

(No Model.)

J. J. LAPPIN.

BRAKE SHOE.

No. 324,851.

Patented Aug. 25, 1885.

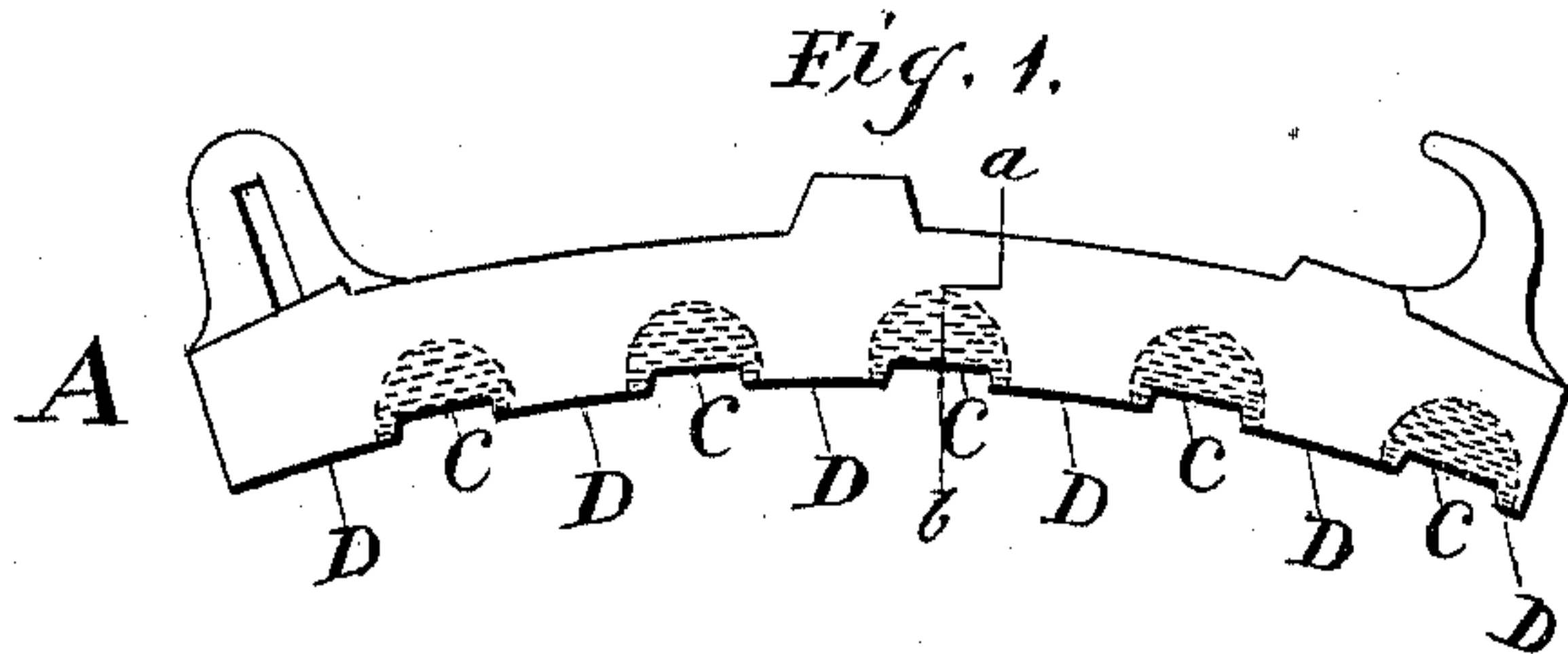


Fig. 4.

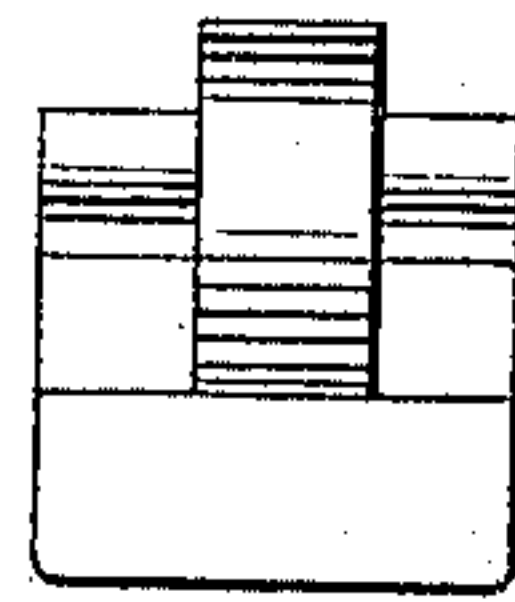


Fig. 2.

