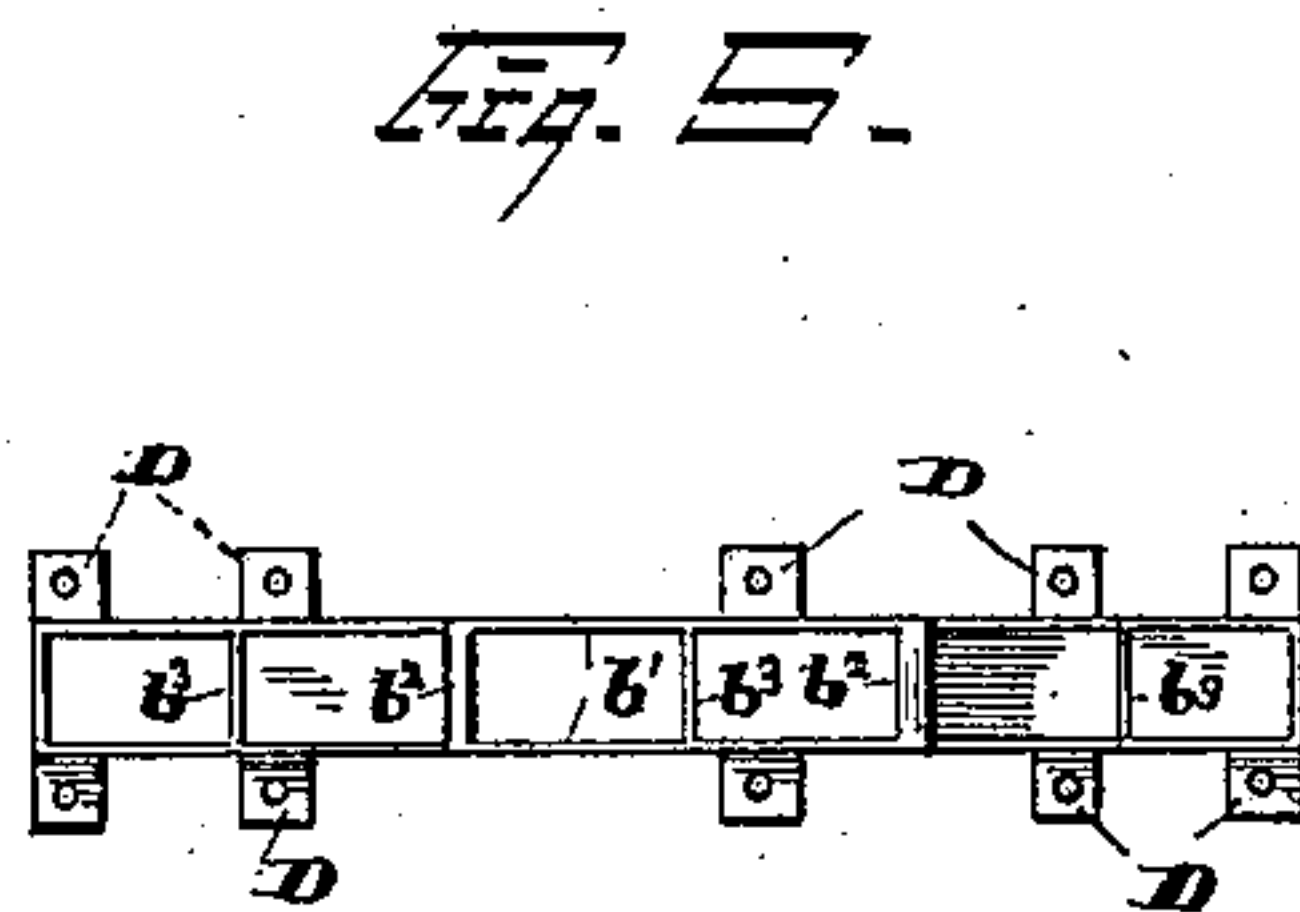
