

(No Model.)

J. E. BINGHAM.

HORSESHOE.

No. 349,080.

Patented Sept. 14, 1886.

Fig. 1.

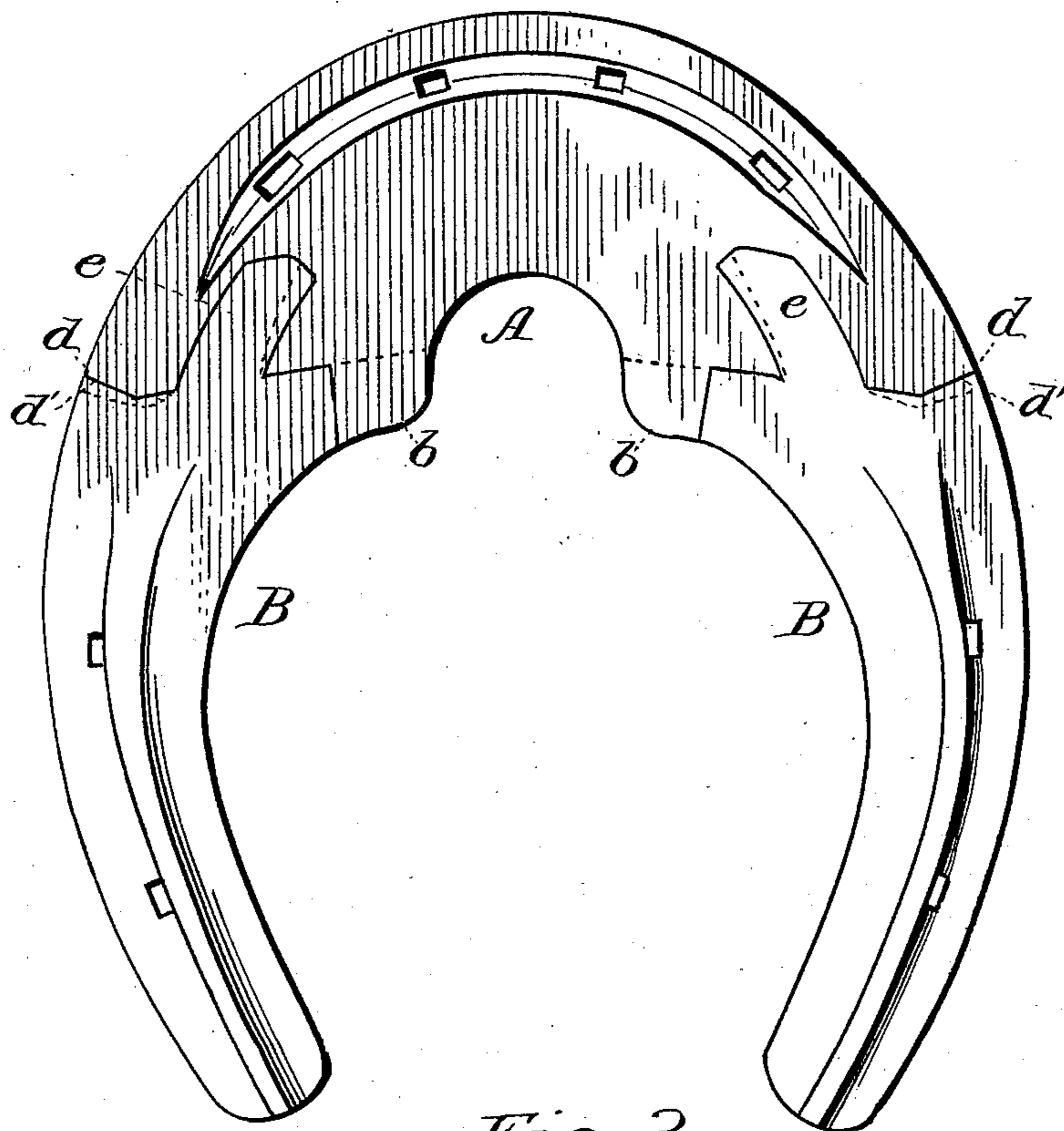
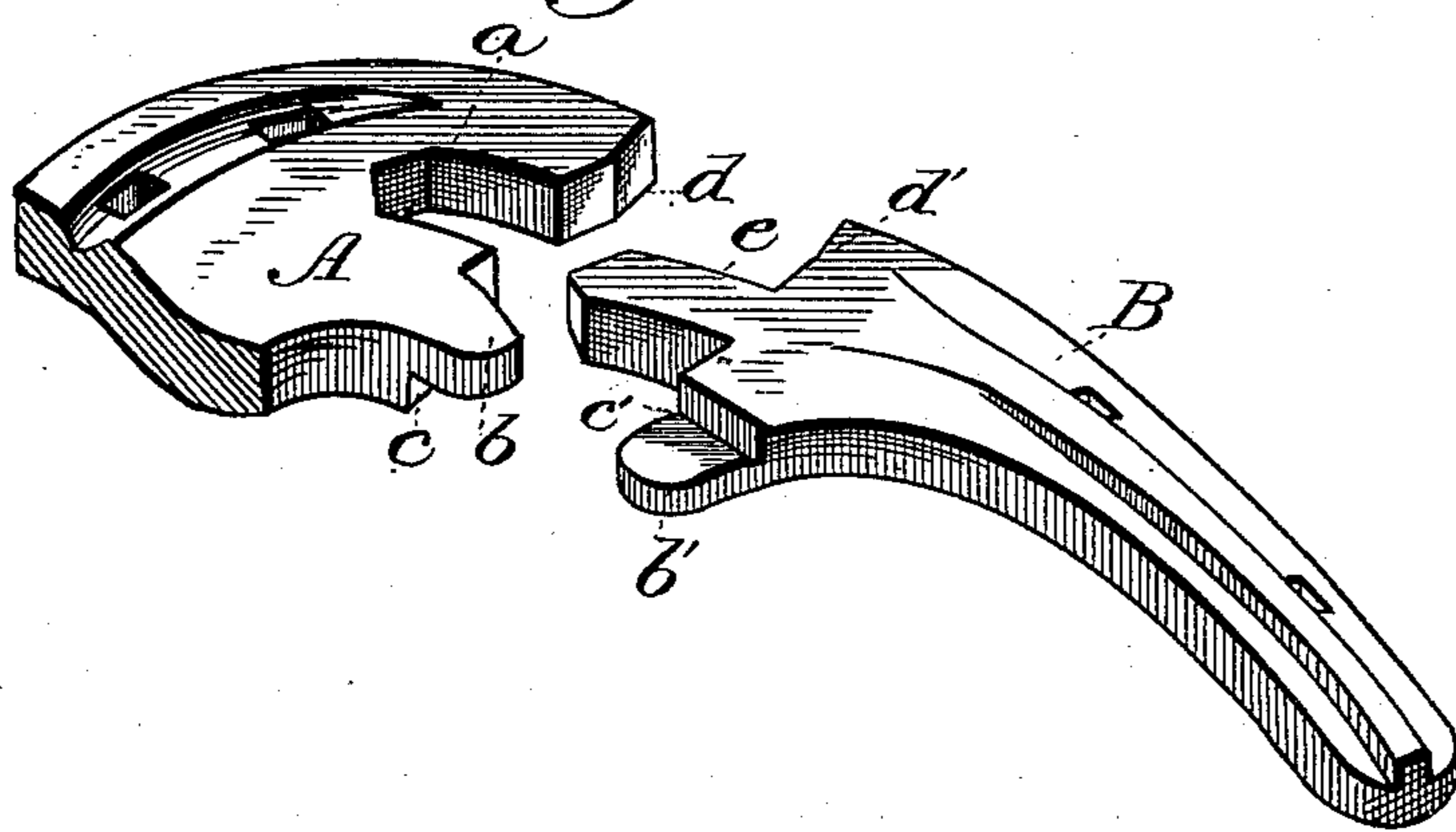


