April 30, 1935. E. SMITH 1,999,918

APPARATUS FOR CUTTING SHOE SOLES AND HEELS

Filed April 11, 1934

Fig. 1.

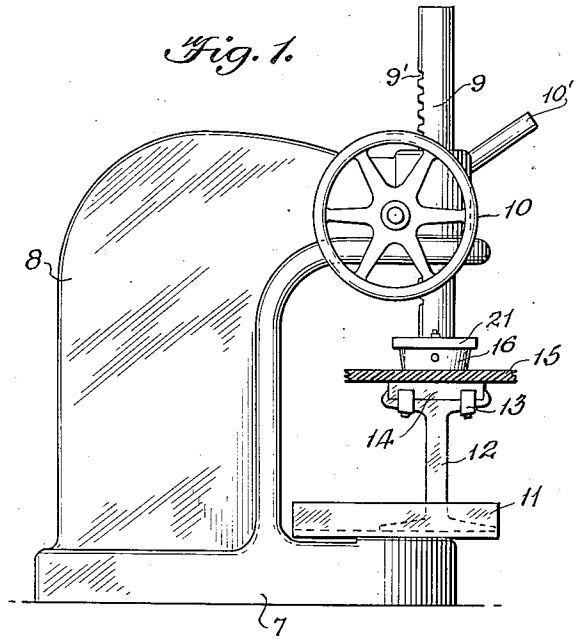


Fig. 2.

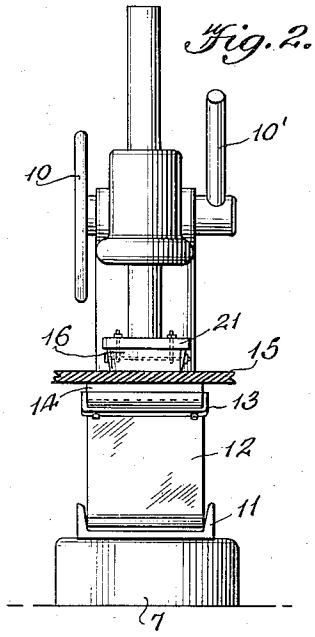


Fig. 4.

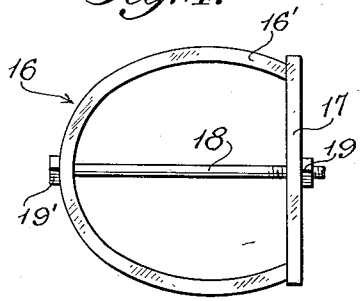
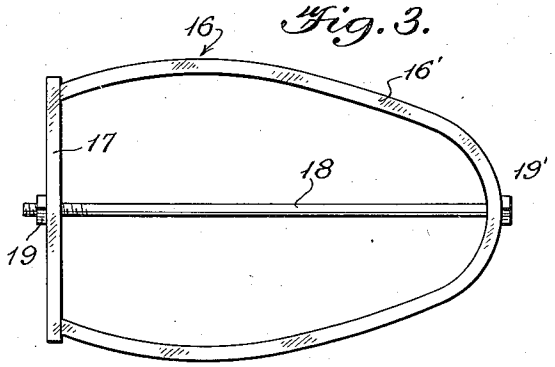


Fig. 3.



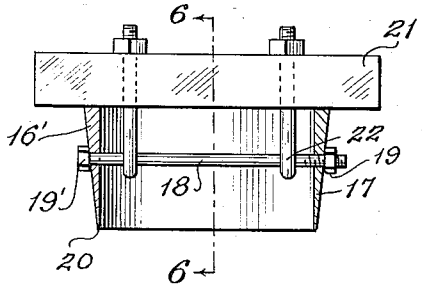


Fig. 5.

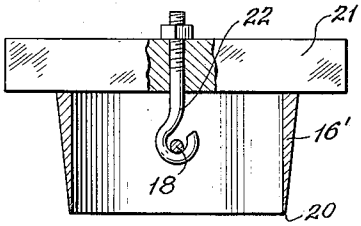


Fig. 6.

