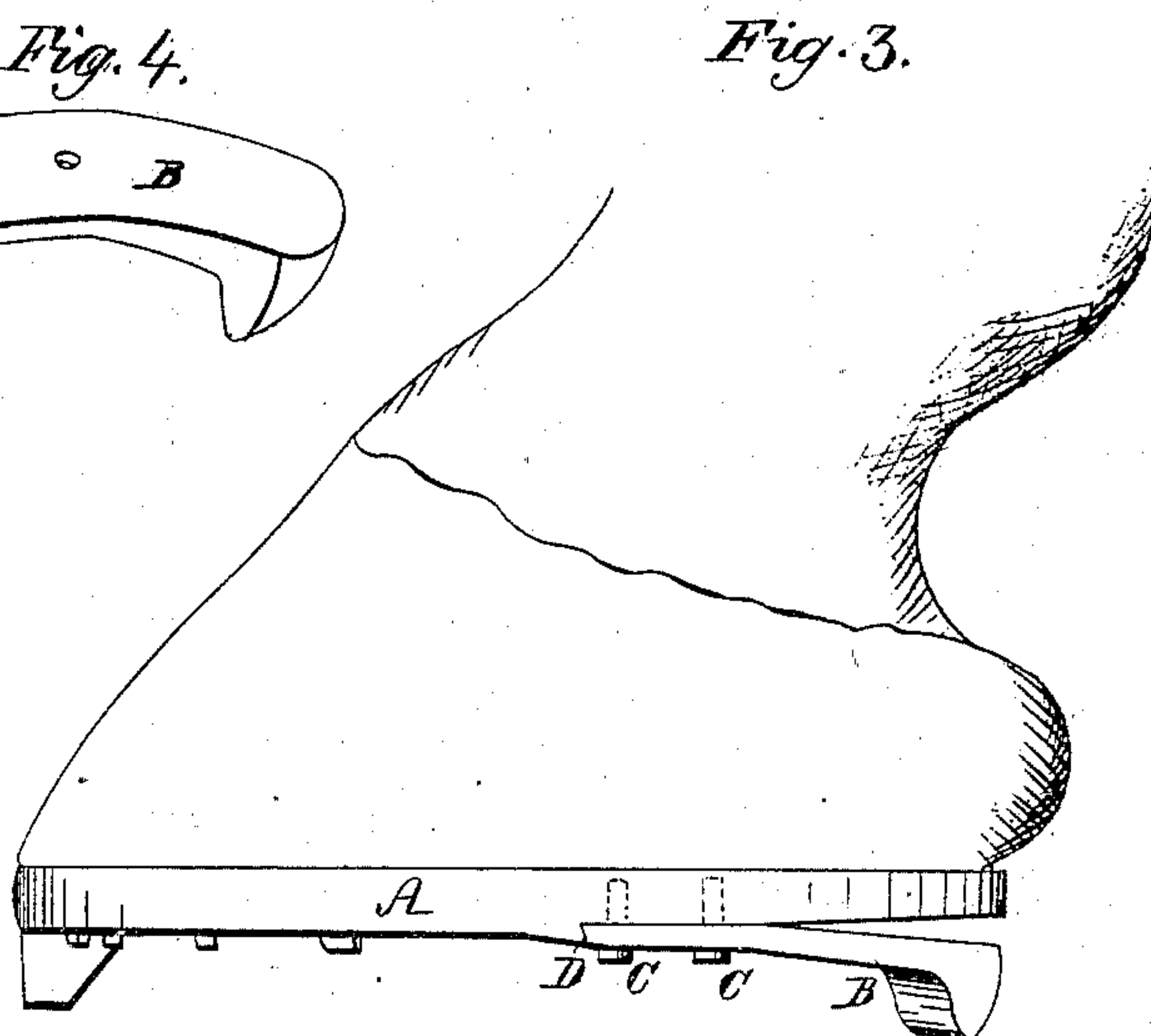
