

P. NORTH.

TARGET TRAP THROWING ARM.

APPLICATION FILED FEB. 29, 1904. RENEWED JULY 29, 1907.

934,093.

Patented Sept. 14, 1909.

Fig. 1.

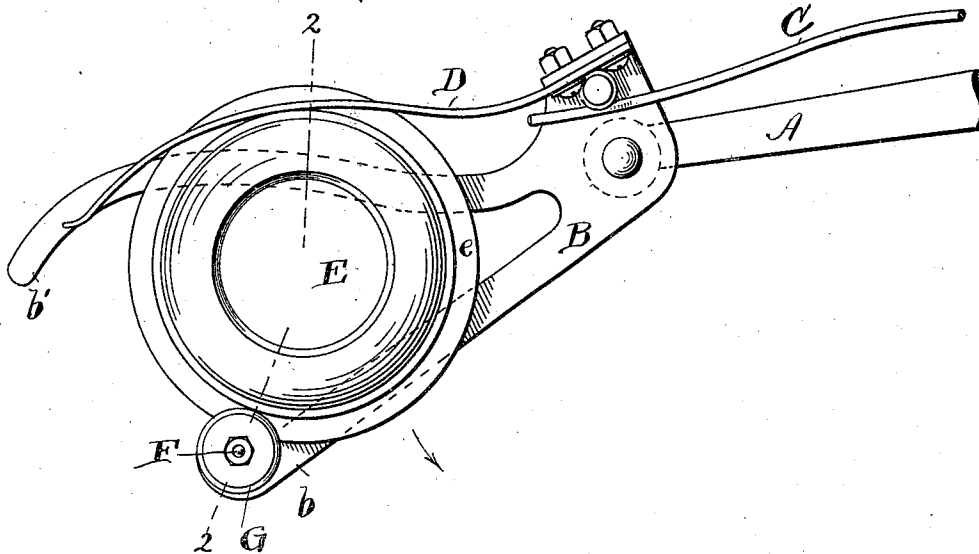


Fig. 2.

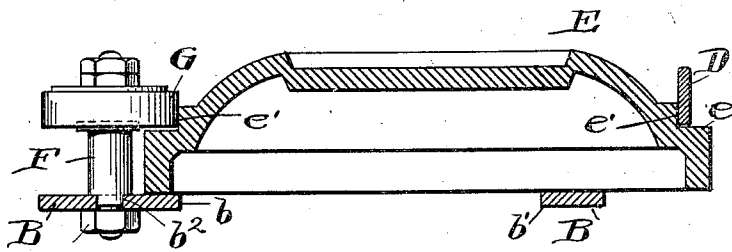
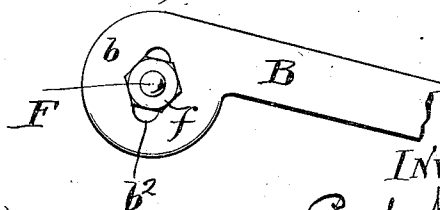


Fig. 3.



WITNESSES.

E. B. Gilchrist

B. W. Brockell.

INVENTOR.

Paul North
By his attorney
Thurston Bates

UNITED STATES PATENT OFFICE.

PAUL NORTH, OF LAKEWOOD, OHIO, ASSIGNOR TO THE CHAMBERLIN CARTRIDGE AND TARGET COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

TARGET-TRAP THROWING-ARM.

934,093.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed February 29, 1904, Serial No. 195,760. Renewed July 29, 1907. Serial No. 385,999.

To all whom it may concern:

Be it known that I, PAUL NORTH, a citizen of the United States, residing at Lakewood, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Target-Trap Throwing-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 The invention is an improvement upon that kind of target trap throwing arms whose holders have unobstructed top surfaces except for restraining devices which engage with the edge of the target at two points only, said devices being a fixed device and a yielding arm. These two restraining devices act only to prevent the target from moving in certain directions upon the holder until the centrifugal force of the target, due to the movement of the throwing arm, overcomes the resistance of the yielding device. The targets are free to move in all directions upon the holder except when they are blocked by said restraining devices or either of them.

25 In actual practice the person who puts the targets on the holder does not always put them down squarely, and very seldom places them in contact with both of the restraining devices. When, therefore, the trap is sprung, and the throwing arm begins to swing, said targets, under the influence of centrifugal force, may move outward and strike said restraining devices or one of them with considerable force. The result heretofore has been that not a few of said targets are broken by the impact. If the targets are tipped up at one side or the other at the moment of impact the liability to breakage is increased. But if, in the latter case, they are not broken but are thrown from the trap when so tipped, their flight is unsatisfactory.

