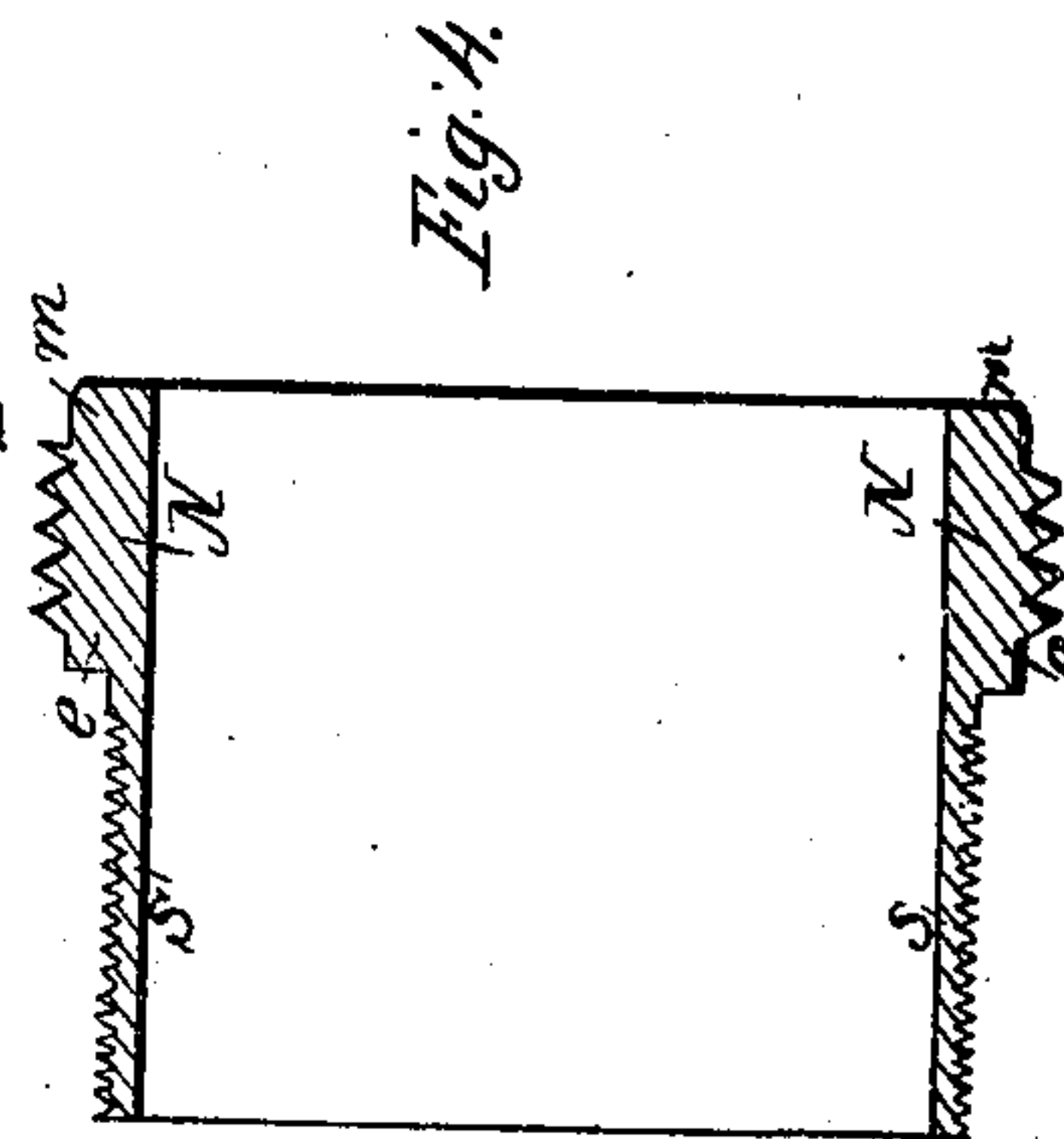