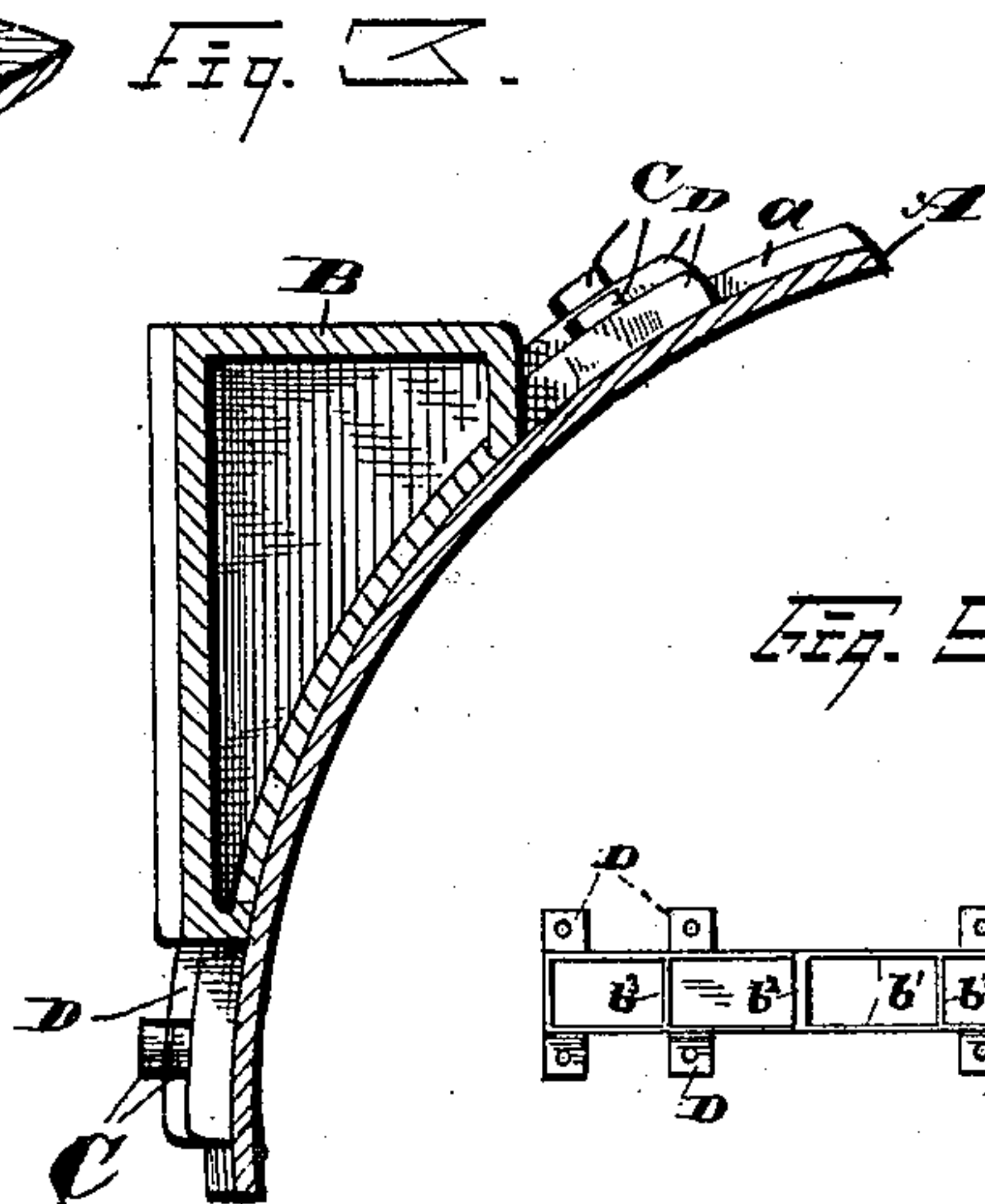
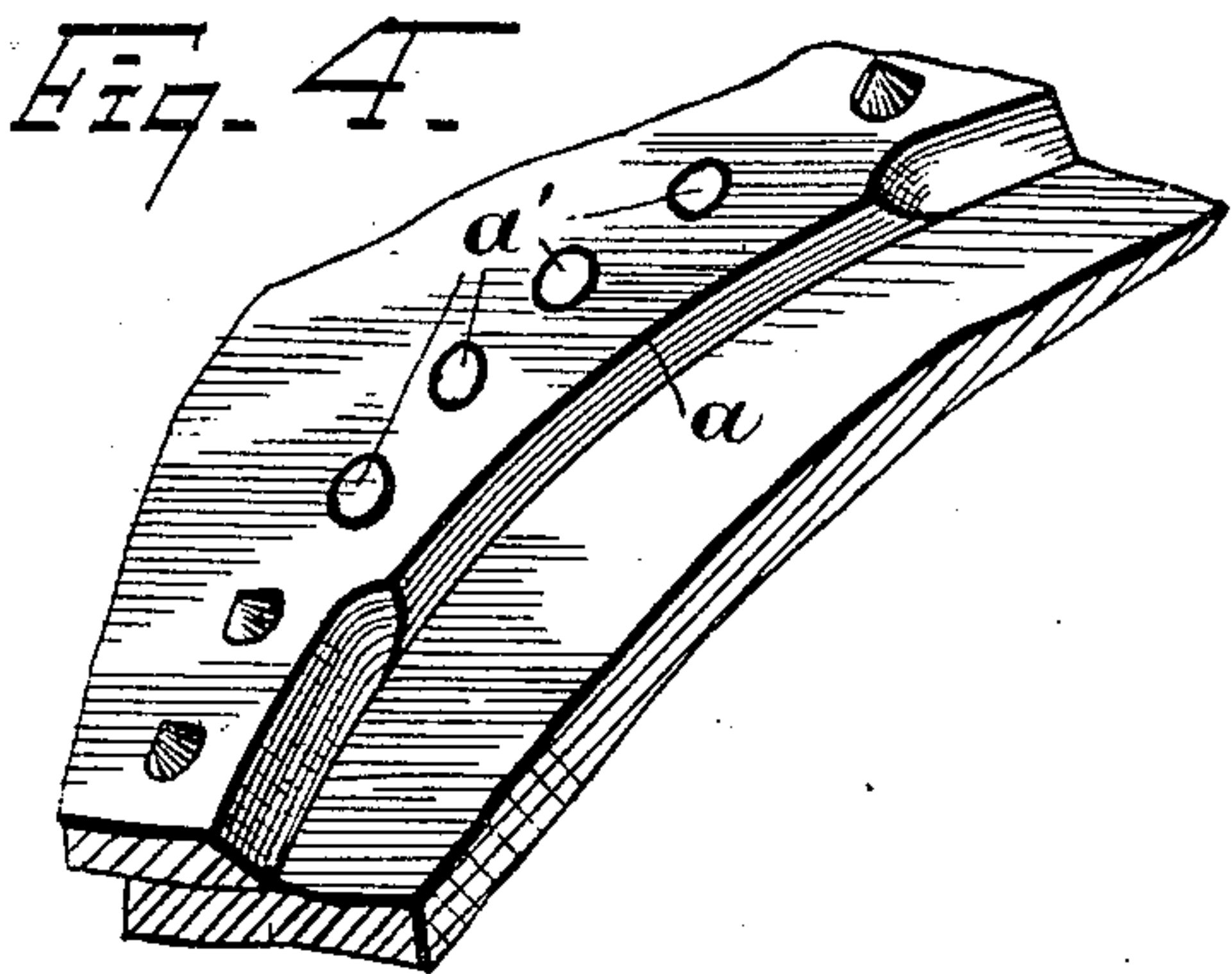
