No. 692,128. Patented Jan. 28, 1902.

V. A. FABRYCKI.

DETACHABLE SHOE HEEL.

(Application filed Jan. 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

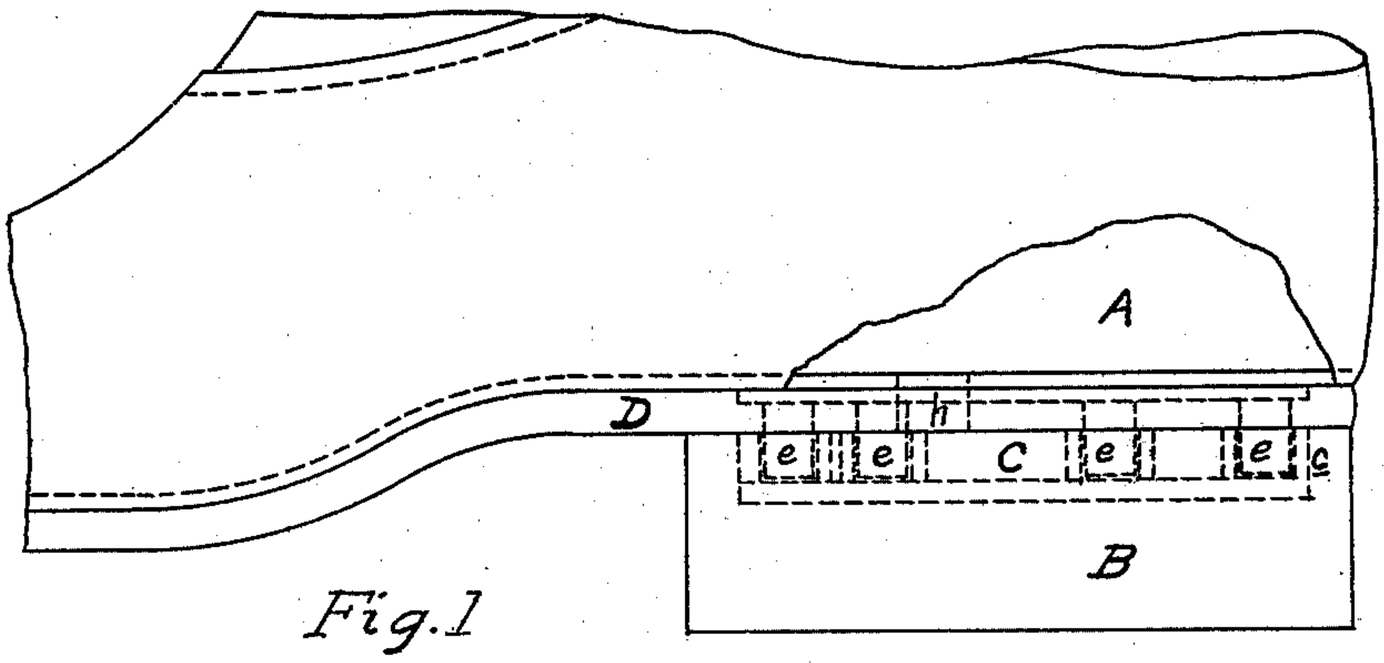

Fig. 1

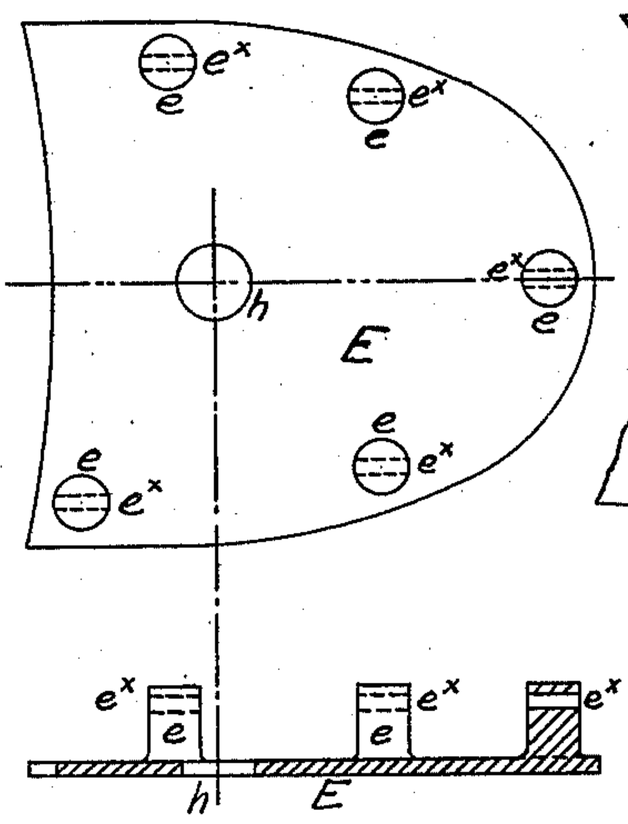

Fig. 2

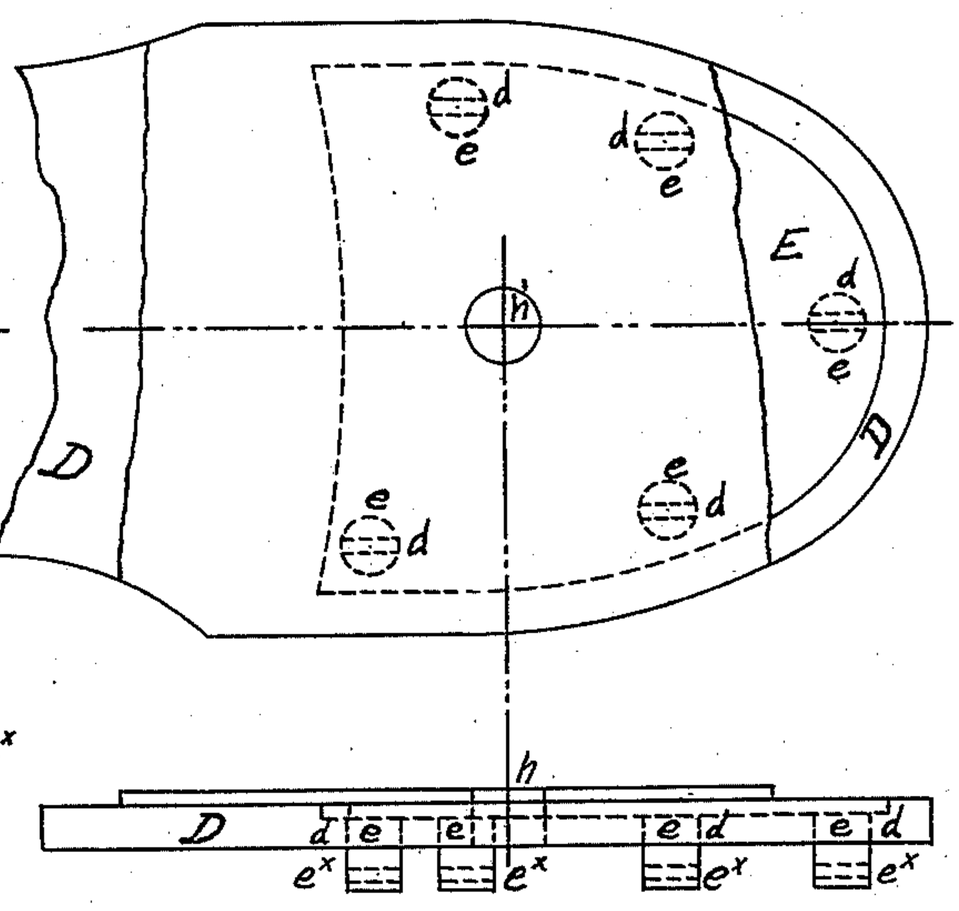

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

