B. F. SAFBERG.

PIPE FITTING.

APPLICATION FILED APR. 13, 1912.

1,117,251. Patented Nov. 17, 1914.

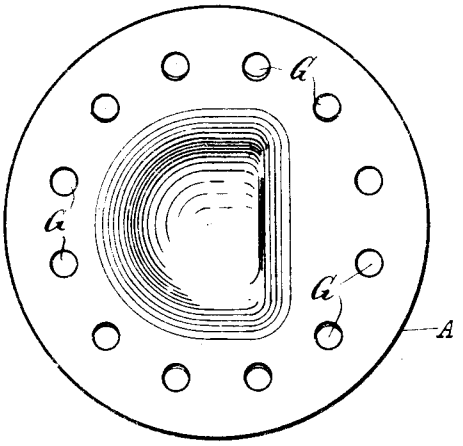

Fig. 2

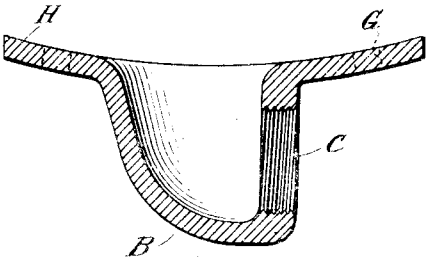

Fig. 4.

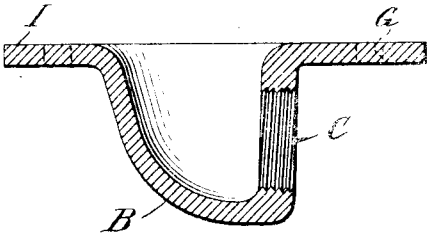

Fig. 5.

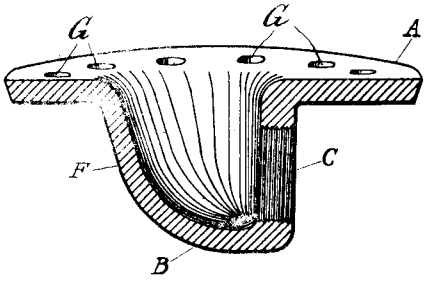

Fig. 1

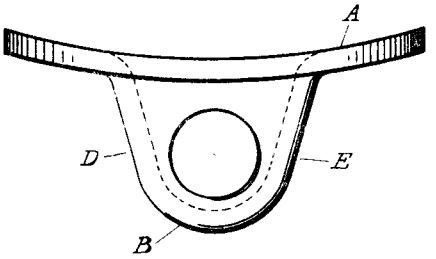

Fig. 3

Witnesses.

Geo. C. Chaney

Charles A. Jones

Inventor.

Bern F. Safberg

By Gifford & Bull

His Attorneys

UNITED STATES PATENT OFFICE.

BROR F. SAFBERG, OF BARBERTON, OHIO, ASSIGNOR TO THE BABCOCK & WILCOX COMPANY, OF BAYONNE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PIPE-FITTING.

1,117,251. Specification of Letters Patent. Patented Nov. 17, 1914.

Application filed April 13, 1912. Serial No. 690,512.

To all whom it may concern:

Be it known that I, BROR F. SAFBERG, a citizen of the United States, residing in the city of Barberton, county of Summit, and State of Ohio, have invented certain new and useful Improvements in Pipe-Fittings, of which the following is a specification.

My invention relates to a pipe fitting adapted to uses where it is desirable to have one side of the fitting flanged, and the other side for connection to a pipe or tube, as in the case of a blow-off connection for boiler drums or boxes.

The invention will be understood by reference to the accompanying drawings in which—

Figure 2 is a top view of the fitting; Fig. 1, a central transverse vertical section of Fig. 2; Fig. 3, an elevation of that side to which the pipe or tube is connected; Fig. 4, a vertical transverse section of a form having the flange curved for attachment to a drum in which the pipe or tube will extend at right angles to the axis of the drum; and Fig. 5, a vertical transverse section of a form having a flat flange.

Similar reference letters indicate similar parts in the several views.

Heretofore, two kinds of fittings have been used for blow-off connections to mud drums of boilers, one for high pressure work, that is, for anything above one hundred and sixty pounds working pressure; and one for low pressure work, that is, for one hundred and sixty pounds working pressure and below. The former consists of a pad riveted to the bottom of the drum shell, to which pad is studded a special cast steel elbow to which a pipe or tube is connected. The low pressure fitting consists of a pad riveted to the bottom of the drum and having a central threaded opening into which is screwed an extra heavy pipe nipple. To this nipple is attached a cast iron elbow, and to the outlet side of the elbow the blow-off pipe is screwed.

The present fitting is adapted for all pressures. It consists of a combined flange and elbow in one, and is adapted to any conditions where a curved or flat flange is required. In Figs. 1, 2 and 3 I have shown a form having a flange A curved to fit the curvature of the drum to which it is to be attached, the elbow being formed by projecting the middle portion B of the flange, the sides D, E and F being slightly tapered to admit of manufacture by the use of dies. The elbow is flattened on the side C parallel to the transverse axis of the drum to which the fitting is to be attached, and said side has an opening for the reception of a pipe or tube. The wall of this opening is preferably threaded so that the pipe or tube may be screwed to the elbow. In this form the pipe or tube will extend longitudinally of the drum, as in blow-off connections for the Rust boiler. The flange is provided with holes G for the reception of rivets or studs.

In Fig. 4, flange H is curved for attachment to a drum in which the pipe or tube secured to the fitting extends at right angles to the axis of the drum, as in the Stirling boiler.

In Fig. 5 the flange I is flat for attachment of the fitting to a square or rectangular box, the fitting being turned so that the pipe or tube attached thereto may extend transverse of or parallel to the axis of the box.

The fittings above described are of forged steel made under a drop hammer, and forged into shape from one piece of metal, and they may be readily removed or attached to the drum or box. The present fitting obviates the objections incident to prior constructions in the following: 1st. It cheapens the construction materially as it lessens the number of parts; 2nd. It has one less joint than the high pressure fitting heretofore used, that is, the joint between the pad riveted to the drum and the elbow; 3rd. It has two less joints than the low pressure fitting heretofore used, that is, the joint between the pad and the nipple, and that between the latter and the cast iron elbow. The lessening of the number of joints is of great advantage because it lessens leakage and liability to corrosion; 4th. Due to its design and construction, the present fitting makes a more permanent and mechanical job as it contains in itself all the parts necessary for the purpose for which it is intended.

What I claim and desire to secure by Letters Patent of the United States is:—

1. A forged steel pipe fitting comprising in one integral piece an elbow having an attaching flange surrounding one of its openings, and the other of its openings in a flat wall lying in a plane substantially at right angles to the attaching flange.

2. A forged steel pipe fitting comprising in one integral piece an elbow having a curved attaching flange surrounding one of its openings, and the other of its openings in a flat wall lying in a plane substantially at right angles to the attaching flange.

3. A forged steel pipe fitting comprising in one integral piece a tapered elbow having an attaching flange surrounding one of its openings, and the other of its openings in a flat wall lying in a plane substantially at right angles to the attaching flange.

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

BROR F. SAFBERG.

Witnesses:
A. A. KEPLER,
E. W. ARNOLD.