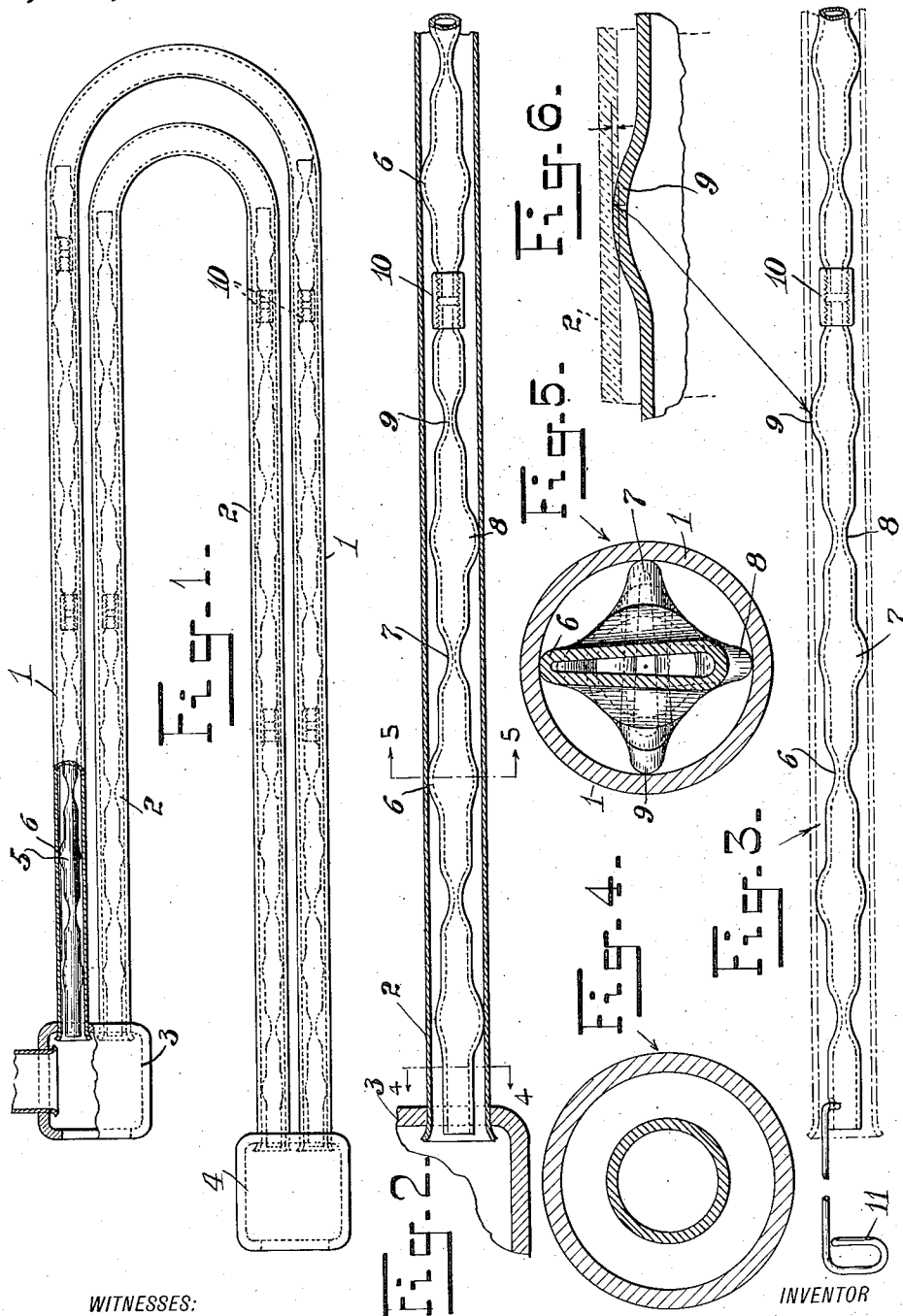


J. PRENTICE.
STEAM SUPERHEATER.
APPLICATION FILED JULY 21, 1915.

1,242,473.

Patented Oct. 9, 1917.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN PRENTICE, OF BAYONNE, NEW JERSEY, ASSIGNOR TO THE BABCOCK & WILCOX COMPANY, OF BAYONNE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

STEAM-SUPERHEATER.

1,242,473.

Specification of Letters Patent.

Patented Oct. 9, 1917.

Application filed July 21, 1915. Serial No. 41,028.

To all whom it may concern:

Be it known that I, JOHN PRENTICE, a citizen of the United States, residing at Bayonne, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Steam-Superheaters, of which the following is a specification.

My invention relates to steam superheaters and more particularly to a core for use in superheater tubes, and will be understood by reference to the accompanying drawings in which Figure 1 is a side view, partly broken away, of two superheater tubes and the boxes into which they are expanded; Fig. 2 a longitudinal section through a portion of one of the tubes; Fig. 3 a side view of a portion of the core, the view being at right angles to the core of Fig. 2, and the tube shown in broken lines; Figs. 4 and 5 transverse sections on the planes of the lines 4-4 and 5-5 respectively of Fig. 2; and Fig. 6 an enlarged section through one of the core projections. Similar reference numerals indicate similar parts in the several views.

In the drawings the numerals 1 and 2 designate two U-shaped superheater tubes the ends of which are expanded into boxes 3 and 4. The core 5, which is placed in each superheater tube, is provided with a series of projections 6, 7, 8 and 9 made by flattening the core with a suitable tool. The form of each flattened part is shown in section in Fig. 5, the flattened part in each case being formed at one side of the center line of the core, so that it shall bear only against one side of the tube. This permits the use of a core of smaller diameter than a core having the flattened part symmetrical with the center line. As shown, in Figs. 2 and 5 the projections 6 and 8 are in the same plane and extend in opposite directions. Similarly the projections 7 and 9 are in the same plane and extend in opposite directions at right angles to the plane of the projections 6 and 8. As viewed in Fig. 5, the projections are alternately in planes perpendicular to the plane of the paper which intersect at right angles to each other. As shown, in Fig. 2, the flattened parts are placed at substantially regular intervals along the core.

The major axis of each projection is of such length that the distance from the center line of the core to the outer end of the projection is slightly greater than the radius of the tube, as indicated in Fig. 6, so that when the core is inserted in the tube there will be a slight spring of the core and the latter will be held in place by the frictional engagement of the projection with the inner surface of the tube. The core is especially adapted to horizontal superheater tubes, although it may be used with vertical or inclined tubes. The core may be made up of sections, each section having a reduced end adapted to be engaged by a coupling sleeve 10 or other suitable means.

In Fig. 3 I have shown a tool 11 adapted to be inserted into an opening in the end of the core to effect its removal from the tube.

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

1. A core for superheaters comprising a tube having spaced portions compressed to project laterally in substantially opposite directions and adapted to hold the core in position by frictional engagement with the inner wall of the superheater tube.

2. A core for superheaters comprising a tube having spaced portions compressed to project laterally in angular relation to each other.

3. A core for superheaters comprising a tube having substantially regular spaced portions compressed to project alternately in planes at angles to each other and adapted to bear alternately against only one side of the tube.

4. A hollow core for superheater tubes having flattened parts unsymmetrical with reference to the center line of the core, extending alternately in planes at angles to each other and adapted to bear alternately against only one side of the tube.

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

JOHN PRENTICE.

Witnesses:

EDWARD A. BANNON,
JOHN H. CRONAN.