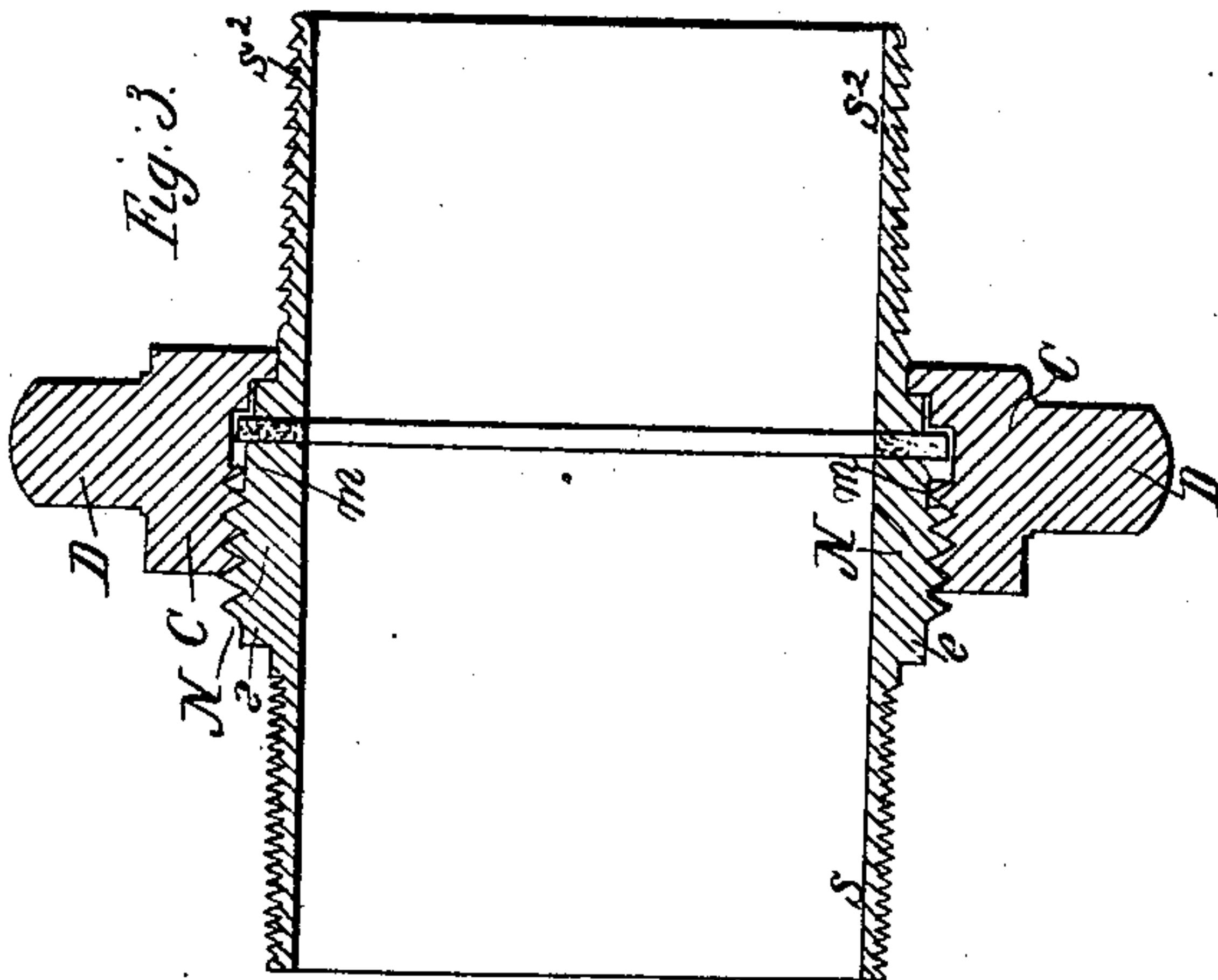
