Jan. 23, 1923. 1,443,327

W. L. TOURTELLOT.
CLICKING MACHINE BLOCK.
FILED MAR. 22, 1920.

Fig. 1.

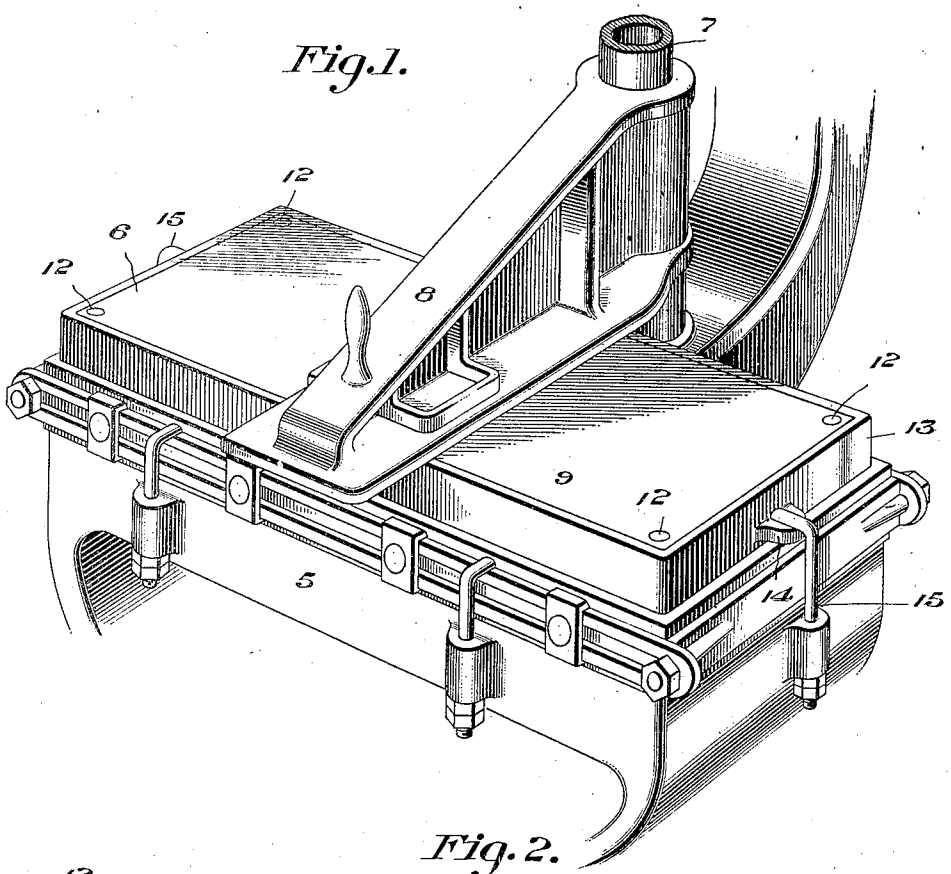


Fig. 2.

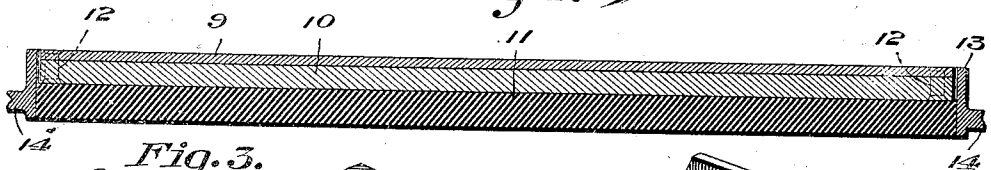


Fig. 3.

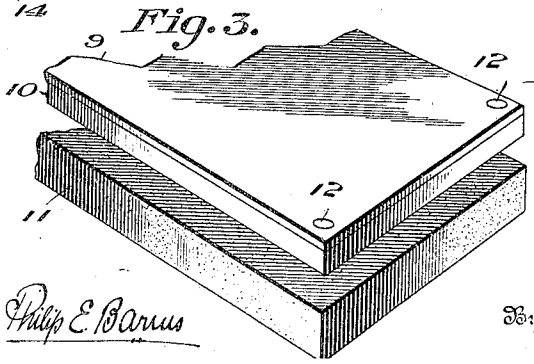
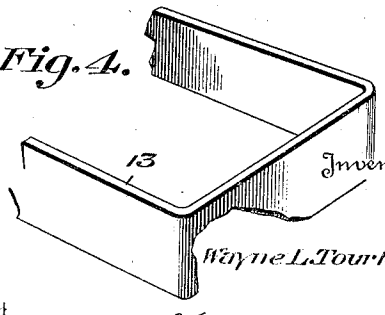


Fig. 4.