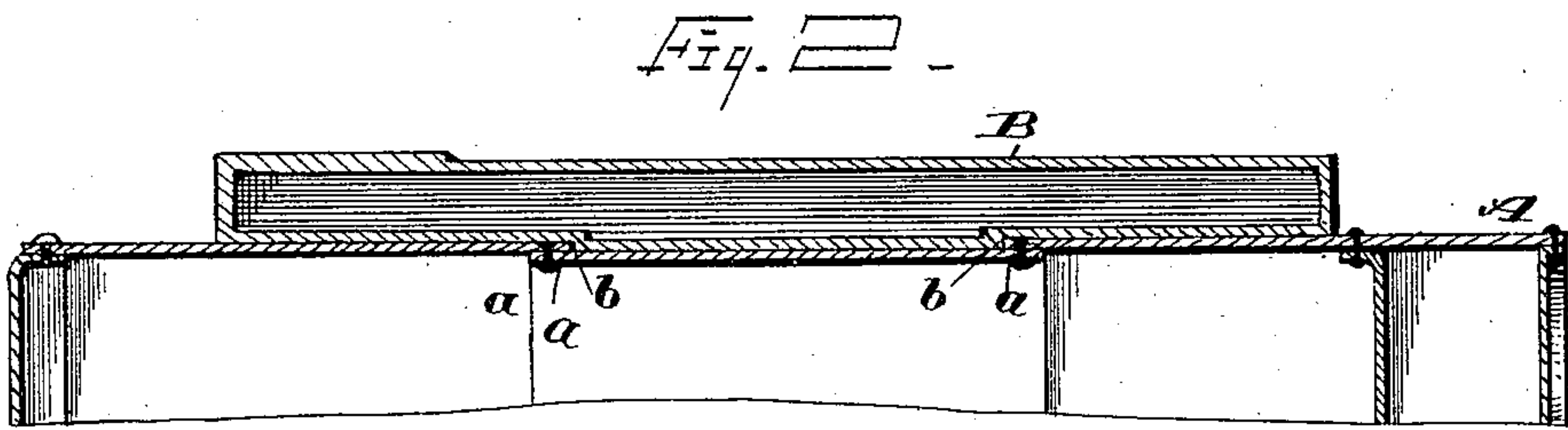
