

C. F. DODGE.  
Seal-Bolts.

No. 151,859.

Patented June 9, 1874.

fig. 1.

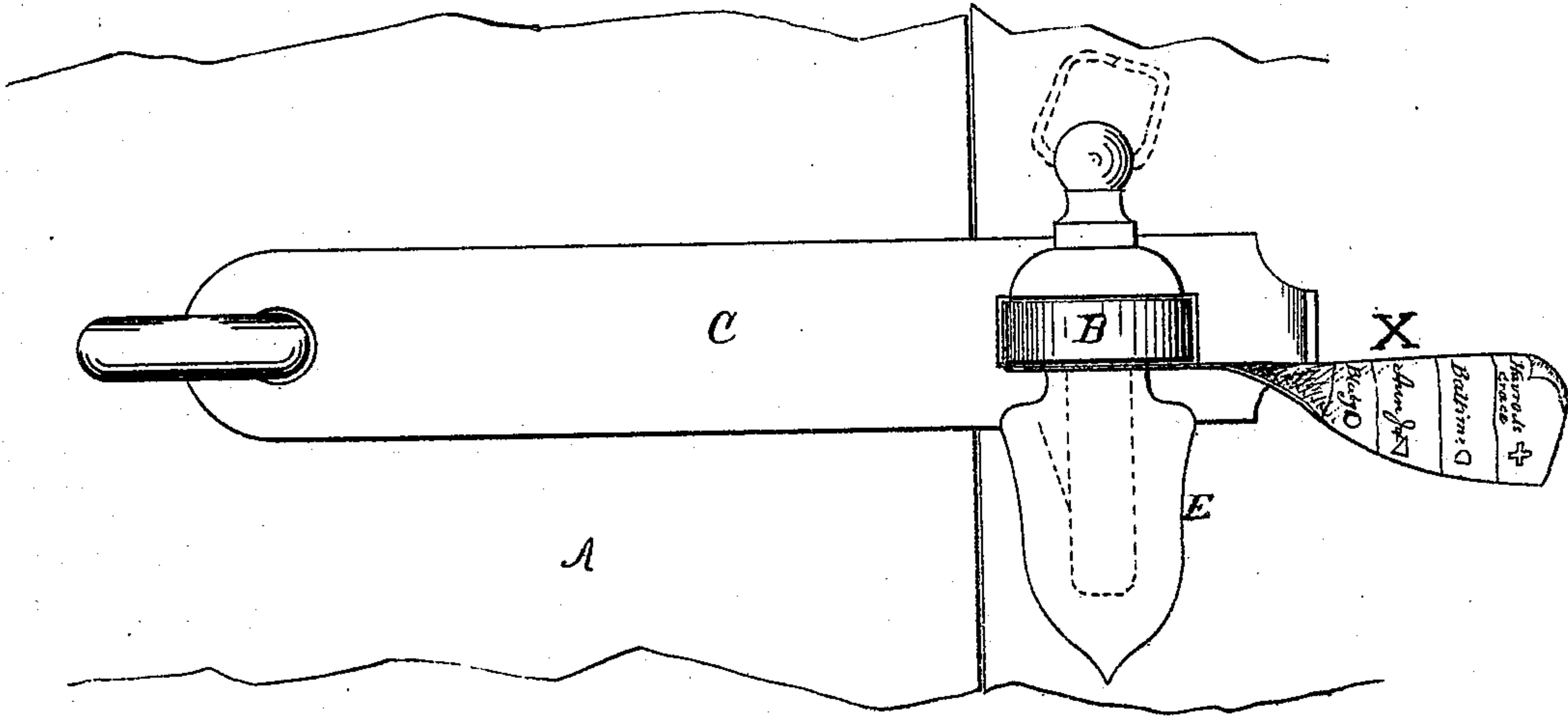
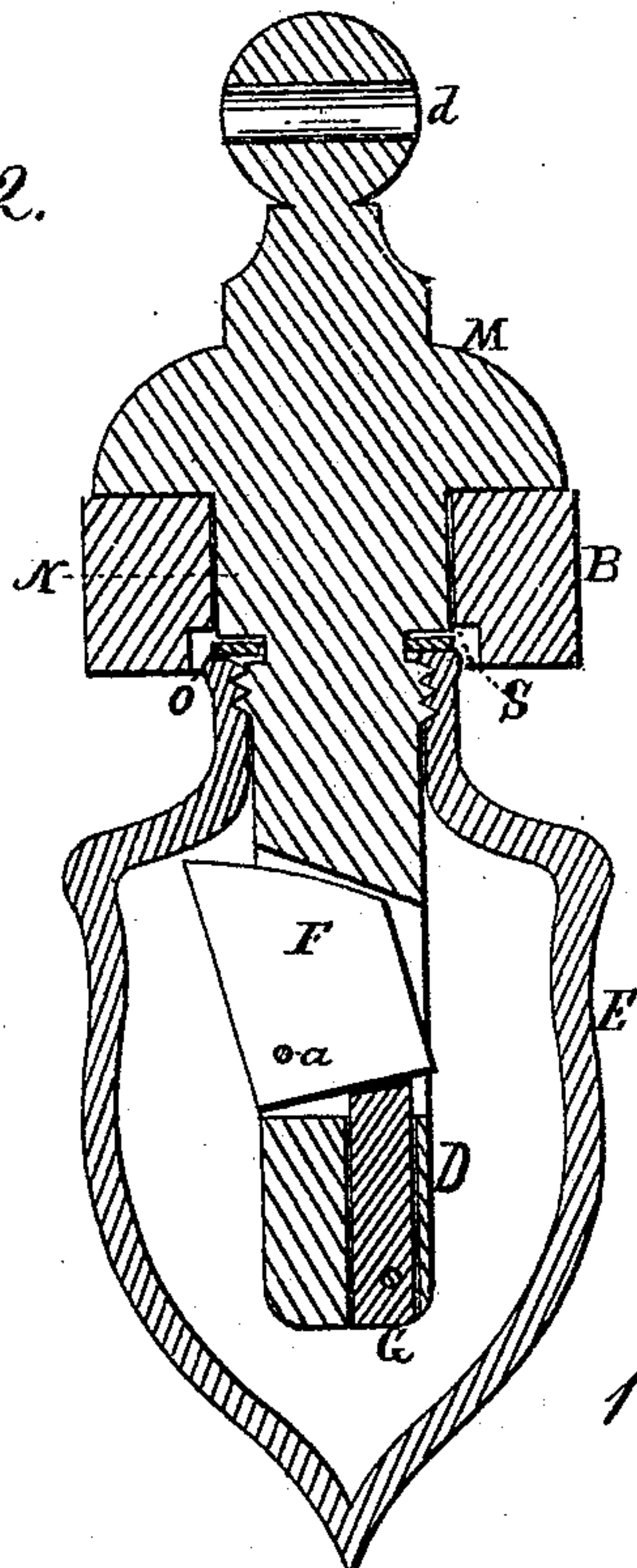


