

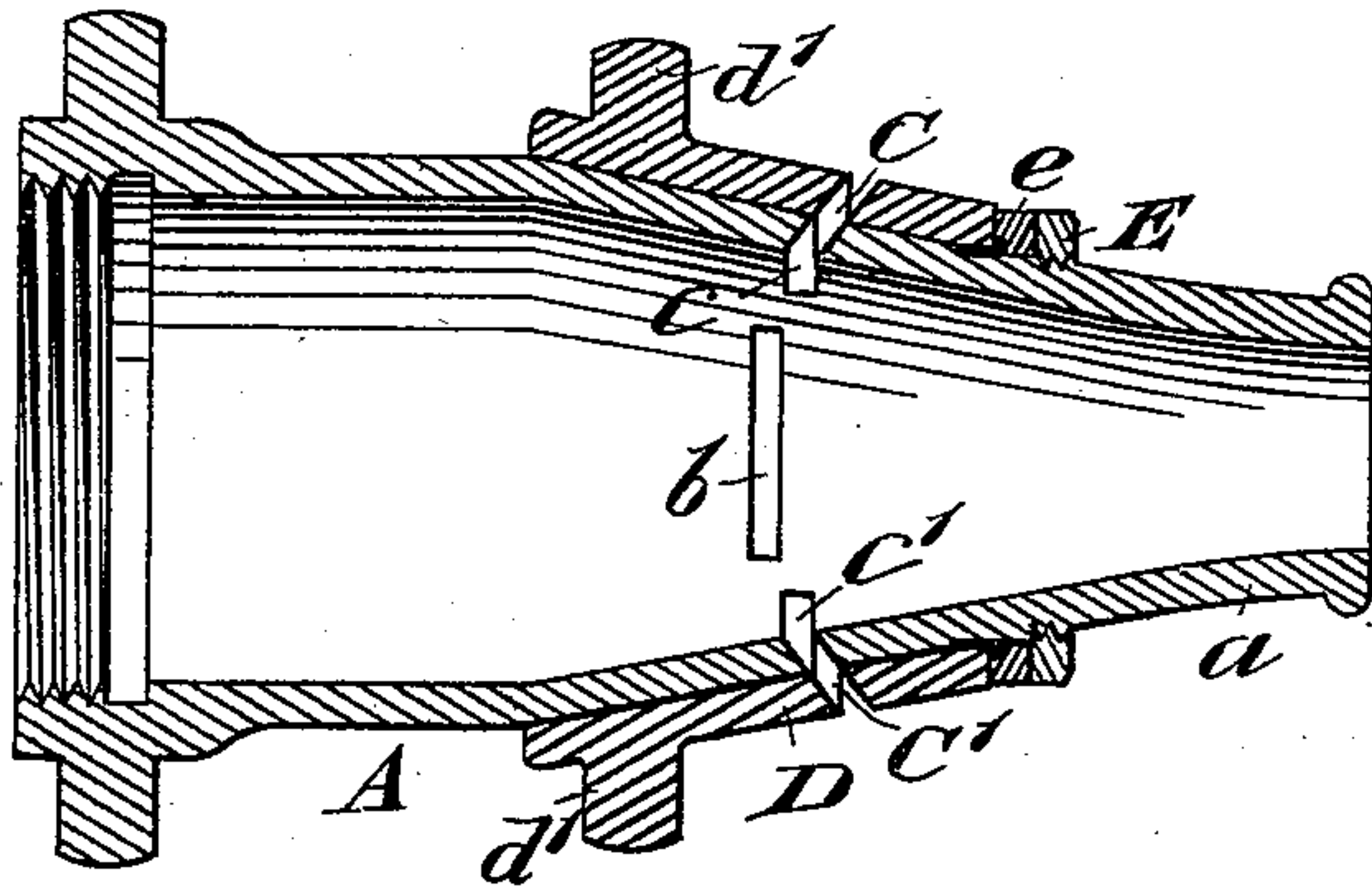
(No Model.)