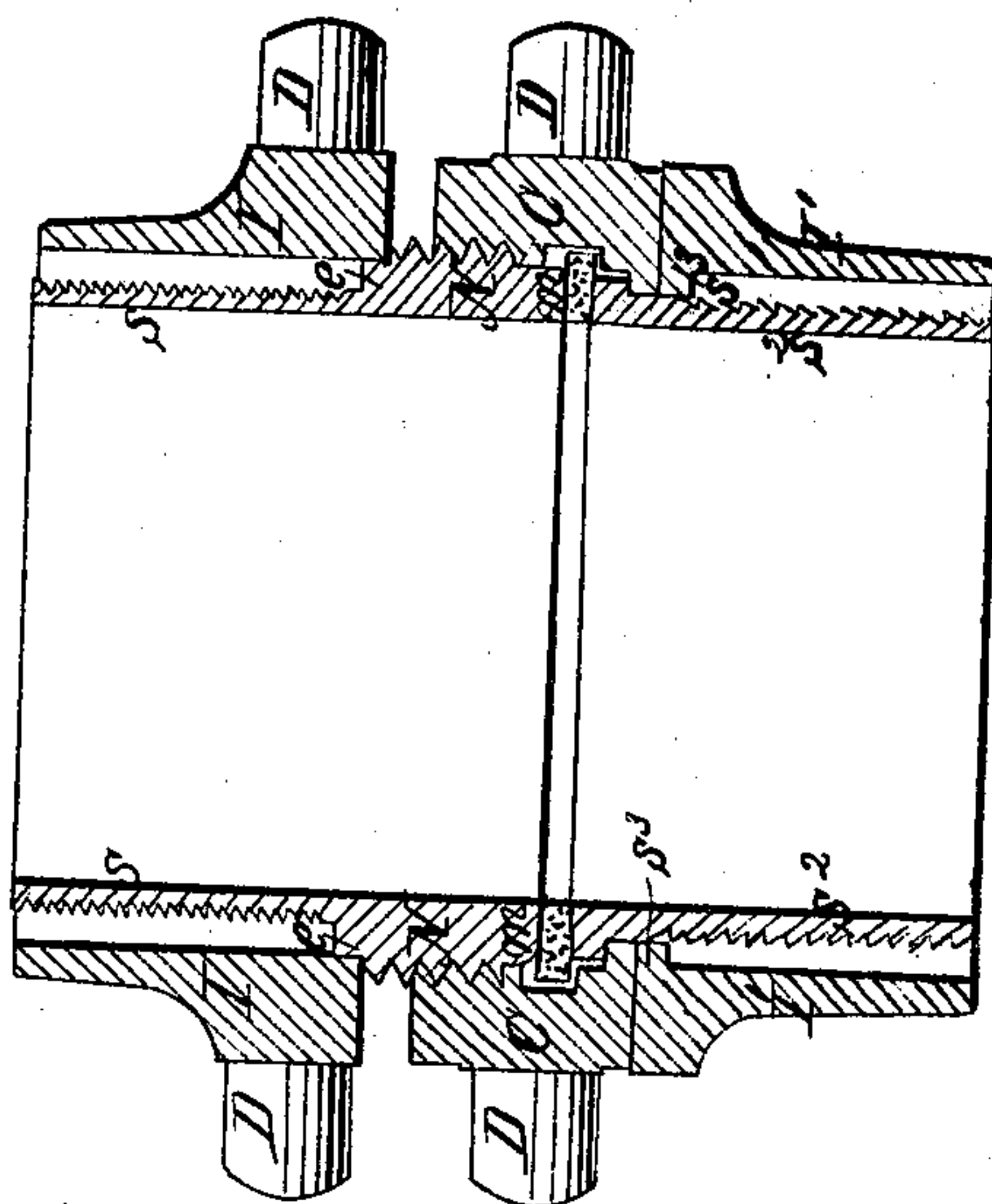
