Oct. 6, 1925.

1,555,993

H. W. LARSON

NAIL DRIVING TOY

Filed Feb. 11, 1924

FIG. 1.

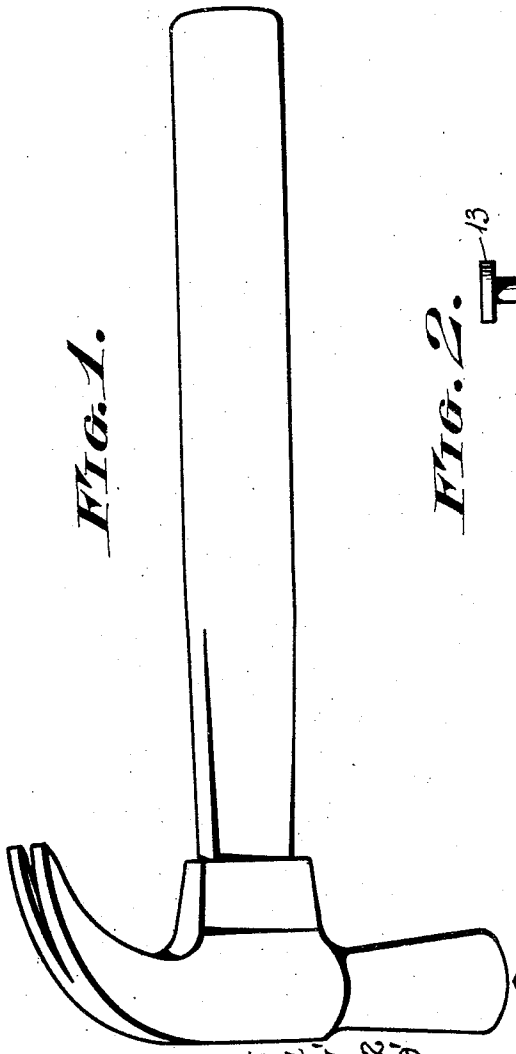
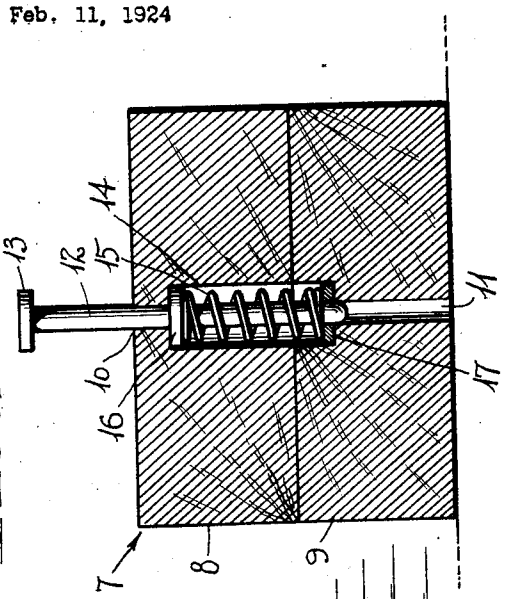


FIG. 2.



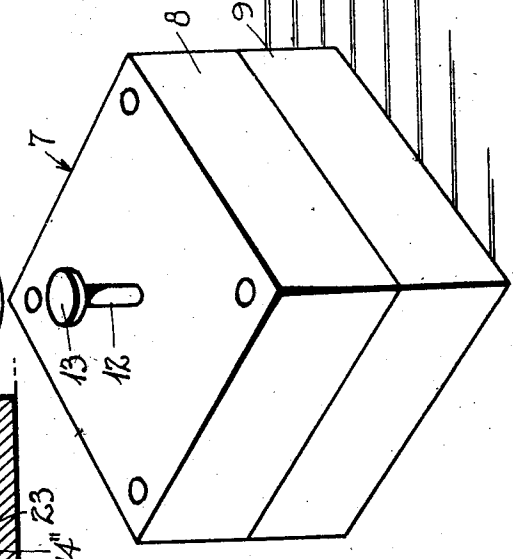
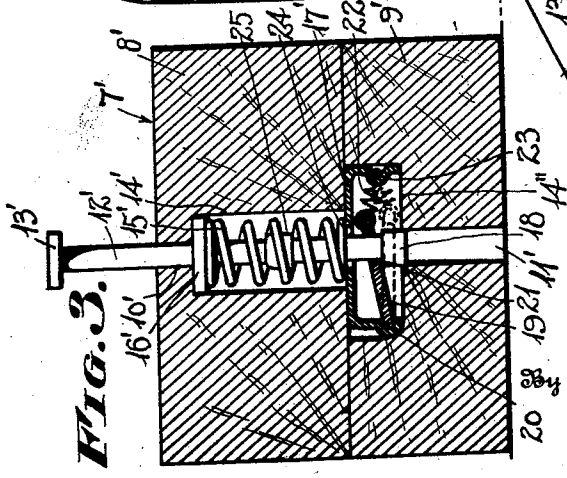


