

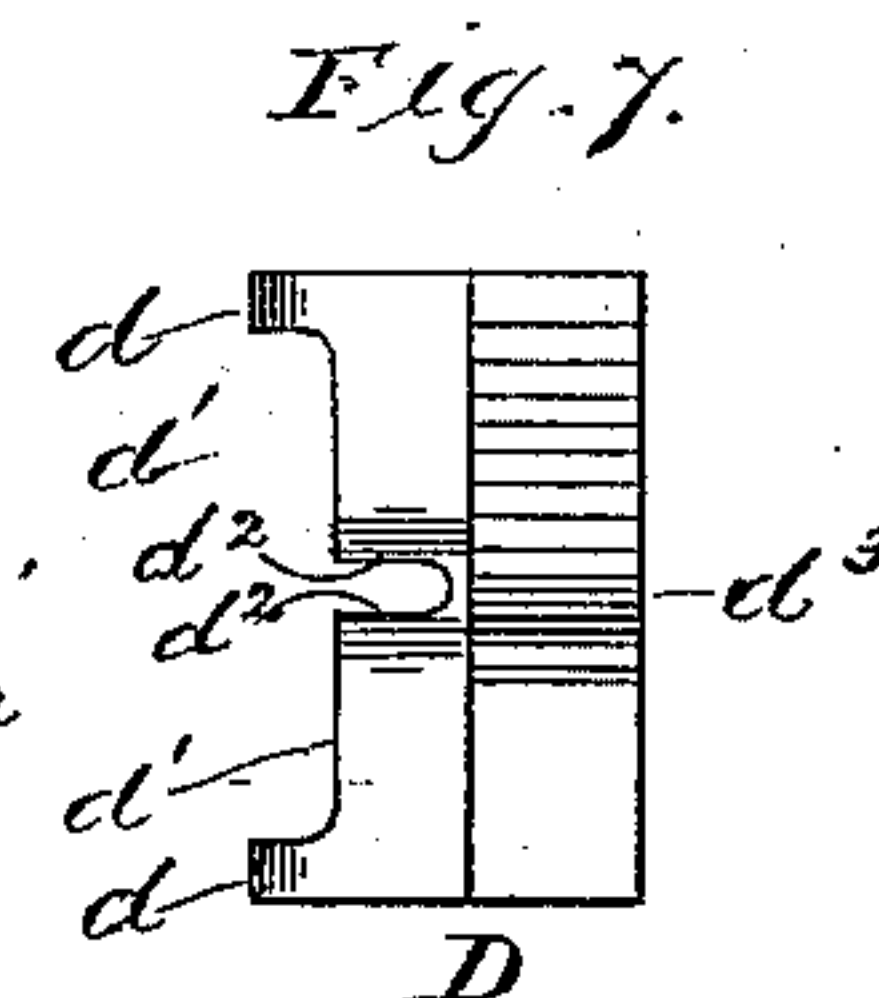
