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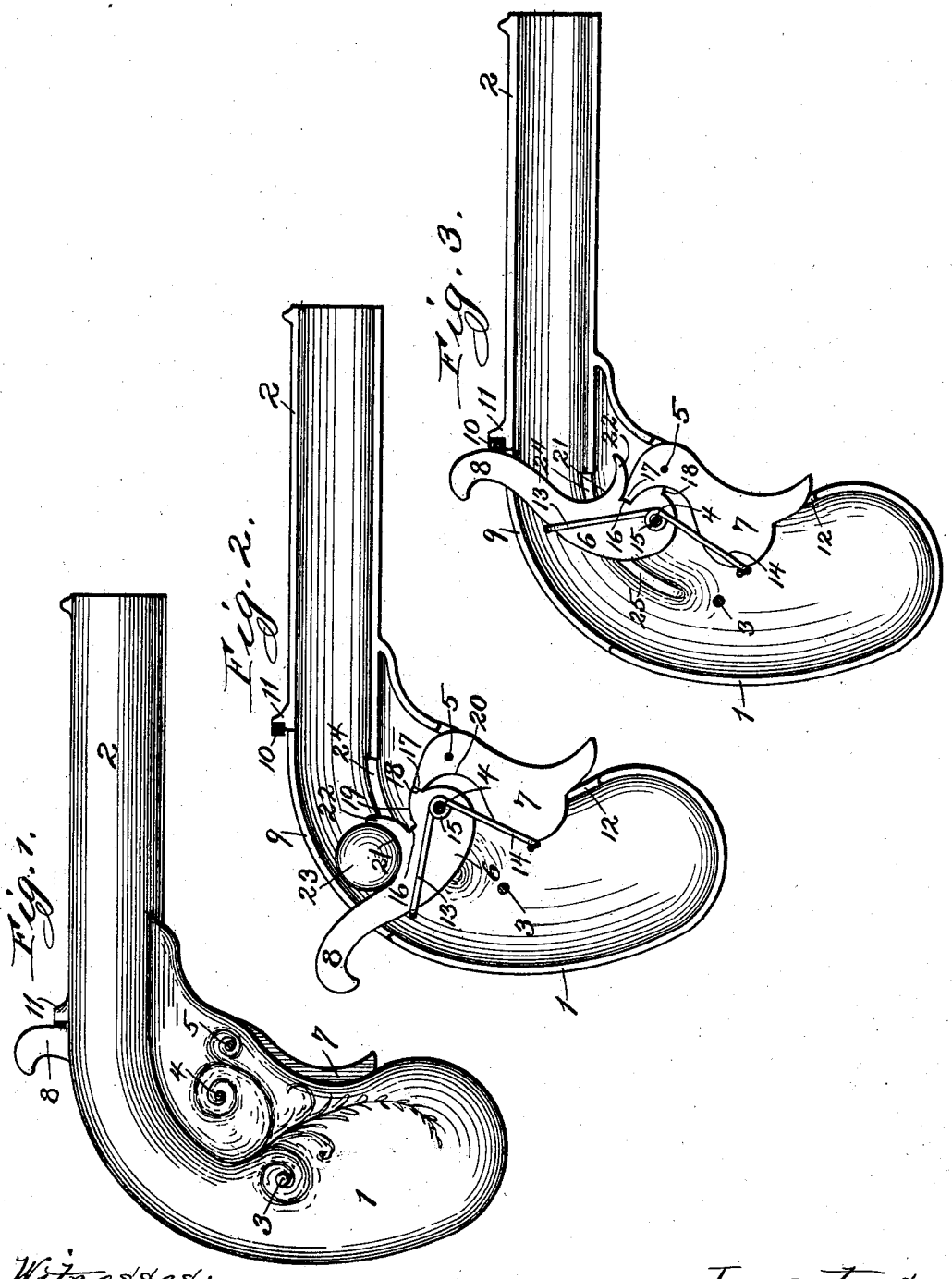
F. BUCHER & R. B. STEPHENSON.

MARBLE SHOOTER.

APPLICATION FILED MAR. 8, 1900. RENEWED JULY 16, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

FREDERICK BUCHER AND REES B. STEPHENSON, OF MORGAN PARK, ILLINOIS.

MARBLE-SHOOTER.

SPECIFICATION forming part of Letters Patent No. 720,558, dated February 17, 1903.

Application filed March 8, 1900. Renewed July 16, 1902. Serial No. 115,830. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK BUCHER and REES B. STEPHENSON, citizens of the United States, residing at Morgan Park, Cook county, Illinois, have invented certain new and useful Improvements in Marble-Shooters, of which the following is a specification.

