

No. 827,383.

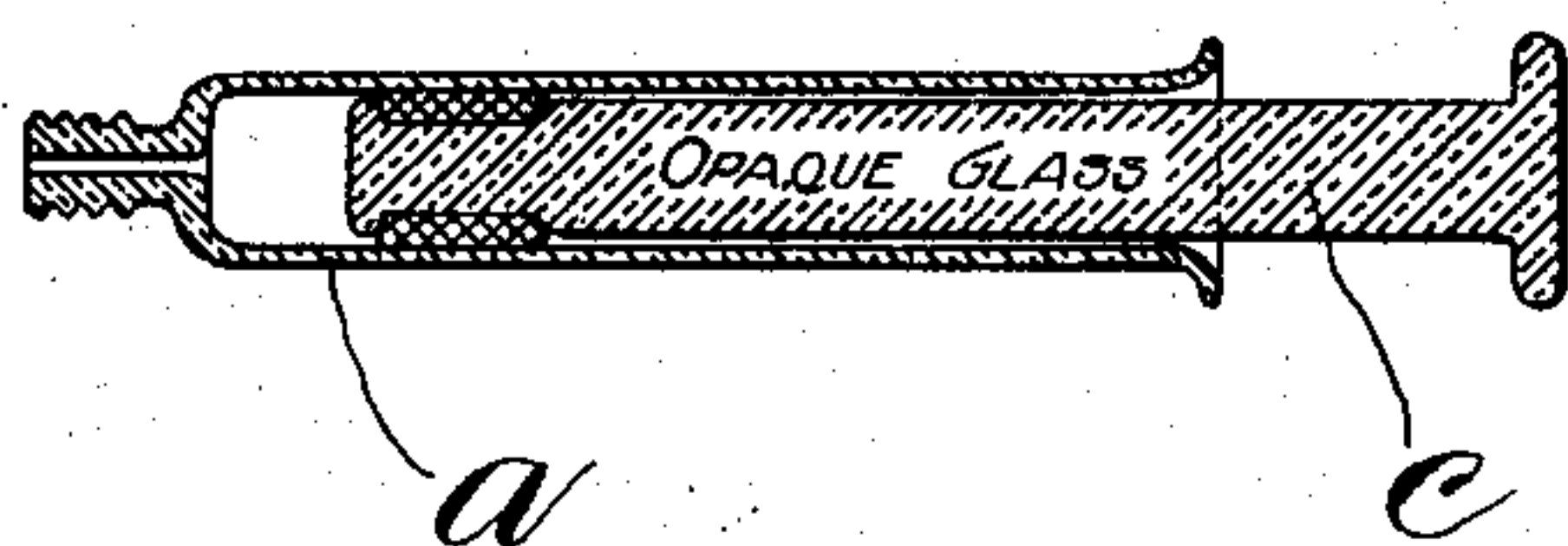
PATENTED JULY 31, 1906.

P. J. McELROY & W. A. RANDALL.

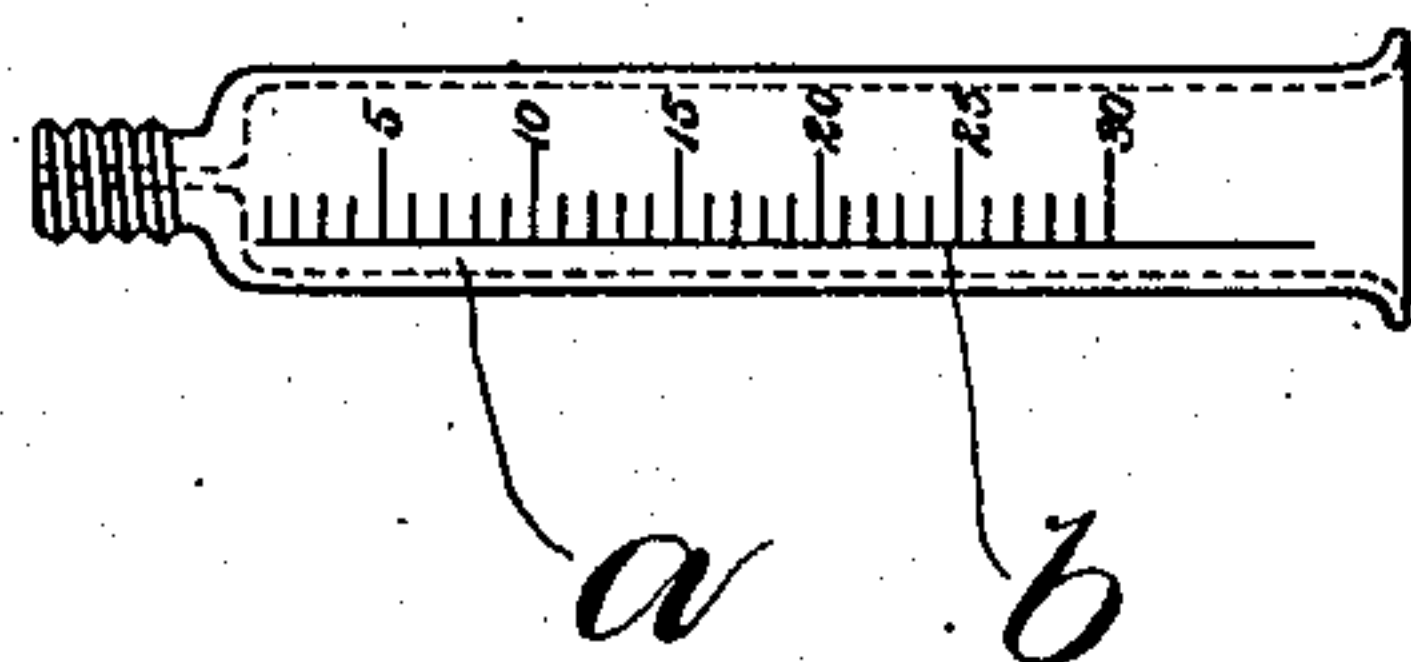
ASEPTIC SYRINGE.

