HUNTINGTON *v.* HARTFORD HEEL-PLATE CO.

Circuit Court, D. Connecticut. November 25, 1887.

1. PATENTS FOR INVENTIONS—INFRINGEMENT—HEEL-PLATES FOR RUBBERS.

In letters patent No. 296,623, of April 8, 1884, to Frederick Richardson, for a die for securing heel-plates to rubber shoes, the invention is limited to the radially-placed inclined planes, which serves to curve and clinch the ends of the prongs, and which, owing to the peculiarity of the prongs, viz., studs having large bases to serve as plugs and flattened clinching ends, are well adapted for the purpose. In the Richards heel-plate, (letters patent No. 369,554, of September 6, 1887, to Francis H. Richards, for a machine for attaching heel-plates,) the two extreme elevations are in lines radiating from a common center, the two corresponding prongs are curved by means of the inclines in the same direction in which the Richardson end prongs are curved, and the ends of the prongs are first curved. *Held,* as to such elevations, an infringement.

2. SAME.

Letters patent No. 296,624 of April 8, 1884, to Frederick Richardson, for a machine for securing heel-plates to rubber shoes, considered, and held not infringed by letters patent No. 369,554, of September 6, 1887, to Francis H. Richards, for a machine for attaching heel-plates, the peculiar parts of the Richardson machine being the holder or guide and the mechanism connected therewith, and neither the platen nor the clamp nor the spring in the Richards machine, nor the three in combination, being equivalent thereto.

In Equity. On motion for preliminary injunction.

Wm. Edgar Simonds, for plaintiff.

Charles E. Mitchell, for defendant.

SHIPMAN, J. This is a motion for a preliminary injunction against the alleged infringement of two letters patent, No. 296,623 for a die for securing heel-plates to rubber shoes, and No. 296,624 for a machine for securing such plates to such shoes, each granted to Frederick Richardson, April 8, 1884. The patentee described the object and general character of the invention claimed in No. 296,623 as follows:

"This invention has reference to an improvement in the dies which are placed into rubber shoes for the purpose of bending and clinching the nails or pins by which metallic wearing-pieces are secured to the rubber shoes; and it consists in the peculiar and novel construction of the die for bending the nails or pins, and also the die for clinching the same, as will be more fully set forth hereinafter. In rubber shoes, and particularly in rubber overshoes, the rear portion of the heel is subjected to more wear than any other portion of the shoe, and when worn admits water to the interior of the shoe. This portion is therefore usually protected by some metallic plate or wearing surface, which requires to be firmly secured by clinching the nails or pins; and to do this more effectually, so as to prevent the tearing of the rubber and also prevent leakage, is the object of this invention. When nails or pins are driven through the heel of a rubber shoe against the ordinary iron last, the nails are liable to bend near the heel-plate and tear the material, thus making

a rent through which water may enter the shoe, and this makes the overshoe practically useless. I form the die so that the first operation will be to curve the ends of the pins or nails without bending the portion in the material of the heel, and the continuation of the pressure exerted on the heel-plate will clinch the pins or nails, and so compress the material around the shanks of the pins or nails that no water can enter the shoe."

Pins, flattened at the ends which penetrate the rubber, are formed in one piece with the heel-plate. To insure the bending of the lower part of the pins only, and also the close fitting of the pins in the rubber, the-die is provided, near the edge of the semi-circular heel-plate, with "radially-placed inclined planes, the incline of which is placed in opposite directions," so as to bend the ends of the pins in opposite directions, when pressure is applied to the heel-plate and to curve the ends. The planes may also be placed so that each pair of pins is turned and bent towards each other. These planes are uniform and regular depressions in the surface of the die; the highest elevations of all the planes are on lines radiating from a common center.

The claims of the patent are as follows:

"(1) A heel-die provided with the radially-placed inclined clinching surfaces, *d. d,* constructed to bend and clinch the nails or pins of a heel-plate, and secure the plate to the heel of a rubber shoe, as described.

"(2) A heel-die provided with the hole, *c,* by which it can be secured to a post, and radially-inclined planes, constructed to bend the lower portion of the nails or pins, so as to enter the material in clinching and secure the heel-plate, as described."

The operative part of the defendant's die consists of projections above its surface, whereby the prongs are set in the rubber by one stroke of the plunger. One side, which is the working face of each projection, is concave. The die of ordinary size has five projections, three of which are not radially placed. The highest elevations of the two end projections are on radial lines centering at the same point. The first operation of the defendant's die is to curve the ends of the prong.