Fig. 2.



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HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 349,080, dated September 14, 1886.

Application filed February 6, 1886. Serial No. 191,056. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. BINGHAM, a citizen of the United States, residing at Walla Walla, in the county of Walla Walla and Territory of Washington, have invented a new and useful Horseshoe, of which the following is a specification.

This invention relates to certain new and useful improvements in the formation of shoes for horses and mules; and it consists substantially in the same as constructed and attached, and in such other details as will hereinafter be distinctly described, and pointed out in the specification and claims.

Horseshoes have heretofore been constructed in several separate pieces, not united or connected with each other, but brought more or less near to each other when applied to the hoof. Other shoes have been formed of several pieces and united at the toe or at the sides by joints of different sorts, but all riveted together or fastened together by equivalent means and allowing more or less perfectly of expansion of the shoe at the heels; but in my judgment all these shoes have failed to fully accomplish what is needed. So far as I am aware no shoe has yet been devised which, while sufficiently protecting the hoof, at the same time will allow the hoof to grow and extend in all directions in a free and natural manner. A natural hoof grows out quite rapidly at the toe, and also spreads in all directions as it grows, so that after a short time, if allowed its natural course, it is larger at its bottom surface than it was when the shoe was attached. With the shoes in use this natural tendency is restricted by the imperfect character of the shoe, and consequently malformations of the hoof and foot result.

The object of the present invention is to so construct a shoe as to permit a ready accommodation thereof to the growth or extension of the hoof in all directions—namely, at the heels, the sides, and the toe—and also to accommodate the side expansions thereof, particularly at the heels, when in action.

A further object of my invention is to provide a broader bearing-surface at the point where the several parts are united, and which object is accomplished by the peculiar form of the connection or joint employed, and by which

I overcome the liability of the heel parts of the shoe twisting or turning beneath the foot of the animal when traveling over rough surfaces.

These objects I attain by the means illustrated in the accompanying drawings, in which Figure 1 is a plan view of a horseshoe embodying my invention; and Fig. 2 is a perspective in detail of a portion of the toe-piece and of one of the side pieces, the said view illustrating more clearly the construction of each at the ends where they are movably united or interlocked.