fig. 2.



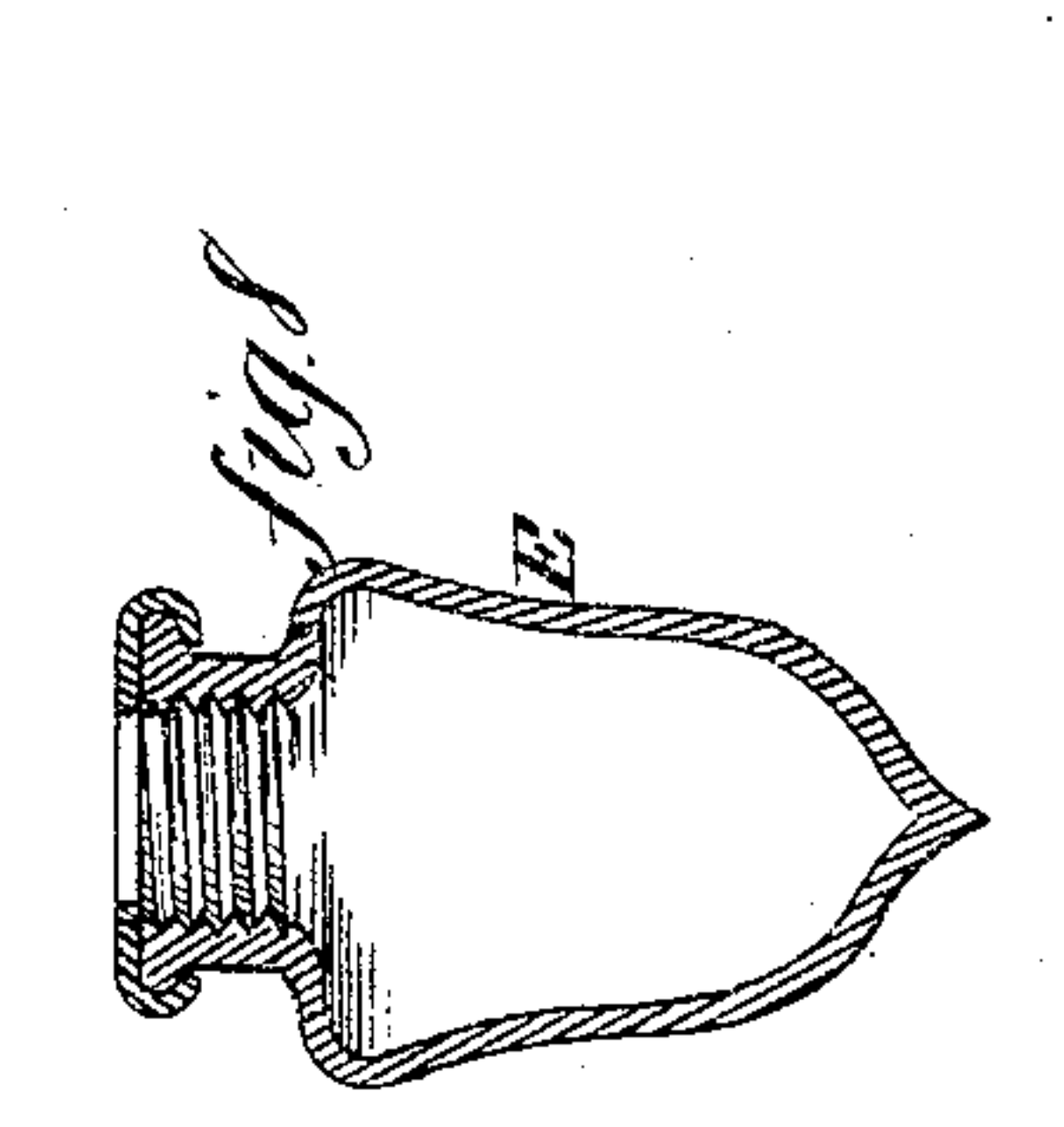
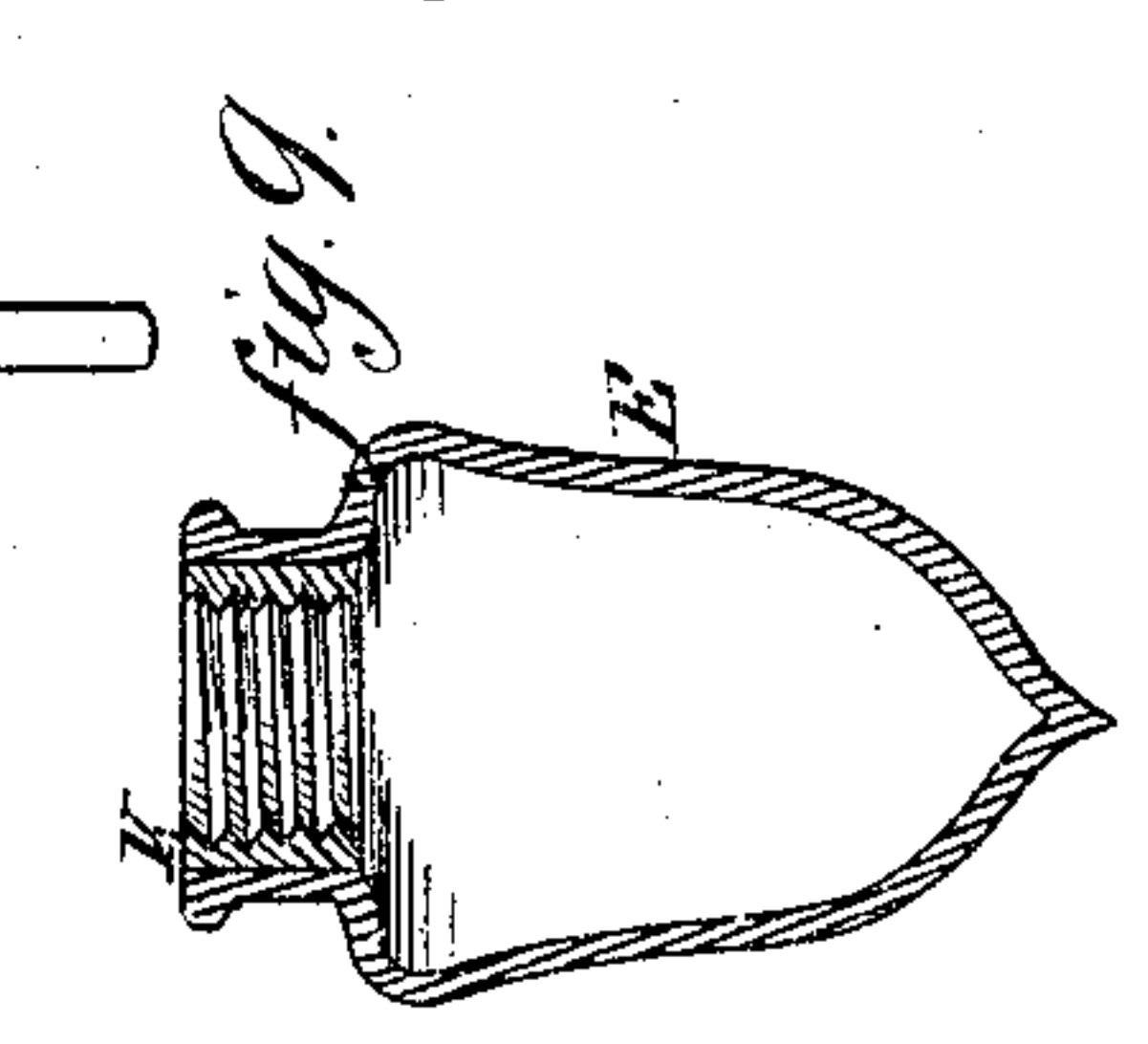