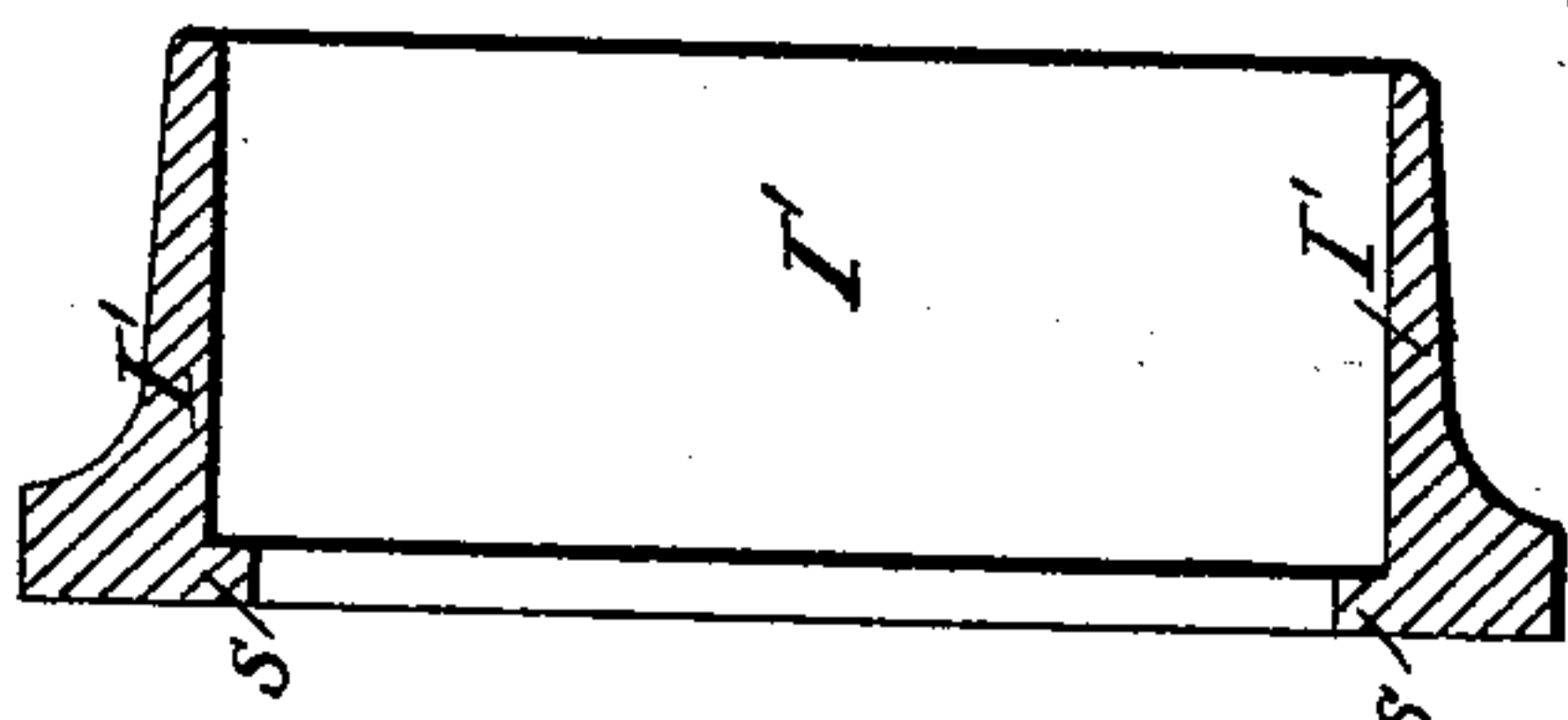