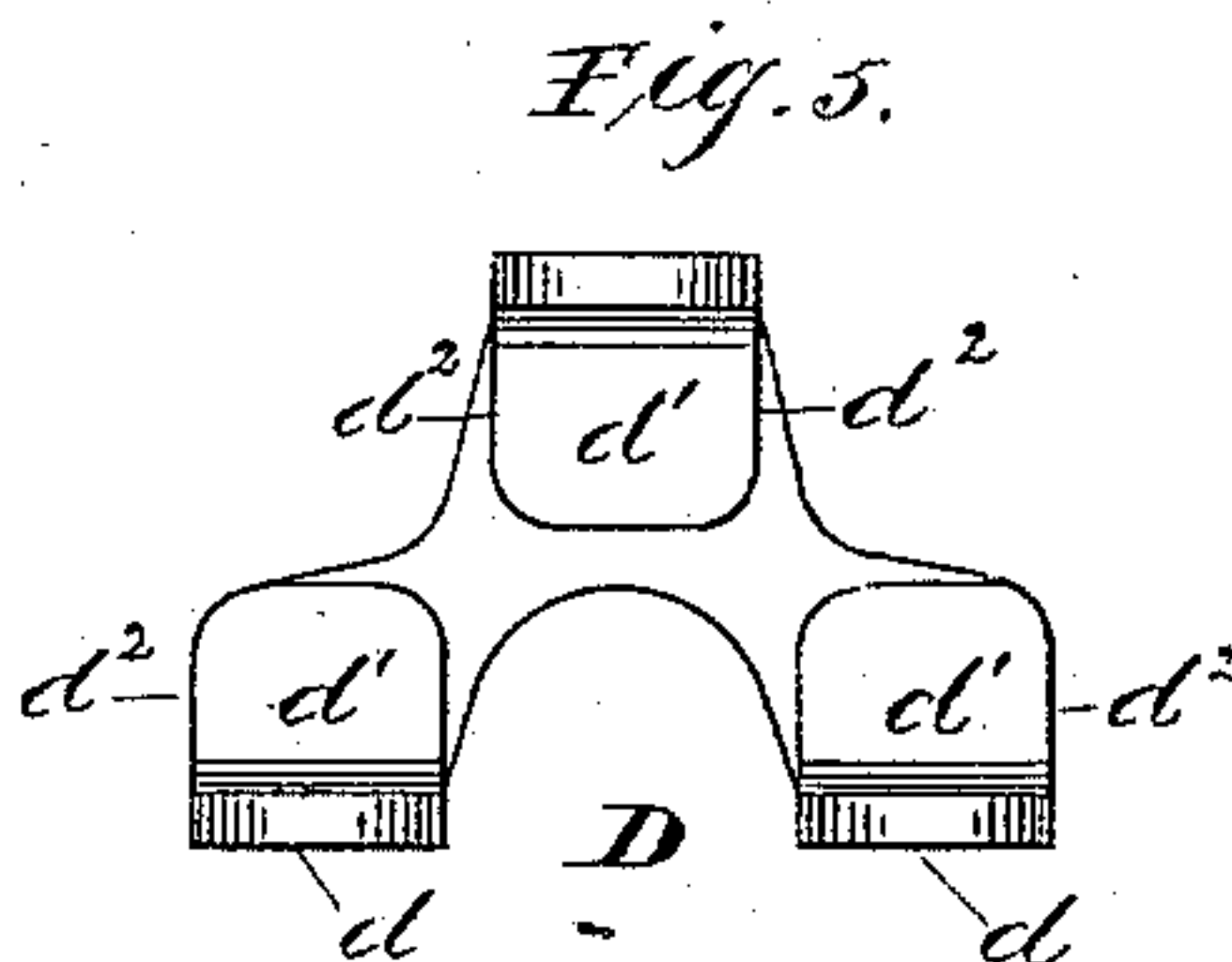
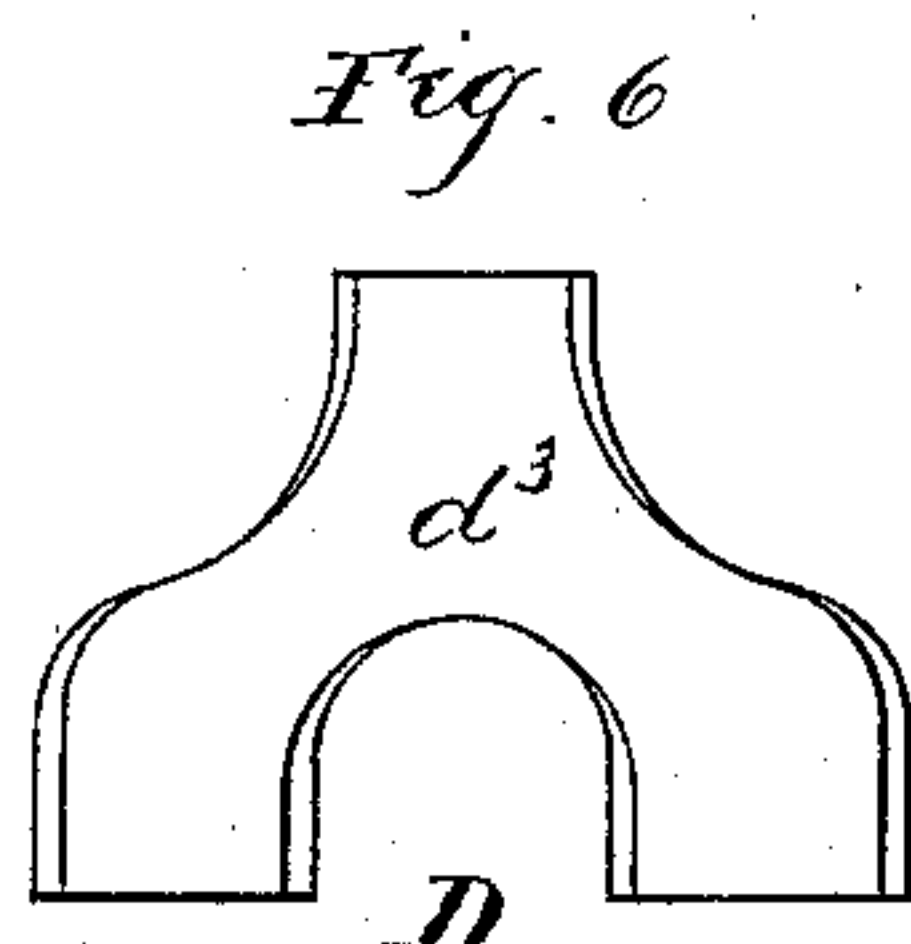
