

(No Model.)

J. C. BEEKMAN.
SYRINGE.

No. 453,322.

Patented June 2, 1891.

Fig. 1.

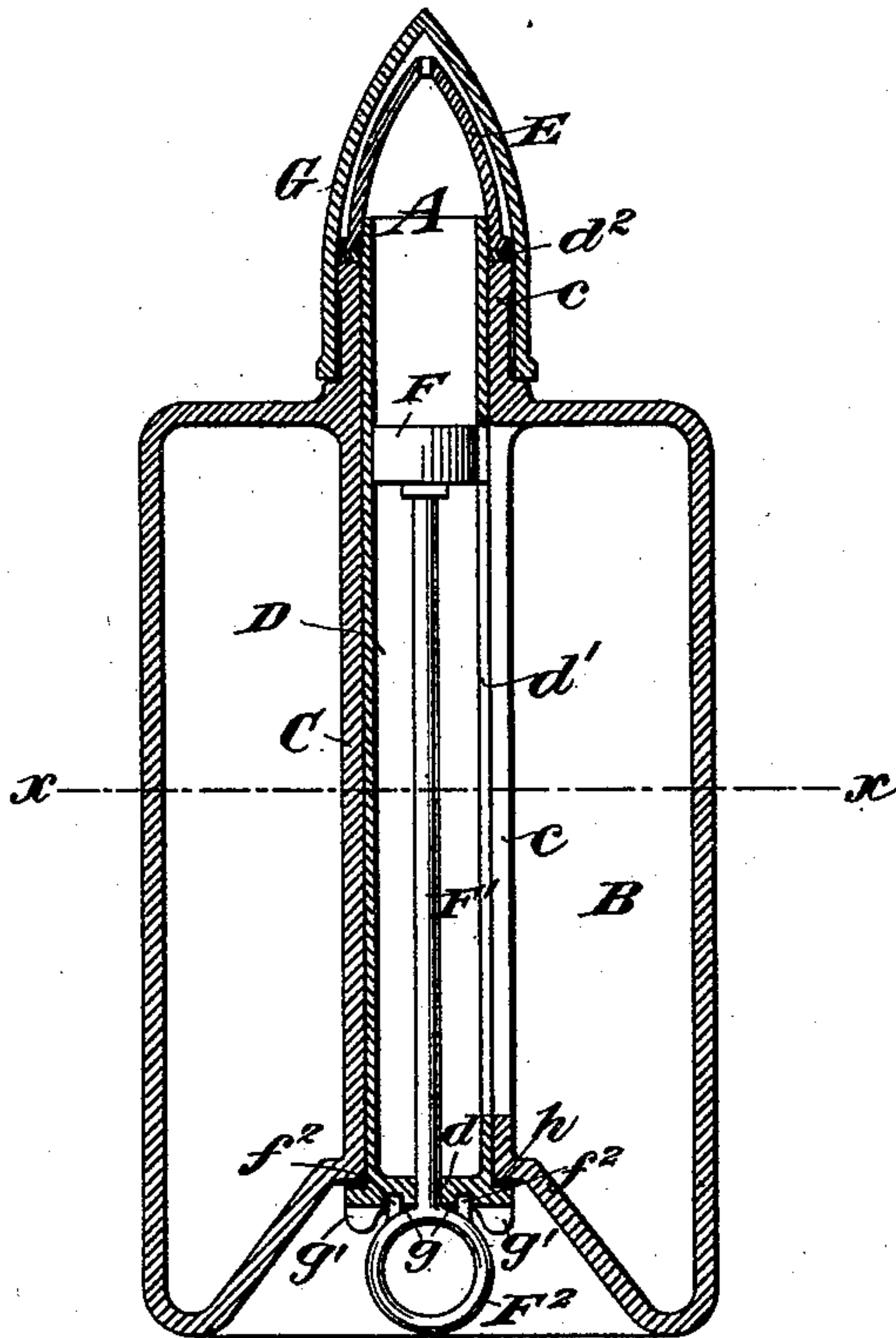


Fig. 4.