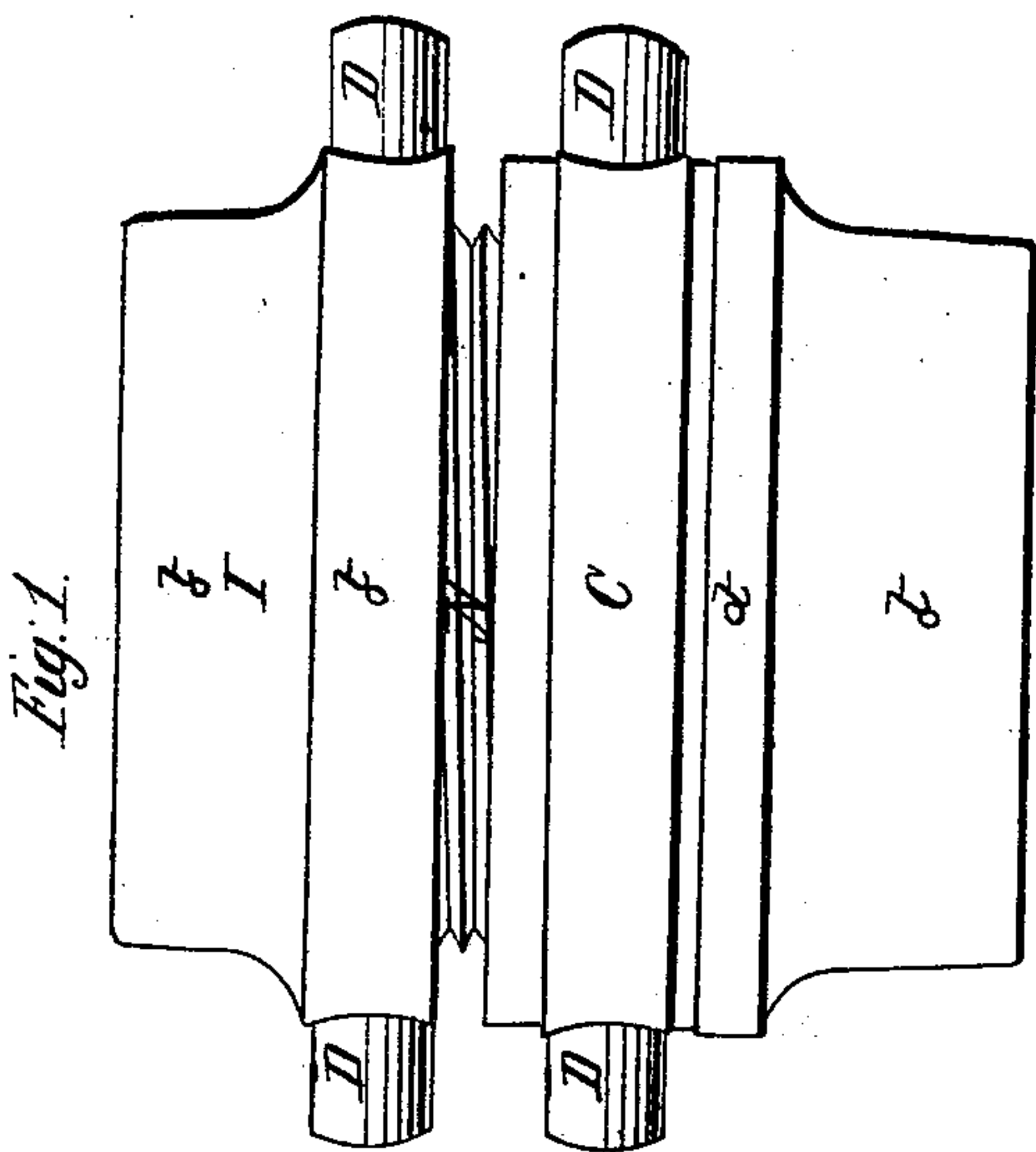