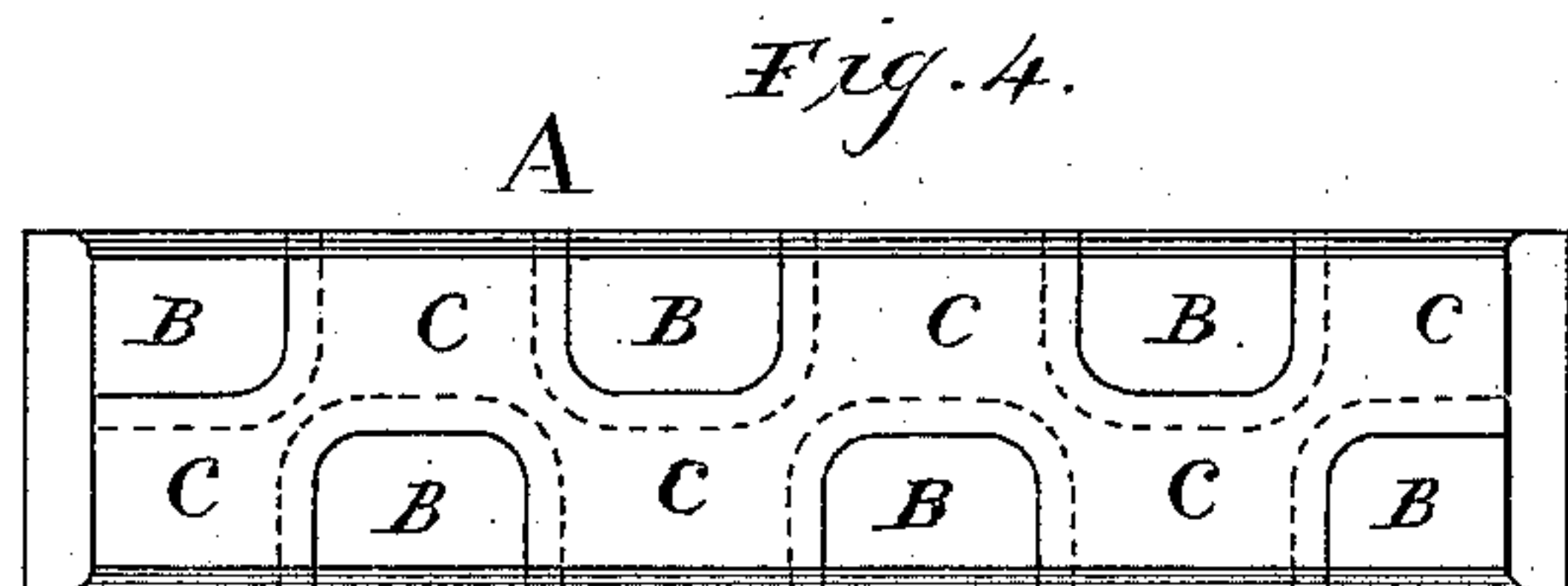