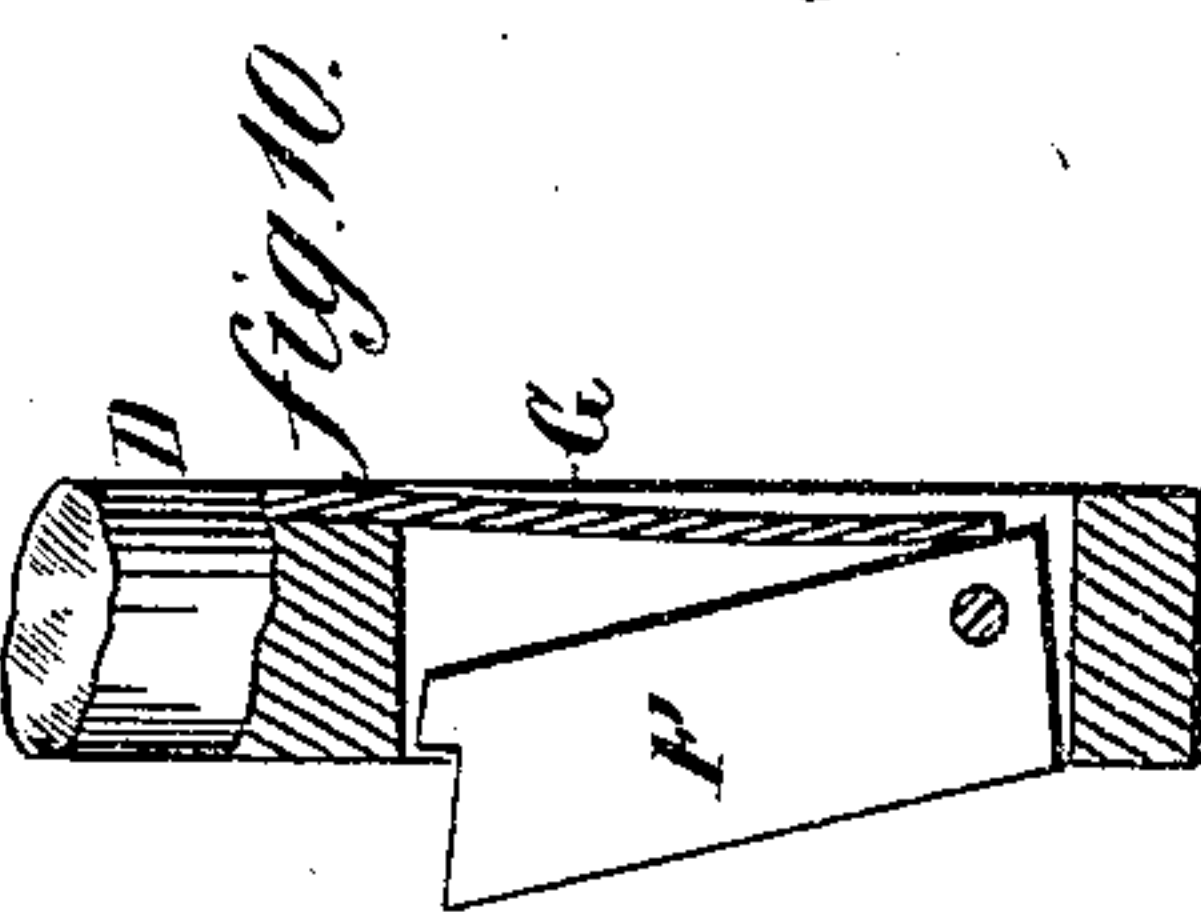
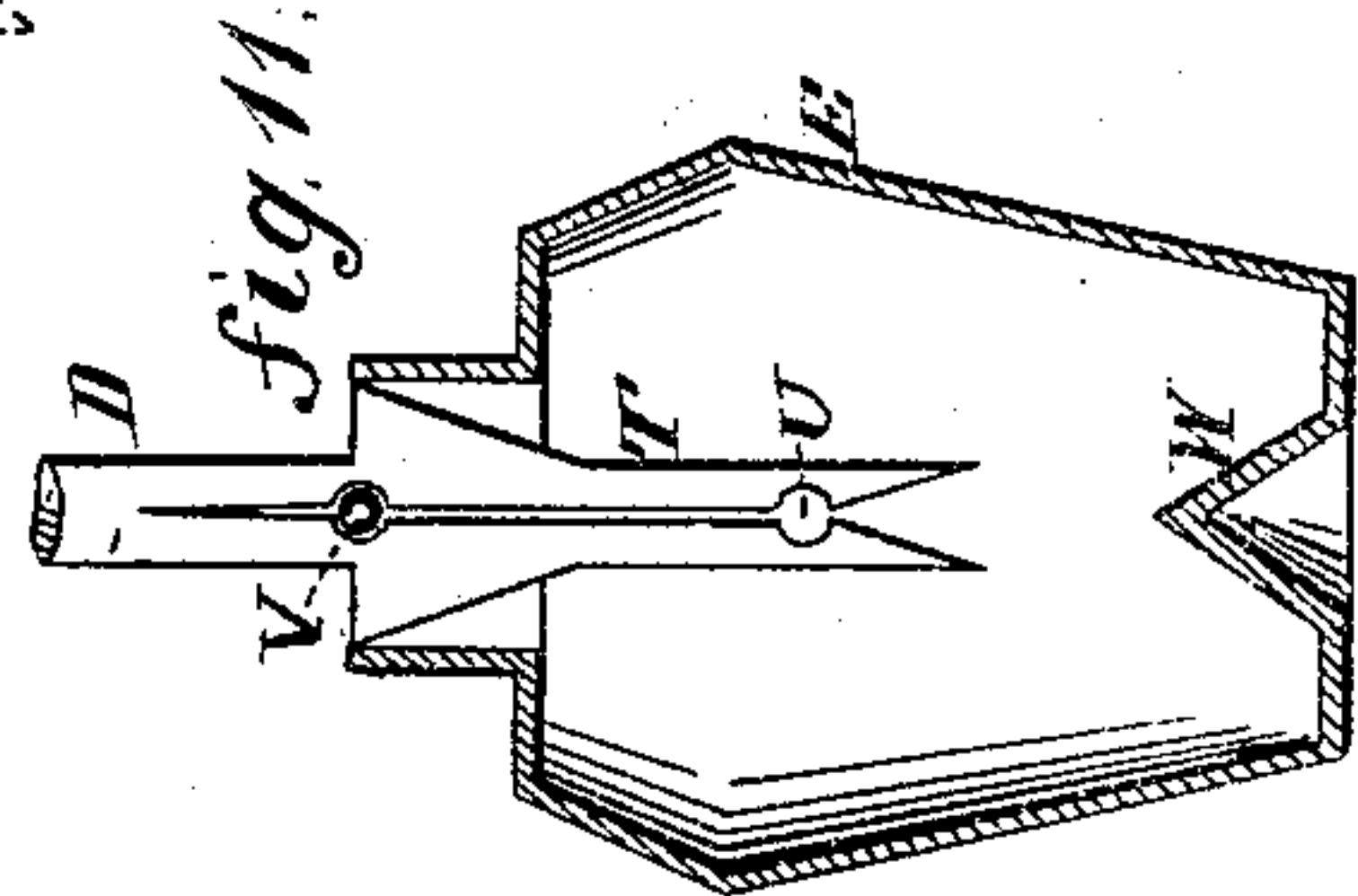