A. F. Allen.

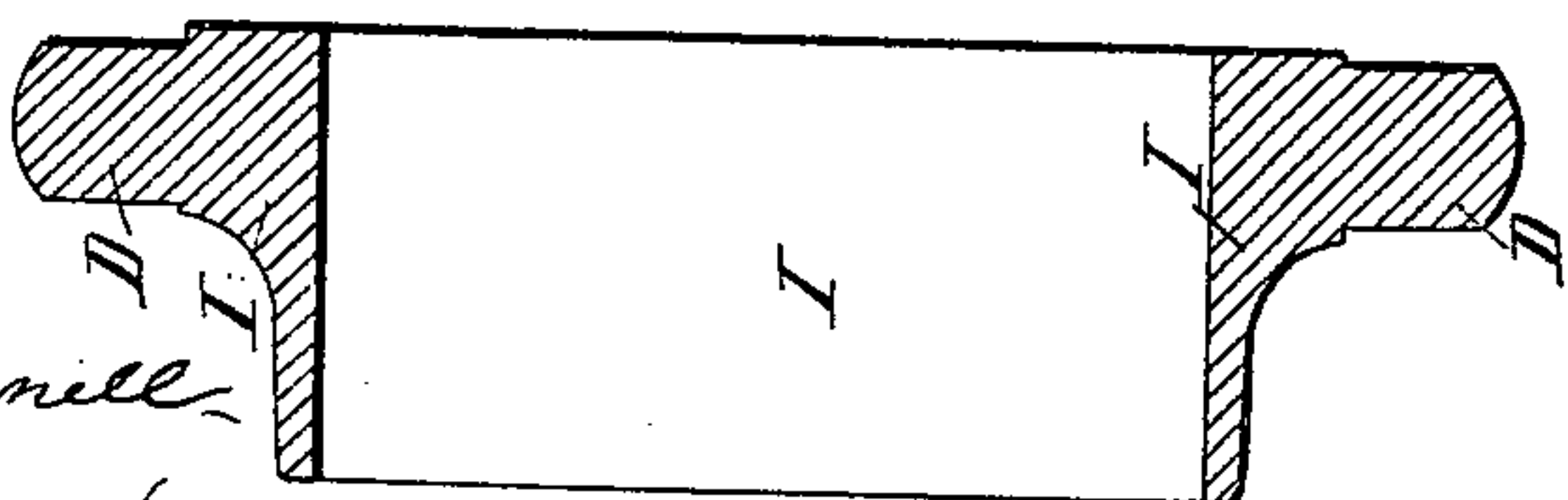
Hose Coupling.

N^o 89,455.

Patented Apr. 27. 1869.



Witnesses;
Isaac A. Brunell
William Cornell



Inventor;
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United States Patent Office.

ALBERT F. ALLEN, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 89,455, dated April 27, 1869.

IMPROVEMENT IN HOSE-COUPPLINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ALBERT F. ALLEN, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Hose-Couplings for Fire-Engines and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of the exterior of my improved hose-coupling.

Figure 2 is a transverse section of the same.

Figure 3 is a like view with some of the parts separated to exhibit the improvement more clearly.

Figure 4 is a view separately of the removable nipple-piece hereinafter mentioned.

Similar letters indicate corresponding parts in all the figures.

The object in view in my said invention is to make the hose-coupling shorter, lighter, and more compact than heretofore; to make it more economical of construction, and to remedy certain difficulties of the construction in general use at the present time.

My invention consists in constructing and arranging the parts of the coupling substantially as hereinafter described.

In the drawings—

Fig. 3, S S² are the two metallic sleeves, which receive the ends of the two pieces, or sections of leather or other hose to be connected.

The sleeve S is provided with a nipple, N, which screws into the swivel-collar C, on the sleeve S², and there is a ring of packing of leather or India rubber inserted in the swivel against the end of sleeve S², which serves, when the sleeve S is screwed snugly against it, to form a water-tight joint at the ends of the sleeves.

