

E. T. STARR.

SHIELD ATTACHMENT FOR BULB SYRINGES, ATOMIZERS, &c.

No. 169,384.

Patented Nov. 2, 1875.

Fig 1.

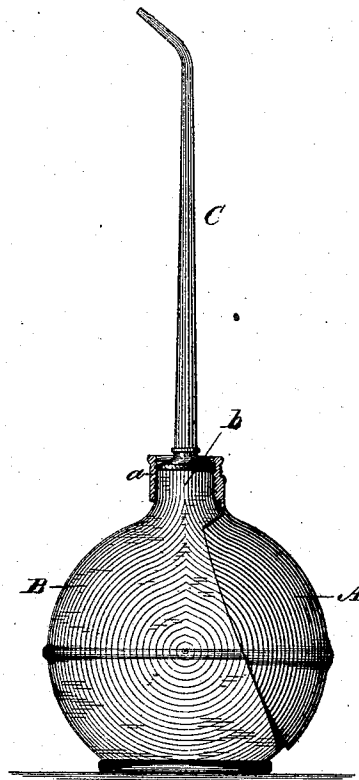
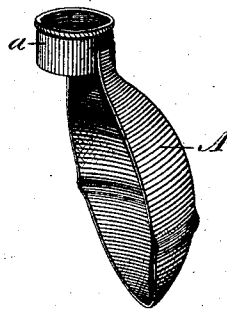


Fig 2.



WITNESSES

Harry King
Wm J. Peyton

Eli T. Starr.

INVENTOR

By *his* Attorney

Wm D. Baldwin

UNITED STATES PATENT OFFICE.

ELI T. STARR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO SAMUEL STOCKTON WHITE, OF SAME PLACE.

IMPROVEMENT IN SHIELD ATTACHMENTS FOR BULB-SYRINGES, ATOMIZERS, &c.

Specification forming part of Letters Patent No. **169,384**, dated November 2, 1875; application filed June 19, 1875.

CASE D.

To all whom it may concern:

Be it known that I, ELI T. STARR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Attachment for Bulb-Syringes, Atomizers, &c., of which the following is a specification:

My invention relates to that class of bulb-syringes and atomizers having elastic or yielding walls and rigid discharge-tubes. Its objects are to prevent the sudden movement or jerking of the tube or nozzle when the bulb is compressed, and to insure the proper compression of the bulb to expel its contents in the most efficient manner; and the improvement consists in a shield adapted to the shape of the palm of the hand, so formed that it may be detachably connected with the tube, and resting, when so connected, against the bulb, so that the compressive force is applied on the side of the bulb opposite that against which the shield rests, and the abrupt movement of the tube independently of the shield is prevented.

In the accompanying drawings, Figure 1 shows an atomizer-bulb with my improved shield attached. Fig. 2 shows the shield detached.

The shield A is made of a concavo-convex form, of a size sufficient to cover one-fourth or more of the area of the bulb B of the syringe or atomizer, to which it conforms in shape, and is provided with a collar or ring, *a*, adapted to fit snugly over the neck *b* of the bulb, so as to hold the shield and bulb securely together upon the tube C. The shield, instead of being rigidly, but detachably, united with the tube, as in Fig. 1, may be secured loosely thereon by forming the interior of the collar *a* smooth, as in Fig. 2, in which case, while the bending or inclining of the tube relatively to the bulb and shield is prevented, the shield may be turned, such construction admitting of the nozzle or tube-point being

held in a fixed position relatively to the object being operated upon, while the shield may be moved to accommodate slight changes in the position of the operator's hand.

In operation, the shield, which is rigid, rests in the palm of the hand, and enables that side of the bulb to resist compression, which consequently takes place on the side opposite the shield. Experiment has demonstrated this shield, which may be applied to atomizers already in use, to be a very useful device, as it prevents the bending or jerking of the nozzle of the atomizer, which is so annoying an incident in the operation of atomizers as heretofore usually constructed.

I do not broadly claim a syringe-bulb having one portion of its walls provided with a rigid cover or casing, and another portion elastic, as such construction is old; but I am not aware that prior to the date of my invention any one had invented an independent shield, provided with a collar adapted to clasp the neck of the bulb and the discharge-tube, and adapted to be applied to syringes already constructed.

I claim as my invention—

1. As an attachment for bulb-syringes, the shield constructed, substantially as hereinbefore set forth, with a concavo-convex body, adapted to conform to the body of the syringe, and with a collar adapted to clasp its neck and the discharge-tube, for the purpose specified.

2. The combination, substantially as hereinbefore set forth, of the elastic bulb, its rigid nozzle, and the shield constructed, as described, with a collar to clasp the neck and nozzle.

In testimony whereof I have hereunto subscribed my name.

ELI T. STARR.

Witnesses:

J. A. B. WILLIAMS,
J. W. D. BARGER.