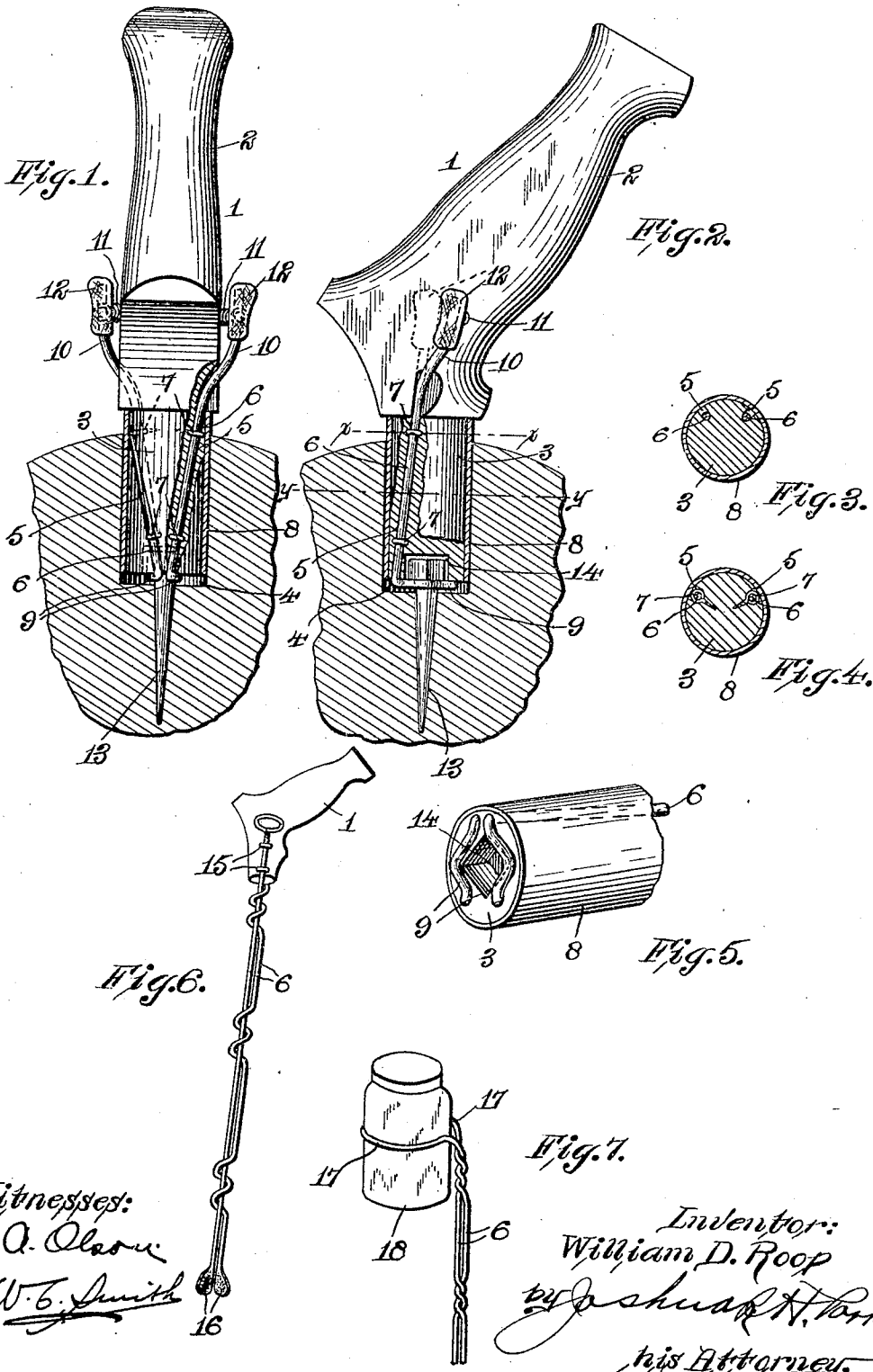


W. D. ROOP.
GRIPPING DEVICE.
APPLICATION FILED JULY 14, 1909.

944,052.

