C. H. CHUBBUCK.

HORSESHOES.

No. 195,797. Patented Oct. 2, 1877.

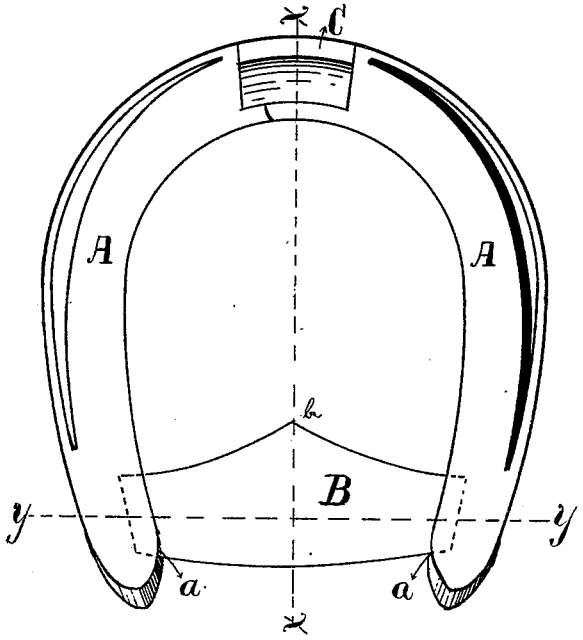

Fig 1

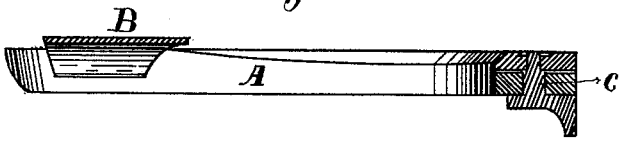

Fig 2

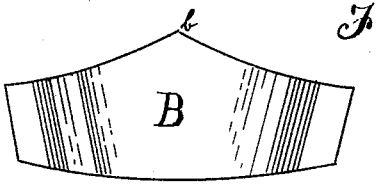

Fig 4

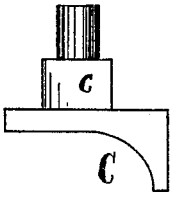

Fig 5

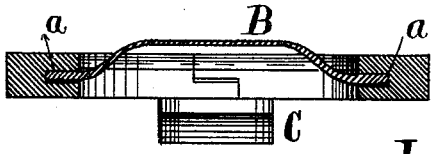

Fig 3

Attest.

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UNITED STATES PATENT OFFICE.

CHARLES H. CHUBBUCK, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. **195,797**, dated October 2, 1877; application filed January 29, 1877.

To all whom it may concern:

Be it known that I, CHARLES H. CHUBBUCK, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Expanding Horseshoes, which is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a plan view of my improved shoe, looking upon the ground side; Fig. 2, a sectional view taken on the line *x x*, Fig. 1; Fig. 3, a sectional view taken on the line *y y*, Fig. 1; Fig. 4, a plan view of the cushion-spring, and Fig. 5 a side elevation of the toe-calk.

In expanding shoes which have been in use heretofore for the purpose of remedying contracted hoofs of horses, the expansion of the sections of the shoe has been effected by some device having a fixed and rigid adjustment, changed at short intervals. There are serious objections to this method. The adjustment being fixed, there is at first a very severe strain upon the hoof, which is gradually diminished as the latter is spread, until, finally, it is entirely lost, if the hoof is strong enough to sustain the strain first brought upon it.

The object of my invention is to obtain an expanding shoe in which there will be an elastic force operating upon the sections to expand them every time the hoof is brought to the ground, and at the same time pressure upon the frog is obtained to expand the foot.

The invention consists in a shoe constructed in sections, pivoted together, combined with a spring at the heel of the shoe, which acts as a cushion for the frog, and is connected to the heels of the shoe in such a way that the compression of the spring and the pressure upon the frog, when the horse throws his weight upon the shoe in stepping, will operate to expand the shoe and foot.

It further consists in the peculiar construction of the toe-calk, so that it serves as the pivot for the two sections of the shoe, and in various combinations, as will be hereinafter more fully set forth.

In the drawings, A A represent two sections of a horseshoe, which are pivoted together at the toe, the joint being constructed so that there is a limited vibration upon the pivot. In the inner edges of these sections recesses *a a* are made, near the heel ends of the shoe. A flat metallic spring, B, is constructed, of the form shown in Fig. 4 of the drawings, with its central portion projecting somewhat on one side, as at *b*. This spring is bent so that the central portion is raised somewhat higher than the ends, as shown in Fig. 3 of the drawings, and the ends are cut of such shape as to nicely fit in the recesses *a* at the heel of the shoe. The spring is also made of such length that when the shoe is contracted to its greatest extent the ends thereof will just fill the recesses *a*, and abut against the bed in each section, so that any compression of the spring will tend to expand the shoe, or, in other words, force the heel ends apart.

The toe-calk C may be constructed, if desired, so that the pivot joining the two sections is in one piece therewith. For this purpose the toe-calk is made with an upwardly-projecting stud, *c*, the lower portion of which, *c'*, is made rectangular in form, to fit a similarly-shaped opening in the lower half of the joint, by means of which the two sections are united. The upper portion of this stud is cylindrical, and fits a round hole in the upper half of the joint, being riveted upon the upper side of the shoe. The sections of the shoe are united by a rabbet or half joint, and the parts are so formed as to permit a limited motion upon the pivot *c*. This movement is sufficient to permit the insertion of the spring-plate B in the recesses at the heel of the shoe, which is then closed up, as shown in Figs. 1 and 3 of the drawings. When the shoe, with the spring in this position, is nailed to the hoof of a horse, the frog will rest upon the upper side of the raised portion of the spring, which is widened for this purpose; and it is evident that every time the horse rests his hoof upon the ground the spring will be compressed, and thereby operate to expand the shoe, with a similar beneficial effect upon the hoof, while at the same time an elastic cushion is provided for the tender frog.

In some peculiar cases—when the frog has grown down, or is peculiarly sensitive and tender—the cushion-spring may be inverted, so that the compression thereof will be effected by bringing the bulging portion in contact with the ground, while the frog rests in, and

is protected by, the corresponding depression on the other side.

The shoe may be made in more than two sections, if desired, the several sections being pivoted together. In some cases, also, the use of a spring-cushion may be desirable when the hoof is not contracted, and therefore there is no occasion for an expanding shoe. In such cases the shoe should be made entire, and the recesses at the heel should be so deep, and the spring so short, that there will be room for the ends of the spring to move back and forth in the recesses as the spring is compressed without striking against the sides of the shoe, thereby preventing any spreading tendency.

The peculiar construction of the toe-calk herein described is not essential to the expanding shoe, as a simple pivot may be employed, if desired, and the toe-calk attached in some other way. The construction of the pivot and toe-calk in one piece, however, is very convenient and serviceable.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An expanding horseshoe composed of sections pivoted together, in combination with a cushion-spring, B, connected with the heel ends of the shoe in such a manner that the compression of the spring by the weight of the animal will tend to spread apart or expand the shoe at its heel, substantially as and for the purpose set forth.

2. The sections A, pivoted together, and provided with recesses *a* in their heel ends, in combination with the cushion-spring B, bent as described, substantially as and for the purpose set forth.

3. The toe-calk C, constructed with a stud, *c*, upon its upper side, one section of which is rectangular and the other cylindrical, in combination with the two sections of the shoe, substantially as described.

CHARLES H. CHUBBUCK.

Witnesses:
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W. F. PIPER.