective clamp while the arms 18 are secured to their clamp 12 by suitable bolts 19 so that they may be removed for purposes hereinafter to be described.

The reflectors used with this device each comprise a metallic backing frame 20 of substantially the same length as the shield 10 and these backing frames are provided with flanges 21. Against the back of the frame 20 is a strip of asbestos 22 or other similar heat insulating material. In front of this asbestos strip is an ordinary mirror of the metallized glass type as indicated at 23. Each of these frames 20 has on its top and bottom edges a pintle 24, said pintles being received in suitable openings in the arms 17 and 18. One of the frames 20 has secured to its back spaced lugs 25 each formed of a strip of metal projecting over the side of the frame and having its projecting end bent to form an eye. The remaining frame 20 is provided with spaced spring clips 26 having hooked ends adapted to engage the eyes of the lugs 25, the hook extending around the eye so that it will be frictionally held on the eye. These hooks only extend around said eyes sufficiently far to normally hold the reflectors with their inner edges in contact, the reflectors being positioned angularly with respect to each other when so held as clearly indicated in Fig. 4. The width of the reflectors is such that when moved to the position shown in Fig. 5 the outer edges of said reflectors will contact with the edges of the sides of the shield 10.

As noted in the brief description of the figures the normal position of the reflectors is shown in Fig. 4. Now when the reflectors

are in this position that portion of the gage glass D which is not covered by the shield 10 will be observable from the front of the gage by looking in either reflector as may be noted from an inspection of Fig. 1. If, however, the gage glass bursts the action of the steam will be such as to throw the reflectors to the position shown in Fig. 5, this being accomplished by reason of the fact that the shield 10 will direct the escaping steam and broken glass principally toward the inner edges of said reflectors. When the reflectors are thus automatically actuated their outer edges contact with the sides of the shield 10 so that the escaping steam continues to flow backward between said reflectors and thus is not directed outward to the face of the observer, in case some person happens to be directly in front of the gage noting the height of the water when the glass bursts.

If the mirrors 23 at any time become broken the arms 18 may be released from their clamp 12 by loosening the bolts 19. The mirror frames may then be removed and the broken glass replaced. If, for any reason, it is desired to remove the attachment this may be done by taking out the bolts 14 when the clamps may be swung around bodily and the guard 10 slipped off the glass D.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

1. In an attachment for boiler gages, a frame, means to hold said frame on a water gage, said frame being provided with a shield adapted to fit over the front of the gage glass, a pair of reflectors pivoted to said frame, and means to hold the opposed lateral edges of said reflectors releasably together.

2. In an attachment for boiler gages, a top frame member, a bottom frame member, an arcuate shield connecting said top and bottom frame members, said top and bottom frame members having alined openings, a pair of reflectors, journals on the ends of said reflectors intermediate their sides, said journals being fitted in the openings in said frame members, said reflectors being of such width that their inner sides will mutually contact when the reflectors are swung in one direction and their outer sides will engage the shield when the reflectors are swung in the opposite direction.

3. In an attachment for boiler gages, a top frame member, a bottom frame member, an arcuate shield connecting said top and bottom frame members, said top and bottom frame members having alined openings, a pair of reflectors, journals on the ends of said reflectors intermediate their sides, said journals being fitted in the openings in said frame members, said reflectors being of such width that their inner sides will mutually contact when the reflectors are swung in one direction and their outer sides will engage the shield when the reflectors are swung in the opposite direction, and means to hold the inner sides of said reflectors releasably together.

4. In an attachment for boiler gages, an elongated shield arcuate in cross section, a pair of wings projecting laterally from each end of said shield, arcuate clamps each having one end pivoted to one of the wings of a respective pair, locking means to releasably secure the other ends of said clamps to the remaining wings, a pair of arms carried by one of said clamps, a second pair of arms attached to the remaining clamp, reflectors having journals pivoted in the ends of said arms, whereby said reflectors may revolve in horizontal planes, and a spring catch normally holding said reflectors angularly disposed with reference to each other and with their inner edges contacting opposite the concave side of said shield.

In testimony whereof, I affix my signature, in presence of two witnesses.

CHARLES A. JOHNSON.

Witnesses:
ALFRED JOHNSON,
OLOF LINDBLOM.