

No. 690,482.

Patented Jan. 7, 1902.

A. C. TAPPE.
HOOF PAD.

(Application filed Feb. 23, 1901.)

(No Model.)

Fig. 1.

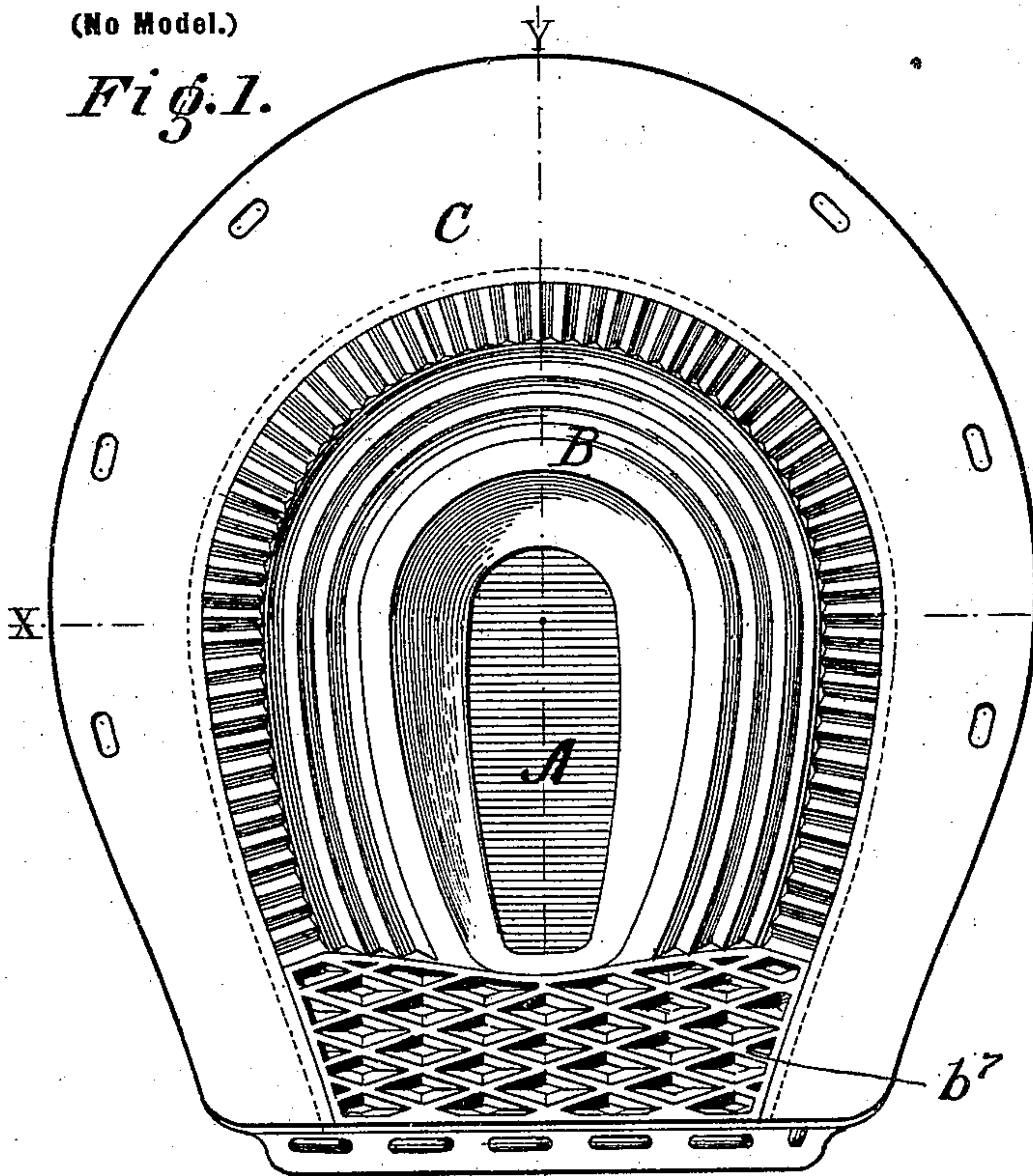


Fig. 2.

