

No. 749,899.

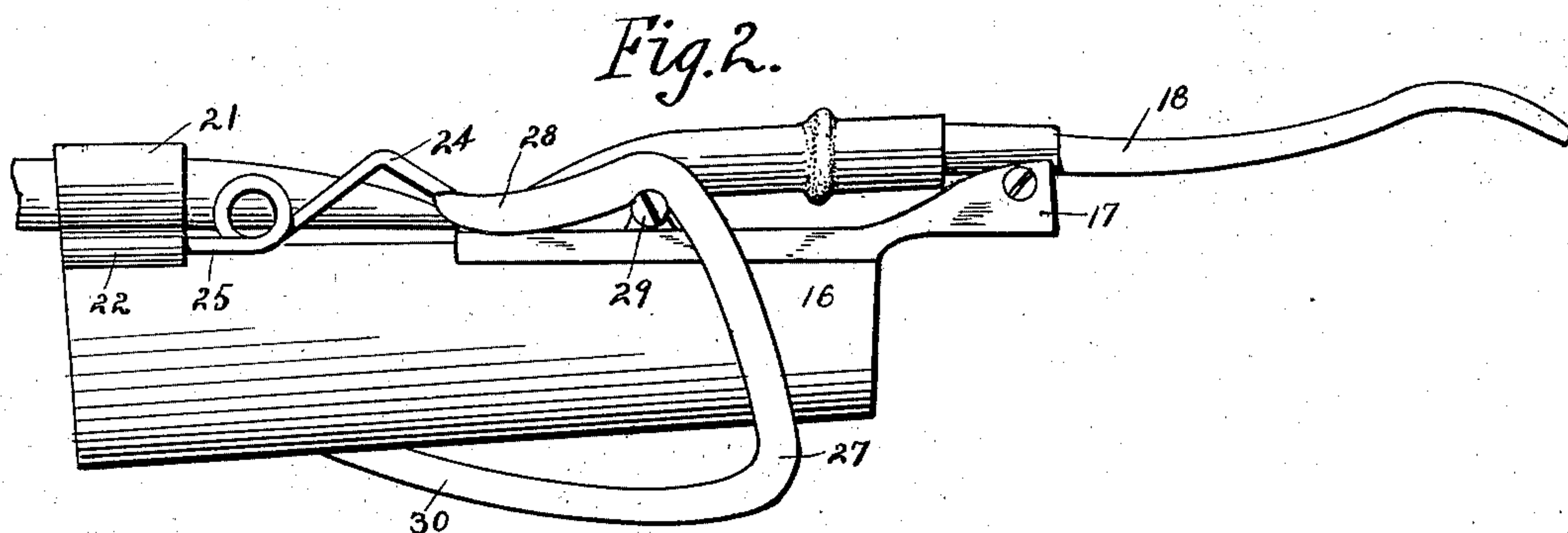
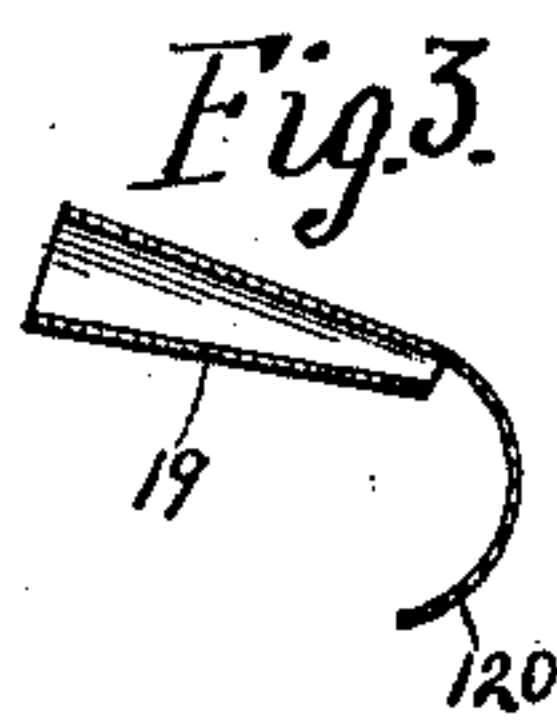