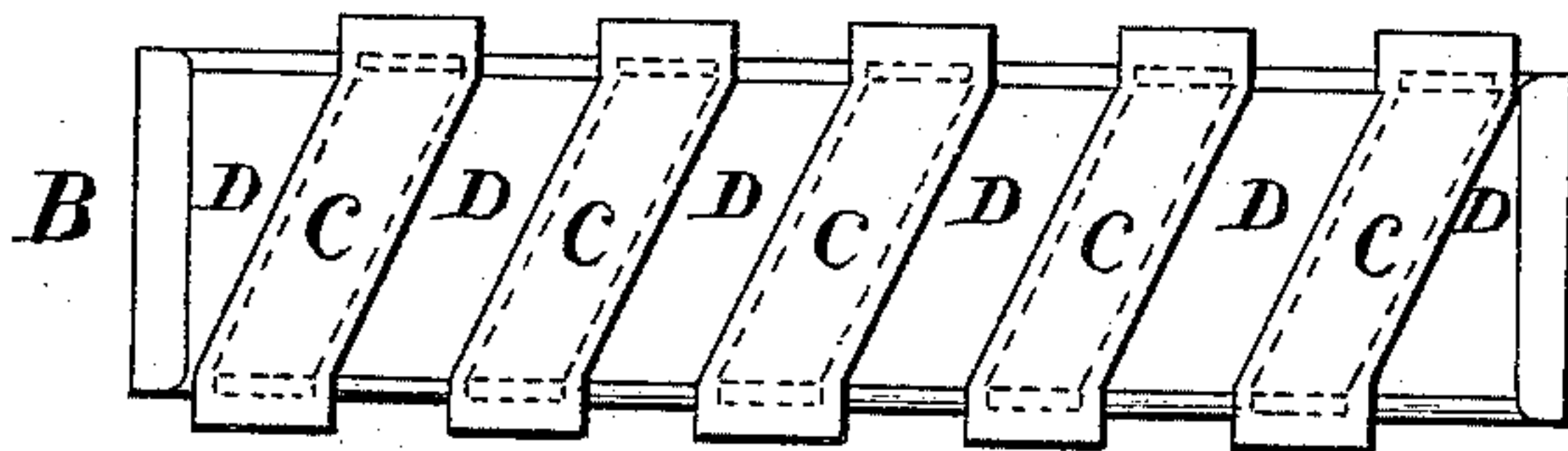


Fig. 6.

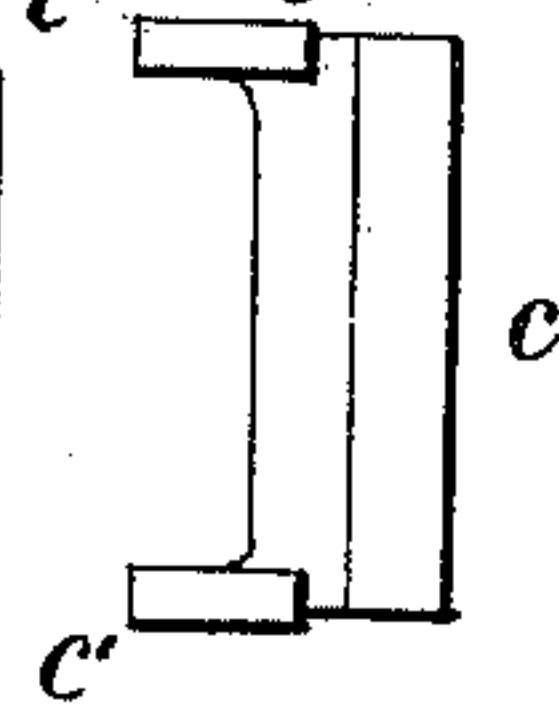


Fig. 5.