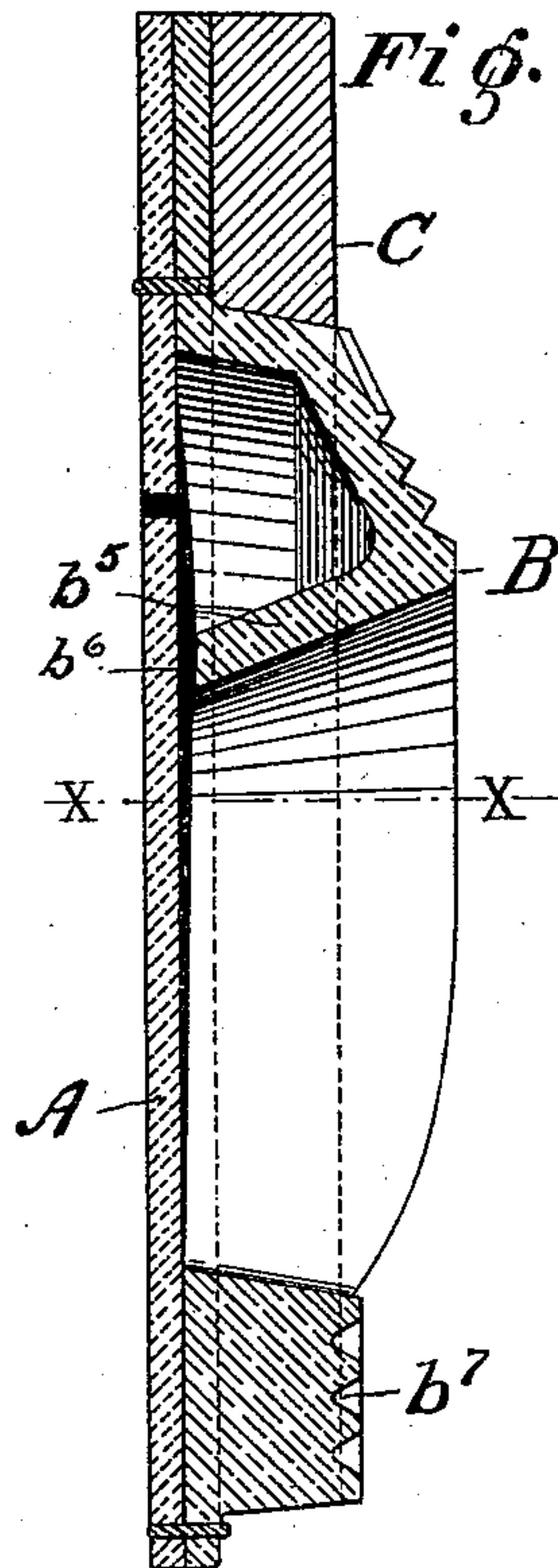


Fig. 3.