The end of the hose is secured upon the sleeve by means of another closely-fitting sleeve, I, which encloses the end of the hose, and the whole is firmly held together by a number of rivets, *t t*, passing through both sleeves and the hose between them.

The two parts of the coupling are turned to screw or unscrew them by means of the horns, or projections D, to which a pair of hose-wrenches may be applied, all of which may be generally understood as the ordinary construction of coupling now in use.

There is however, in the coupling represented in said drawings, a material change of construction, to which no allusion has thus far been made in the foregoing explanatory description, but which I will now proceed to describe.

The nipple N and sleeve S, it will be seen, is simply a wide band, or ring of metal, as shown in fig. 4, the screw-threads of the nipple being somewhat larger in diameter, and the collar I, which encloses the end of the hose, is provided with horns D, by which to

turn the nipple and sleeve when the two parts are riveted together upon the hose.

Heretofore, in the old construction of coupling, the said nipple-piece N S had a thick, heavy band, like C, between the nipple-threads and the sleeve, by the horns of which the piece was turned, and which, in my improved construction, as shown, is dispensed with, thereby both shortening and lightening the coupling, which is very desirable, as the shorter coupling can be more compactly laid in reeling the hose upon the carriage.

Another important advantage is, that by constructing the nipple-piece in the form of a simple threaded sleeve, or band, it can be readily removed and replaced, with but slight expense, when the thread of the nipple becomes worn or injured by use, the other parts of the coupling, which are less liable to injury, being retained.

The end of the nipple, it will be seen, has a plain cylindrical surface, *m*, formed by turning off a portion of the thread, which serves to enter and guide the thread so that it shall not cross and bind the thread of the swivel-piece, and prevent the two pieces from screwing together, a difficulty which is constantly occurring in the haste with which the two parts are united in case of fire. This entering-guide, or surface *m*, by projecting, as it does, beyond the thread of the nipple, also protects the thread from injury by carelessly dropping or throwing it upon the street-pavement, and, notwithstanding its simplicity, forms an important feature of improvement in my invention.

Another feature of construction, which is of considerable importance, is the fixed collar, or shoulders *e e* on the nipple-piece, and S³ S³, on the outside sleeve I, which remedies a serious difficulty which I will mention.

The hose in general use is almost universally of leather, which expands considerably on being wet by the water passing through it, and projects beyond the end of the outside sleeve I, and presses, with great force of expansion, against the swivel C, so that it is with great difficulty that it can be turned, and this is so important a matter that it is frequently necessary to take off the coupling from the hose, and cut away the protruding end, and again replace the coupling, which is attended with considerable trouble and expense. By means of these collars, or shoulders, however, the leather, by expanding however much, exerts its force only against the permanent surface of the said shoulder, and thus serves as a packing between the two sleeves, and to render the joint thereat more completely water-tight, leaving the swivel C to turn freely against a smooth metal surface like its own, at the end of the sleeve.

The width or thickness of the collars, or shoulders also serves to determine the concentric space which the hose is to occupy equally around and between the two

sleeves. It also adds stiffness to the outer sleeve I', and enables it to resist the blows it receives by being dropped upon the pavement of the street, or being crushed by being run over by carriages or fire-apparatus.

Having thus described my invention, and in what the same consists,

What I claim, is—

1. The nipple-piece N S, constructed with a shoulder, e, to receive the end of the hose, in combination with the sleeve and collar I, constructed with horns D, and otherwise, substantially as shown and described, to effect the purpose specified.

2. In combination with the threaded nipple N of a hose-coupling, an entering and guiding-surface, m, at the end, substantially as shown and described.

3. The combination and arrangement of the swivel-sleeve S², the outer fixed sleeve I', constructed with a shoulder, S³, to receive the end of the hose and the swivel C, constructed with horns D, and otherwise, substantially as shown and described, to effect the purpose specified.

ALBERT F. ALLEN.

Witnesses:

ISAAC A. BROWNELL,
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