

(No Model.)

J. CASSIDY.

CLOG OR SHOE.

No. 277,458.

Patented May 15, 1883.

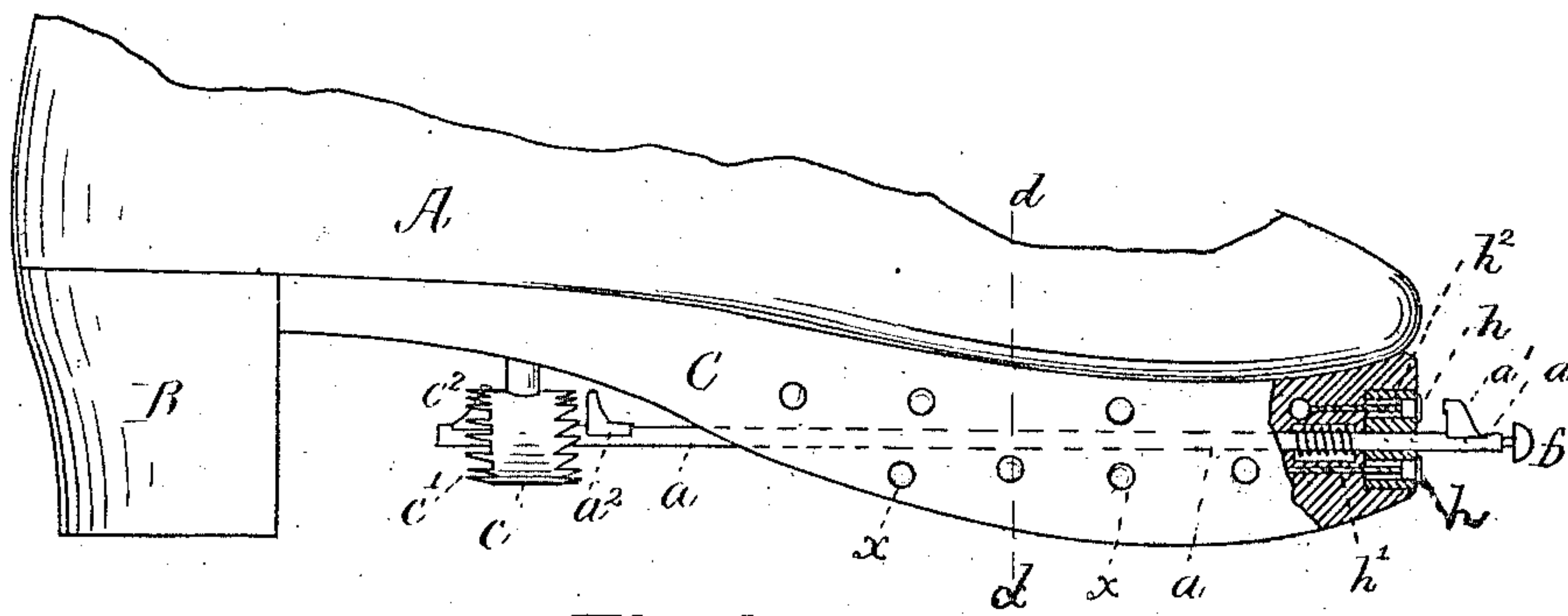


Fig. 1-

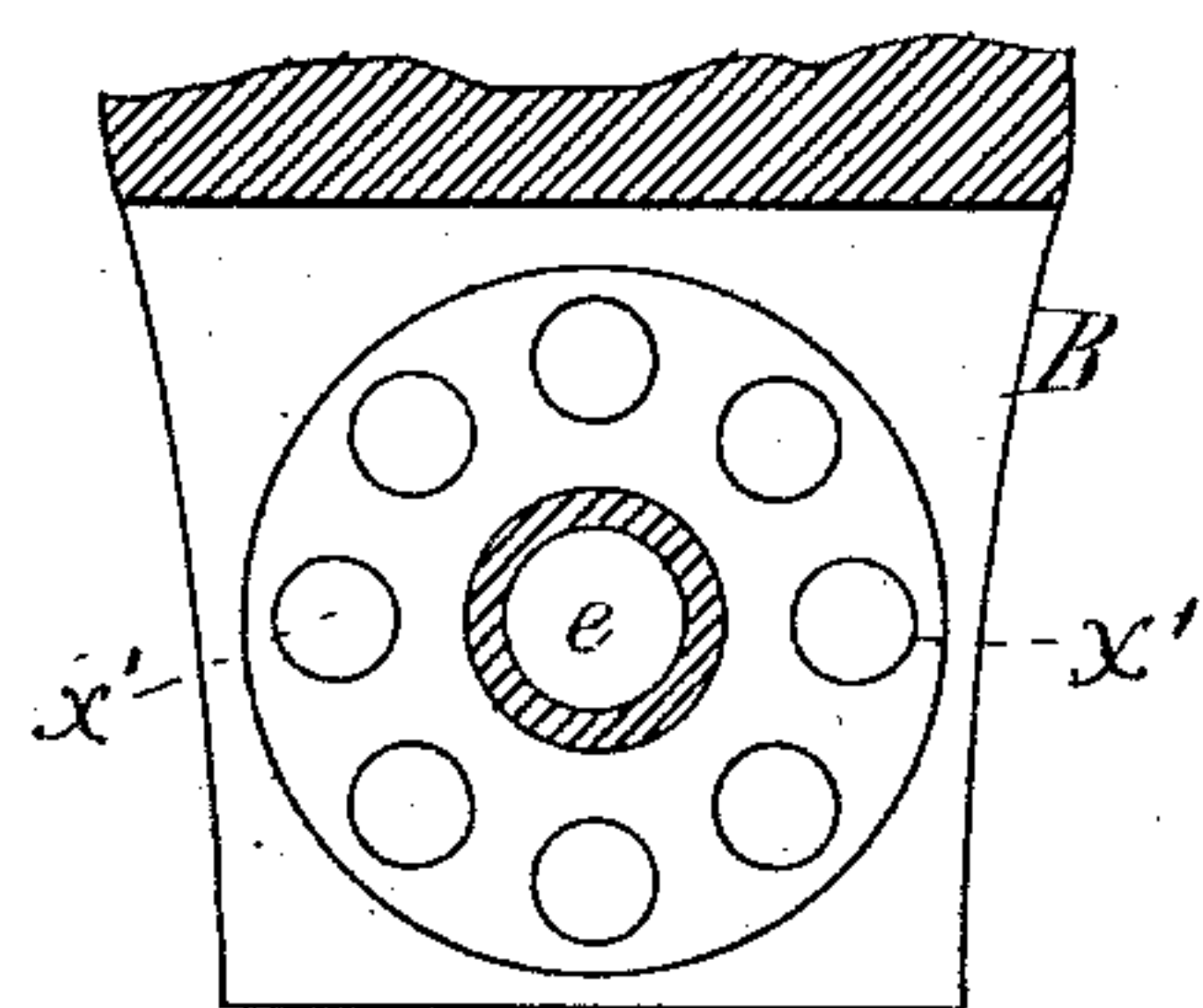


Fig. 2-

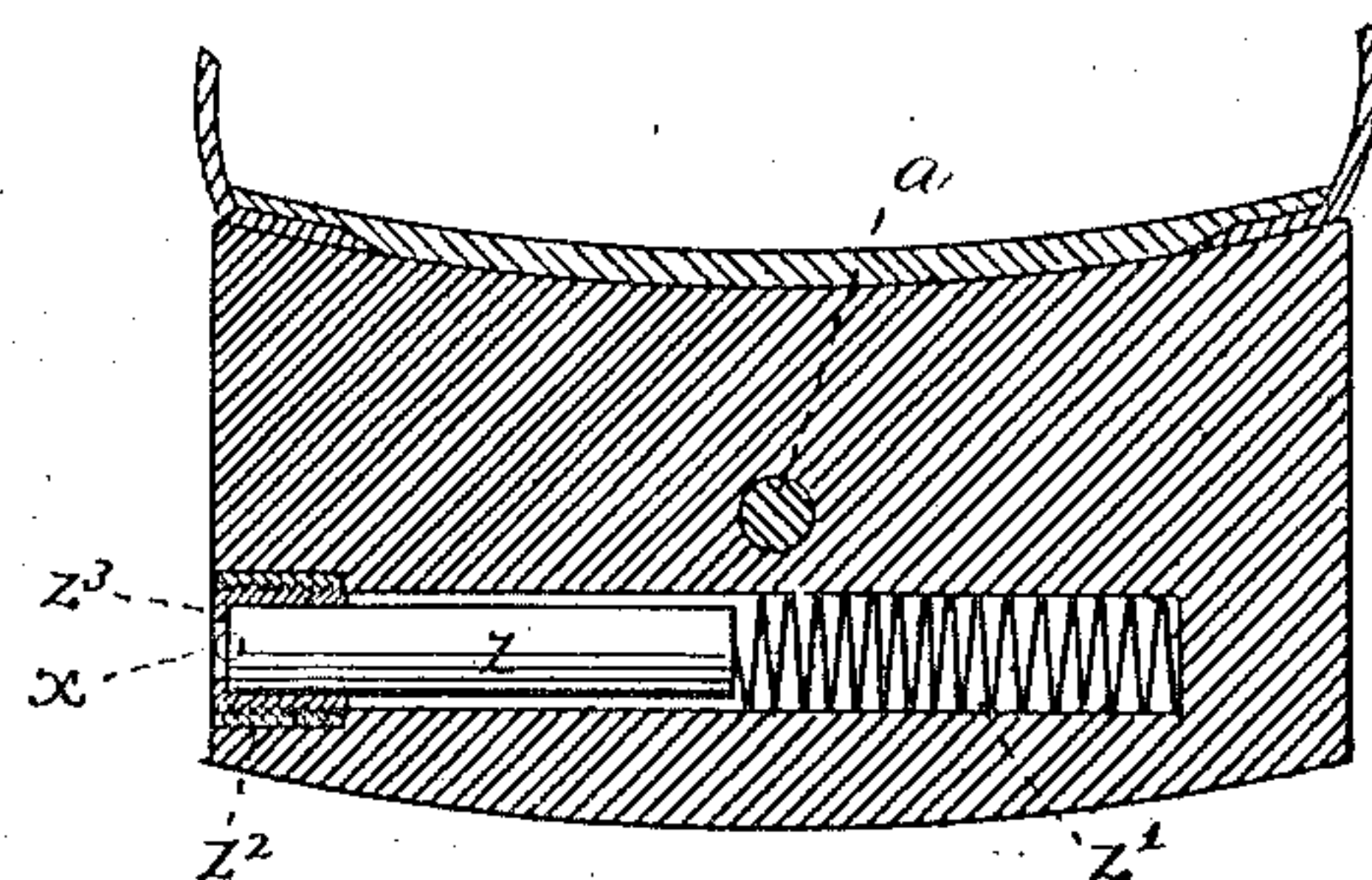


Fig. 4-

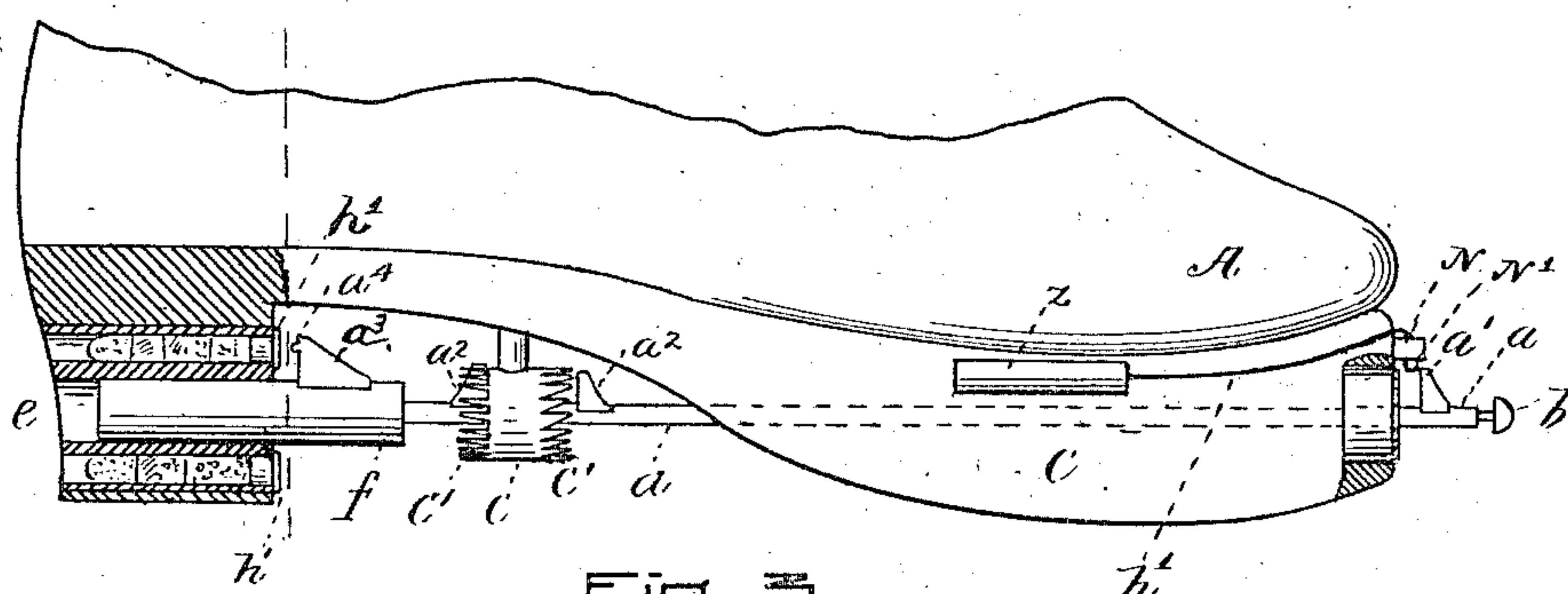


Fig. 3-

WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN CASSIDY, OF CAMBRIDGE, MASSACHUSETTS.

## CLOG OR SHOE.

SPECIFICATION forming part of Letters Patent No. 277,458, dated May 15, 1883.

Application filed October 9, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CASSIDY, of the city of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Clogs or Shoes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which like letters denote corresponding parts.

My present invention relates to the arrangement, in clogs or shoes, of percussion-caps, torpedoes, or other pyrotechnics, and an improved method of discharging the same, and is an improvement of my invention, as set forth and described in Letters Patent of the United States, dated May 23, 1882, and numbered 258,218.