Lasts or anvils which enable pronged heel-plates to be secured upon rubber shoes are Old, and a last having depressions or recesses upon its surfaces, which Operate to turn and clinch rivets or prongs in the sole of a shoe is old. From the nature of the subject the patent must be a narrow one, and the patentee has limited it to radially-placed inclined planes, which serve to curve and clinch the ends of the prongs. These planes are not simply planes circumferentially arranged around the edge of the die. Such a construction would contain no patentable peculiarity. They are inclined planes, the elevations of which are in lines which radiate from a common center. This uniform method of construction is well-adapted to the peculiar prongs of the Richardson heel-plate, viz., studs, which have enlarged bases serving as plugs, and flattened clinching ends. The ends, which are the only bent portion, must be carefully bent, to enable the plug to follow the pointed end and fill the hole. The prongs of the Richards heel-plate are slender throughout their length, and apparently there is not so much need of the uniformity in the inclines of his projections as in the Richardson die. But the two extreme elevations are in lines radiating from a common center, the two corresponding prongs are curved by means of these inclines in the same direction in which the Richardson end prongs are curved, and the ends of the

prongs are first curved. I am satisfied that, so far as the defendant uses radially-inclined planes, the plaintiff's patent is infringed.

No. 296,624 is for a machine for fastening or securing metallic heel-plates to a rubber shoe, and consists, the patentee says in his specifications, "in the peculiar and novel construction of the machine by which the rubber overshoe and the heel-plate are held and guided so as to be always in their proper relative positions, and the heel-plate is forced upon and secured to the heel of the shoe." The first, third, and fifth claims which are said to be infringed are as follows:

"(1) In a machine for securing heel-plates to rubber overshoes, the combination with a support for the shoe, of a guide and holder, substantially as described, by which the heel-plate is held in the proper position on the shoe, and means, substantially as described, by which the heel-plate is forced onto the shoe, and the nails or pins through the same and secured by clinching, as described."

"(3) The combination, with the pivoted swinging-post, or horn, B, constructed to support the shoe, of the guide, F, constructed to support and guide the heel-plate, and the plunger, *g,* arranged to force the heel-plate onto the shoe, and secure the same, substantially as described."

"(5) A machine for applying heel-plates to rubber overshoes, consisting of devices for attaching the same, provided with the holder, F, and means, substantially as described, for bringing the same in contact with the rear portion of the shoe, as described."

It is difficult to describe intelligibly, without the aid of a picture or model, the machine of the plaintiff. It consists, in general, of a swinging-post upon which the die and the shoe are placed, the shoe being also supported upon a slender frame work. A plunger is forced by means of a cam against the heel-plate which is placed upon the "holder guide," and the pins on the heel-plate are forced through the rubber. The holder or guide, and the mechanism connected therewith, are the peculiar parts of the machine. It has a segmental end on which the heel-plate rests, being secured in a central position by a double spring upon the segmental end. On the under side of this segmental end are pins which bear firmly against the rear and sides of the shoe, "so that the heel-plate is also placed in the proper and exact relation required to secure the same in a proper manner to the shoe." This segmental end lies between the under face of the heel-plate and the heel, so that after the plunger has descended, and after the heel-plate has been partially forced into its position, the end must be withdrawn, or it would become pinched between the heel-plate and the shoe. This is effected by a projection on the plunger which comes in contact with an arm of a bill-crank lever, which acts upon an adjustable arm on the slide which carries the guide and withdraws the end of the holder from between the heel-plate and the heel.

The defendant's machine is also a press, and is described in the affidavit of the inventor, Mr. Richards, as follows:

"The defendant's machine consists in general of a frame work having a hollow post, and a column which reaches up and laterally and terminates over said post; a plunger

or slide having a vertical movement in said hollow post, and carrying on its upper end a suitable heel-die, such as I have already described in comparing dies; a lever and pitman for operating said plunger, and, depending from the upper end of said post, a platen or abutment, on which the heel-plate is secured by a clamp. This platen is hung upon a pivot, so as

to swing in a vertical plane upward to admit the attachment of the plates by the clamp in the way in which I have already stated, after which the platen is swung down into place over the plunger and die, where it is held by a stiff spring in the column against a suitable stop. A rubber shoe being held by the operator upon the die or anvil by his left hand, the plunger carrying the die is forced upward by the lever whose handle is grasped by the right hand, and the heel of the shoe in ascending is first presented to the prongs of the heel-plate and perforated by said, prongs, which, passing through the shoe, strike the die and are bent and clinched in the way I have already described. At this stage, the shoe is attached to the abutment or platen by means of the clamp which holds the heel-plate, and the clamp is thereupon released, thereupon releasing the shoe."

The first and third claims include the guide, F, and the fifth claim includes the holder, F, and means to bring the same in contact with the rear portions of the shoe. Neither the platen, nor the clamp, nor the spring, nor these three parts of the defendant's machine in combination, are the guide or holder, F. The Richards machine has a holder, and the plate, having been secured to it, is brought by the operator into proper relations with the shoe; but the whole mechanism is a simple affair and is very different from the ingenious mechanism belonging to the guide, F, or the holder, F. The same result is accomplished, but in the Richardson machine the guide and holder and the actuating mechanism do the whole work of holding and guiding the heel-plate so as to be always in the proper relative position with the shoe. The Richards machine resembles an ordinary press in which the heel-plate is clamped upon one post and is brought into contact with the shoe by means of the plunger which carries the die, and if the shoe is properly held upon the die by the hand of the operator, the shoe and the heel-plate will naturally be in proper relative position.

Let there be a temporary injunction restraining the defendant from the infringement of 296,623 by the use of any radially-placed inclined planes.