

(No Model.)

W. J. BRADY.
MUD DRUM AND BOILER CONNECTION.

No. 600,059.

Patented Mar. 1. 1898.

Fig. 1.

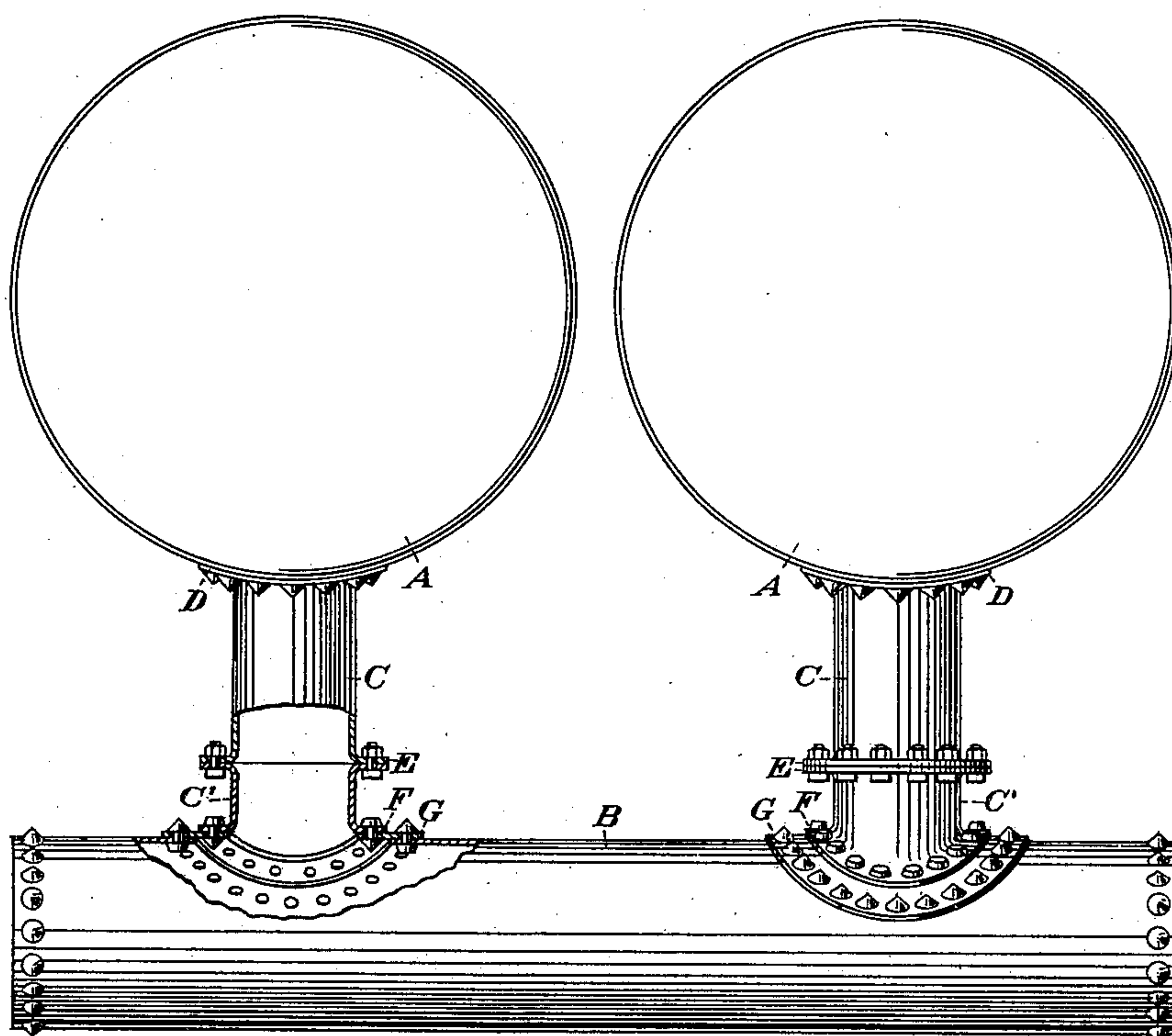
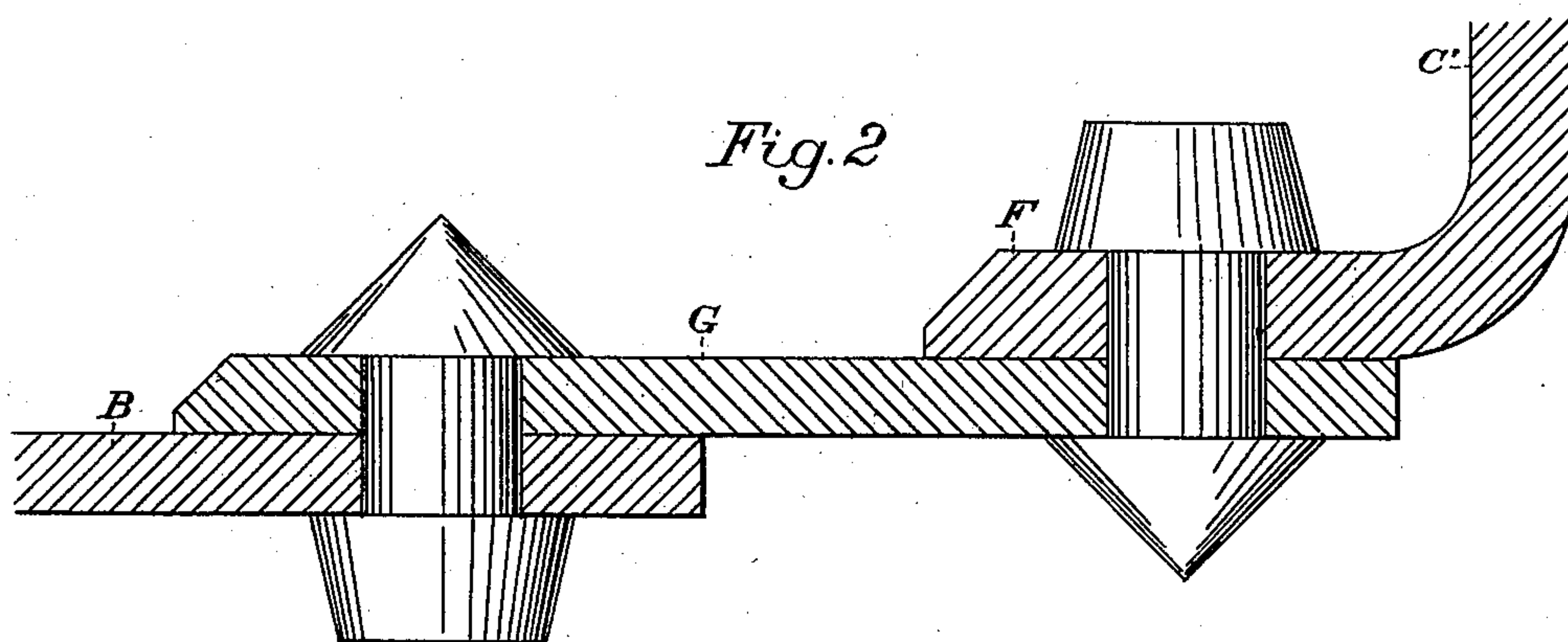