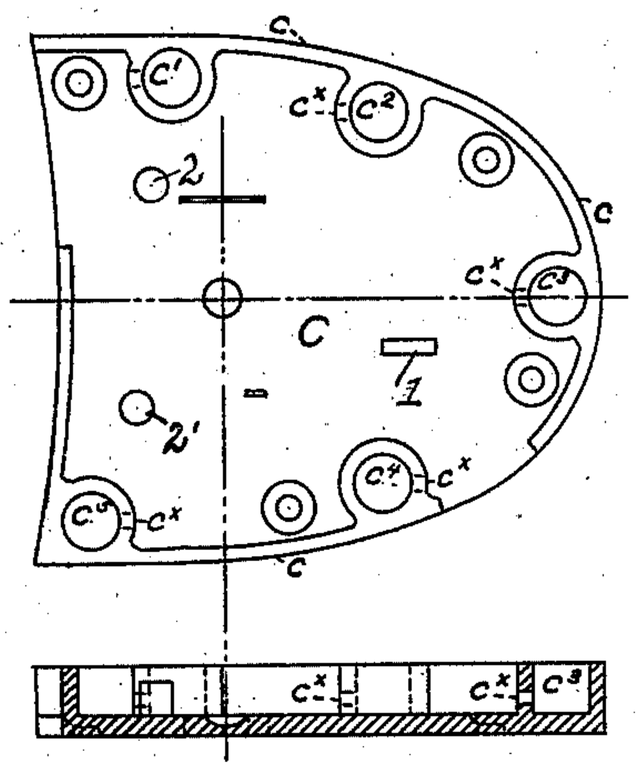


Fig. 5

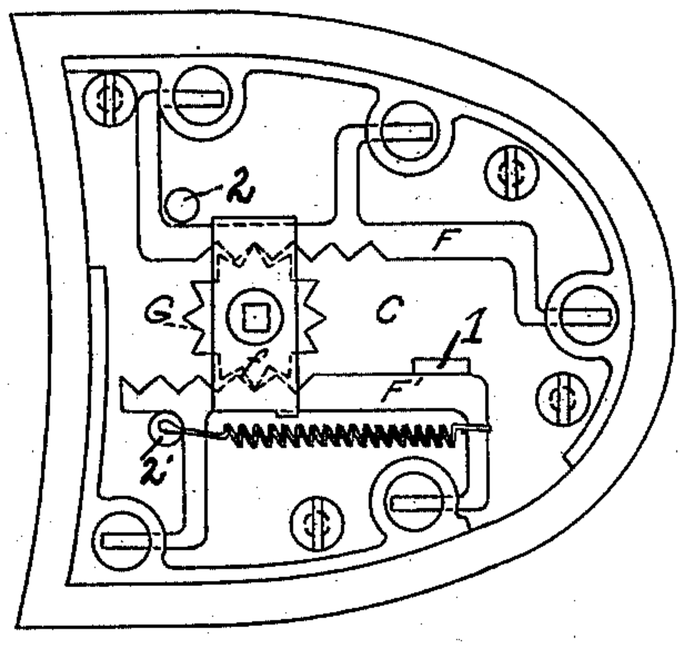
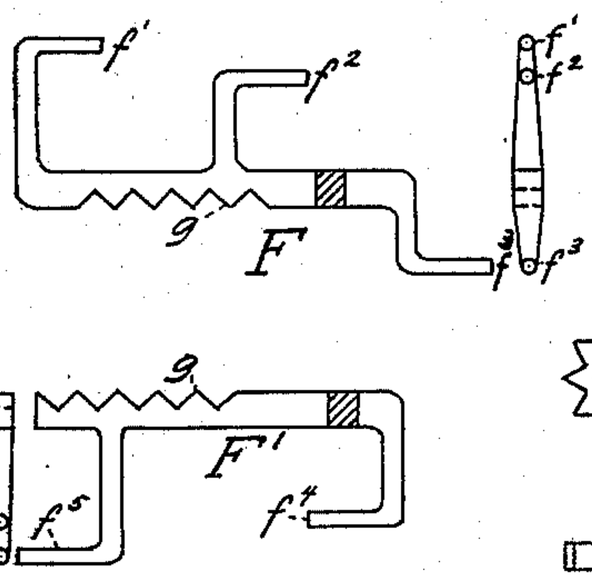