Fig. 2.

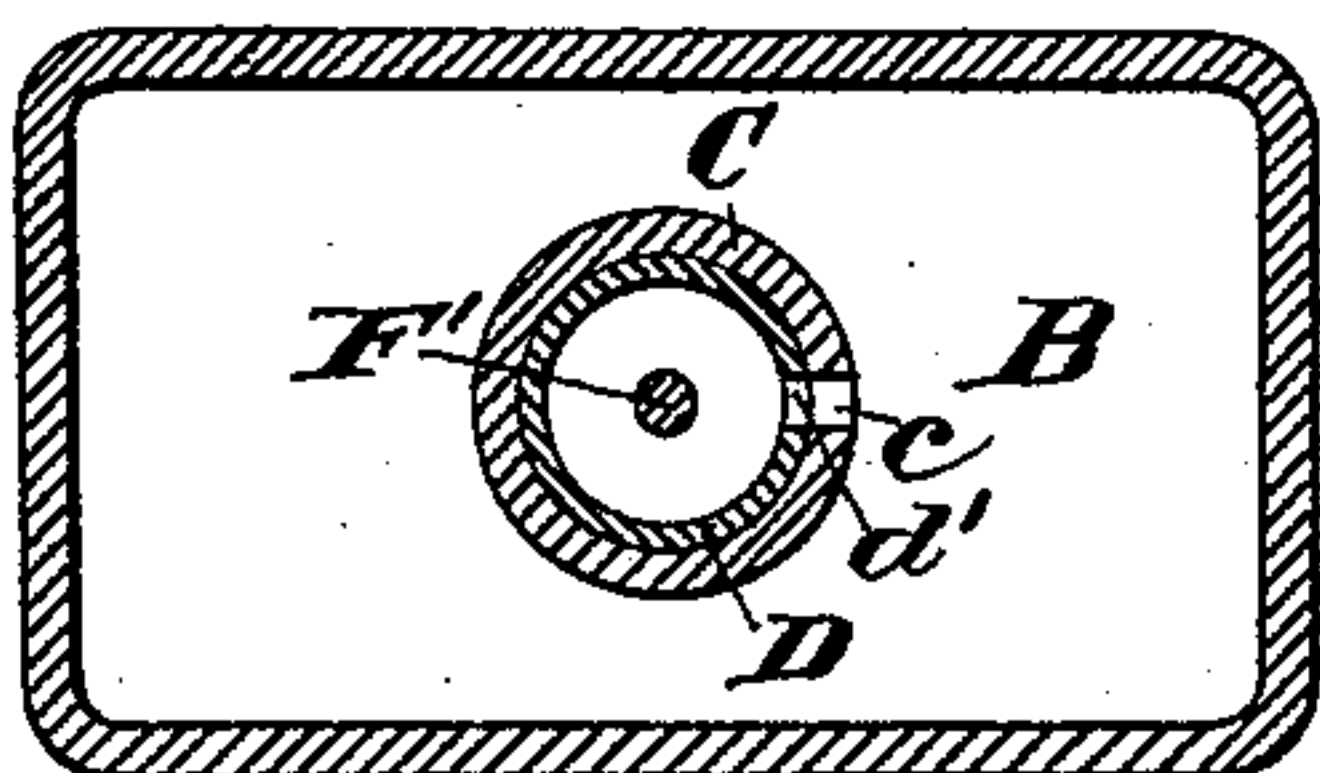