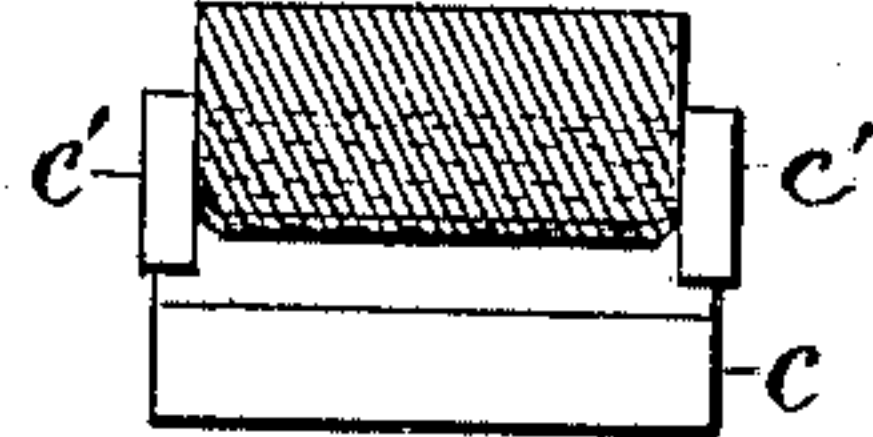
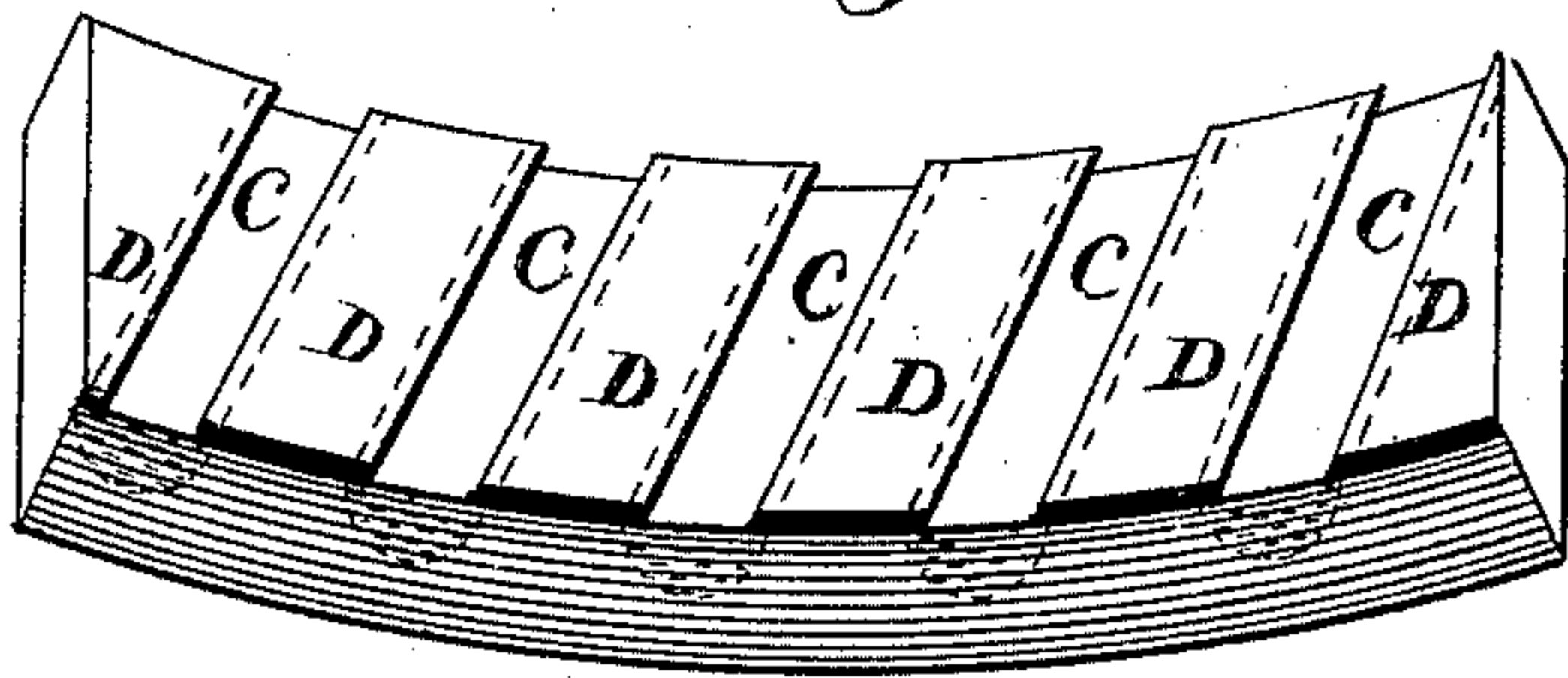


Fig. 7.



Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN JOSEPH LAPPIN, OF TORONTO, ONTARIO, CANADA.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 324,851, dated August 25, 1885.

Application filed February 2, 1885. (No model.) Patented in Canada November 29, 1884, No. 20,658.

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 certain new and useful Improvements in Brake-Shoes for Railway-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to that class of brake-shoes which are constructed specially for the purpose of increasing the durability in the wear of the shoe, and to brake the cars without skidding the wheels.

The invention relates to a brake shoe for which I obtained a patent in Canada, No. 17,213, dated July 11, 1883, and to a patent which I obtained in the United States, No. 292,827, dated February 5, 1884, and also to a patent for a brake-shoe which I obtained in Canada, No. 20,658, dated November 29, 1884. The invention described in this application I consider to be an improvement on these patents herein referred to.

This invention resembles the patents referred to so far that it consists in chilling portions in the face of the shoe, but in a different manner to that in the aforesaid patents, which I accomplish by making the chilled portions to run across the face of the shoe at an oblique angle, instead of being straight across the face, as in Patent No. 17,213, the first of the patents hereinbefore referred to. By running the chilled portions across the face at an obtuse angle I lengthen the said chilled portions so that a direct cross-section of the shoe will show both a chilled portion and an unchilled portion of the shoe, and thereby strengthening the said cross-section of the same.

In the accompanying drawings, Figure 1 is an edge view of the shoe. Fig. 2 is a face view of the same. Fig. 3 is a perspective view, and Fig. 4 an end view. Fig. 5 is a cross-section through the line *a b* in Fig. 1. Fig. 6 is a side view of one of the chills, of which chills five are required in molding the shoe. Fig. 7 is a ground view of the chill, and is seen as if placed on end.

Similar letters of reference indicate the same parts in all the views as in this specification.

A represents the shoe; B, the face of the shoe; C, the chilled portions in the face thereof; D, the soft portions in the same; *c*, the

chill; *c'*, the projections of the chill, which pass down each edge of the pattern when placed thereon in the molding of the shoe. 55

Referring to Fig. 1, it will be seen that there are certain recesses, C, in the face of the shoe, which recesses are utilized for the purpose of receiving and steadying the chills when placed in the face of the pattern when molding the shoe, and also for the purpose of casting the shoe with similar projections of soft metal on the face of the shoe, which are marked D, which soft portions will wear down to an exact bed on the face of the car-wheel before the chilled portions come in contact with the same. 60 65

Referring to Fig. 2, the chilled portions C in the face of the shoe are represented by dotted lines, and are covered by the chills *c*, which are shown here in position as when placed on the shoe-pattern when molding the shoe in the foundry. 70

Fig. 3 shows the face and edge of the shoe in perspective—the projecting soft portions D and the recessed chilled portions C in the face, and the width and depth of the chilled portions on the edge thereof. 75

Referring to Fig. 5, which is a cross-section of the shoe through the line *a b* in Fig. 1, and showing a chill, *c*, applied across the face of the same, the projections *c'* passing up each edge of the shoe, the chill is shown to fill the recess C in the face of the shoe as it does that of the pattern when in the process of molding the shoe. 80 85

The operation of molding the shoe in the foundry is as follows: The shoe-pattern is laid down on a follow-board, the face uppermost. The chills are then placed one by one in the recesses in the face of the pattern. A mold-box is now placed on the follow-board, the pattern, with the chills, being kept about the middle of the box, and sand filled therein and rammed carefully and packed between the chills and around the same, and filled to the top of the box 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 packed, and the gate for the molten metal formed in the ramming and packing thereof. The gate-pin is now removed, and the cope or upper half of the box taken off, 90 95 100

and the pattern carefully removed out of the sand and from off the chills without disturbing the same, which remain in the sand with their faces uppermost. The mold being now complete, the cope or upper half of the box is again placed over the lower half and clamped, due attention having been given to ventilate the mold. It is now ready to receive the molten metal therein.

10 I do not limit myself to the number of chilled portions in the face of the shoe, nor to the particular angle they run across the face.

Having thus described my invention, I claim—

A brake-shoe, A, with chilled portions C in the face thereof, and running across the shoe at an oblique angle of about one hundred and twenty-five degrees, and having soft unchilled projecting portions between the chilled portions, which soft portions will wear down to an exact fit on the wheel before the chilled portions come in contact with the same, substantially as shown and described, as a new manufacture.

JOHN JOSEPH LAPPIN.

Witnesses:

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