Fig. 4



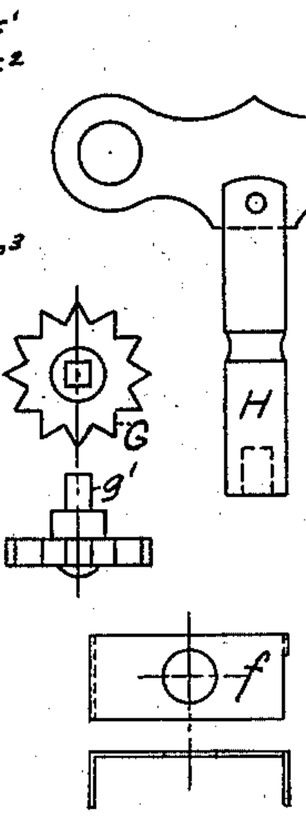


Fig. 7

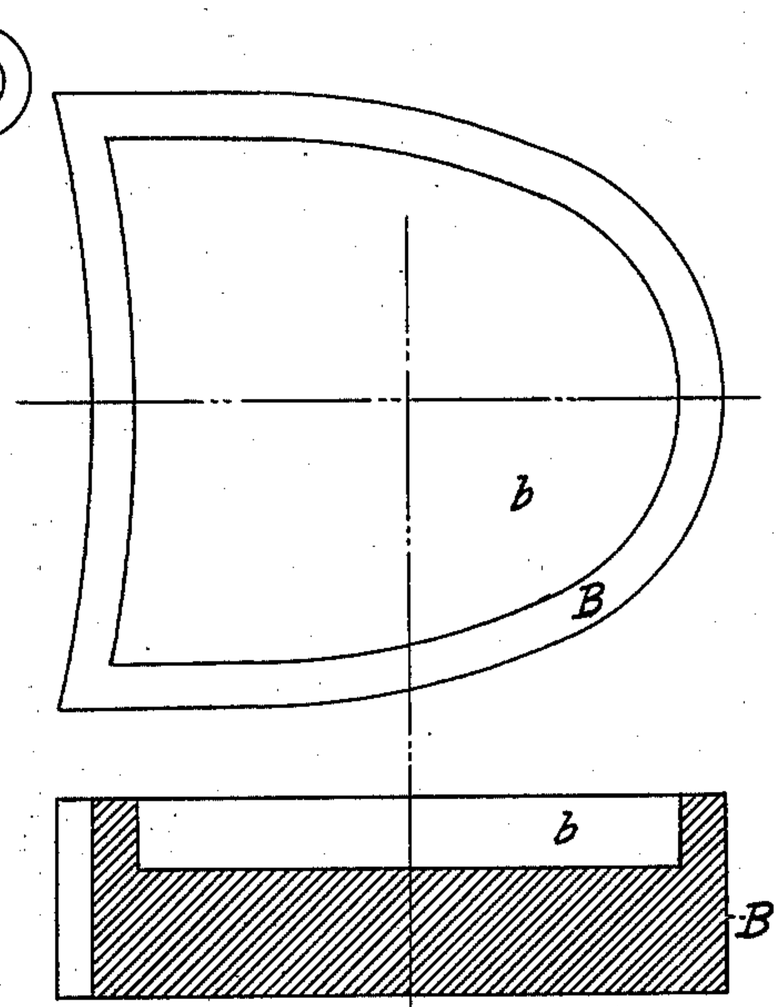


Fig. 6

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UNITED STATES PATENT OFFICE.

VINCENT A. FABRYCKI, OF LASALLE, ILLINOIS.

DETACHABLE SHOE-HEEL.

SPECIFICATION forming part of Letters Patent No. 692,128, dated January 28, 1902.

Application filed January 23, 1901. Serial No. 44,489. (No model.)

To all whom it may concern:

Be it known that I, VINCENT A. FABRYCKI, a citizen of the United States, residing at Lasalle, in the county of Lasalle, State of Illinois, have invented certain new and useful Improvements in Detachable Shoe-Heels, of which the following is a specification.

The object of my invention is to provide for the ready and secure attachment of the heel to the shoe or its detachment therefrom by mechanism controlled from the inside of said shoe, and to this end I secure to the shoe-sole a base-plate having a series of tongues or projections which are engaged by locking-bolts which are shot transversely through said projections and retracted therefrom by a rack-and-pinion arrangement operated by a key, the above mechanism being carried by a counterpart plate also having tongues or projections which engage with those of said base-plate and are locked thereto by the bolts when the latter are actuated, all as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation, partly broken away, of a shoe embodying my invention, the interlocking apparatus being indicated in a general way by dotted lines. Fig. 2 represents the sole or base-plate in top plan and longitudinal section. Fig. 3 represents in top plan and edge elevation the arrangement of said plate in relation to the sole and insole. Fig. 4 is a top plan view of the heel-plate and its attachments in position upon the heel proper. Fig. 5 represents details of said heel-plate, in top plan and longitudinal section, stripped of all movable accessories. Fig. 6 gives like details of the blank heel before the plate is attached thereto, and Fig. 7 comprises in detail the various movable parts of the mechanism detached and individualized.

