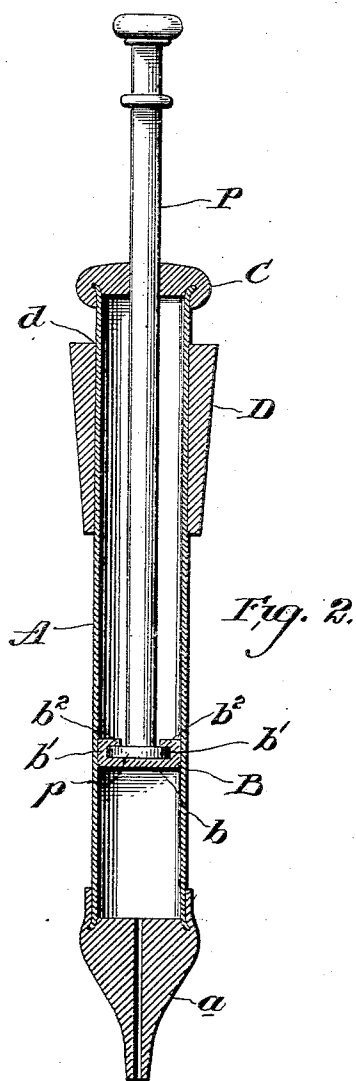
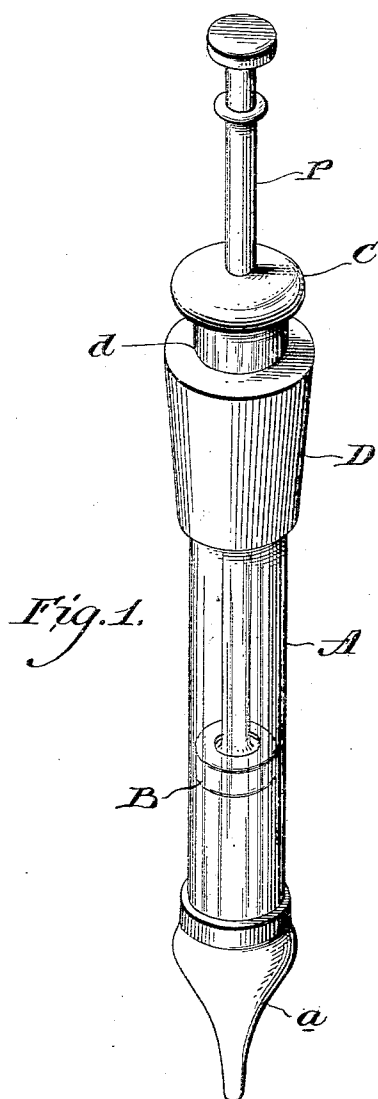


(No Model.)

W. F. WARE.
SYRINGE.

No. 504,764.

Patented Sept. 12, 1893.



WITNESSES:
Edw. R. W. Dusen
J. Henderson.

INVENTOR:
Walter F. Ware,
By his Attorney,
Horace Pettit.

UNITED STATES PATENT OFFICE.

WALTER F. WARE, OF CAMDEN, NEW JERSEY.

SYRINGE.

SPECIFICATION forming part of Letters Patent No. 504,764, dated September 12, 1893.

Application filed December 19, 1892. Serial No. 455,575. (No model.)

To all whom it may concern:

Be it known that I, WALTER F. WARE, of the city of Camden, State of New Jersey, have invented certain new and useful Improvements in Syringes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

My invention has relation to syringes, and consists in the novel construction of piston-packing and adjustable sliding collar or cork provided on the outside of the barrel for securing the barrel firmly at any desired position in a bottle containing the fluid to be used.

I am aware that rubber has been heretofore employed in different constructions for piston-packings, and that sliding cylindrical collars have been known in other constructions for different purposes, and I do not claim such devices broadly, my invention residing in the specific constructions herein particularly described and claimed.

In the accompanying drawings, in which similar letters of reference refer to similar parts throughout:—Figure 1 is a perspective view of a syringe having my improvement provided thereon. Fig. 2 is a longitudinal sectional view of the syringe shown in Fig. 1.

The object of my invention is to provide an efficient, durable, and at the same time, inexpensive and easily adjustable piston-packing, which occupies but little space in the barrel, and which, when fully elevated, will impinge against the inner surface of the cap of the barrel and allow the full area, approximately, of the barrel to be charged with the liquid, and, by which, as in the construction shown in the drawings, the total contents will be discharged when the piston is fully depressed.

A further object is to provide an efficient and readily adjustable construction for retaining the syringe in any desired position in a corked bottle.

A represents the barrel of the syringe provided with the cap, C, and nozzle, *a*, either integral with the barrel, A, or preferably of rubber, as shown in the drawings, secured to the end of the barrel. The lower end of the piston, P, is provided with a disk, *p*, of a diame-

ter somewhat less than the interior of the diameter of the barrel, A.

Upon the disk, *p*, I provide the rubber cup-shaped packing, B, of the construction illustrated in the drawings, consisting of a lower ring or disk, *b*, having integrally provided thereon the upwardly projecting circumferential ring, *b'*, and flanges, *b*², inwardly projecting from the ring, *b'*, constructed to engage around the disk, *p*, of the piston, P, and to firmly hold the packing in position, readily adjustable upon the disk *p*, and yet without liability to displacement. It will thus be readily seen that by this construction I provide the greater portion of the piston-head in cross section of a solid non-yielding material, *p*, while the balance of the diameter in cross-section and parts in contact with the inner surface of the barrel are of a partially yielding expansive material integral with the lower exposed facing, *b*, and with the inwardly deflecting securing flanges, *b*². This construction of partially solid and partially yielding material, composing the piston-head, will in practical operation retain substantially a rigid position at right angles to the walls of the barrel, and produce an effective air-tight connection with the inner surface of the barrel.

The adjustable partially cone-shaped rubber collar, D, is provided with an orifice, *d*, longitudinally through its center of a diameter slightly less than the exterior diameter of the barrel, B, in cross-section, so that the collar, D, may be tightly fitted upon the barrel, A, yet at the same time be readily adjustable thereon. The collar or cork, D, is partially cone-shaped so as to tightly fit in the mouths of bottles of different sizes. If the syringe is adjusted into a comparatively short bottle, the stopper, D, is lowered upon the said barrel, A, and in the case of a longer bottle the stopper is raised so that it will occupy substantially the position shown in the drawings.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a syringe, the combination of the barrel, the piston provided with a disk at its lower end, a rubber cup incasing said disk and having an inwardly projecting flange en-

gaging on the inner side of said disk around said piston rod, substantially as described.

2. The combination in a syringe, of a barrel, a cap, a nozzle, a piston rod, a disk on the lower end thereof, and a cuplike body of yielding material having a lower bottom portion extending entirely over the lower surface of the disk, the ring portion surrounding the piston, and the inwardly projecting annular flange portion extending partly over the upper surface of the disk, substantially as specified.

3. The combination of the barrel, a cap, a

nozzle, a piston in the barrel, an inherently elastic conical stopper, D, surrounding the barrel and adjustable longitudinally thereon whereby the syringe may be adapted to bottles of different size, substantially as described.

In witness whereof I have hereunto set my hand this 17th day of December, A. D. 1892.

WALTER F. WARE.

Witnesses:

JAMES M. CASSADY,
HORACE PETTIT.