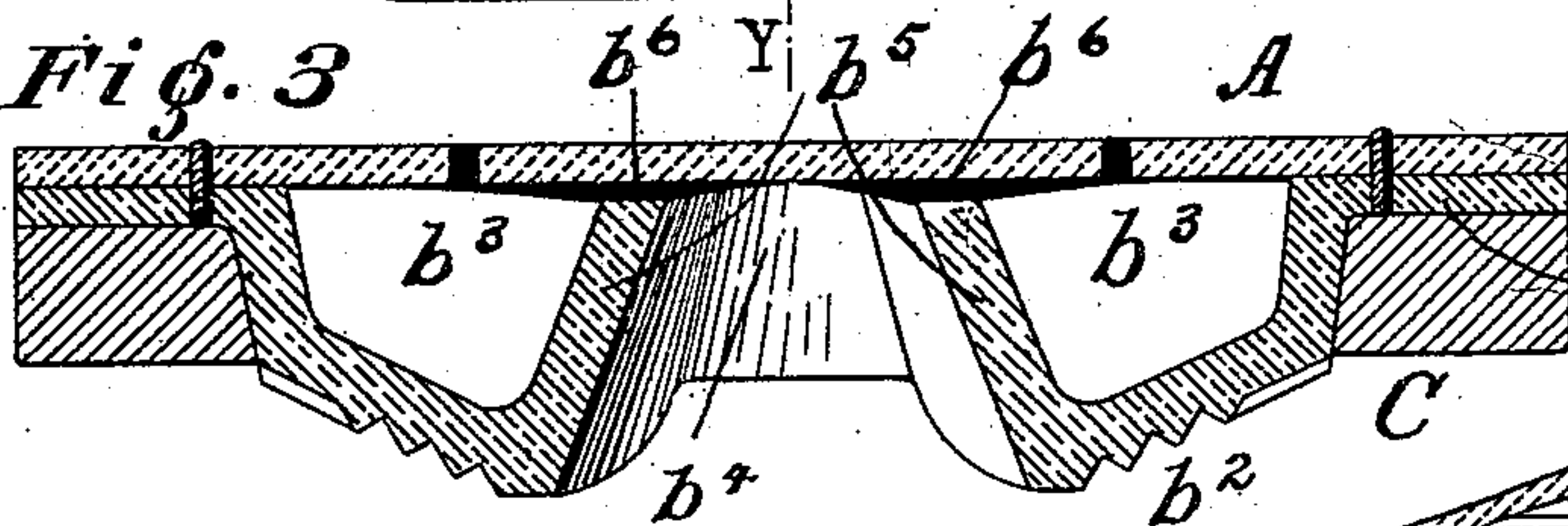


Fig. 5.