40 The object of this invention is to minimize the breakage of targets in traps of the kind specified, and to insure that they shall be thrown in such manner as to cause them to fly best. These results are secured by so constructing and arranging the two restraining devices carried by the holder that the impact is received, not as it commonly is, on the comparatively weak depending annular flange-like edge of the target, but upon an external cylindrical surface of smaller diameter, located above the flanged lower edge,—which cylindrical surface, being in effect

part of the dish-like top of the target, is, 55 comparatively speaking, strong. The restraining devices which engage with said part of the target lie above and close to the larger flanged lower part thereof, and therefore act to hold the target squarely upon the smooth top surface of the holder. 60

Another specific characteristic of the novel construction permits the regulation of the tension of the spring upon the target by adjusting not the spring, but the other restraining device. 65

In the drawing, Figure 1 is a plan view of the upper end of the throwing arm of a target trap disclosing my invention. Fig. 2 is a vertical sectional view on line 2—2 of Fig. 1, and Fig. 3 is a bottom plan view of the outer end of that part of the holder on which the fixed restraining device is secured. 70

Referring to the parts by letters A represents the throwing arm which may be of any suitable form; and B represents the target holder which is pivoted thereto. It will be understood by those familiar with the art that the throwing arm is pivoted to a suitable support, and that suitable means must be provided for swinging it rapidly upon its pivot. 80

C represents a spring such as is ordinarily employed to maintain a normal position of the holder relative to the arm. 85

The holder B has two outwardly extended arms *b b'*, the top surface of which is as smooth as practicable. The intervening space between these two arms is cut away merely to reduce the weight and the friction incident to the movement of the targets thereon. 90

D represents a yielding arm in the form of a leaf spring which is secured to the holder with its lower edge at such distance above the top surface thereof that the lower flanged part *e* of a target E resting upon the holder, may pass beneath said spring. This spring lies partly over and adjacent to the arm *b'* of the holder. A post F is adjustably secured to the outer end of the other arm *b*. The lower end of this post is of reduced diameter and enters a slot *b²* in the holder arm, and a nut *f* which screws upon the threaded stem of this post furnishes means for fixing the post to the arm at any desired position relative to the spring. Upon this post is secured a rubber disk G whose 105

lower edge is in substantially the same plane as the lower edge of the spring C so that it may lie close to the flanged part *e* of a target, which passes beneath it. This rubber disk and the spring will both engage with an external cylindrical surface *e'* above the flanged lower edge of the target. The part of the target upon which this surface is formed is a part of the dish-shaped top of the target, and is very much stronger than the flanged part of the target below it.

It is apparent that the described construction will produce results above set forth as the objects of the invention.

The position of the post F relative to the spring D will, of course, determine what centrifugal force is required to overcome the restraining force of the spring before the target will be released.

Having described my invention, I claim;
1. The combination of a throwing arm, and a smooth topped target holder connected with the outer end thereof, with a vertical post secured to one side of the front end of said holder, a rubber disk of larger diameter secured upon said post and overhanging the same, and a spring arm secured to the holder with its lower edge in substantially the same plane with the lower edge of said disk,—said plane being a distance above the surface of the support slightly greater than the height of the marginal flange of the target which the device is adapted to throw, and said rubber disk being of such diameter that it overhangs the post far enough to engage with the same cylindrical surface on said

target, above its rim, with which said spring arm engages.

2. In a target trap, the combination with a carrier having a target supporting base, of a guide member mounted at one side of the base and comprising a contact rail adapted to overlie the projecting base flange of a target and engage an upper target portion of less diameter than said base flange, and a fulcrum stud carried on said base opposite said guide member, and provided with a target engaging portion adapted to overlie said base flange and engage the target in substantially the same transverse plane as said rail member.

3. In a target trap, the combination with a carrier having a target supporting base, of a guide member mounted at one side of the base and comprising a contact rail adapted to overlie the projecting base flange of a target and engage an upper target portion of less diameter than said base flange, and a fulcrum stud carried on said base opposite said guide member, having a target engaging portion adapted to overlie said base flange and engage the target in substantially the same transverse plane as said rail member, the rail and stud members being so arranged that the base flange of a target will be free from binding engagement therewith.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

PAUL NORTH.

Witnesses:

E. B. GILCHRIST,
E. L. THURSTON.