Our invention relates to a construction which we have devised and primarily applied to a toy for projecting marbles and other small objects automatically instead of by means of the thumb and one of the fingers in the customary "knuckling" employed in playing marbles.

In order to fully disclose the nature of our invention, we annex hereto a sheet of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal section with the hammer cocked and the marble in position to be expelled when the trigger is pulled, and Fig. 3 is a similar section after the marble has been expelled and before another has been inserted.

The stock 1 and the barrel 2 are preferably made of two halves of metal stamped into shape and connected by the rivets or screws 3, 4, and 5. The hammer 6 and the trigger 7 may be likewise stamped out of metal, or all the parts may be cast, if desired. The hammer 6 is of the shape clearly shown and is pivoted upon the rivet 4 and in its uncocked position has its arm 8 extending up through the slot 9 left in the stock and rests against the cushion 10, which is preferably of rubber, and may be confined in a recess formed on the top of the barrel by the projection 11. The trigger 7 is pivoted upon the rivet 5 and has a portion of its front edge extending through a slot 12, formed in the stock 1 opposite to the slot 9. A spring 13 coöperates with the hammer 6, and another spring 14, which is preferably of less strength, coöperates with the trigger 7, and while these springs might be entirely separate we prefer to construct them of a single piece of spring-wire, which is bent to form a loop embracing the hammer 6 and forming the spring 13 and is then wound one or more times around the rivet 4, forming the coil 15, after which the ends are extended and joined together to form the loop constituting the spring 14, which embraces and coöperates with the trigger 7. The hammer 6 is provided with a shoulder 16, with which the nose 17 of the trigger coöperates when it is not cocked, as well as with the shoulder 18, with which the nose 17 of the trigger coöperates when it is cocked, as shown in Fig. 2. These shoulders 16 and 18 are formed radially from the center of the rivet 4 and are preferably connected by the surface 19, which is curved on the arc of a circle and coöperates with the reverse curve 20, formed on the rear edge of the trigger. The nose 17 of the trigger may be broadened a little to make its contact more certain by turning the end thereof outward to form a flange, as clearly shown in Figs. 2 and 3. The hammer 6 is provided with the concave surface 21, which is terminated by the lug 22, formed between said surface 21 and the shoulder 16.

The operation of the device will now be apparent. To load it, the marble 23 is dropped into the muzzle of the barrel when the parts are in the position shown in Fig. 3, after which the hammer is drawn back until the shoulder 18 catches over the nose 17, when the hammer is cocked and ready for a discharge. As the hammer is drawn back the lug 22 rises up through the slot 24, formed in the curved continuation 25 of the barrel, so as to hold the marble securely in position and to prevent any possible displacement even if the muzzle should be turned downward. When aim is taken in the customary manner, the trigger is pulled against the resistance of the spring 14 sufficiently to release the shoulder 18 of the hammer from the nose 17 of the trigger, after which the spring 13, which was put under increased tension when the hammer was raised, forces the hammer forward, suddenly expelling the marble 23 with great force and accuracy. At the end of its movement the arm 8 contacts with the cushion 10, and the force of the blow is also broken by the shoulder 16 coming in contact with the nose 17 of the trigger.

While we have shown our invention as constructed in the form which we at present consider best adapted to carry out its purposes

and have shown it as applied to a marble-shooter, it will be understood that it is in certain details capable of being used elsewhere and is likewise capable of modifications, so that we do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the art.

What we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class described, the combination of the stock provided with the barrel, with the trigger and hammer, respectively, pivoted therein adjacent to each other, the trigger and hammer being provided with coöperating means to hold the hammer cocked and to release it, a spring coöperating with the hammer, and a lug moved by the hammer into the barrel when it is cocked and moved out as it is discharged, substantially as and for the purpose described.

2. In a device of the class described, the combination of the stock, with the trigger and hammer respectively pivoted therein and adjacent to each other, the trigger and hammer being provided with a nose and shoulder respectively coöperating to hold the hammer cocked and to release it, and a double spring coiled about the bearing for the hammer and one arm resting upon the hammer and the other arm upon the trigger, substantially as and for the purpose described.

3. In a device of the class described, the combination of the stock, with the barrel attached thereto and adapted to receive a projectile, a hammer pivotally mounted adjacent to said barrel and having an arm against which the projectile rests in all positions and the lug 22 projecting into the barrel to hold the projectile therein while the hammer is cocked, a spring coöperating with said hammer, and a trigger for releasing the hammer, substantially as and for the purpose described.

February 20, 1900.

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