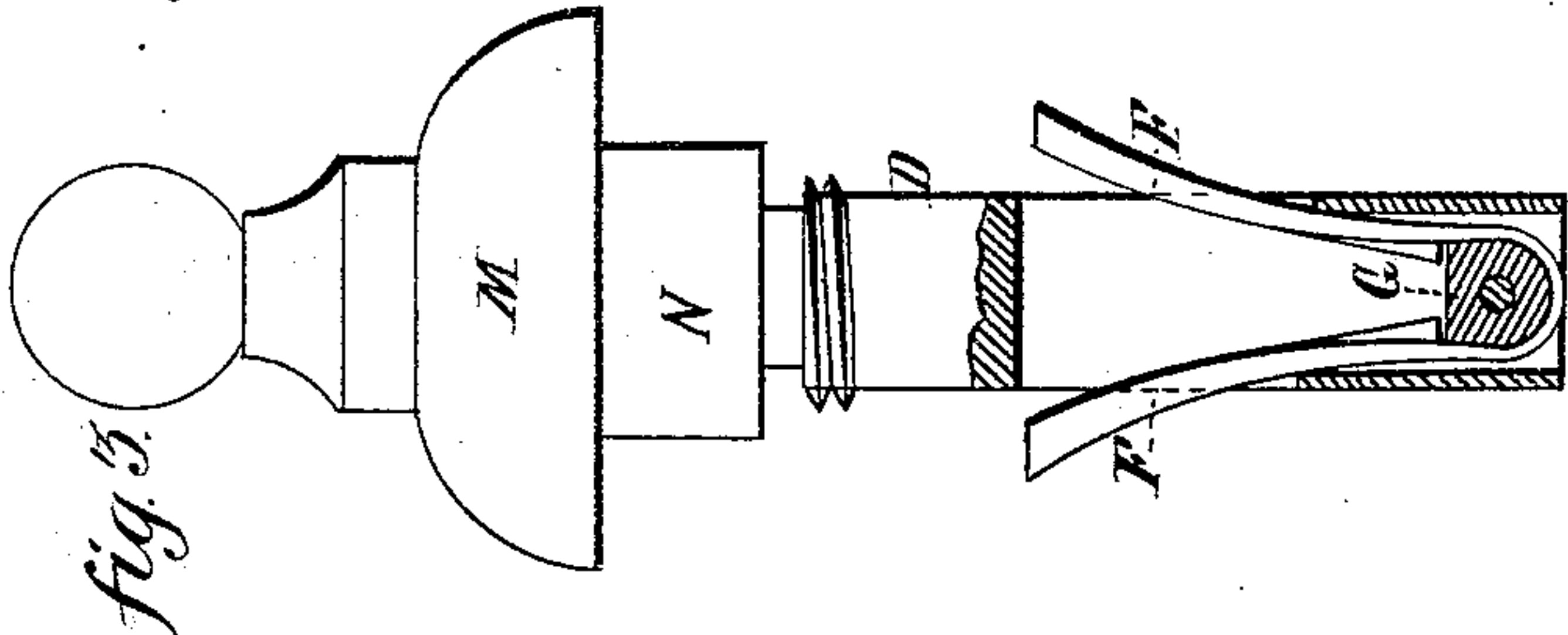
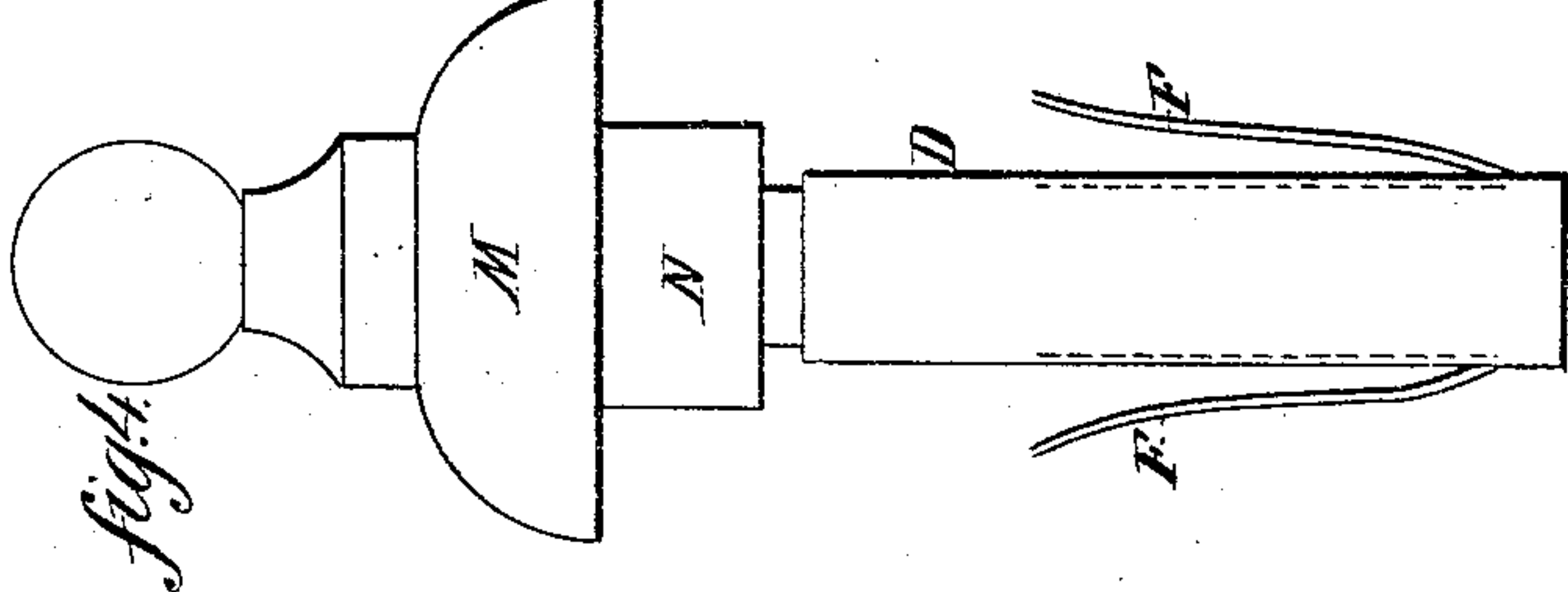