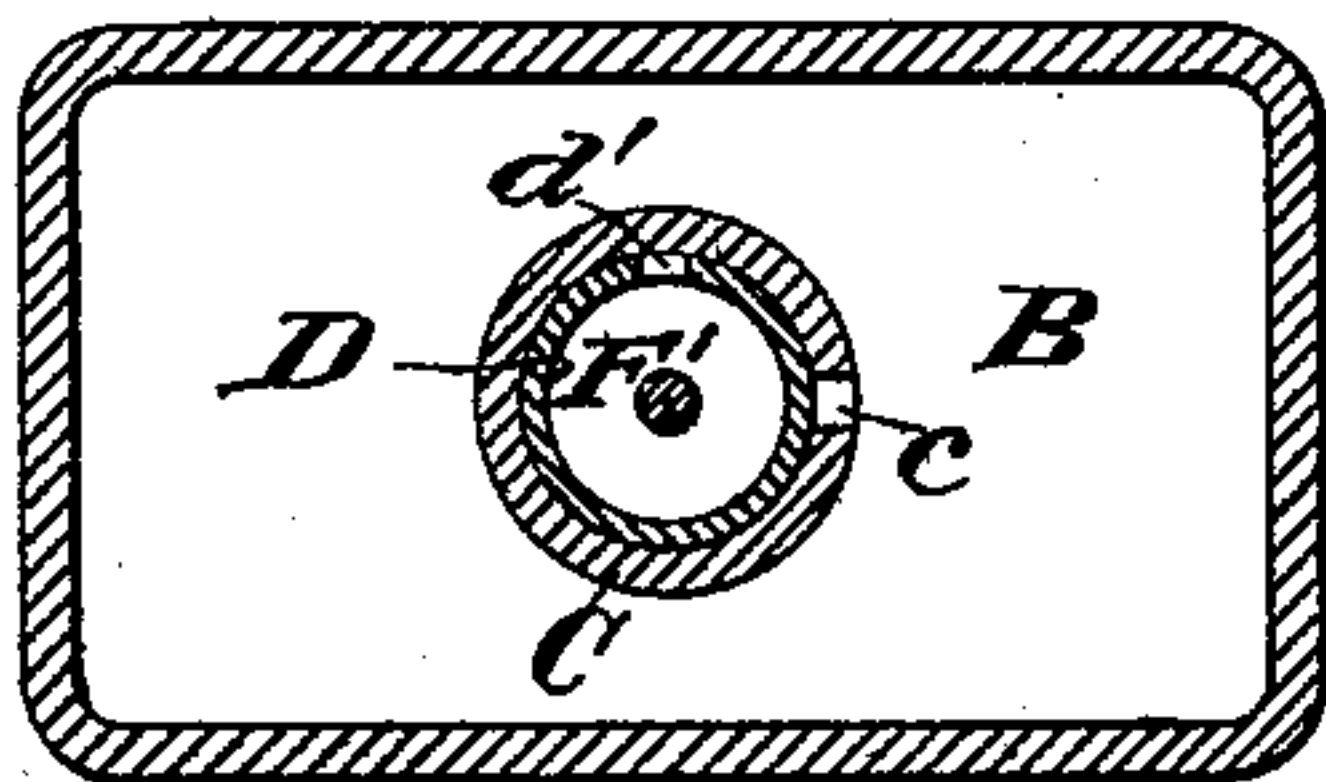