Fig. 2



Witnesses,

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UNITED STATES PATENT OFFICE.

WILLIAM JOSEPH BRADY, OF SAN FRANCISCO, CALIFORNIA.

MUD-DRUM AND BOILER CONNECTION.

SPECIFICATION forming part of Letters Patent No. 600,059, dated March 1, 1898.

Application filed November 11, 1897. Serial No. 658,114. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOSEPH BRADY, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Mud-Drum and Boiler Connections; and I hereby declare the following to be a full, clear, and exact description of the same.

10 My invention relates to an improvement in mud-drum connections with boilers.

It consists, essentially, in a means for detachably connecting the drum with one or more boilers and in a means for making a 15 more perfect joint between the connecting-nozzle and the drum and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

20 Figure 1 is an end elevation of two boilers, showing the connection with the drum. Fig. 2 is an enlarged sectional view of the compensating plate.

Steam-boilers that use water containing 25 much sediment or solid matter are compelled to use "mud-drums," (so called,) which are situated below the boilers, connected therewith by pipes or nozzles, so that the heavy sediment will be carried from the boiler and 30 deposited in this drum, from which it can be blown off or removed from time to time, thus preserving the boiler from the incrustation of this deposit and allowing the deposits to be cleaned out more readily than it could be 35 removed from the boilers.

The connection between the boilers A and the mud-drum B has usually been made by single open nozzles flanged and riveted at the upper ends to the bottom of the boilers 40 and having the lower end correspondingly flanged and riveted to the mud-drum. In order to make these connections, it is necessary to first set the boiler up in place, then the mud-drum is put in place, and the connecting pipes or nozzles are riveted to the boiler and drum. In order to make this connection, the tubes and any other obstructions 45 must be removed from the boiler, so that there is room for men to work inside, or if this is not done the nozzles must first be riveted to the boiler before the tubes are put in and the projecting ends afterward riveted to

the mud-drum after it is in place. As there is no room to get into the mud-drum on account of its small diameter, it is impossible 55 to make a perfect joint, and particularly where the rounded portion of the flange of the nozzle leaves the shell of the drum there is always a space at this point between the shell and the "heel" (so called) of the nozzle, 60 and it is impossible to close this space, because the drum is too small for a man to get inside and hammer the plates together.

In my invention the nozzles are made in two parts, C and C'. These nozzles are preferably made of seamless steel tubing and 65 have the flanges D, formed upon the upper ends of the section C, fitting to the boiler. At the lower end the meeting ends of the sections C and C' have flanges E formed upon 70 them with holes by which they may be bolted together after the boilers have been set in position. Thus the sections C may be properly riveted to the boiler-shell while the latter is still without the interior tubes which 75 fill all the space close to the bottom of the boiler, and a good tight job can be made with a perfect fit at the junction.

The part C' of the nozzle is flanged, as shown at F, and in order to overcome the 80 difficulty previously described of closing the space between the nozzle and shell of the mud-drum I employ compensating plates G. These compensating plates are first riveted to the flanges F of the nozzles, and as both 85 sides are properly exposed the joint between the nozzle-flange and the compensating plate can be properly closed and a good joint made. The compensating plate is afterward riveted to the mud-drum, and the joints are thus 90 very completely made.

When the boiler is set up, the flanges E of the two parts of the nozzle are brought together and bolted, the mud-drum being thus connected up with the boiler without diffi- 95 culty.

As the mud-drum always wears out before the boilers, it will be seen that it can be removed at any time by unscrewing the bolts and taking it away for repair or for the purpose of replacing, and the boilers need not 100 be disturbed.

As the flanges E are entirely below the fire-line of the boiler, the joints are not subjected

to the heat of the fire and they are always in position to be easily reached. By this construction the whole of the work can be done in the shop, the portion C of the nozzles being fitted and riveted to the boiler and the portion C' being riveted to the mud-drum, so that it is only necessary to bolt the parts together after the boilers are set.

Where the mud-drums are connected with two or more boilers, the difficulty in making the connection is very great under the old form, and the present construction overcomes this.

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

1. A nozzle connection between boilers and mud-drum having flanges at the lower ends and compensating plates to which said flanges

are fitted and riveted, said compensating plates being afterward riveted to the mud-drum.

2. A connection between boilers and the mud-drums thereof, consisting of sectional nozzles and compensating plates, said nozzles each having the upper section flanged and riveted to the boiler and the lower section flanged and riveted to the compensating plate which is afterward riveted to the mud-drum, and the intermediate flanges by which the adjacent ends of the nozzles are detachably bolted together.

In witness whereof I have hereunto set my hand.

WILLIAM JOSEPH BRADY.

Witnesses:

GEO. T. KNOX,
JOHN TRAYNOR.