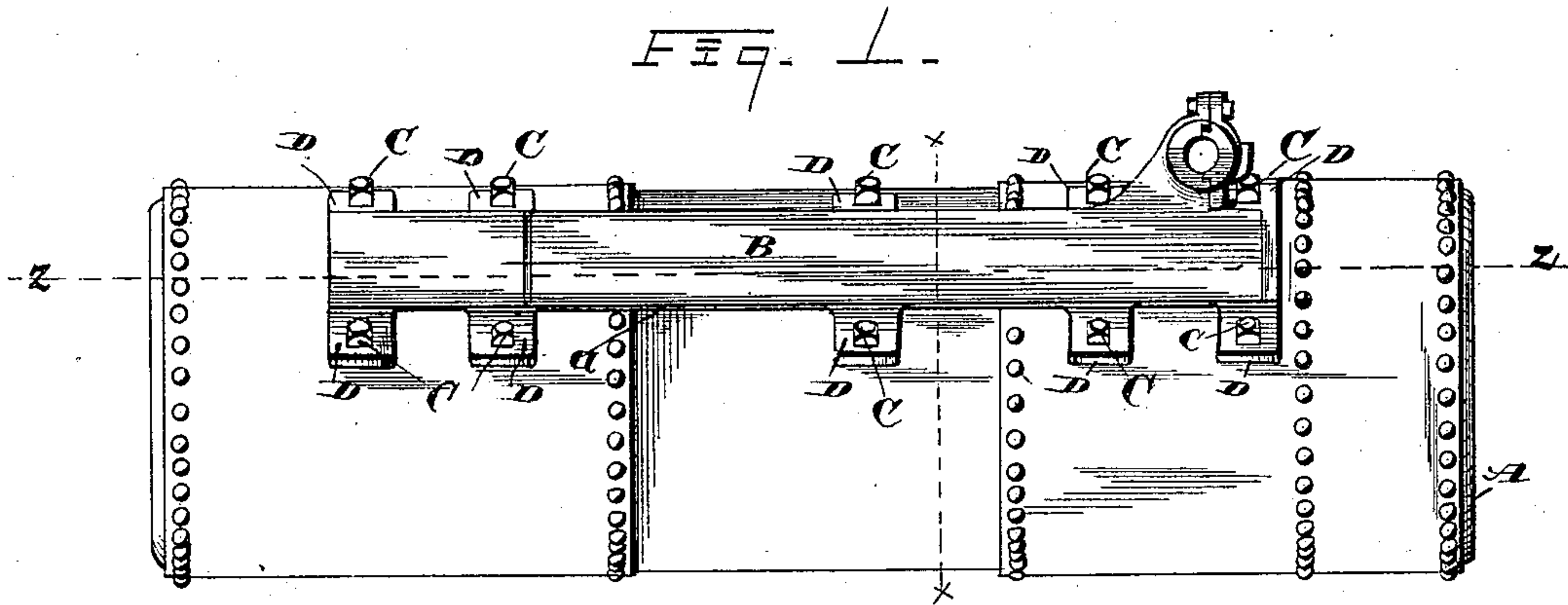


