

No. 807,905.

PATENTED DEC. 19, 1905.

J. C. BLAIR.
SYRINGE.

APPLICATION FILED DEC. 8, 1904.

Fig. 1.

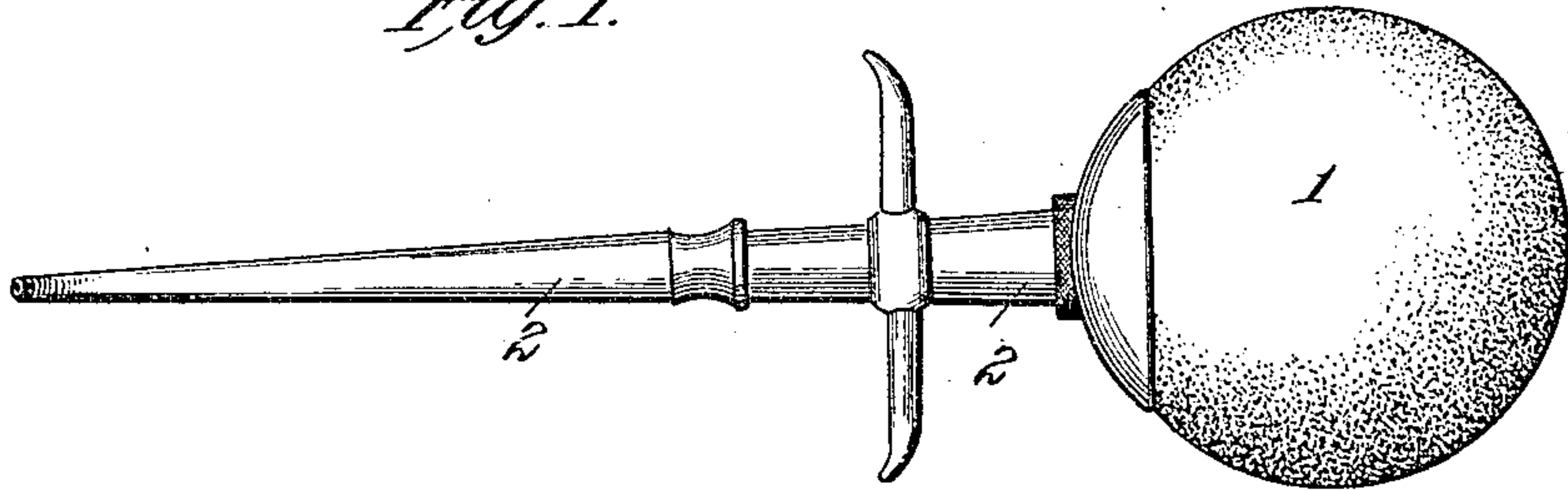
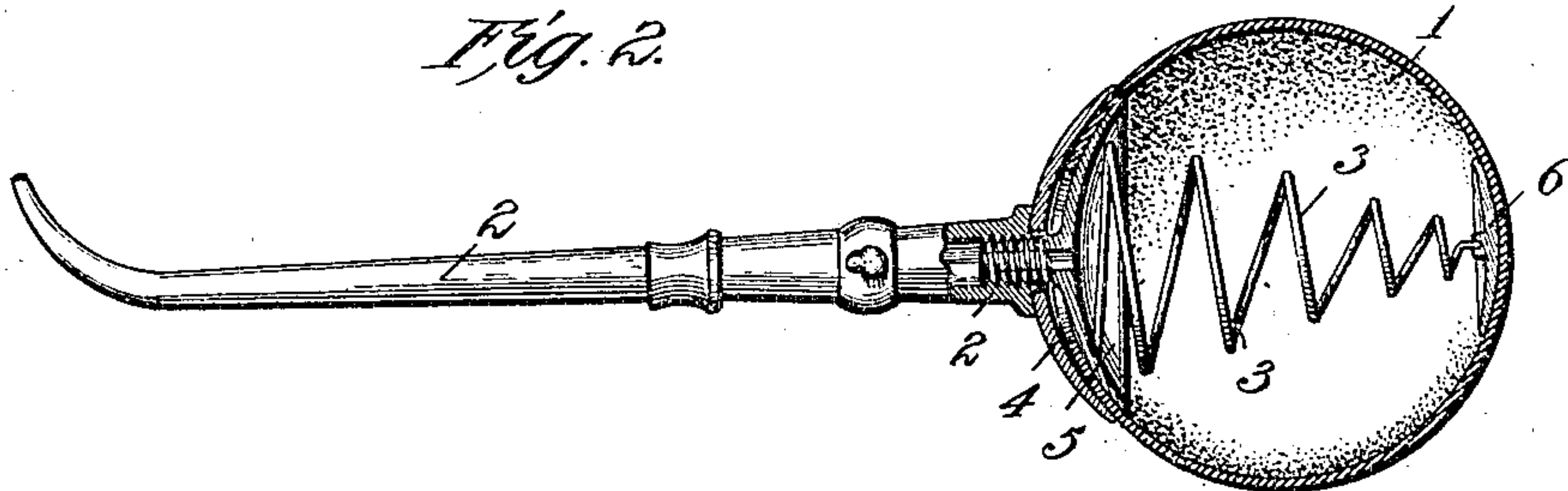