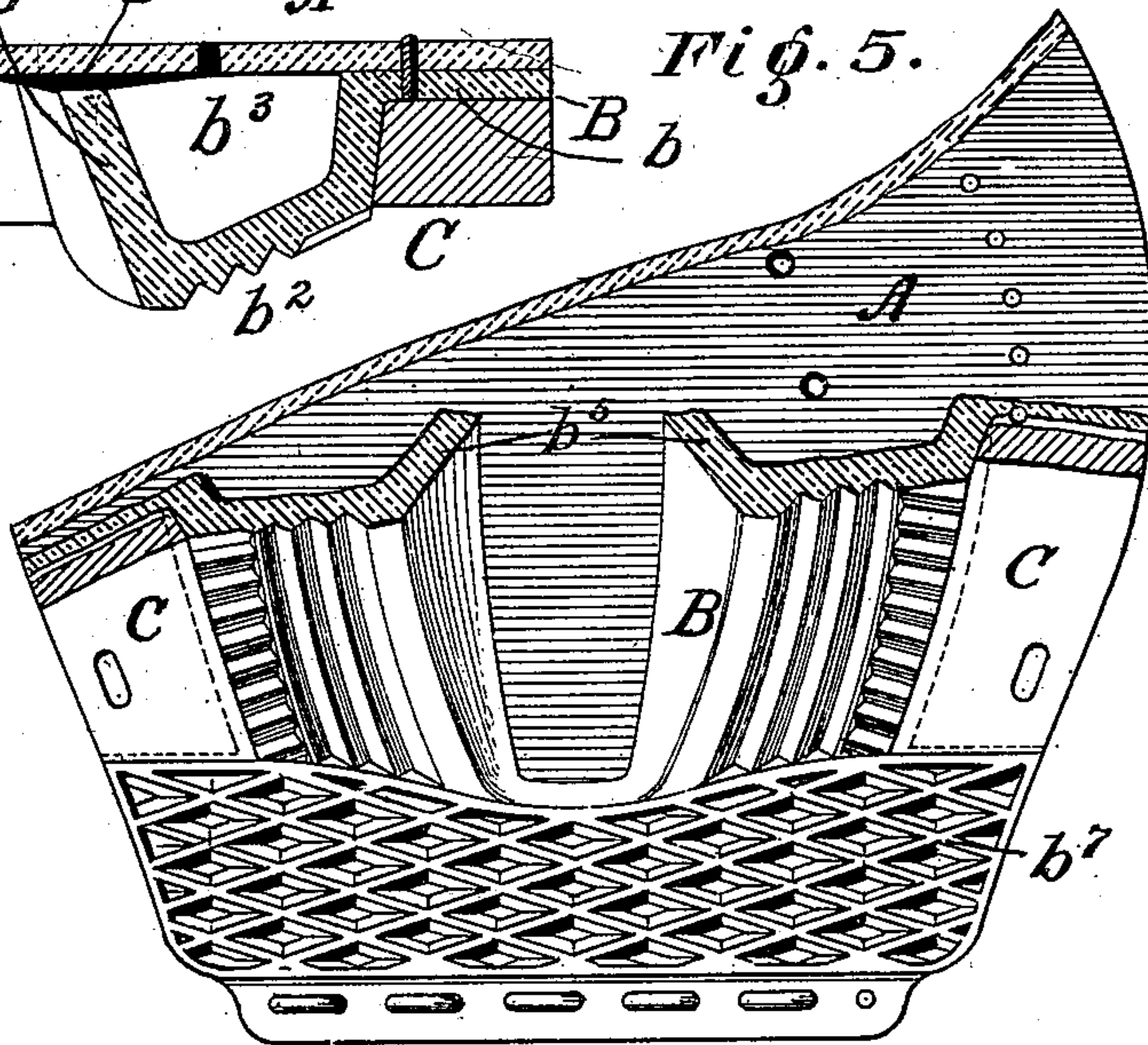
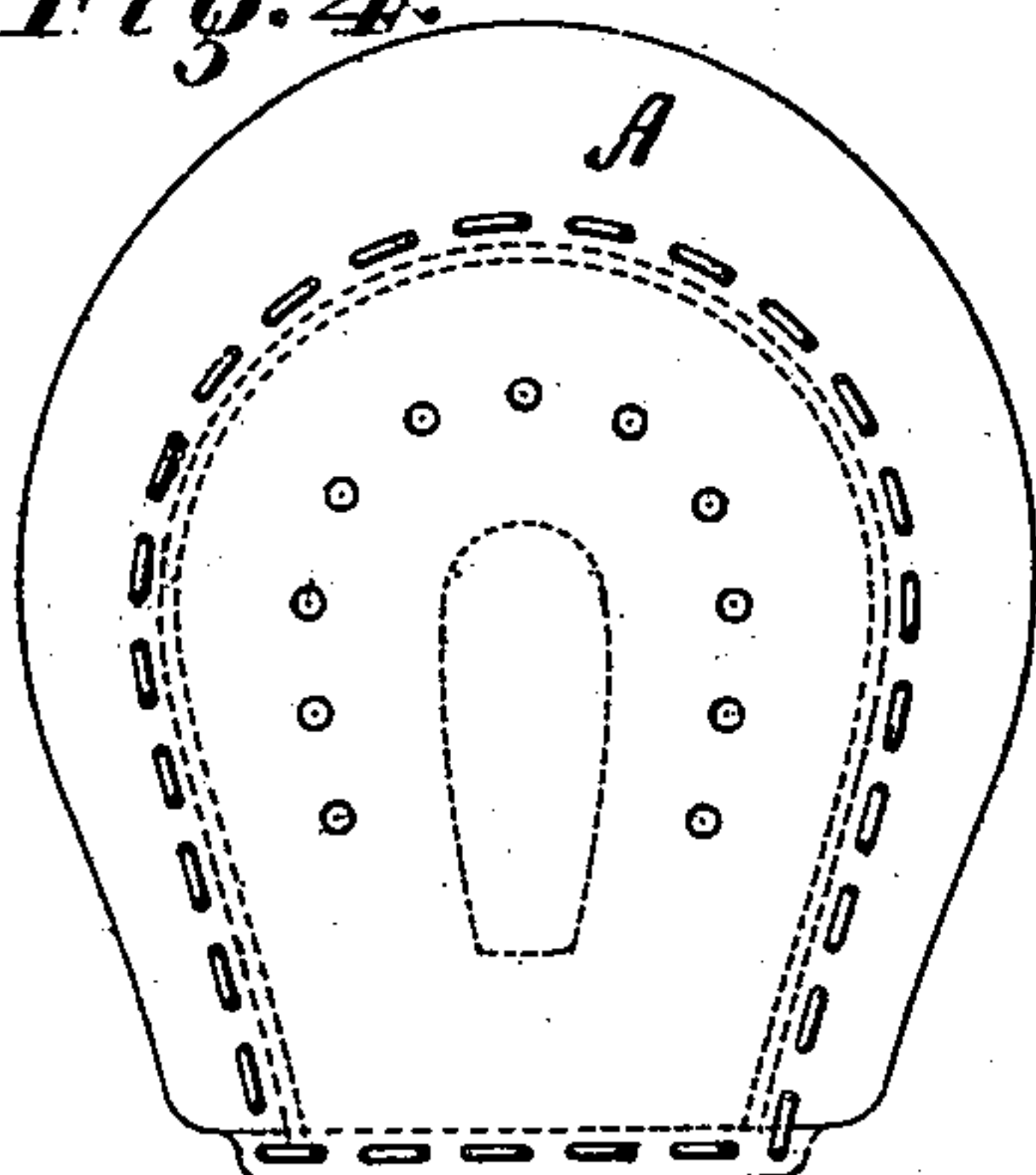