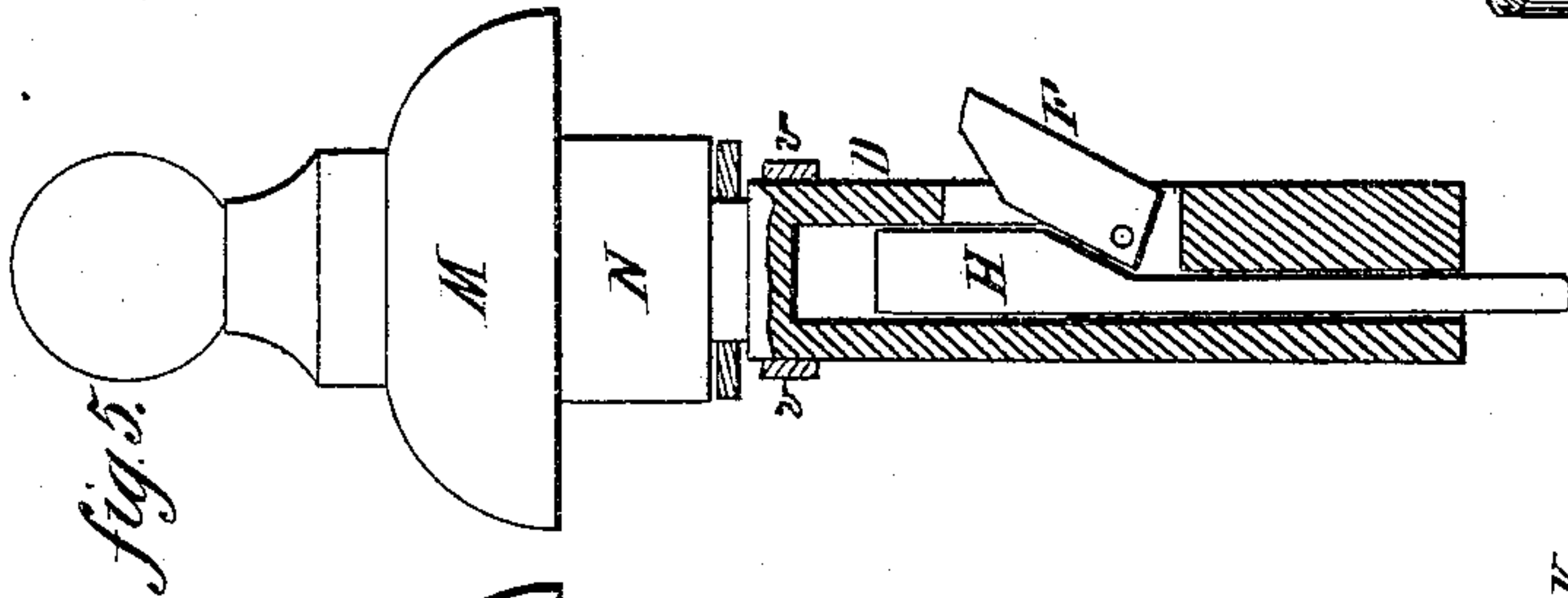
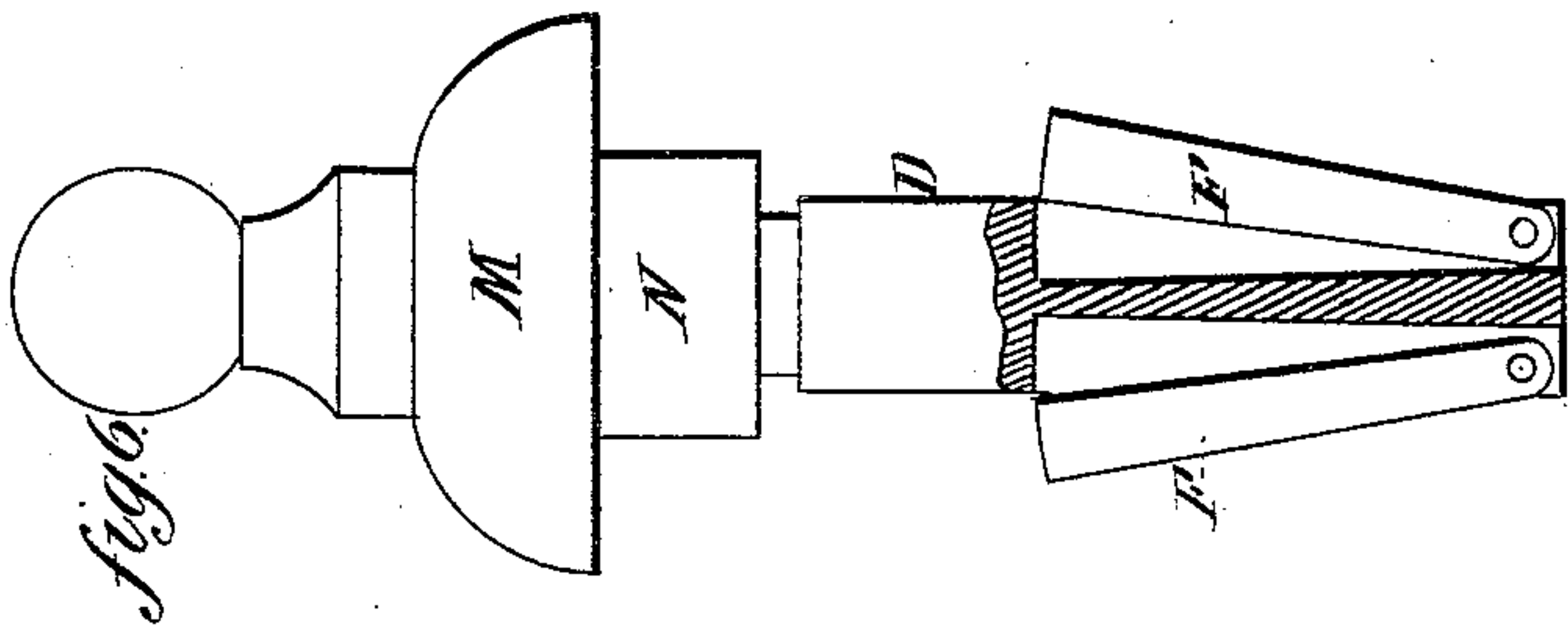