Fig. 2.



WITNESSES:

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JOHN CARLISLE BLAIR, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF TO THE BLAIR DENTAL MANUFACTURING CO., OF LOUISVILLE, KENTUCKY, A CORPORATION OF KENTUCKY.

SYRINGE.

No. 807,905.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN CARLISLE BLAIR, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have made certain new and useful Improvements in Syringes, of which the following is a specification.

My invention is an improvement in the class of syringes having elastic expansible bulbs.

The construction, arrangement, and operation of parts are as hereinafter fully described and shown in the accompanying drawings, in which—

Figure 1 is a side view of a dental syringe.
Fig. 2 is a sectional side view showing the bulb provided with my expanding attachment.

The spherical elastic bulb 1 of the syringe is constructed in the usual way of soft rubber and adapted for self-expansion, whereby when compressed manually it resumes its form with greater or less rapidity. This operation takes place quite slowly when the tube, through which liquid is drawn in, is small. This is particularly the case in dental syringes, and it is highly desirable to effect it quickly. To this end I have provided the bulb 1 with an expanding member in the form of a spring 3, which is formed, arranged, and attached as follows: The bulb 1 is secured to the tube 2 by means of two concavo-convex plates 4 and 5, the latter (5) being arranged inside the bulb and furnished with a hollow screw that passes through the outer plate 5 and enters the base of the tube 2. By screwing up the latter tightly the bulb 1 is clamped between the plates 4 and 5, as shown. A small concavo-convex plate 6 is arranged within the bulb 1 directly opposite the plate 4, and a helical wire spring 3 is interposed. The outer end of the spring enters a socket in plate 6, and its larger end or base portion lies in the concavity of plate 4. It is apparent the spring thus arranged will greatly aid the bulb 1 in expanding after compression, so that water or other liquid may be quickly drawn into the bulb

through the tube 2. Thus the syringe may be operated with great rapidity. It will be further seen that since the coils or convolutions of the spring 3 regularly diminish in diameter from the base outward the spring may be compressed flat within the cup-like plate 4, and hence the bulb 1 may be compressed as flat or as fully as if the spring were absent, as required to fully eject the liquid contained in it and allow corresponding amplitude of expansion.

It will be seen that my syringe has an important advantage over the old form in which the screw is provided with a spherical or bulbous head, and a washer is applied between the nozzle and the elastic bulb, since in my case the concavo-convex disks are practically parallel and a comparatively large extent of surface of the same is clamped between the disks, so that leakage is impossible.

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

1. An improved dental syringe comprising a tube, an electric bulb attached thereto, two concavo-convex plates arranged within the bulb, and a conical or helical spring arranged with its larger end contiguous to the tube, and its several coils decreasing in diameter from the base outward in such degree that they are adapted to lie one within the other when the bulb is fully compressed.

2. In a dental syringe of the class indicated, the combination, with the discharge-tube 2, having a screw-threaded socket in its base end, of two concavo-convex plates, one of which is affixed to the base of the tube, and the other arranged parallel therewith and having a screw-threaded tenon adapted to enter the socket of the tube, and an expansion-bulb which is clamped between the plates, substantially as described.

JOHN CARLISLE BLAIR.

Witnesses:

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