Fig. 4.



Witnesses

Dana W. Hartsorn Jr.
Lacy B. Lloyd.

Inventor

August C. Tappe
By his Attorney
James H. Ramsey

UNITED STATES PATENT OFFICE.

AUGUST C. TAPPE, OF CINCINNATI, OHIO.

HOOF-PAD.

SPECIFICATION forming part of Letters Patent No. 690,482, dated January 7, 1902.

Application filed February 23, 1901. Serial No. 48,485. (No model.)

To all whom it may concern:

Be it known that I, AUGUST C. TAPPE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Hoof-Pads, of which the following is a specification.

My invention relates to improvements in that class of hoof-pads which are formed principally of elastic material and are provided with a pneumatic cushion.

The object of my invention is to improve and simplify such pads by providing a pad having holding and non-slipping qualities and which will relieve the horse from jams and jars as it brings its weight down on the ground or hard pavement.

My invention consists in a hoof-pad adapted to fit between the shoe and foot of a horse, the upper portion serving as a cover for the foot and being composed of fibrous material, preferably leather, perforated to admit air to the foot, the lower portion serving as a cushion or buffer and being composed of flexible material, preferably rubber, adapted to register with and fit the cover and provided with a depending lower portion fitting the inner edge of the shoe and depending below the tread portion thereof, said cushion being provided with a central external opening leading by means of a narrow passage to an internal channel, whereby an air-cushion is formed and a suction created to prevent slipping.

My invention also consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved pad, whereby important advantages are secured and the pad is rendered more economical and effective and better adapted for the purpose intended.

The novel features of the invention will be defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a plan view of the lower side of my pad and horseshoe in place thereon. Fig. 2 is a transverse section on the line Y Y of Fig. 1. Fig. 3 is a cross-section on the line X X of Fig. 1. Fig. 4 is a plan of the upper side of the fiber cover, showing one means of fastening the

rubber cushion thereto and showing air-holes for admitting air to the horse's foot by the pressure of its weight upon the pad. Fig. 5 is a modified view of my invention, showing the heel portion extended entirely across to be used in connection with a three-quarter shoe.

I prefer to construct and arrange my improved pad substantially as follows: Cut a piece of leather or other fibrous material A in shape to fit the surface of a horse's foot and perforate the leather, as shown in Fig. 4, to permit the air to come in contact with the foot. Construct a piece of rubber or other flexible material B of similar shape having its surface made to correspond with the shape of the piece of leather A, above described, the outer surface *b* being formed thin to furnish a bearing for the horseshoe C and the inner portion being formed, as shown in Figs. 2, 3, and 5, of an elastic pneumatic cushion *b*², shaped to fit the interior edge of the horseshoe and projecting below the surface thereof, said cushion being produced by an undercut in the rubber to form an interior channel or chamber *b*³, similar in shape to a small horseshoe and having a central external opening *b*⁴ separated from said chamber by overlapping edges or walls *b*⁵, composing the inner wall of the undercut. The cushion being left open in the center provides effective means whereby slipping is prevented and affords means for furnishing a constant supply of fresh air to the horse's foot. A narrow passage *b*⁶ is left between the overlapping edges and leather cover to provide for the circulation of air between the exterior opening *b*⁴ and internal channel *b*³ and to allow of some play between the overlapping edges and the cover to furnish additional cushioning effect by adding to the free movement of the overlapping edges or walls before coming in contact with the leather cover. These overlapping edges as soon as the weight of the horse is brought down upon the cushion close upon the leather cover and prevent dirt and other extraneous substances from entering the interior chamber. These overlapping edges or walls serve to relieve the shock and to strengthen the cushion, while at the same time reduce the amount of material necessary to