Fig. 3.



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SYRINGE.

SPECIFICATION forming part of Letters Patent No. 453,322, dated June 2, 1891.

Application filed January 9, 1891. Serial No. 377,194. (No model.)

To all whom it may concern:

Be it known that I, JOHN CULVER BEEKMAN, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Syringes, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to that class of syringes in which the syringe proper is combined with a reservoir for containing the fluid required to be used with the syringe.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a central vertical section of a syringe and reservoir embodying my invention. Figs. 2 and 3 are cross-sections taken on the line of Fig. 1, the parts being in slightly different relative positions. Fig. 4 is a view in detail of the piston I employ.

Similar letters of reference designate corresponding parts in all the figures.

In the drawings, A designates the syringe and B the reservoir. The said reservoir is made preferably of glass, but may be made of any other suitable material. It is provided with a tubular socket C, extending directly through it and further prolonged in the form of a neck beyond said reservoir, as shown at c.

The syringe A consists of a barrel D, a nozzle E, and a piston and piston-rod F F'. The barrel D fits snugly, but is adapted to turn in the socket C. It has at its lower or closed end a flange d, and to its opposite end is secured or otherwise attached the nozzle E. The said barrel has in its sides a lateral passage d', here shown as a slot extending almost from end to end. The socket C also has a lateral opening c', corresponding with the passage d' in the barrel D. When these two openings or passages are turned toward one another, as in Figs. 1 and 2, a free communication is established between the reservoir and the syringe, and any liquid that may be in the reservoir is free to flow into the syringe. The piston F is provided on one side with a lug or projection f, which substantially fits the lateral passage d' in the barrel D, and the piston-rod F is provided with a handle or finger-piece F². After the syringe has been filled

from the reservoir the barrel may be turned round in the socket to a position as shown in Fig. 3 by turning the handle F², attached to the piston-rod, the projection f on the piston engaging the side of the lateral passage d' and effecting this; but as this would place great strain on the piston-rod I have shown two pins f² f², secured to or integral with the handle F² and adapted to be received in recesses g in the end of the barrel D. This will give a better purchase for turning the syringe when the piston is pushed in as far as possible; but in case the piston is pulled either partially or wholly out these pins would be of no use. Therefore I have shown lugs g' g', which can be taken hold of by the finger and thumb and the syringe turned in that way. The lug or projection f, besides being used for turning the syringe, prevents, when the syringe is being used, either air or fluid from passing by the piston through the lateral passage d', as it otherwise would, by entirely closing said passage at the point where the piston is.

After the syringe has been used it may be rinsed out thoroughly with water in the ordinary manner, still of course keeping the passage in the syringe turned away from the opening in the socket. When desired for use again, it may be filled, as before, by turning the syringe until the openings or passages come toward each other, and as the reservoir begins to get empty it can be turned upside down, when the last drop of fluid can, if necessary, be drawn off. When it is desired to fill the reservoir, the nozzle E can be removed and the reservoir can then be filled through the barrel of the syringe.

In order to prevent any leakage from between the syringe and reservoir, I have provided an annular ring l between the base of the socket and the flange d, which may be of soft rubber or any suitable material. The said ring will also tend to make the syringe bind and prevent its turning accidentally in the socket. A washer d² on the opposite end between the nozzle and the end of the socket is for the purpose of preventing the nozzle E from coming unscrewed when the syringe is turned round.

It will be noticed that for the sake of compactness and neatness of appearance I have

shown the reservoir as having a turned-up portion at the base and which contains the handle and end of the syringe. This arrangement also permits the reservoir and syringe to stand up in the same way, for instance, as an ordinary bottle. A cap G, made preferably of some elastic material, covers the nozzle of the syringe, and not only prevents any leakage from the syringe in case any liquid is left therein, but also prevents any dirt or impurities entering the nozzle while being carried in the pocket.

By my invention I provide simple and effective means whereby a syringe and a supply of fluid for the same may be carried together in a compact and convenient form, so as to be always ready for use without any trouble.

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

1. The combination, with a reservoir provided with a tubular socket extending directly through it and having a lateral opening, of a syringe fitted to turn in said socket and having in it a lateral passage to correspond with said lateral opening in the said socket, substantially as herein described.

2. The combination, with a reservoir provided with a tubular socket extending through it from end to end and having a lateral elongated opening, of a syringe the barrel of which has a rotary movement within the socket and an opening corresponding to that in the socket, one end of the reservoir being provided with a recess for the reception of the handle of the piston-rod of the syringe, substantially as set forth.

3. The combination, with a reservoir provided with a tubular socket extending through it and having a lateral opening, of a syringe the barrel of which is fitted to turn in said socket and provided with a lateral opening to correspond with the lateral passage in the socket, and projections intermediate between the handle of the piston of the syringe and the head of the barrel for turning the latter, substantially as set forth.

JOHN CULVER BEEKMAN.

Witnesses:

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