Patented Dec. 21, 1909.



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UNITED STATES PATENT OFFICE.

WILLIAM DICKEY ROOP, OF MARION, INDIANA.

GRIPPING DEVICE.

944,052.

Specification of Letters Patent.

Patented Dec. 21, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM D. ROOP, a citizen of the United States, residing at Marion, county of Grant, and State of Indiana, have invented certain new and useful Improvements in Gripping Devices, of which the following is a specification.

My invention relates to gripping devices and more specifically to gripping handles particularly designed for engagement of bowling balls to facilitate the accurate delivery or discharge thereof in playing.

The object of my invention is to provide a simply constructed yet efficient grip, by the aid of which, any one may throw a bowling ball with greater accuracy and ease than by the method now in vogue, but more especially to assist those who have a weak or delicate hand to engage in and enjoy the game of bowling equally with those who are more hearty.

A further object is to provide a device of the character mentioned which, by slight modification in its design such as is permissible without departing from the spirit of my invention, may be made to serve as an article of amusement or necessity.

A still further object is the provision of the device as mentioned which will be strong, durable and comparatively simple of construction hence of low cost to manufacture.

Other objects will appear hereinafter.

With these objects in view my invention consists in a gripping device characterized as above mentioned and in certain details of construction and arrangement of parts all as will be hereinafter fully described and more particularly pointed out in the appended claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which,

Figure 1 is a sectional front elevation of the preferred form of my device showing the application thereof to a bowling ball, a fragment of the latter being shown in section, Fig. 2 is a similar side elevation thereof, Figs. 3 and 4 are transverse sections taken respectively on the lines $x-x$ and $y-y$ of Fig. 2, Fig. 5 is a slightly enlarged perspective of the outer or lower end portion

of my preferred form of device showing the gripping jaws mounted thereon in opened or normal position, and Figs. 6 and 7 illustrate slightly modified forms of my device.

Referring now to the drawings 1 indicates the body of the device comprised in which is a handle piece or grip 2 which is formed so as to best fit the human hand, and a forwardly projecting substantially cylindrically formed integral shank 3, the latter being of a form and dimensions such as to adapt the same to be snugly received in the usual thumb hole 4 provided in a bowling ball. Rockingly secured upon the member 1 the same being preferably, although not necessarily, sunk in grooves 5 formed in the outer surface of the forward end or shank portion thereof are levers 6 so positioned that their forward extremities are disposed in close proximity with each other and their rearward ends terminate at the opposite sides of said member, as clearly shown in Fig. 1. If desired eyes or loops 7 embracing the levers 6 and secured in the body portion 3 may be employed to effect the positive and secure positioning of said levers in said grooves. A metallic sleeve 8 entirely inclosing or enveloping the body portion 3 is preferably employed to produce a smooth nonfrictional contacting surface for engagement with the lateral walls of the thumb-hole of the bowling ball engaged. Each of the members 6 is preferably formed of a piece of wire or slender metallic rod the forward end of which is bent downwardly to a position at substantially right angles to the body thereof to form a jaw or grasping portion 9, the opposite end being bent obliquely outwardly from the axial line of the body of the member to form an actuating stem or finger grip 10; it being clear that the relative positions of the portions 9 and 10 of said members are such that when the actuating stems 10 thereof are rocked downwardly and inwardly toward the handle, the jaws 9 will be opposing members, and that, being disposed sufficiently close to each other as before described, will be forced inwardly toward each other so as to embrace any object which may come between them, as clearly shown in Figs. 1 and 2. In order to effect the returning of said jaws to initial or open position, com-

