No. 713,672. Patented Nov. 18, 1902.

P. R. OLIVER.

BALL LIFTING DEVICE.

(Application filed May 15, 1902.)

(No Model.)

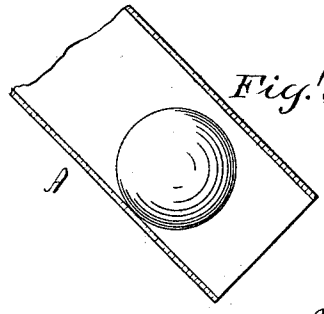


Fig. 7.

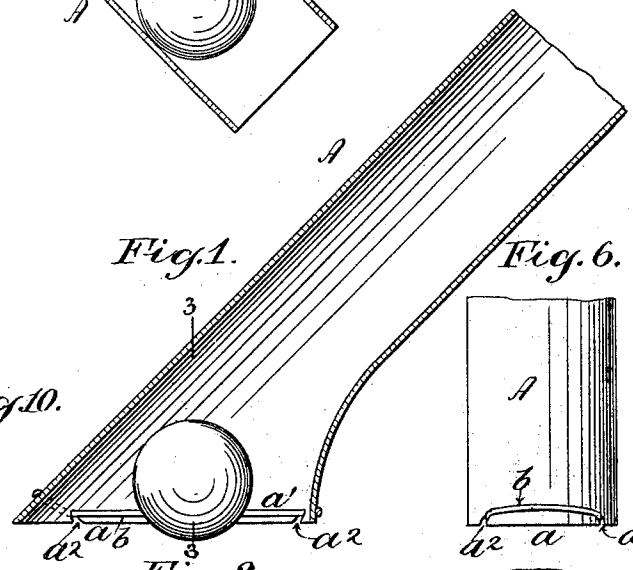


Fig. 1.

Fig. 2.

Fig. 6.

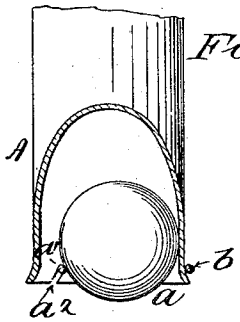


Fig. 10.

Fig. 9.

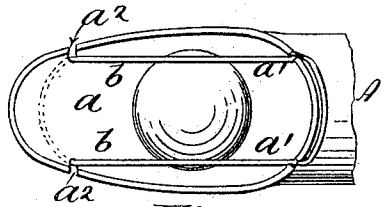


Fig. 4.

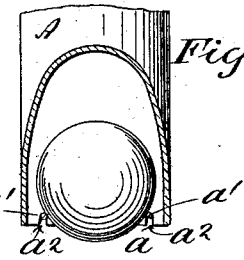
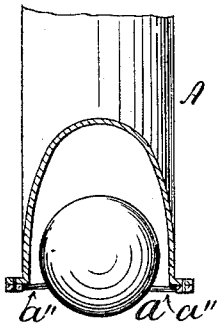


Fig. 3.



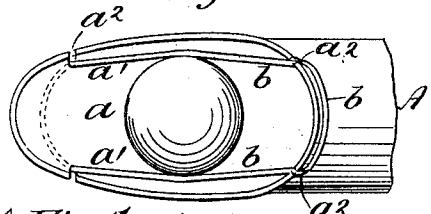


Fig. 5.

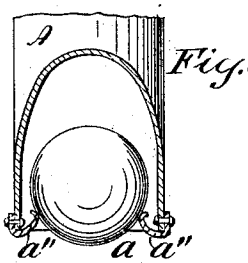
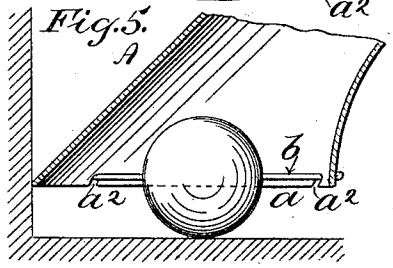


Fig. 8.



Witnesses:
D. W. Gardner
F. E. Read

Inventor:
Percy R. Oliver
By his Attorney
Geo. Wm. Mead

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PERCY R. OLIVER, OF NEW YORK, N. Y.

BALL-LIFTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 713,672, dated November 18, 1902.