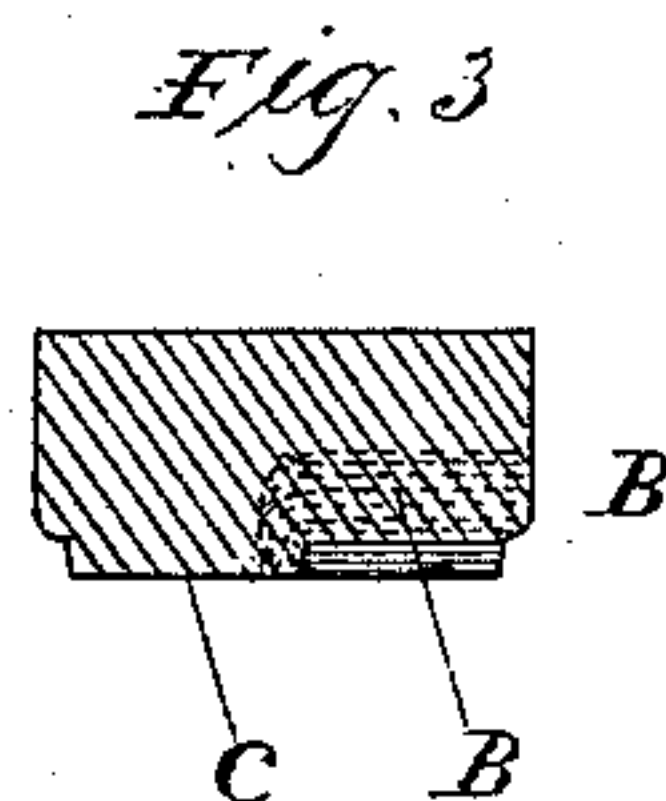
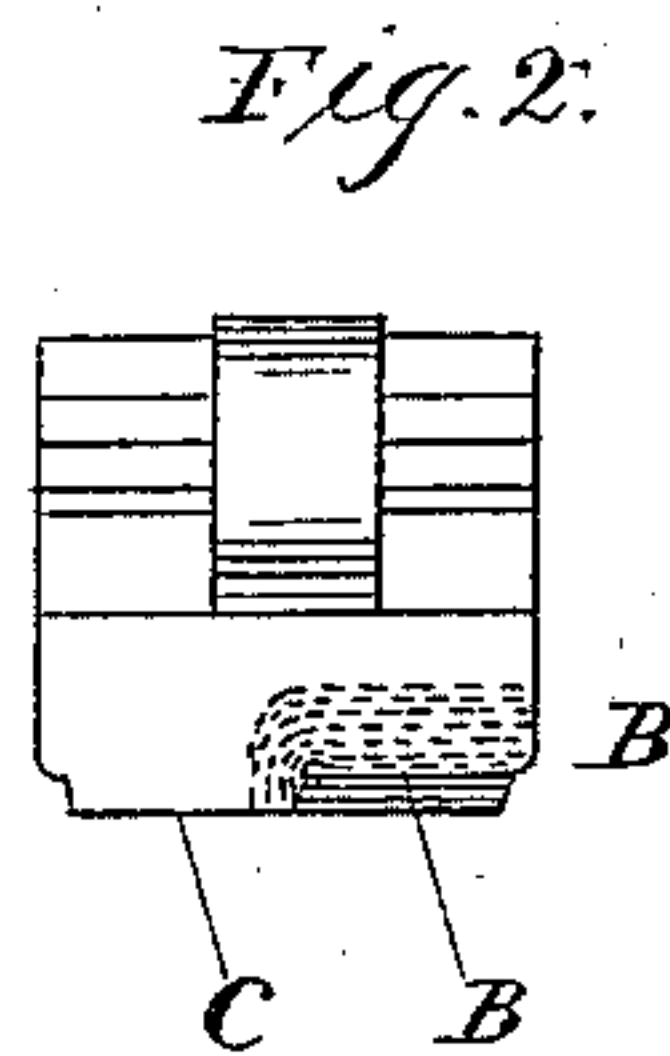