Figure 1 is a side view of a clog, partly in section, and representing a portion of my improvements, especially as relating to the sole attachments. Fig. 2 is a vertical section of the front of the heel. Fig. 3 is a side view of a clog or shoe, partly in section, in which the heel improvements are more particularly represented, and also my new improvements in the discharging mechanism. Fig. 4 is a cross-section of a portion of the sole of the clog at the point *d d* of Fig. 1.

The arrangement of the explosives in my present invention is, like my former invention, wholly under the control of the wearer of the clog, and the various effects produced by the discharging of the explosives can be varied almost indefinitely to produce pleasing and startling effects.

In Fig. 1, A is the top of the clog; B, the heel; C, the sole.

The clog may be made of leather, or with a rubber, paper, wood, or other sole, as may be best adapted for the purposes of receiving the different kinds of explosives to be used in the same.

The general mechanism of the exploding or discharging device attached to the sole is similar to the one shown and described in my former patent upon this subject, with certain modifications and improvements, which I will hereinafter describe.

*a* is the rod which passes through the sole; *b*, the knob which is struck by the wearer; *a*<sup>2</sup>, the stud upon the rod *a*, which works in connection with the sleeve *c* and the teeth *c*<sup>1</sup>, ro-

tating the rod *a*, as in my former invention. I attach a stud, *a*<sup>1</sup>, to the rod *a*, which strikes the head of the torpedo or similar explosive in the toe at *h*. In the sole of the clog I form chambers, (represented by *x x*), into which I put various explosives, which may be discharged by fuses running from the explosive to the point *h*, and by the striking of the stud *a*<sup>1</sup> upon the percussion *h* the end of the fuse is ignited which leads to the explosive or pyrotechnic placed in the cavity *x x*.

Instead of placing in the sole, as described, an ordinary explosive, I also form the cavity so that various pyrotechnics may be placed in the same. I further arrange a spiral spring in the lower end of the cavity, the spring being represented by *z*<sup>1</sup>, and shown in Fig. 4.

The pyrotechnic, when ignited by the percussion through the fuse, burns at the outer end, and is pushed forward as it burns by the spring *z*<sup>1</sup>. In this manner different-colored fires or streams of light can be emitted.

In Fig. 4 one of these cartridges is represented by *z*, with the spring *z*<sup>1</sup> in its position behind it. In Fig. 3 the cylinders in the heel are shown in section, and in order to discharge them more efficiently I extend the end of the rod *a* into and nearly through the heel by attaching to it, near the sleeve *c*, the cylinder *f*, to which is attached the stud *a*<sup>3</sup>, provided with the discharge-point *a*<sup>4</sup>, which point strikes upon the end of the explosive in the cylindrical cavity formed for it in the heel. The extension of the rod *a* into the heel tends to steady the same, to prevent the twisting or getting out of line of the stud *a*<sup>3</sup>, which takes the place of the bent end of the rod, as set forth and used in my former invention.