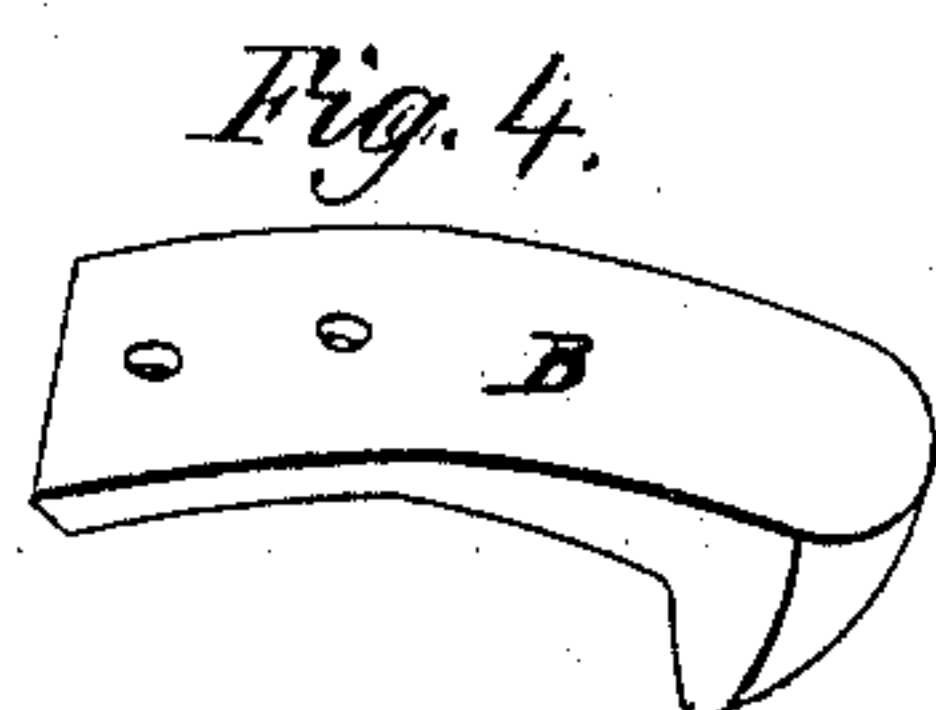
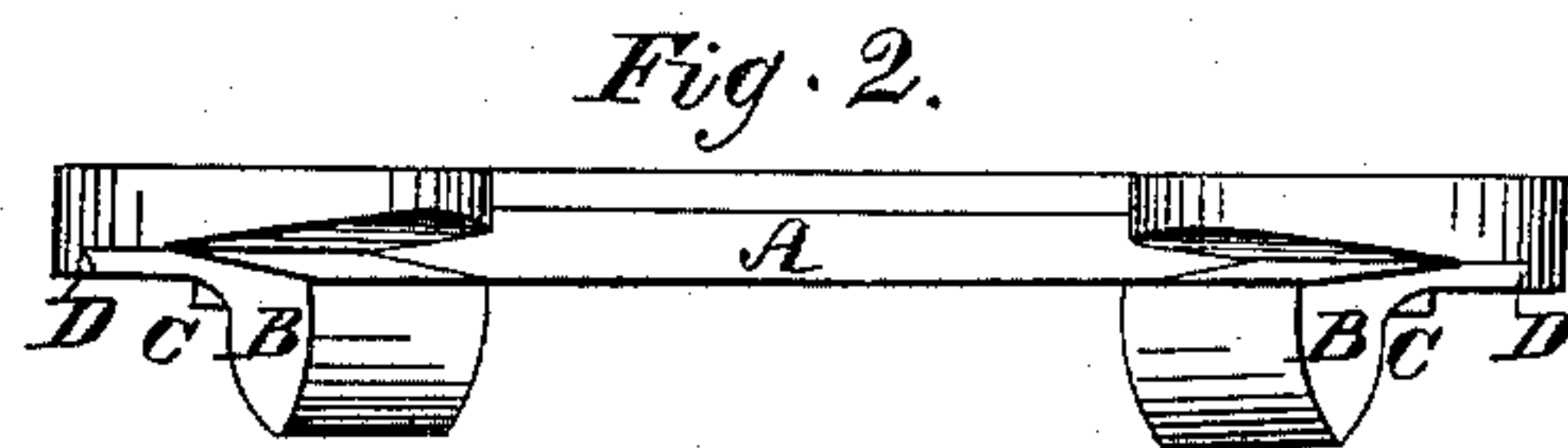