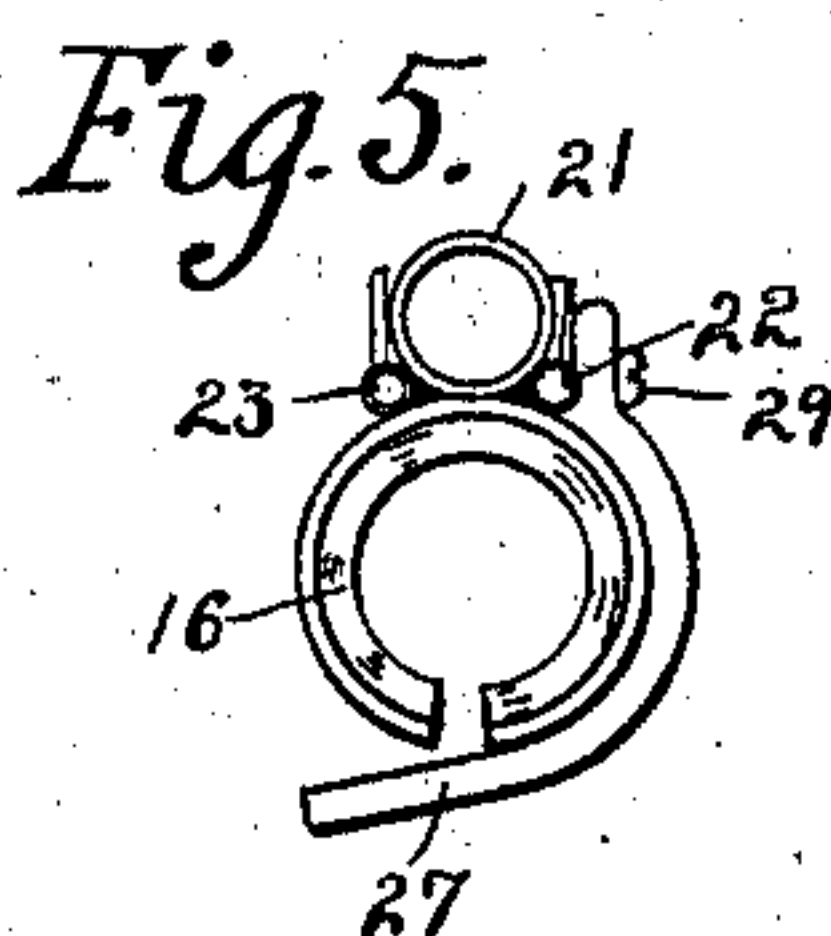
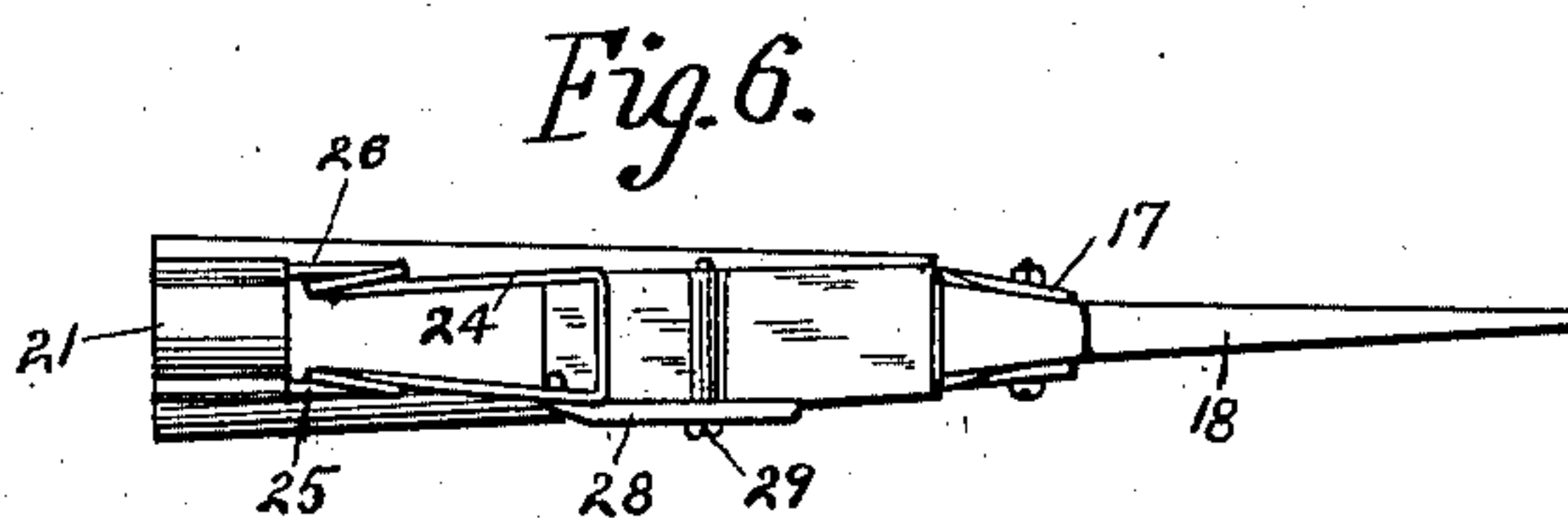