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UNITED STATES PATENT OFFICE.

WAYNE L. TOURTELLOT, OF AKRON, OHIO, ASSIGNOR TO THE GOODYEAR TIRE & RUBBER COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

CLICKING-MACHINE BLOCK.

Application filed March 22, 1920. Serial No. 367,795.

To all whom it may concern:

Be it known that I, WAYNE L. TOURTELLOT, a citizen of the United States, and resident of Akron, Ohio, have invented new and useful Improvements in Clicking-Machine Blocks, of which the following is a specification.

The present invention relates to improvements in cutting or stamping machines for cutting or dieing out blanks from sheet material, such for instance, as soles for shoes, and has particular reference to the cutting blocks or tables upon which the cutting or dieing out operation is performed. The invention as herein shown is applied to what is commercially known as a "clicking machine" although it will be understood, as will be readily apparent, that my improved device can be used to advantage generally in the particular art to which it relates.

At the present time the cutting blocks commonly used for this purpose consists usually of uncovered wood, or of wood or other material having the cutting surface covered over with a sheet of comparatively soft metal such as zinc. In the case of the wooden blocks the expense of resurfacing or planing the blocks from time to time is considerable, and the loss due to interruption of production on account of such resurfacing is an item of no small importance.

When a zinc plate is placed over the top surface of the block, the die has a tendency to bite too deeply into the zinc, due to the absence of resiliency in the block, stopping the clicking machine head from completing its stroke.

It is one of the principal objects of the present invention to provide a cutting block having a comparatively soft top or cutting surface, the block being so constructed as to be sufficiently yielding or resilient that the die operating under the clicking head will function properly, making a clean, sharp cut, without the die sticking in the cutting surface of the block.

Another important object of the invention is to provide a construction of cutting block in which the element of resiliency is evenly distributed relative to the entire surface thereof so that the clicking head and die will operate with the same efficiency at all times, over any portion of the surface of the block.

Other objects and advantages will become readily apparent when the following description is read in conjunction with the accompanying drawings, certain features of construction and combination of parts for which protection is desired being assembled and pointed out in the claims appended hereunto and forming a part of this specification.

In the drawing, wherein I have illustrated a preferred type of my invention.

Figure 1 is a perspective view of a portion of a clicking machine with my improved cutting block mounted thereon.

Figure 2 is a longitudinal vertical section of the block comprising my invention.

Figure 3 is a fragmentary disassembled perspective of a portion of the device; and

Figure 4 is a perspective of a portion of the rim or retaining band.

The portion of a clicking machine shown in the drawing is of a well known type and comprises a table or base 5 upon which has been mounted my novel cutting block designated by the numeral 6. This type of machine embodies a vertical reciprocatory post or shaft 7 and a swingable clicking head or beam 8 carried thereby, the latter being manually swingable about the post in order that it may be positioned over any desired portion of the surface of the table 5. Usually in this type of machine a die is employed which is manually shifted over the material placed upon the cutting block, and is driven home by the reciprocating shaft 7 and beam 8. No particular mechanism for reciprocating the shaft 7 has been illustrated, it being understood that the machine per se forms no part of the present invention and therefore needs no further description.

The cutting block 6 which constitutes the subject matter of this invention, I have constructed of three layers of material rectangular in shape and of the same length and the same width. The upper layer 9 forming the cutting surface is preferably formed of a soft type of metal such as zinc or the like, the intermediate layer or reinforcement 10 for the upper layer is of relatively harder material such as steel, while the third or lower layer 11 is composed of rubber or some resilient material which forms a cushioning element. Preferably

the layers 9 and 10 are riveted together as shown at 12.