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UNITED STATES PATENT OFFICE

1,999,918

APPARATUS FOR CUTTING SHOE SOLES AND HEELS

Emil Smith, Flint, Mich.

Application April 11, 1934, Serial No. 720,136

1 Claim. (Cl. 164—26)

My invention relates to the manufacture of shoe soles and heels.

An important object of my invention is to provide a novel cutting or punching apparatus especially adapted for the manufacture of soles and heels from discarded automobile tires and tubes.

A further object is to provide novel cutter members for the apparatus.

Still another object is to utilize discarded air chambers for use as shoe soles and heels.

Another object is to provide a simple, efficient and easily operable punching press having no complicated parts.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts in all views,

Figure 1 is a side elevation of the cutting apparatus showing a fragment of a discarded air chamber arranged thereon and in position to be cut into a sole or heel;

Figure 2 is a front view of the same;

Figure 3 is a top plan view of a heel cutter;

Figure 4 is a similar view of the sole cutter;

Figure 5 is a sectional view of a cutter connected to a coupling plate, and

Figure 6 is a view taken on the line 6—6 of Figure 5.

In the drawing wherein for the purpose of illustration, is shown a preferred embodiment of my invention the numeral 7 designates the base of the press or punch and 8 the upright or standard. A vertically reciprocating plunger 9 is slidably mounted in a lateral offset of the standard and is operable by the hand-wheel 10 or lever 10' through means of gearing (not shown) meshing with teeth 9' carried by the plunger.

Secured to the base 7 beneath the plunger is a channel-shaped member 11. An I-beam 12 is slidably arranged in said member 11 and is provided with upstanding lugs 13 for confining a wooden cutting block or the like 14.

The discarded air chamber is shown at 15 and is arranged on the block 14 when a sole or heel is desired.

The novel cutter element shown in Figures 3 and 4 is indicated at 16 and comprises a U-shaped member 16' and a cross cutter 17 which bridges the free ends thereof. A centrally and longitudinally arranged tie rod 18 fastens the cross cutter to the U-shaped part which is held in fixed position by the nut 19 threaded to the rod 18. As will be noted the tie rod has a head 19' and extends through aligned openings in the cross cutter and U-shaped element. The rod is easily removable from the cutter and the same may be easily disassembled or broken parts may be conveniently and easily replaced. The cutter, as seen in Figures 5 and 6 has wedge-shaped blades 20 which taper downwardly to a cutting point to provide a rigid and serviceable cutter which may be easily kept sharpened. Figure 3 differs from Figure 4 only in the design,—Figure 4 being adapted for cutting heels, and Figure 3 for cutting soles.

Connected to the cutter 16 is a metal plate 21 of substantial thickness and weight as shown in Figures 5 and 6. This plate acts as a bearing surface for the plunger 9 on the cutter and carries suitable coupling means 22 for engaging the tie rod 18. The coupling means shown in the present instance are hooks but other means may be employed. If desired, the coupling means may be omitted from the plate 21. However, the coupling is desirable in that it tends to arrest any lateral movement of the cutter when pressure is applied to it. It will be noted that the cutter is not fixed to the plunger and is removable from the apparatus. This cutter is placed over the air chamber 15 and when pressure is applied to the plunger 9 the cutter 16 is forced through the rubber 15 to the wooden block 14 whereby upon release of the pressure a shoe sole or heel is cut from the blank 15 and is ready for use.

In order to properly center the device the I-beam is slidable laterally on the channel-shaped member 11. Such centering is necessary when different size cutters, such as for a heel or sole, are placed in the press. Ready and easy adjustable means is provided by such an arrangement.

As will be appreciated, a very simple apparatus has been devised for cutting soles and heels from discarded rubber tires and the like.

It is to be understood that I have illustrated and described a preferred embodiment of my invention but that various changes in shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention and the scope of the subjoined claim.

Having thus described my invention what I claim is:

Apparatus for cutting soles and heels comprising a punching apparatus having a channel-shaped bed plate, a material supporting device comprising an I-beam slidably mounted in said channel of said bed plate, said device confining a cutting block on the top thereof, and cutting means adapted for association with said block.

EMIL SMITH.