APPLICATION FILED MAY 11, 1905.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*P. H. Pezzith*  
*E. Batchelder*

*Inventors.*

*P. J. McElroy*  
*W. A. Randall*

*by Knight Brown Limby & May -*

*Attorneys.*

# UNITED STATES PATENT OFFICE.

PATRICK J. McELROY, OF CAMBRIDGE, AND WILLIAM A. RANDALL, OF SWAMPSCOTT, MASSACHUSETTS.

## ASEPTIC SYRINGE.

No. 827,383.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed May 11, 1905. Serial No. 259,973.

*To all whom it may concern:*

Be it known that we, PATRICK J. McELROY, of Cambridge, in the county of Middlesex, and WILLIAM A. RANDALL, of Swampscott, in the county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Aseptic Syringes, of which the following is a specification.

This invention relates to a syringe comprising a barrel and a piston movable therein, both the barrel and the piston being of an aseptic nature, such as glass, which constitutes the entire material of the barrel, and glass or other like vitreous material which comprises the body of the piston, the latter having a packing of suitable yielding material, such as asbestos cord, wound upon the piston. In syringes of this character the glass barrel is transparent and is provided with graduating-marks usually comprising a scale with figures at suitable points to indicate in coöperation with the piston the quantity of liquid that is discharged from the syringe. Heretofore, so far as we are aware, both the graduated barrel and the body of the piston have been composed of transparent glass. The graduating-marks on the barrel are usually formed by an etching process, the marks being of such character that when backed by a transparent piston they cannot be distinctly read and are more or less illegible.

Our invention has for its object to enable the graduating-marks on a transparent syringe-barrel to be more conveniently read than heretofore by the aid of a piston of vitreous material; and to this end it consists in an aseptic syringe comprising a barrel of transparent vitreous material having graduating-marks and a piston of substantially opaque vitreous material forming a background for the said marks and by its contrast with the transparent material of the barrel making the marks more legible than heretofore.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section of a syringe embodying our invention. Fig. 2 represents a side elevation of the syringe-barrel.

In the drawings, *a* represents a transparent barrel of an aseptic syringe, said barrel

being provided with graduating-marks *b*, as usual. Said marks are preferably etched on the outer surface of the barrel.

*c* represents the body of the piston, which is composed of substantially opaque glass or other vitreous material—that is to say, glass which is colored or clouded in appearance, so that it is not transparent. The color of the body is not essential, although a dark color is preferred. The piston-body is provided with a suitable compressible aseptic packing *d*, which is preferably formed by winding asbestos cord around the body *c*. The body *c* is visible at both ends of the packing, and owing to its opaque character it forms a background for the graduating-marks on the barrel *a*, enabling said marks to be quickly and conveniently read, so that the operator can readily determine when the proper quantity of liquid has been ejected.

The packing, as shown in Fig. 1, is adjacent the inner end of the glass-plunger. Since said packing, as well the plunger and the barrel, is of such material that the entire syringe can be boiled for sterilization, the device as a whole constitutes an absolutely aseptic syringe. Owing to the fact that the glass at the inner end of the plunger between the packing and the extreme tip of the plunger is colored, a circular background is formed for the graduations on the transparent barrel. As above stated, the entire plunger is colored, so as to be more or less opaque. Opacity of the outer portion of the plunger, however, is not absolutely essential; but the opacity or contrasting appearance of the extreme end of the plunger beyond the packing forms a circular background, and consequently the contrasting background for the graduations will always be present, whether the plunger is rotated more or less within the barrel. Moreover, the ring-like circular background at the inner end of the plunger, bounded by the extreme tip of the plunger and the inner edge of the packing, serves to coöperate with the graduations in indicating to the user the proper amount of liquid in the barrel regardless of what the color of such liquid may be.

By the term "colored" we do not mean to include such effect as results from grinding glass, but a distinct color imparted to the



glass by some foreign substance incorporated therein to produce the desired contrast.

We claim—

An aseptic syringe comprising a barrel of  
5 transparent glass having indelible graduat-  
ing-marks on its exterior, and a plunger of  
glass having a packing adjacent its inner end,  
the glass at the said inner end, between the  
packing and the extreme tip of the plunger,  
10 being colored differently from the barrel and

forming a circular background for the gradu-  
ations on the transparent barrel.

In testimony whereof we have affixed our  
signatures in presence of two witnesses.

PATRICK J. McELROY.  
WILLIAM A. RANDALL.

Witnesses:

C. F. BROWN,  
E. BATCHELDER.