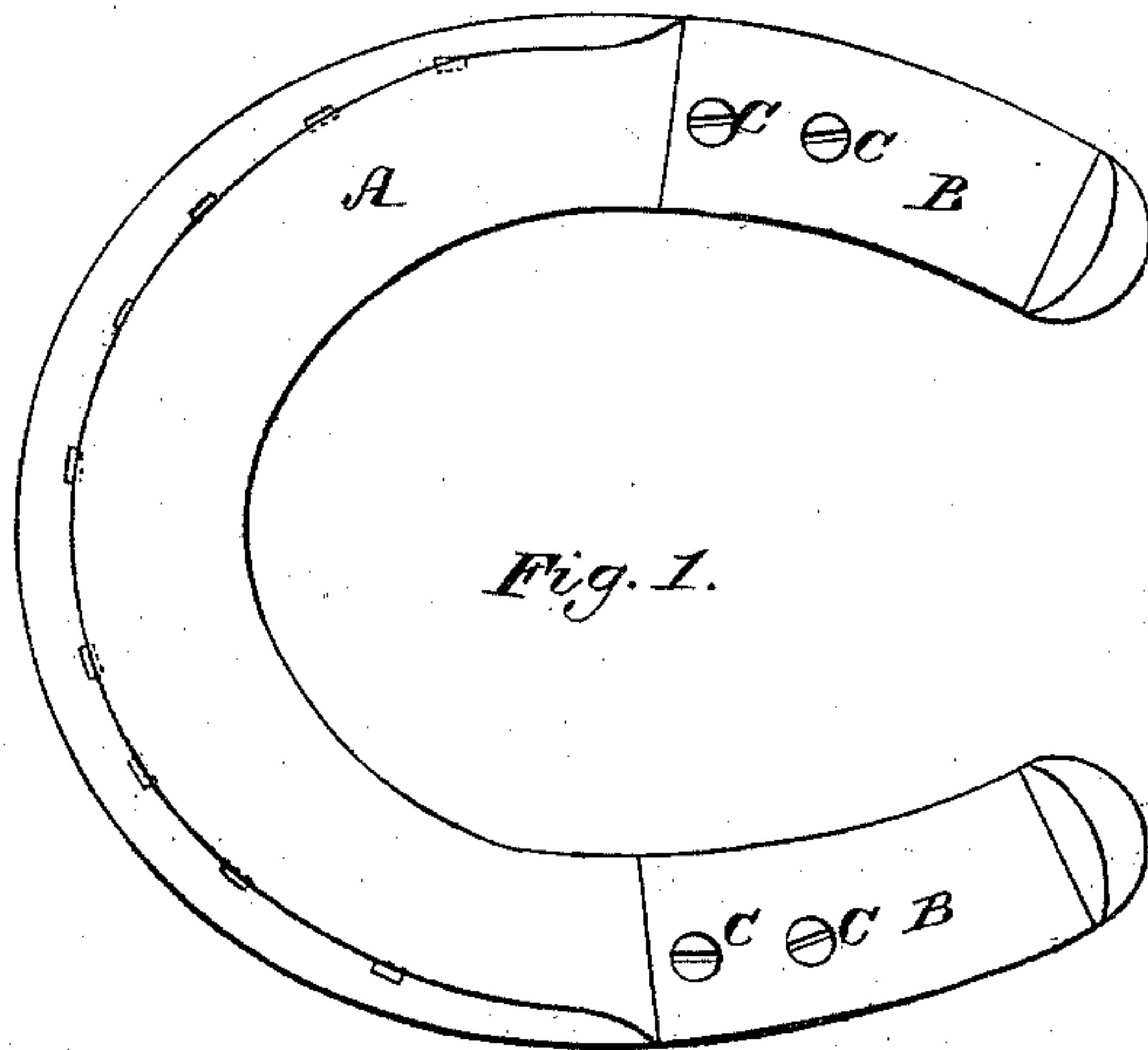