Referring now to said drawings, A represents the shoe proper, and B the detachable heel thereof. This heel may be built up of leather lifts, molded of rubber or other material, cut out of a wooden block, or otherwise constructed. As a blank it is formed with a socket *b* in its upper face or seat, conforming in outline to the outline of its walls. C is a plate of the plane dimensions and outline of said socket and having peripheral upstanding flanges *c* of the height of said socket and adapted to fit snugly against and brace the walls thereof. This plate has also upstanding hollow bosses c' c^2, &c., transversely perforated at $c^\times$, rising flush with said flanges and preferably, though not necessarily, merging therein. Suitable fastenings secure the plate firmly and permanently to the heel.

The shoe-sole D is punched or perforated, as at *d*, to correspond with the arrangement and position of the several bosses of the heel-plate, and the sole-plate E, having lugs *e*, transversely perforated at $e^\times$, adapted to enter and snugly engage said bosses and register the perforations $e^\times$ and perforations $c^\times$, one with the other, is applied thereto by passing said lugs through said perforations in the sole from above and securing the plate to the top of the sole by riveting or otherwise.

As thus far constructed if the heel is applied to the shoe the lugs of the sole-plate will enter the bosses of the heel-plate and heel and shoe will fit together, as represented in Fig. 1, but will not be held together in the absence of other agencies. To provide, therefore, for locking the parts together and readily unlocking them for separation, sliding bars F F′ are applied to the heel-plate and confined thereto between the flanges *c* by a strap *f* in such manner that when actuated their bolting-fingers f' f^2, &c., will engage in the registered perforations $c^\times$ and $e^\times$ of the bosses of the one plate and the lugs of the other after the lugs *e* have entered the recesses in bosses c' c^2, &c., and thereby prevent the parts being separated. In the present case I have shown two locking-bars, one of which has three forwardly-projecting bolting-fingers f', f^2, and f^3, to respectively engage the two bosses c' and c^2 at one side of the heel, and one end bolt f^3, to engage the boss c^3 at the rear center of said heel, and the other being provided with two bolting-fingers f^4 and f^5 to engage the two bosses c^4 and c^5 at the opposite side of said heel from the first bar. The number of bolting-fingers and their arrangement, as well as the number of sliding bars or bolts, will of course depend upon the number and disposition of the bosses or lugs.

In order to operate the bolts simultaneously, each sliding bar is formed with a rack *g* along the edge opposed to the other bar, and with these racks engages a pinion G, having

a key-stem g' journaled in the heel-plate and also in the aforementioned strap f, bridging and confining said bars. The squared head of the key-stem projects upward above the bridge-strap, so as to be reached by a key H, inserted through a hole h in the sole-plate and either covered by the insole or matching a perforation h' therethrough. If, as in the former instance, the orifice h is covered by the insole, the same is not securely fastened to the sole-plate, but is loosely fastened, so the same can be readily lifted and access gained to the orifice h. Since the bars must move in reverse directions under the interengagement of the pinion, the bolting-fingers of the bar F′ are returned upon the bar itself to point to the front, while those of the other point to the rear.

Guide-pins 1 and stops 2 2′ are provided to aid the bridge-strap in keeping the sliding bars up to the pinion, and from one of said bars F′ a retracting-spring is extended to the corresponding pin or other suitable point of attachment and acts to hold the bolts normally closed or to return them to a closed position when once withdrawn therefrom.

For the purpose of applying the heel to the shoe the bolts are first withdrawn by means of the key sufficiently to open the bosses, the two members then fitted together, and the key released or withdrawn, when the spring will immediately shoot the bolts home, completing the fastening. To detach the heel, the bolts are simply withdrawn by means of the key, when the heel will drop off.

While I have described the bosses as formed upon the heel-plate and the corresponding lugs upon the sole-plate, it is evident that their positions may be reversed without departing from the principle of my invention; but there are obvious reasons why the sliding bars and bolts should remain on the heel-plate whatever the disposition of the lugs and bosses. It is evident also that the spring whereby the bolts are automatically shot home may be omitted and said bolts both advanced and retracted by the key.

I claim—

1. The combination with a shoe-sole having lugs on its under face, of a detachable heel carrying recessed bosses for receiving said lugs, and spring-actuated sliding means carrying fingers engaging through said lugs and bosses, and means for actuating said means from the shoe-sole, substantially as described.

2. The combination of the sole, the base-plate attached to said sole and having downwardly-projecting lugs and a perforation for the insertion of a key, the heel-plate attached to the seat of the heel and having recessed bosses to receive said lugs, the two sliding rack-bars having bolting-fingers to engage and lock said lugs and bosses, and the pinion engaging with the racks of said bars and having a key-stem registering with the perforation in the base-plate.

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