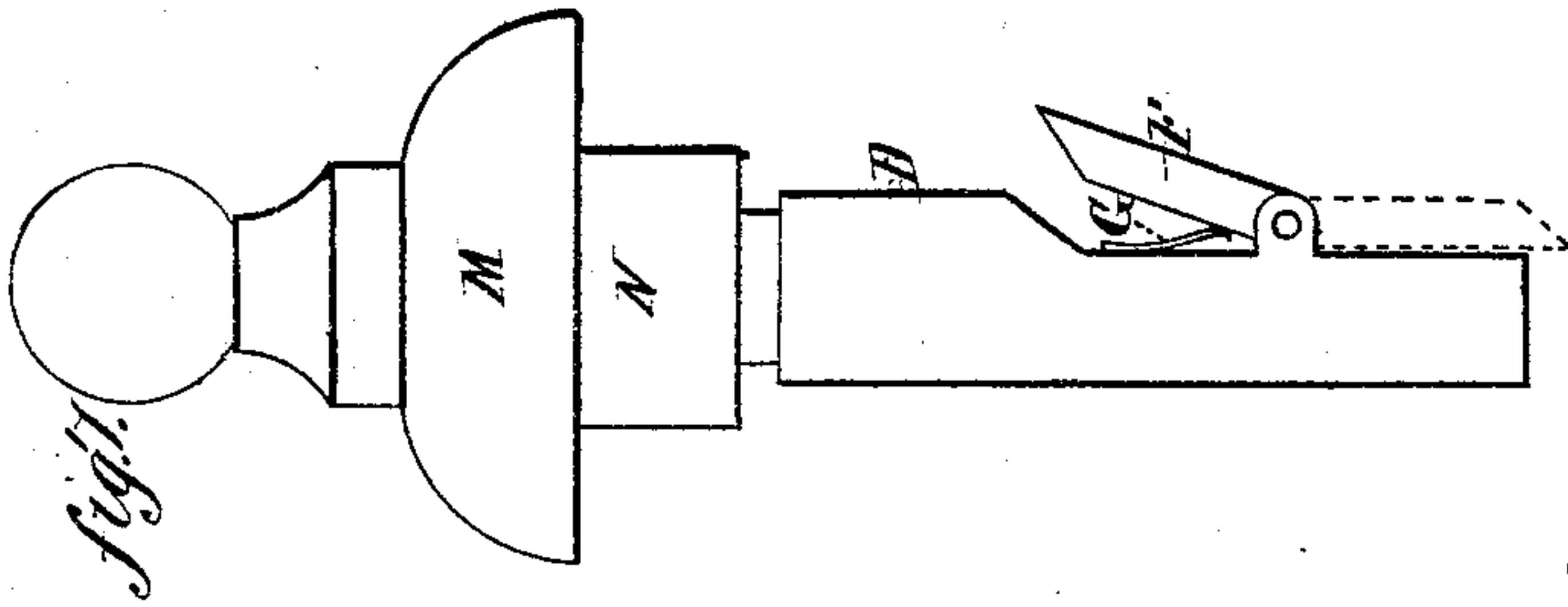
Witnesses.  
J. H. Wagner.  
W. J. Peyton.