FIG. 3.



Inventor:

H. W. LARSON,

By Louis C. Miller

Attorney.

Patented Oct. 6, 1925. 1,555,993

UNITED STATES PATENT OFFICE.

HARRY W. LARSON, OF PINGREE, NORTH DAKOTA.

NAIL-DRIVING TOY.

Application filed February 11, 1924. Serial No. 692,099.

To all whom it may concern:

Be it known that I, HARRY W. LARSON, a citizen of the United States, residing at Pingree, in the county of Stutsman and State of North Dakota, have invented certain new and useful Improvements in Nail-Driving Toys, of which the following is a specification, reference being had therein to the accompanying drawing.

The present invention relates to toys, and aims to provide a novel and amusing toy for children that are fond of driving nails.

An object of the invention is the provision of a nail driving toy having a nail in a block or body that can be repeatedly driven into the block or body by a hammer, so that the toy will last indefinitely, giving the child a source of amusement.

Another object is the provision of such a device having spring means for projecting the nail after it is driven into the body or block, for the repeated driving of the nail, without destroying or injuring the toy.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts, as hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a perspective view of the toy.

Fig. 2 is a vertical section thereof, portions being shown in elevation.

Fig. 3 is a view similar to Fig. 2 showing a more improved construction.

In carrying out the invention, there is provided a block or body 7 of wood or other suitable material, composed of the upper and lower sections 8 and 9, respectively, which have the vertical alining holes 10 and 11 in which the nail 12 is slidable snugly. Said nail normally projects above the block 7 and has the usual head 13 at its upper end to be struck by a hammer or other driving implement. The block 7 has a recess 14 between the openings 10 and 11 in which a coiled spring 15 is disposed, said spring being confined between a collar 16 soldered or otherwise secured to the nail 12 and a washer 17 seating on the bottom of the recess 14. The nail 12 is slidable through the washer 17 and the collar 16 is movable in the recess 14, whereby when the nail is driven down the spring 15 is compressed, so as to project the nail upwardly after it is driven down into the block.

The parts are readily assembled when the sections 8 and 9 are detached, and after the nail is inserted in the section 8 and the collar 16 secured to the nail, the spring 15 and washer 17 are put in place, and the sections 8 and 9 are then secured together by nails or other securing elements, so that the spring is protected within the block. The nail can be driven into the block any number of times without injuring or destroying the device, and the toy will last indefinitely.

In Fig. 3 there is shown a further improvement, means being provided for preventing the nail 12′ being raised by the spring until the nail is completely driven down. Thus, the nail can be driven down by several blows of the hammer each moving the nail down part way, and the nail is not projected or raised until it is driven down the full amount. The block or body 7′ is composed of the upper and lower sections 8′ and 9′, respectively, having the apertures 10′ and 11′. The nail 12′ is slidable in the aperture 10′ and has a head 13′ at its upper end, and the section 8′ has the lower recess 14′ while the section 9′ has the upper recess 14″. The coiled spring 15′ is disposed in the recess 14′ between the collar 16′ secured to the nail 12′ and a cap-shaped member 17′ fitted in the recess 14″, whereby the spring 15′ will raise the nail when the nail is released for upward movement. The nail 12′ has a collar or enlargement 18 at its lower end slidable in the hole 11′, to assist in guiding the nail for vertical movement. The collar 16′, like the collar 16 of the first form, limits the upward movement of the nail and prevents the nail being withdrawn, said collar seating against the upper end of the recess 14′.