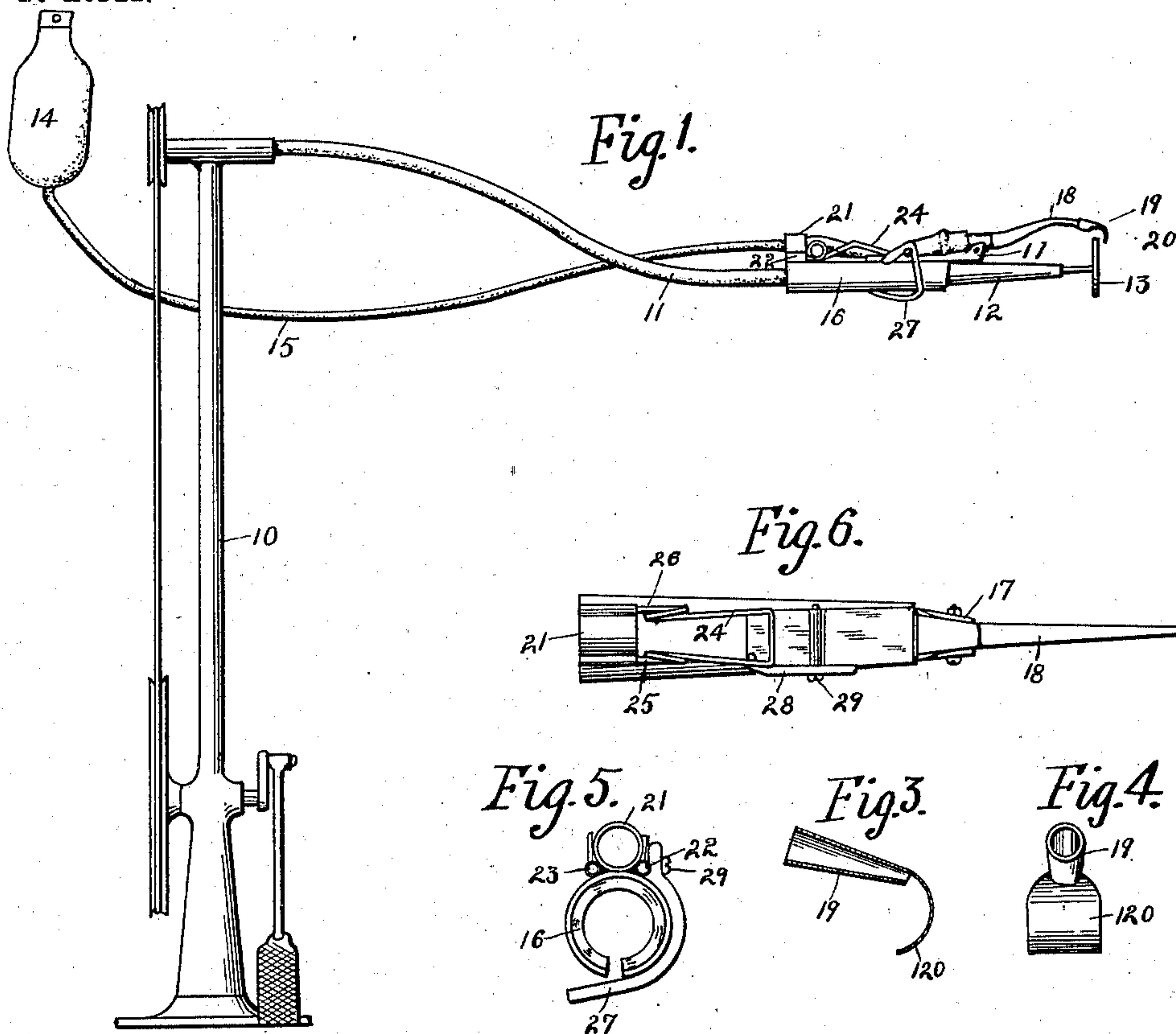
PATENTED JAN. 19, 1904.