Inventor.  
Chas. F. Dodge.  
per James L. Norris.  
his Attorney.

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Alfred Wagner,  
A. H. Norris,

Inventor.  
Chas. F. Dodge.  
per James L. Norris.  
his Attorney.



# UNITED STATES PATENT OFFICE.

CHARLES F. DODGE, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS HIS RIGHT TO JOSEPH C. TIFFANY, OF PORTSMOUTH, NEW HAMPSHIRE, AND NICHOLAS R. GRAHAM, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN SEAL-BOLTS.

Specification forming part of Letters Patent No. **151,859**, dated June 9, 1874; application filed November 22, 1873.

### *To all whom it may concern:*

Be it known that I, CHARLES F. DODGE, of the city, county, and State of New York, have invented certain Improvements in Seal-Locks, of which the following is a specification:

The invention relates to certain novel devices for sealing the doors of railroad-cars, and other entrances to places of deposit, so as to prevent the same being opened without first breaking the seal; and to this end the invention consists in the employment of a cup or bottle shaped seal made in one piece, of glass, porcelain, or other vitreous material, or of metal, hard rubber, or other equivalent and suitable material, capable of being broken or fractured, said cup or bottle shaped seal being provided with a single opening with or without a screw-threaded interior, and adapted to be applied and held in position by a locking pin or bolt having a dog, toggle-arm, spring, or divided shank, the parts being constructed in such manner that when the said seal is placed in position on the pin or bolt they cannot be disconnected without breaking or destroying the seal. The invention also consists in providing a staple or its equivalent, through which the bolt is passed, with a seat, recess, or depression on its under side, for the reception of the neck of a seal, whether the neck of the same be provided with a plain or a screw-threaded interior. The invention further consists in combining a yielding cushion with the seal and a pin or bolt having a locking device connected therewith, to counteract the effects of jars or concussions, and aid in securing a close-fitting joint.

In the drawings, Figure 1 is a front view of the seal and bolt, showing the same applied to a railroad-car. Fig. 2 is a sectional view of the locking-bolt, seal, and dog or catch for securing the seal. Figs. 3, 4, 5, 6, 7, 10, and 11 are modifications of the seal-retaining devices. Figs. 8 and 9 are detail views of the seals provided with screw-necks.

The letter A designates as much of a car-body, or other repository to which my invention is capable of being applied, as is necessary to show the application of my invention. B is a long staple secured to the door, and

adapted to receive a hasp, C, on the car-body. The position of the parts may, however, be reversed. The door, after being closed, is sealed, so as to prevent it from being surreptitiously opened by unauthorized persons, through the medium of a locking-bolt, D, which is passed through the staple in front of the hasp, and has applied thereto a seal, E, of a fragile or destructible material. Said seal is of any desired form or configuration, so long as it has but one opening for receiving the bolt or pin, and may be made of glass, porcelain, earthenware, or other vitreous material, or it may be constructed of sheet metal, cast-iron, hard rubber, or other material capable of being fractured or broken. The seals, which are either of colored or plain glass, may have the name of any particular railroad company, corporation, or individual using the same, stamped or formed upon them, so as to prevent the same from being easily counterfeited; and, in order to secure even greater safety, strips of paper, bearing conventional marks or signs, may be inserted into the seal previous to its application to the locking-bolt. The seal, although it may be provided with a plain neck, is, preferably, made an internally-threaded screw-neck, as shown in Figs. 2, 8, and 9, which screw-neck may be formed either by applying the threads directly in the neck, as shown in Figs. 2 and 8, or a threaded collar or sleeve, *v*, may be applied to a seal possessing a plain neck. The seals, screw-threaded, as shown, are applied to correspondingly-threaded bolts D in such a manner that no space or orifice is left between the two, for the insertion of a wire or other implement, designed to be used for fraudulently removing the seals from the bolts by disengaging the retaining devices connected with the bolt or pin, and located within the seal. In some instances I propose to employ a seal having a plain neck, and construct it so that the upper end of the same will fit into a recess or seat, S, formed in the under side of the staple B, as shown in Fig. 2 of the drawing, so as to prevent the insertion of an implement for picking. The seal retaining or locking devices are constructed in various



ways, as shown the drawing, but in every instance the same is capable of being turned or moved into such a position that the seal may be readily applied, when it is sprung outward through the medium of a spring-slide, or by its own gravity, for causing it to engage with the neck of the seal, so as to render it impossible for the same to be removed without fracture.