In Fig. 2 the hole through the center of the heel of the extension of the rod *a* is represented by *e*, and the circular cavities for the introduction of the cartridge or other fireworks are represented by *x*<sup>1</sup>. It is possible that part or all of the explosives—certainly those which are discharged by the aid of a fuse—might be ignited and discharged in some other manner, or without the special discharging mechanism I have represented. Therefore I do not confine myself exclusively to the form of discharging mechanism herein shown and described.

Of course these cavities which I have de-



scribed in the sole of the clog, adapted to receive cartridges or explosives of various pyrotechnics, and adapted to be discharged by the aid of a fuse, may be located either in the heel or the sole, and in any position desired, as the fuse can be run from the igniting-point  $h$  and connected by the fuse  $h'$  in any convenient locality or position, and they can also be discharged, by ignition or otherwise, either from the toe or the heel, or intermediately between the toe and heel.

I preferably place in these cavities I have described, intended for the reception of the various pyrotechnics, a bushing, and also a cap, which is screwed or fastened into or on the said bushing after the pyrotechnics are put into the tube or hole. The bushing is represented by  $z^2$ , Fig. 4, and the cap by  $z^3$ . The bushing tends to prevent the burning or wearing away of the sole, and the cap is intended to hold the covering of the pyrotechnic in its place while the contents are being discharged through the opening. Otherwise there would be a liability of the spiral spring  $z'$  pressing the whole cartridge out of the hole before it was consumed. It is possible that the cartridge might be held in the hole or cylinder and exploded or burned out without the bushing or cap I have just described; but it would not work so efficiently. I therefore deem the bushing and the cap important elements of my present invention. Cartridges or other pyrotechnics may also be attached externally to the sole, or other part of the clog or shoe, in any convenient manner, as illustrated in Fig. 3, and may be discharged by a fuse,  $h'$ , running to the toe and secured in the projection  $N$ , the fuse  $h'$  being ignited by the friction of the stud  $a'$ , attached to the rod  $a$ , striking the fulminating material  $N'$  at the end of the fuse  $h'$ . These cartridges may be discharged from any desired point and by any suitable means; but I prefer the arrangement shown in Fig. 3 for that purpose.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a clog or shoe, the cavity  $x x$ , provided with the bushing  $z^2$  and a cap,  $z^3$ , substantially as and for the purposes set forth.

2. In a clog or shoe, the cavity  $x x$ , adapted to receive an explosive, cartridge, or pyrotechnic, arranged to be discharged by a fuse,  $x'$ ,

and the stud  $a'$ , as and for the purposes set forth.

3. In a clog or shoe, the arrangement of suitable cavities for the reception of pyrotechnics, said cavities being provided with means for expelling the pyrotechnic as the same is consumed or discharged, with the cap  $z^3$ , substantially as and for the purposes set forth.

4. In a clog, the arrangement of cavities in the sole or heel of the same, the cavities provided with means of expelling the cartridge or pyrotechnics to be inserted therein, and adapted to be discharged, ignited, or exploded by fuses or other suitable means, all arranged and combined as and for the purposes set forth.

5. In the discharging mechanism of a clog or shoe adapted for pyrotechnic displays, the rod  $a$  and the piston  $f$ , provided with the stud  $a^3$  and the exploder  $a^4$ , substantially as described.

6. In a clog, the cavity  $h^2$ , adapted to receive a fuse arranged to ignite a pyrotechnic or cartridge placed in the sole of the clog and adapted to be ignited by percussion by means of the stud  $a'$ , attached to the rod  $a$ , in combination with the knob  $b$  and the revolving discharging mechanism  $c c' a^2$ , all arranged and combined substantially as and for the purposes set forth.

7. In a clog, the cavity  $x$ , formed to receive a cartridge or pyrotechnic, and having the bushing  $z^2$  and cap  $z^3$ , provided with suitable means for igniting or discharging said cartridge or pyrotechnic, all substantially as and for the purposes set forth.

8. In a clog, the cavities formed to receive the cartridges, explosives, or pyrotechnics, and provided with the cap  $z^3$ , combined as and for the purposes set forth.

9. A clog or shoe provided with a cartridge, explosive, or other pyrotechnic attached thereto, and adapted to be exploded or ignited by a fuse, substantially as and for the purposes specified.

10. In a clog or shoe, the fuse  $h'$ , projection  $N$ , and fulminating material  $N'$ , in combination with the rod  $a$ , provided with the stud  $a'$ , substantially as and for the purposes set forth.

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Witnesses:

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