A retaining band or rim 13 is designed to fit snugly around the edges of the layers, composing the clicking block, to maintain the same together as a unitary structure, and at the same time permit a free vertical movement of the upper layers against the resilient lower layer. The band or rim 13 is provided with protruding lugs 14 which are adapted to be engaged by such means as clamp hooks 15 whereby the block is rigidly secured in operating position upon the bed 5. If desired the cushioning element 11 may be vulcanized at its edges to the retaining band 13 to prevent any tendency of the rubber or other resilient material to creep under the pressure transmitted to it by the head or beam 8.

By means of this retaining band 13 the rubber cushioning element is confined at its margin thereby preventing elongation or lateral movement of the outer portions thereof under the blow of the head or beam 8 against the die. This eliminates the tendency of the material in the cushioning element 11 to spread or flatten out around the zones adjacent its edges when the die is forced home near the edge of the block, thus providing for uniform resiliency throughout the area of the cushion.

This feature is of primary importance particularly in machines of the characters illustrated wherein the clicking head must drive the die home, that is through the material, upon any portion of the bed surface by the same length of stroke and with such precision that any variation of the degree of resistance of the material supporting surface results in jamming or sticking the die at that portion of the surface presenting the greater resistance.

By means of a block constructed as above described this tendency of the die to stick or jam, found in operating with clicking beds as now constructed, is practically eliminated and a clicking block is provided which does not readily deteriorate as do the commonly used wooden blocks, which constantly need resurfacing and adjusting.

While a simple and preferred embodiment of my invention has been shown and described it is to be understood that various changes in form and structure may be resorted to without departing from the spirit of the invention, for instance the upper and second layers may be combined in a unit of metal such as a soft metal having a chilled or hardened under surface or the reverse if desired. Various devices may be substituted for the returning band 13, other forms of cushioning means may be used and a different order of assembly of the several devices may be adopted, all of which fall within the scope of the appended claims.

What I claim is:

1. A cutting block comprising an upper layer or die receiving surface, an intermediate layer or backing, a bottom layer or cushioning element, and a retaining band extending around the edges of the latter layer.

2. In a cutting block constructed of a plurality of layers, an upper layer forming a die receiving surface of a comparatively soft material, an interposed layer of a comparatively hard material and a bottom layer of a resilient material.

3. In a cutting block for clicking machines, an upper layer of comparatively soft metal, an intermediate layer of harder metal than said first layer, a bottom layer of rubber, and a retaining band around the edges of the layers.

4. A cutting block including, a resilient slab, a hard metal plate superposed upon the slab, a second plate of softer material superposed upon the first plate and attached thereto, and a retaining band binding the edges of the slab, and having portions projecting above the slab to confine the first and second plates against lateral movement with respect to the slab.

5. A cutting block including, a rubber supporting slab, a retaining band to which the edges of the slab are vulcanized, surrounding the slab, the band having portions projecting above the slab, a metal plate superposed upon the slab, and a second relatively softer metal plate superposed upon the first plate and attached thereto the plates being confined by the projecting portions of the band, against lateral movement with respect to the slab.

6. A cutting block including, a resilient supporting slab, a metallic plate superposed upon the supporting slab, the plate having its upper surface and its lower surface finished to different degrees of hardness, and means adjacent the edges of the slab and the plate for confining said slab and plate against lateral movement with respect to each other.

7. A cutting block including, a resilient supporting slab, a soft metallic plate superposed thereupon, and having a hard finished lower surface, and means adjacent the edges of the slab and the plate for confining said slab and plate against lateral movement with respect to each other.

8. A cutting block including a supporting slab of rubber material, a soft metallic plate superposed thereupon, and having a hard finished lower surface, and a metallic band surrounding the edges of the slab and plate to confine them against lateral movement with respect to each other.

9. A cutting block including a supporting slab of rubber, a retaining band to which the edges of the slab are vulcanized, sur-

rounding the slab, the band having portions projecting above the slab, and a metal plate superposed upon the slab and guided for vertical movement with respect thereto by the projecting portions of said band, said plate having its lower surface of a greater degree of hardness than its upper surface.

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

WAYNE L. TOURTELLOT.

Witnesses:
A. J. KNIGHT,
J. E. KEATING.