In Fig. 2 the seal-locking device is shown as being in the form of a dog or block, F, which is inserted into a slot or recess formed in the bolt or pin D, and made to turn upon a pivot-pin, *a*, passed through the dog near the front edge of its lower end, so as to enable it to be thrown outward by its own gravity. A rubber or other suitable spring, G, fitted into a bore extending from the end of the bolt to the recess, in which the dog is pivoted, serves to exert a sufficient force upon the heel of the dog for forcing the same outward from the seat, after the neck of the seal has passed it.

In Fig. 3 the seal-locking device consists of two arms, F, hung upon a common pivot-pin, located at the lower end of the bolt D, and combined with an interposed spring, G, for forcing the same in an outward direction.

As shown in Fig. 4, spring-arms possessing sufficient elasticity and strength may be resorted to, they being secured in the same position as the arms F of Fig. 3. I contemplate also to combine with a pivoted gravitating dog, as shown in Fig. 5, a headed slide, H, moving in a channel or bore in the bolt D, and of such a shape that it will bear upon the dog for forcing the same in an outward direction.

As shown in Fig. 6, arms F are pivoted at their lower ends to the bolt D, the weight or gravity of the same being in this instance depended upon for throwing them outward from recesses in the bolt.

As shown in Fig. 7, the dog or arm F is pivoted to the bolt, and is combined with a pressure-spring, G, which forces it in an outward direction. The dog is in this instance so pivoted that it can be turned down against the side of the bolt D after the fracture of the seal-cup, so as to enable the bolt to be withdrawn from its staple B; the dog falling outwardly, dropping down, fits flushly upon the side of the shank by its own inherent gravity, as shown in dotted lines.

In Fig. 10 is illustrated a pivoted dog, located in a recess in the lower end of the bolt D, and having arranged in proper relation thereto a flat spring, which bears upon its back edge, as shown.

Instead of using a solid bolt and movable dog, as heretofore described, I propose to construct the shank of the bolt in two parts, T, which are pointed at their lower ends, so as to form a wedge-shaped space between the same, as shown in Fig. 11. The subjacent faces of the shanks T are also recessed, as at U, so as to form cavities designed for the reception of a loose ball, Y, which drops into the lower cavities to hold the shanks distended when

their lower ends are spread apart after insertion into the seal. The separation of the shanks to permit the ball to drop is accomplished by a wedge-shaped projection, W, at the base of the seal, which enters between the shanks T when the seal is applied for the purpose stated. Instead of using the ball and wedge, I contemplate to make the shank of the bolt of two elastic parts, which are forced together before insertion into the seal, and then immediately spring apart to prevent their withdrawal through the mouth of the seal.

I have illustrated and described several ways in which the seal may be retained in position; but other equivalent means for accomplishing the desired results may be resorted to without departing from my invention.

Resuming a description of the bolt D, it is necessary to state that the same is formed with a knob, M, having a hole, *d*, for the passage of a cord or chain for attaching the bolt to the side of the car. Below the head is located a shoulder, N, or enlarged upper portion of the bolt, which is designed to be seated in the staple, the under surface of the head resting upon the top of said staple, so as to secure a firm bearing-surface. An elastic packing-ring or gasket, O, is inserted into a seat in the lower end of the shoulder N, the object of which is to form an elastic cushion, against which the upper edge of the seal rests, so as to counteract the effects of jars and concussions, as the same would be liable to fracture the seal if it were in contact with a metallic surface. I also propose to fit a rubber collar or band around the upper portion of the bolt D, the object of which is to hug or grasp the mouth of the seal so as to hold the same firmly, and to prevent it from wobbling.

Another important advantage arising from the use of the rubber collar referred to is the removal in certain cases of the retaining device from contact with the seal, thus preventing any casual fracture of the same.

As an additional safeguard or auxiliary seal, I propose to use a tag or label, X, which is slipped over the bolt D previous to the application of the seal, said tag being designed to be punched or marked at every station, so as to furnish means for indicating that the car had passed the preceding station without being tampered with.

In order to protect the seal from casual injury, I propose in certain cases, but not invariably, to cover the same with a hood, which is hinged to the car at such a height that it will not interfere with the withdrawal of the locking-bolt when in an elevated position. The hood is made of wire-gauze or other open-work material, so as to enable the seal to be readily inspected without raising the hood.

I do not claim a seal, open at both ends, through each of which and the seal is passed the shank of a locking-pin, as such is not my invention; but



What I do claim is—

1. A seal made in one piece of glass or other vitrious material, or of metal, hard rubber, or their equivalents, provided with a single opening, and adapted to be applied and held in position by a locking-bolt, having a locking device attached thereto, substantially as described, so that the bolt and seal cannot be detached without breaking the seal.

2. The staple B, provided with a seat or recess, S, on its under side for the reception of a portion of the neck of the cup or bottle shaped seal, whether the interior of the neck be a plain surface or provided with a screw-

thread, substantially as described, for the purpose specified.

3. The yielding-cushion, combined with the cup or bottle shaped seal and the locking bolt or pin, substantially as described, for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of November, 1873.

CHAS. F. DODGE.

Witnesses:

N. B. GRAHAM,  
C. D. JONES.