Reference being had to the several parts by the letters marked thereon, A represents the front or toe piece of the shoe, whose outer or exterior edge is formed of a contour corresponding to the forward end of a horse's foot, and whose inner edge may be of any preferred contour, as long as its two ends remain as broad or wide as is consistent with the object to be attained. Those ends of the toe-piece are correspondingly formed with a depression or recess *a*, while that part of the metal constituting the inner side walls of such recesses are formed adjacently with a projection, *b*, mortised or cut away from beneath, as represented at *c*, and that part thereof forming the outer side walls of the recesses is formed at the end in the shape of a double bevel, as seen at *d*. The recesses *a* tend or incline toward each other, or, in other words, are coincident with the outer edge of the toe-piece, the object of which will be described hereinafter.

B B represent the two side pieces, which complete the formation of the shoe, and which are formed at their inner ends with a tongue, *e*, corresponding to in shape and fitting in the recesses *a*, the said side pieces being also formed with a projection, *b'*, and a mortise, *c'*, by which to overlap or interlock with the correspondingly-formed ends of the toe-piece. The side pieces are formed on the opposite side of the tongs of a contour to conform to that marked *d* on the toe-piece. (See the letter *d'*.) The toe-piece A is provided around its front with nail-holes, by which to secure the same to the toe of the hoof, while the side pieces are similarly provided with like holes, both as shown.

I have indicated that the several pieces of which the shoe is composed are peculiarly

fastened to the hoof. The ordinary shoe, or a shoe substantially in one piece, is usually secured by three or four nails along each side of the shoe and hoof, leaving the toe without nails and also none near the heels. Under these conditions the side growth and extension is restricted, and the foot becomes more or less deformed, being cramped, and the sides of the foot and heels contracted as a consequence. When such a shoe is nailed at the toe and sides also, as the hoof grows out and extends the toe parts tend to draw the shoe forward, and the heel parts to draw it backward, or, at least, to keep it stationary, and thus constant strain is exerted by the shoe through its nail-fastenings, hindering and cramping the natural growth of the hoof. If the shoe is prevented from following the extension of toe, the hoof overgrows the shoe at that point, and the shoe has often to be taken off and reset. The toe of the hoof affords the very best opportunity for nailing and securely fastening the shoe to the foot, and it is also the point at which the greatest force is exerted, throwing the greatest strain upon the shoe there also. In order, therefore, to secure the shoe at this most advantageous point, and also to cause or permit the toe-piece of the shoe to keep pace with the growth and extension of the toe portion of the hoof, I construct the shoe in several pieces, and, while connecting the pieces for greater strength and utility, I keep the connection movable, so that the several pieces may readily accommodate or adjust themselves to any enlargement or extension of the hoof by growth, and also be maintained in a perfect fit. With every extension of the hoof in a forward direction the toe-piece will be carried forward, and as the sides extend at the same time the side pieces will be carried away and outwardly and away from the toe-piece without injuriously affecting the joint connection, all this being permitted or accomplished by reason of the peculiarity of the connection of the parts and of the manner of nailing the pieces to the foot, as will be seen by a study of the drawings and what has been stated. I would state that the toe-piece should not comprise more than about one-third of the whole shoe, the side pieces each being also a third, as otherwise an imperfect result is the case, which I have ascertained from practice. As the horse in using his foot alternately brings his foot to the ground with more or less force, or bears more or less weight upon it, and then raises it, the heel portions of the foot expand and contract to a

greater or less extent if permitted to have natural action. It is sometimes desirable to limit this expansion and support the hoof from too great a strain in this direction. It will be readily seen that the tongues *c c*, fitting into the recesses *a a*, regulate and limit the degree of this expansion according to the closeness of the fit, and that the tongues or the recesses may be filed away at the points indicated by the dotted lines to allow of more expansion.

I have herein represented a particular form of construction or connection between the toe and side pieces; but it will be understood that I do not intend limiting myself thereto, as this form is simply selected to perform the function of a broad bearing for the shoe at these points, and to permit the extensions and expansions of the hoof, as hereinbefore stated, and it is evident that many variations could be resorted to in the form of movable connection.

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

1. As an article of manufacture, a horseshoe constructed of a toe-piece and two side pieces, each adapted for attachment to a hoof, and formed at their contiguous ends with corresponding recesses and tongues which follow or tend in a direction parallel with the general contour of the shoe, substantially as and for the purpose described.

2. As an article of manufacture, a horseshoe constructed of a toe-piece and two side pieces, each adapted for attachment to a hoof, and formed at their contiguous ends with corresponding recesses and tongues, which follow the general contour of the shoe, the said pieces being also formed with overlapping projections extending inwardly at the point of juncture thereof, substantially as and for the purpose set forth.

3. The combination, with the toe-piece having nail-holes, and provided with recesses *a*, which tend inwardly toward each other, and projections *b*, mortised as shown, of the side pieces, also having nail-holes, and each provided with a tongue, *c*, corresponding to the recesses *a*, and a projection, *b'*, mortised as at *c'*, substantially as and for the purpose set forth.

JOHN E. BINGHAM.

In presence of—

GEO. T. THOMPSON,
C. M. STEARNS.