H. H. GANTZ.

SPRAYER FOR DENTAL POLISHING AND GRINDING INSTRUMENTS.

APPLICATION FILED APR. 18, 1903.

NO MODEL.



WITNESSES

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# UNITED STATES PATENT OFFICE.

HENRY H. GANTZ, OF ALBIA, IOWA.

SPRAYER FOR DENTAL POLISHING AND GRINDING INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 749,899, dated January 19, 1904.

Application filed April 18, 1903. Serial No. 153,265. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY H. GANTZ, a citizen of the United States, residing at Albia, in the county of Monroe and State of Iowa, have  
5 invented certain new and useful Improvements in Sprayers for Dental Polishing and Grinding Instruments, of which the following is a specification.

The objects of my invention are to provide  
10 a pivotally-mounted nozzle which can be easily attached to or detached from the ordinary handpiece for mandrels used by dentists and so arranged that all portions of the grinding-disk may be sprayed by the use of my device,  
15 and, further, to provide a sprayer which can be easily attached to or detached from the nozzle to spray the exterior portion of the grinding-disk and to use both of these devices in connection with a tube through which  
20 the water is designed to pass.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as  
25 hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows the device attached to the handpiece of the ordinary foot-power engine.  
30 Fig. 2 is a side elevation of the device with the sprayer-cap removed. Fig. 3 is a longitudinal sectional view of the sprayer-cap. Fig. 4 is a rear elevation of the sprayer-cap. Fig. 5 is a rear elevation of the device with  
35 the tube for putting water through it removed. Fig. 6 is a plan view of the sprayer attachment with the tube putting the water into this device removed.

Referring to the accompanying drawings,  
40 I have used the reference-numeral 10 to indicate the ordinary power-machine, having shaft 11 therein, with a mandrel 12 at its outer end. In the outer end of the mandrel I have mounted a disk-shaped grinding-piece  
45 13. This grinding-piece may be of any size or shape, or any instrument used by dentists in machines of this class may be used with the mandrel 12. I have provided a reservoir 14, having the tube 15 leading from it.

50 The body portion of my device I have re-

ferred to by the numeral 16. Said body portion is substantially circular in cross-section and is made of a single piece of metal. However, it is split throughout its entire length on its under surface to allow the sides to  
55 spring away from each other slightly, and thus hold the said body portion 16 firmly on the mandrel 12 by the resiliency of the spring in the metal. This body portion is hollow throughout its entire length and is slightly  
60 larger at its rear end than at its forward end, as is the ordinary handpiece over which it is designed to be placed.

Mounted on top of the body portion 16 and in the forward end thereof is the support 17.  
65 Pivotaly mounted on said support 17 is a nozzle 18, the pivoted point of said nozzle being near its rear extremity. The forward end of said nozzle is slightly bent and is designed to receive the sprayer attachment 19, said  
70 sprayer having a body portion substantially circular in cross-section and of substantially the same shape as the body portion 16 of my device, except that it is smaller in size.

At the outer end of the body portion of the  
75 sprayer 19 is a deflector 20, which is substantially semicircular in longitudinal section and is of considerable width. This sprayer is designed to throw the water rearwardly against the grinding-disk when the device is in use.  
80

Mounted at the rear upper portion of the body portion 16 of my device is a tube-guard 21. At the outside of this tube-guard 21 are the wire arms 22 and 23. Mounted in said wire  
85 arms is the spring-wire cut-off 24, said spring-wire cut-off being substantially U-shaped and having the arms 25 and 26 therein, said arms being designed to fit in the wire arms 22 and 23, respectively, the forward end of said spring-wire cut-off being forced downwardly toward  
90 the top of the body portion 16 for the purpose hereinafter made clear. The tube 15 is passed through the guard 21, beneath the sides 25 and 26 of the wire cut-off 24, and under the forward end thereof over the rear end of the  
95 nozzle 18. It will be seen that the wire cut-off will rest against the tube and cause the water-supply from the reservoir 14 to be shut off when the forward portion of this wire cut-off is forced downwardly against the tube 15.  
100



On account of its springing qualities the wire-spring cut-off 24 will pinch the tube and prevent the water flowing through the forward portion of the tube and into the nozzle 18.