pression coil springs 11 are preferably interposed between the extremities of the actuating stems 10 and the sides of the handle 2, the same being so arranged as to exert an upward outward pressure upon said stems, hence, upon the release of the latter, will be adapted to return the same, and hence the jaws 9 to initial position, such position of said stems and said jaws being respectively shown in dotted lines in Fig. 2 and in full lines in Fig. 5. Suitable pads 12 provided upon the extremities of the stems 10 serve an obvious purpose. Therefore, in order to employ my improved handle in connection with a bowling ball, I provide the latter with a suitable headed stud or pin 13 rigidly secured and centrally positioned in the bottom of the thumb hole thereof, sufficient space being left between the lower extremity of said head and the bottom of said cavity to receive the grasping jaws 9 of the members 6 so as to permit of their grasping the body of the stud 13 below its head, as clearly shown in Figs. 1 and 2, said head in such event entering a recess 14 provided in the lower extremity of the member 1 for the reception thereof. With such provision, in order to fasten or lock the handle and ball together, it is only required that the operator or player insert the shank 3 of the device into the thumb-hole in the ball until the jaws 9 thereof contact the bottom of said cavity or are positioned below the head of the stud 13. Now, by gripping the hand piece 2, in a natural manner, the thumb and forefinger will be positioned in contact with the pads 12 pressing them downwardly and inwardly toward the handle, forcing the jaws 9 together in the manner above stated, obviously effecting the locking of the ball to the device. In order to discharge the ball, after maneuvering for the shot as is ordinary, in playing, it is required only to relax the grip of the thumb and finger slightly, as when throwing with the bare hand, and the ball will be found to glide away smoothly upon its intended course in a natural and forceful manner. In this way the full strength of all the hand, fingers, and wrist may be utilized and brought into play while retaining natural position thereof and exerting no undue strain or over-work upon any one alone.

Fig. 6 indicates a modified form of the device in which the members 6 are lengthened considerable into the form of a walking stick, one of said members being rigidly secured in place and its opposing member being mounted to be rocked to coact with it in the manner above described. Said members are preferably held in their relative operative positions by suitable bands 15 embracing the upper end portions thereof and by entwining one thereof about the other, as

shown. The lower extremities of said members terminating in cup like opposing portions 16, it is evident the latter may be brought to grasp small objects as a pebble or the like, adapting the device to be used as a sling.

Fig. 7 also indicates a slightly modified form, and shows only a part of the member 6 entwined as above described so that one can readily turn or rock in its place. The outer end portion 17 of said members being formed so as to adapt the same to grasp any small parcel of goods, as indicated by 18, for the purpose of placing it upon or removing the same from localities out of hand's reach, it is evident the device might be effectually used as a shelf tongs.

While I have shown what I deem to be the preferable forms of my device I do not wish to be limited thereto as there might be many changes made in the details of construction and the arrangement of parts without departing from the spirit of the invention comprehended within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, the combination of a handle, a shank projecting therefrom, a rock shaft mounted on said handle and shank, a gripping jaw at the outer end of and angularly disposed with respect to said rock shaft, a gripping jaw adapted to cooperate with said first mentioned gripping jaw, and means at said handle for rocking said rock shaft, substantially as described.

2. In a device of the class described, the combination of a handle, a shank projecting therefrom, a pair of rock shafts mounted on said handle and shank, gripping jaws at the outer ends of and angularly disposed with respect to said rock shafts, and means at said handle for rocking said rock shafts, substantially as described.

3. The combination with a bowling ball having a headed stud provided at the bottom of the thumb hole thereof, of a handle having a shank adapted for insertion into said hole, grasping jaws provided at the lower extremity of said shank adapted to grasp said stud below its head, and rearwardly extending actuating stems rockingly secured to said shank terminating in projecting portions adapted for engagement by a finger and thumb, and means for normally holding said jaws in disengaging position, substantially as described.

4. The combination with a bowling ball having a headed stud provided at the bottom of the thumb hole thereof, of a handle having a shank adapted for insertion into said hole, a recess provided in the lower ex-

5 tremity of said shank for the reception of
the head of said stud, coacting grasping jaws
mounted for oscillation transversely of the
lower extremity of said shank, said jaws
being adapted to engage said stud below its
head to lock said ball to said handle, integral
stems rearwardly extending from said jaws
rockingly secured to said shank, said stems
terminating at opposite sides of said handle
10 in projecting finger engaging portions, and
resilient means engaging said last named

portions for normally holding said grasping
jaws in disengaging position, substantially
as described.

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

WILLIAM DICKEY ROOP.

Witnesses:

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Mrs. E. I. HAYES.