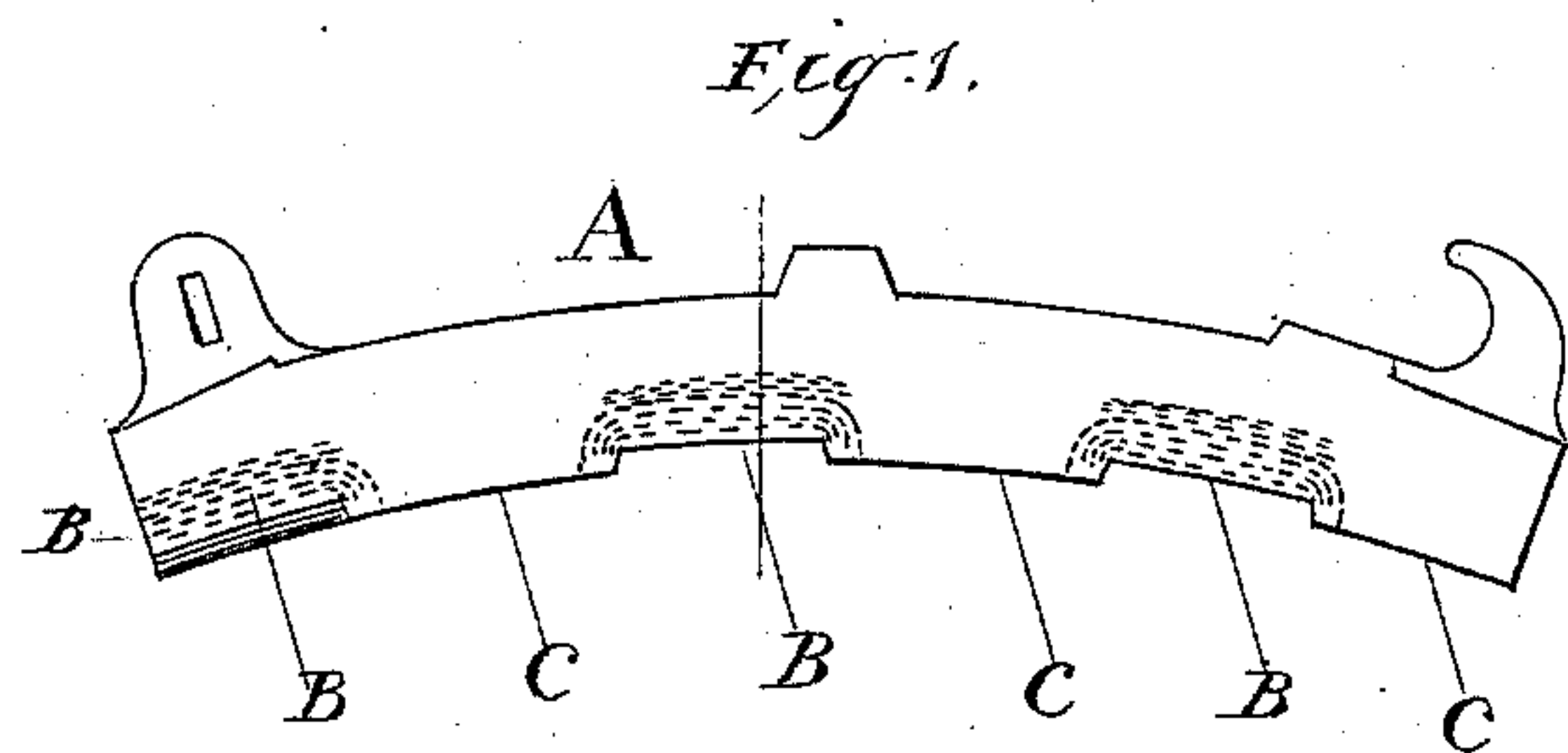
(No Model.)