5 Pivotally mounted on the upper portion of the support 17, and near the rear end portion of it, is the releasing device 27, said releasing device being in engagement at its upper rear portion with the forward portion of the wire  
10 cut-off 24. This upper portion 28 extends forwardly to the pivotal point 29 of attachment of releasing device on the support 17. This releasing device then extends downwardly over the outside of the body portion 16 and  
15 then is bent rearwardly beneath the body portion 16 and to the opposite side of it from its pivotal point of attachment 29. As the rear portion 30 of the releasing device is moved upwardly the forward portion of the wire cut-off  
20 is raised upwardly and the water is allowed when this device is at its upper limit of movement to pass freely through the tube into the nozzle 18 and against the deflector 20 of the sprayer 19. When the rear end of the por-  
25 tion 30 of the releasing mechanism is at its lower limit of movement, the water-supply will be again cut off from the water-bag 14. By the use of this mechanism described the flow of water from the reservoir 14 through  
30 the tube 15 into the nozzle 18 can be regulated by the operator.

The body portion of my device 16 is in practical use slipped onto the handpiece, which is immediately at the rear of the mandrel, and  
35 the sprayer is placed in position at the outer end of the nozzle 18. The device is then ready for use. The dentist in the use of his grinding-disk or other utensil can easily keep this utensil moist by allowing the water to be  
40 forced upon the grinding-disk or utensil by operating the releasing mechanism in my device. He can easily adjust the nozzle so as to force the water upon the grinding-disk in the desirable way by raising or lowering the rear  
45 end of the nozzle when it is swung on its pivot. This will cause the tube to be drawn a slight distance forward or rearwardly beneath the spring cut-off 24, and this can be easily done by simply raising the spring cut-  
50 off slightly. It is to be understood in this connection that when the deflector 19 is removed from the end of the nozzle the water will play freely against the rear surface of the disk which is at the end of the mandrel.  
55 In practical use the deflector is used but little, as the water flowing through the nozzle will suffice in the majority of cases to keep the disk sufficiently moist to allow it to be used continuously. The sprayer is designed to be

placed upon the nozzle only when the forward 60 outer side of the disk needs to be moistened. It will be seen clearly from Fig. 1 of the drawings that when the sprayer is removed the water will be forced onto all parts of the disk in the mandrel except the exterior for- 65 ward portion, as the outer end of the nozzle can be raised and lowered at the pleasure of the operator, thus causing the water to be forced against the interior side of the disk or on the upper surface of it, so that it will run 70 down on all sides of the disk.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a device of the class described, the 75 combination of a pivotally-mounted nozzle, a water-tube attached to said nozzle, means for contracting said tube to prevent the water passing through the tube into the nozzle, substantially as and for the purposes stated. 80

2. In a device of the class described, the combination of a pivotally-mounted nozzle, a water-tube attached to said nozzle, a spring cut-off mounted adjacent to said tube and designed to prevent the water in the tube from 85 passing through the nozzle, means for operating said spring cut-off, substantially as and for the purposes stated.

3. In a device of the class described, the combination of a pivotally-mounted nozzle, a 90 water-tube attached to said nozzle, a spring cut-off mounted adjacent to said tube and designed to prevent the water in the tube from passing through the nozzle, means for operating said spring cut-off, a spraying-deflector 95 detachably connected with the front end of the said nozzle, substantially as and for the purposes stated.

4. In a device of the class described, the combination of a body portion having spring- 100 ing sides therein, a nozzle pivotally mounted to the front end of said body portion, a tube attached to the rear end of said nozzle, a spring cut-off mounted at the rear of said body portion, designed to engage said tube and prevent 105 the water in the tube from passing through the nozzle, a mechanism for forcing the forward end of the spring cut-off upwardly and allow the water to pass through the nozzle, and to allow the nozzle to be moved forwardly 110 and rearwardly relative to the body portion, as the nozzle is swung on its pivot, substantially as and for the purposes stated.

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Witnesses:

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