(No Model.)

R. SCHEIDLER.
ENGINE BED PLATE.

No. 333,342.

Patented Dec. 29, 1885.



WITNESSES
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UNITED STATES PATENT OFFICE.

REINHARD SCHEIDLER, OF NEWARK, OHIO.

ENGINE BED-PLATE.

SPECIFICATION forming part of Letters Patent No. 333,342, dated December 29, 1885.

Application filed October 13, 1885. Serial No. 179,793. (No model.)

To all whom it may concern:

Be it known that I, REINHARD SCHEIDLER, of Newark, in the county of Licking and State of Ohio, have invented certain new and useful

5 Improvements in Combined Heater and Engine Bed-Plate; 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 pertains to
10 make and use the same.

My invention relates to improvements in a combined heater and engine bed-plate for a portable engine; and it consists in certain features of construction and in combination of
15 parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a boiler with my improved heater and bed-plate attached. Fig. 2 is a longitudinal section on the line of $z z$, Fig. 1, said
20 section being on a plane extending radially with the boiler. Fig. 3 is an elevation in transverse vertical section on the line of $x x$, Fig. 1. Fig. 4 is a view in perspective showing a
25 portion of one of the laps of the boiler-plates where the bed-plate is located.

A represents the boiler, and B the combined heater and engine bed-plate. The part B on the side next the boiler is concaved to fit the
30 boiler nicely around the edges of the heater, so as to prevent a current of air and consequent loss of heat between the boiler and heater. (See Fig. 3.) I make the shell of the boiler of three sheets, with the middle sheet lapping in-
35 side the end sheets, as is customary in such boilers. The rivet-heads that come under the heater are usually countersunk flush with the face of the boiler, (see Fig. 4,) although the
40 bed-plate might be countersunk so as to fit over the ordinary rivet-heads, if so preferred. The edges of the outer plates at the seams under the heater are not beveled for calking, but so-called "blind calking" is employed—that is, the under edge of the outer sheet is calked
45 or upset, leaving substantially square shoulders a on the boiler-sheets. The shoulders b of the bed-plate and heater are made to fit nicely between the shoulders a , by means of which the strain endwise caused by the motion
50 of the engine is sustained by these abutting shoulders, thereby greatly relieving the bolts C, that secure the heater to the boiler. The

heater and bed-plate is provided with suitable flanges, legs, lugs, ears, or other suitable devices, D, through which the bolts C pass to
55 secure the structure to the boiler.

Heretofore much difficulty has been encountered in permanently securing such devices to the boiler, on account of the excessive strain brought to bear on the bolts by reason of the
60 motion of the engine and the unequal expansion and contraction of the parts. By fitting the shoulders b of the bed-plate between the edges of the boiler-sheet, as aforesaid, this difficulty is entirely removed; also, by reason of
65 the bed-plate fitting the boiler, the boiler-sheets are prevented from buckling. With this class of engines the heater and bed-plate were usually separated from the boiler far enough to clear the rivet-heads, the flanges, legs, or lugs
70 only coming in contact with the boiler. This left a space usually from one-half to three-fourths of an inch, through which a current of air, set in motion by the heat of the boiler, was continually passing. Such currents carry away
75 much heat, the latter being entirely wasted. By fitting the heater and bed-plate to the boiler, as aforesaid, the engaging parts protect each other, so that there is no radiation of heat from between these parts, and the heater is
80 kept approximately at the same temperature as the boiler. The result is, the feed-water is introduced into the boiler at a higher temperature than it would otherwise be, causing less expansion and contraction in the boiler, and
85 avoiding the disastrous results of feeding cold or moderately-heated water into an overheated boiler caused by low water.

As it is hardly practicable to make the entire under surface of the heater fit the boiler
90 with such accuracy as is desirable, I leave the outer edges, b' , a trifle "full," and arrange lateral chipping-pieces b^2 where the shoulders b abut the edges of the boiler-plates, and leave other chipping-pieces—for instance, b^3 —if preferred. (See Fig. 5.) These chipping-pieces
95 are slight in thickness, and can be easily fitted accurately to the boiler.

What I claim is—

1. The combination, with a portable boiler, 100 the outer sheets of which at the parts where the engine-bed is seated have square edges, of an engine bed-plate, the latter having shoulders to abut against the said edges of the boiler-

plates, the parts being arranged substantially as indicated, whereby the end-thrust of the bed-plate is sustained wholly or in part by the edges of the boiler-sheets, so as to relieve the securing-bolts from excessive strain.

2. The combination, with a portable boiler, of a combined engine bed-plate and heater, the body of the latter having a concaved seat made to fit the boiler, the parts being arranged substantially as indicated, whereby the boiler and heater are kept at approximately the same temperature, thus avoiding an unequal expansion and contraction of the parts, and securing a degree of heat in the feed-water approximating the temperature of the water in the boiler, substantially as set forth.

3. The combination, with a portable boiler, the outer sheets of which have square edges and preferably countersunk rivet-heads at the parts where the engine-bed is seated, of a combined heater and engine bed-plate, said heater and bed-plate being concaved and made to fit the boiler, and having shoulders made to abut against the edges of the boiler-sheets, the parts being arranged substantially as set forth. 20 25

In testimony whereof I sign this specification, in the presence of two witnesses, this 29th day of September, 1885.

REINHARD SCHEIDLER.

Witnesses:

EDWARD KIBLER,
WM. E. MILLER.