secure the proper cushioning effect. As the horse brings its weight to bear on the cushion the overlapping edges press against the cover and prevent the cushion from collapsing.

5 The heel *b*⁷ of the pad is made of solid rubber or similar material and may extend, as shown in Fig. 1 or Fig. 5, as desired, depending upon whether a full-sized or three-quarter shoe is used. The rubber cushion and
10 leather cover are secured together in any suitable way, preferably by sewing. After they are secured together place in position and nail the shoe and pad upon the foot. As clearly seen in Fig. 3, the outer tread-surface of the
15 cushion extends slightly below the tread-surface of the shoe at its outer edge and gradually tapers downwardly toward the center to the edge of the central opening, the greater depth or thickness of the cushion being around
20 the central opening, so that as the weight of the horse comes upon the pad the force thereof is first upon the inner surface and then gradually reaches the shoe after most of the force of the stroke has been spent upon the cushion.
25 As the horse's foot is brought down upon the cushion the air is drawn into the central opening by suction, which has a tendency to hold the foot from slipping. In addition to the peculiar shape of the rubber, which is especially adapted and designed to prevent lateral
30 or sidewise slipping, and to augment this feature of non-slipping I provide a series of corrugations running parallel with the shoe and intermediate between said corrugations and
35 shoe a series of transverse grooves. As above stated, the overlapping edges of the cushion are a short distance away from the leather cover to permit of the free passage of air by the impact of the foot upon the ground, and
40 as the weight of the horse fully descends upon the cushion these overlapping edges are brought into close contact with the leather cover, whereby the entire chamber is closed and dirt and other substances are prevented
45 from entering. The overlapping edges serve to brace and strengthen the cushion-pad and produce a bellows action of forcing air in and out as the horse's foot descends and ascends. The weight of the animal when brought to
50 bear upon the ground crushes the elastic rub-

ber cushion inward to the level of the shoe and compresses the air imprisoned within the chamber formed by the undercut and overlapping edges, thus making the pad pneumatic, and as the foot is lifted the pad will resume
55 its original position—viz., stand out in advance of the shoe, as shown in Fig. 2.

If desired, the elastic cushion may be applied to the foot without the fibrous cover; but I prefer to use the cover, since it protects
60 the sensitive sole from coming in contact with the ground and prevents any ill effects of the rubber upon the foot.

It will be seen that the air is compressed through the funnel-shaped opening into the
65 interior chamber each time the pad is brought into action and the air also released each time the foot is raised.

From the above description it will be obvious that my pad is capable of some modifica-
70 tion without material departure from the scope and spirit of my invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts as herein set forth.
75

Having described my invention, what I claim is—

1. A hoof-pad comprising a perforated fibrous cover and an elastic cushion having a depending portion adapted to fit the inner
80 edge of the shoe and having a central opening leading, by means of a narrow passage, to an internal channel formed around said opening and separated therefrom by overlapping edges or walls, substantially as set
85 forth and for the purpose specified.

2. In a hoof-pad, a fibrous covering for the foot, an elastic cushion adapted to fit thereon and having a depending portion with external central opening and internal curved chan-
90 nel separated from said opening by means of overlapping edges or walls and connected by a narrow passage, and a series of perforations in said fibrous material opposite said curved channel.

AUGUST C. TAPPE.

Witnesses:

A. C. GREEN,
JAMES N. RAMSEY.