W. H. TOWERS.

Horseshoe.

No. 11,392.

Patented July 25, 1854.



UNITED STATES PATENT OFFICE.

WILLIAM H. TOWERS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. 11,392, dated July 25, 1851.

To all whom it may concern:

Be it known that I, WILLIAM H. TOWERS, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Horseshoes, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a view of the under part of a shoe constructed after the improved plan. Fig. 2 is an elevation of the back ends of the same. Fig. 3 is a side view of the same attached to the hoof of a horse. Fig. 4 is a perspective view of the spring heel or calk detached from the shoe.

The same letters in the several figures refer to corresponding parts.

The nature of this invention and improvement consists in attaching to the heels of the shoe curved springs having calks formed on their flexible ends, or otherwise made rough to prevent the hoof from slipping over the surface of the ground, and secured firmly in spaces on the under surface of the shoe by screws or other convenient detachable means in such a manner as to give an elasticity to the heel, and by enabling it to slightly yield to the pressure of the horse when planting his feet to prevent the shock and injury to the feet, legs, and other sensitive parts of the horse heretofore effected by the solid blow given when planting the feet, and also enable the springs and calks to be readily removed, and others more or less roughly shod, as occasion may require, substituted in their places without removing the shoe from the hoof.

To enable others skilled in the art to make and use my invention, I will proceed to more fully describe its construction and the beneficial effects arising from its use.

The main part of the shoe A is swaged or otherwise made in the usual or most approved manner, and it is rabbeted and tapered or inclined at the ends or heels, so as to form spaces on its lower surfaces at these parts for the admission of the spring-calks. These spring-calks B are made of steel or other flexible material, and are secured in the spaces under the heel parts of the shoe, with the edges of which they correspond in size and form by means of screws C passing through them near their forward ends, and entering the main body of the

shoe assisted by the diagonal beveled shoulders formed by the spaces in the shoe, against which the stationary ends of the springs are held after the manner of the edge of a dovetail. The front diagonal ends of the spaces are made beveled, as just stated, to form a lip, D, against which the acute angular ends of the springs rest, and the flat portions of said spaces, to which the stationary part of the springs are secured, extend backward from said ends parallel or nearly so to the tread of the horse to a point nearly one-half their whole length, from whence the spaces extend upward in an inclined direction to the extreme heel of the shoe, giving the heel a wedge-shaped form, and the back or flexible portion of the spring having the calks on or not, as occasion may require, extend slightly downward from their stationary part, so as to leave a space between their upper surfaces, and the lower inclined surfaces of the heels of the main body of the shoe for the yielding elastic movement of the springs when they receive the weight of the horse in planting his feet, and at other times.

In the use of the ordinary shoe with unyielding heels or calks the horse, in planting his feet and resting or striking the same on a stone or other unequal surface, frequently receives a shock which not only injuriously effects the sensitive parts of the hinder leg from the hoof to the quarter, and heel of the fore feet to the withers, but also causes the horse to habituate himself to an unnatural and ungraceful planting of the feet in his endeavor to guard against the violence and pain, such striking or sudden resting on obstructions continually encountered in the roads over which he may travel create. These tendencies to the injury of the horse and consequent diseases to the parts in which he is liable to be injured are entirely obviated by the employment of an elastic heeled shoe of the construction above described, and a bold planting of the feet and graceful movement when traveling are insured to the horse by their application. The calks, moreover, being formed on the springs and the latter easy of detachment, they can be removed to either sharpen the calks or substitute others less liable to slide on ice and snow in slippery weather, or less sharp and heavy ones when the weather requires but little or no roughness without the removal of the main

body of the shoe from the hoof, and with great facility and expedition; and as much of the time of horses is lost in waiting to be rough-shod, from the fact that the suddenness of the change of weather requiring them to be so shod generally overburdens the blacksmith with work, it is believed that this quick mode of altering a smooth shoe to a rough one will not only be a saving to the owners of many horses in time, but will also cause many others who decline losing the time necessary to wait to have them rough-shod in the old mode to rough-shoe them after this improved manner, where little or no delay to the use of the animal is occasioned, and thereby tend to prevent the many serious injuries encountered by horses slipping on the ice and snow through non-attendance to this most desirable attention to the comfort and safety of the horse.

A spring having a toe on its end somewhat similar to the calk-springs may be attached to the front part or toe of the shoe, if desired, with a view of giving an elastic movement to the toe in the same manner and for the same purpose as the movement and design of the calk-springs at the heels.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the steel or other elastic springs having calks formed on their flexible ends, and capable of being removed and attached with facility and dispatch with the main body of the shoe, substantially in the manner and for the purpose set forth.

WILLIAM H. TOWERS.

Witnesses:

GEORGE FREE,

STEPHEN H. SIMMONS,