Application filed May 15, 1902. Serial No. 107,458. (No model.)

To all whom it may concern:

Be it known that I, PERCY R. OLIVER, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Ball-Lifting Devices, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention is designed to afford a simple, cheap, and effective device for securing, raising, and transferring to the hand balls that have fallen upon the floor, ground, or other surface; and it consists, essentially, in a tube formed with a picking-mouth at one extremity, having one or more flexible lips, which yield to admit the ball, but retain it within the tube after it has passed within, substantially as hereinafter set forth.

My invention also includes certain details of structure hereinafter described and claimed specifically.

In the accompanying drawings, Figure 1 is a sectional elevation of the lower or picker end of my improved ball-lifting device; Fig. 2, a view of the under side of the same with the ball in the position shown in Fig. 1. Fig. 3 is a sectional elevation upon plane of line 3 3, Fig. 1. Fig. 4 is a view illustrating the action of the ball in passing the flexible lip or lips of the picker-mouth; Fig. 5, a sectional elevation of the parts as shown in Fig. 4 and also illustrating the recovery of a ball from a corner. Fig. 6 is a front elevation of the lower or mouth end of the tube. Fig. 7 is a sectional view of the upper or hand end of the tube and showing the method of securing the ball by tilting the tube upward. Figs. 8 to 10, inclusive, illustrate modifications in the structure of the picker-mouth.

In carrying out my invention a tube A of any desired or appropriate material may be used, and its form in cross-section may be varied, although I prefer to use a cylindrical tube. The lower picker end or mouth a of this tube is preferably inclined with relation to the longitudinal axis of the tube, so that the tube may be conveniently inclined in use, as indicated in Fig. 1. This enables me to recover with ease balls that have rolled into corners or other otherwise inaccessible places. In order to "pick up" and retain the ball, I form the mouth d with one or more flexible lips a', which yield to allow the ball to enter, but return to the normal position after it has passed in, and thereby bar its exit at this end of the tube, from the opposite end of which it may be readily recovered by inclining the tube, as indicated in Fig. 7.

Obviously the flexible lip or lips a' may be variously formed and arranged without departing from the spirit and intent of my invention, the essential feature in this connection being the use of a flexible or resilient membrane on one or more sides of the mouth a, adapted to yield to the ball when forced against the latter and to return to the normal position after the center of the ball has passed.

Thus in Figs. 1, 2, 3, 4, 5, 6, and 10 of the drawings I have shown an elastic band b as applied to the edges of the mouth a, formed with notches a^2 a^2 for its reception and retention. This elastic band b is obviously preferably made of rubber or other resilient material, although it may be made even of tightly-drawn string or cord or other relatively inelastic material and still afford the requisite degree of flexibility and resilience. In Fig. 8 the mouth a is shown as provided with lips a'' of cloth, leather, or other flexible material turned inward, after the manner of a yielding cup leather or packing. In Fig. 9 the lips are illustrated as consisting of bristles. In Fig. 10 a flexible or elastic band is so applied as to afford a single lip upon one side of the mouth.

It will thus be readily seen that the result desired may be attained by numerous modifications in the form and arrangement of the mouth and yielding lip or lips. The form of the mouth may also be varied or enlarged as desired without imparing or altering the utility of the device.

Practical use of my device has demonstrated its utility and value. It facilitates the recovery of balls, saving time and physical exertion, since stooping is rendered unnecessary, and a ball may be quickly picked up from a corner or from beneath a piece of furniture, where it would otherwise be practically inaccesible.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A ball-recovering tube formed with a broadened mouth inclined with relation to the longitudinal axis of the tube and formed with a flexible portion formed independent of said tube and adapted to yield to allow a ball to pass and then to return to the normal position, substantially as and for the purpose set forth.

2. A ball-receiving device comprising a tube having the edges of its mouth provided with notches, and an elastic member held in said notches and traversing said mouth.

3. A ball-receiving device comprising a tube formed with a broadened mouth inclined with relation to the longitudinal axis of the tube and having its edge notched, and an elastic band engaged in said notches and traversing the mouth, as and for the purpose specified.

PERCY R. OLIVER.

Witnesses:
D. W. GARDNER,
F. E. ROACH.