J. J. LAPPIN.

BRAKE SHOE.

No. 312,734.

Patented Feb. 24, 1885.



Witnesses

John Elliott
G. Elliott

Inventor

John Joseph Lappin
by his atty
William Gill

UNITED STATES PATENT OFFICE.

JOHN JOSEPH LAPPIN, OF TORONTO, ONTARIO, CANADA.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 312,734, dated February 24, 1885.

Application filed November 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN JOSEPH LAPPIN, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a new and useful Improvement in Brake-Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to that class of brake-shoes which are constructed specially to insure durability in the wear of the shoe and to brake the cars without skidding the wheels.

This invention specially relates to a brake-shoe for which I obtained a patent in Canada, No. 17,213, July 11, 1883, and in Great Britain, No. 2,056, January 24, 1884, and in the United States, No. 292,827, February 5, 1884, and the present invention I consider to be an improvement on the aforesaid patents.

The improvement consists in its being more simple in construction and cheaper in the manufacture thereof than the shoe forming the subject of the above-mentioned patents. It is equally efficacious in braking the cars without skidding the wheels, and also equal in durability to the shoe forming the subject of my former patents, hereinbefore referred to.

In the accompanying drawings, Figure 1 is a side view of my shoe. Fig. 2 is an end view of the same. Fig. 3 is a transverse section through the line *a b* in Fig. 1. Fig. 4 is a face view of the shoe. Fig. 5 is a face view of the chill. Fig. 6 is a top view of the chill; and Fig. 7 a side view of the same.

Similar letters of reference indicate similar parts in all the views and in this specification.

A represents the shoe; B, the chilled portions in the face of the same; C, the unchilled portions; D, the chill-pattern, having three chills in the face of the same; *d*, the projections which pass up the side of the wooden pattern in the mold; *d'*, the faces of the pattern-chill; *d''*, the edge of the chills, and *d'''* the top, which connects the chills and may be used as a handle for lifting the same when placing the chills in the face of the shoe-pattern in the sand.

Referring to Figs. 1, 2, 3, it will be seen that the soft portions C in the face of the shoe project out from the chilled portions B therein, and referring to Fig. 4 it will be seen that there are six chilled portions in the face of

the shoe, so located therein that the chilled portions from each side of the shoe will reach into and somewhat beyond a longitudinal center line of the shoe, so that the chilled portions will act upon the full face of the wheel when applied thereon. It will also be seen that each chilled portion in the face of the shoe is opposite to an unchilled portion, thereby providing a continuous waved rib of soft metal running along the middle of the shoe, and thereby strengthening the same. It will further be seen that the soft projecting metal C will wear down to a perfect fit on the wheel before the chilled portions come in contact therewith, and thereby protecting the shoe. The chill-pattern being made with three chills connected so that the said three chills can be handled and put in the mold in the same time that a single chill can be so handled, considerably reduces the labor in the molding of the shoe.

The operation of molding the shoe in the foundry is as follows: The shoe-pattern is laid down on a follow-board on its back. The chills are then placed in the face of the pattern. A mold-box is now placed on the follow-board and sand filled therein and rammed closely around the pattern and the chills and filled to the top of the box, closely packed, and smoothed off, when a bottom board is placed thereon and clamped and turned over. The follow-board is now removed, and the cope or upper half of the box is now placed on the lower half and filled with sand, and the gate—for the molten metal—formed in the ramming thereof. The gate-pin is now removed and the cope or upper half of the box taken off. The wooden pattern is now carefully removed out of the sand, the chills remaining therein with their faces uppermost. The mold being now complete, the cope or upper half of the box is replaced in position and clamped, and it is ready for pouring the molten metal in the mold.

Referring to the Figs. 5, 6, 7, which are separate views of the chill-pattern D, having three distinct chills connected in one piece, each chill having its projection *d*, which passes up on the side of the wooden pattern of the shoe, when in the sand, the face of each chill is marked *d'*, the outer edge thereof *d''*, and the top or handle *d'''*.

With the preceding description of the operation in the molding of the shoe the process of the manufacture is clearly illustrated.

I do not limit myself to any specific number of chilled portions in the face of my shoe.

I specially claim—

A brake-shoe, A, with chilled portions B on each side in the face of the shoe, each chilled portion B being opposite to an unchilled portion, C, the soft metal being on each side and

around the inner edge of the chilled portion, thereby providing a continuous waved rib of soft metal running along the middle of the shoe and thereby strengthening the shoe, substantially as shown and described, as a new manufacture.

JOHN JOSEPH LAPPIN.

Witnesses:

WILLIAM GILL,

THO. WOODBRIDGE.