The means for holding the nail down until it reaches its lowermost position, comprises a gripping or binding dog 19 mounted for oscillatory movement within the member 17′, one end of the dog 19 being seated in the recess or notch 20 with which the rim of the member 17′ is provided. The dog 19 has an aperture 21 through which the nail 12′ extends, and when the dog 19 is swung upwardly, the edges of the aperture 21 bind or grip the nail 12′, to prevent the upward movement of said nail. A coiled spring 22 is confined between the free end of the dog

19 and the side of the member 17′ opposite to the notch 20. The spring has its ends suitably engaged with the dog 19 and rim of the member 17′. As shown, one end of the spring 22 has an eye or loop engaging through an aperture in the dog 19, and the other end of the spring engages an instruck portion 23 of the rim of the member 17′. The dog 19 and spring 22 are movable upwardly and downwardly beyond a neutral or intermediate position, whereby the spring 22 will swing the dog upwardly, when above the intermediate position, and will swing the dog downwardly when below such intermediate position.

The aperture 24 of the member 17′ through which the nail 12′ extends is larger than the nail to permit a collar 25 on the nail to pass down through said aperture to contact with the dog 19 when the nail is driven down the full distance. The collar 18 engages the dog from below when the nail is raised to its highest position, and the collars 18 and 25 operate the dog 19 automatically, as will presently appear.

When the nail 12′ is driven down, the dog 19 when in raised position, will permit the nail to move downwardly, but the dog 19 being swung upwardly by the spring 22 will bind or grip the nail, thereby preventing the nail from being raised. The nail can thus be driven down by several blows of the hammer, each moving the nail part way of its full movement, the same as when driving an actual nail into an object. When the nail is completely driven into the block or body 7′, the collar or shoulder 25 contacts with the dog 19 and forcibly swings the dog downwardly beyond intermediate or neutral position, as seen in dotted lines in Fig. 3, and the spring 22 will then swing the dog downwardly. This will release the nail 12′ so that the spring 15′ comes into play and projects the nail upwardly until the collar 16′ strikes the upper end of the recess 14′. At the same time, the collar or shoulder 18 contacts with the dog 19 from below and swings the dog upwardly beyond intermediate position, so that the dog is again in position to grip the nail as the nail is driven down. In this way, the nail is held down, while being driven, until it reaches its lower most position, at which time the nail is released and restored to raised position, ready for another operation. With this construction, the spring 15′ can be much stronger so that the nail has greater resistance to downward movement into the block, requiring several blows to drive the nail completely into the block.

Inasmuch as the nail is retained in the block, it need not be held by the fingers to be driven into place, so that there is no danger of the child hitting its fingers by the hammer, and the toy is therefore safe, and will satisfy the desires of a child having an inclination to driving nails.

Having thus described the invention, what is claimed as new is:—

1. In a nail driving toy, a block composed of sections secured together and having alining holes and a recess between the holes, a nail slidable in said holes and projecting from one of said sections to be driven into the block by a hammer, a collar secured on said nail within the recess to seat against one end of the recess when the nail is projected, a member seated against the opposite end of the recess and through which the nail is slidable, and a coiled spring surrounding the nail in said recess and confined between said collar and member, said spring and member being removable from said recess when said sections are separated.

2. In a nail driving toy, a block, a nail slidable in the block, spring means for projecting the nail, and means for preventing the projection of the nail until it is driven into the block to a predetermined position therein.

3. In a nail driving toy, a block, a nail slidable in the block, spring means for projecting said nail, a dog to grip the nail and prevent the projection thereof, and means for actuating said dog, to release and grip the nail when the nail is driven into the block and projected, respectively.

4. In a nail driving toy, a block, a nail slidable in the block, spring means for projecting said nail, a dog arranged in the block to grip said nail and prevent the projection thereof, spring means for moving said dog to gripping or releasing positions, a portion carried by the nail to contact with the dog and move it to releasing position when the nail is driven into the block, and a portion carried by the nail to contact with the dog and swing it to gripping position when the nail is projected.

In testimony whereof I hereunto affix my signature.

HARRY W. LARSON.