W. F. CUNNINGHAM.  
SHIELD NOZZLE.

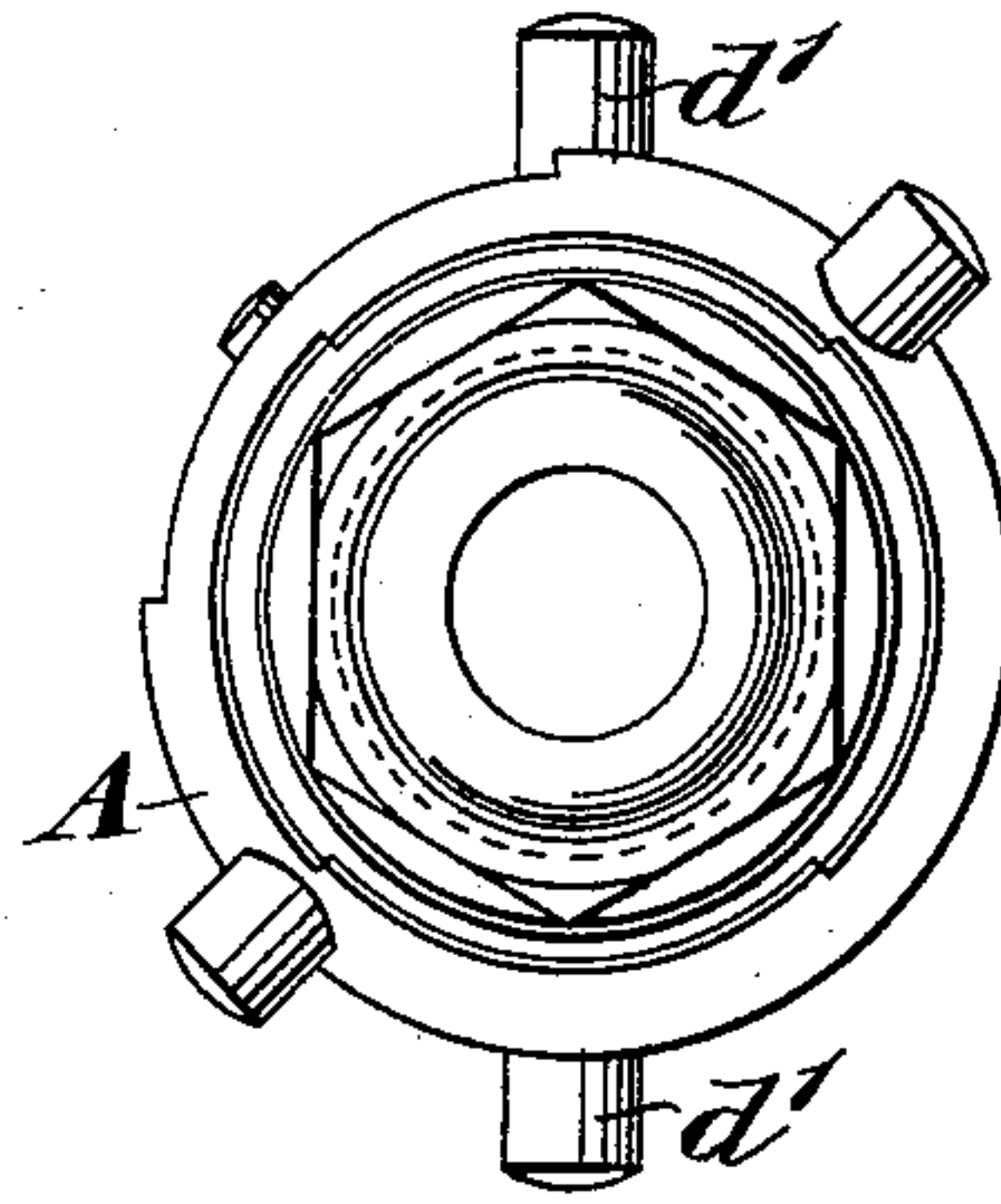
No. 563,454.

Patented July 7, 1896.

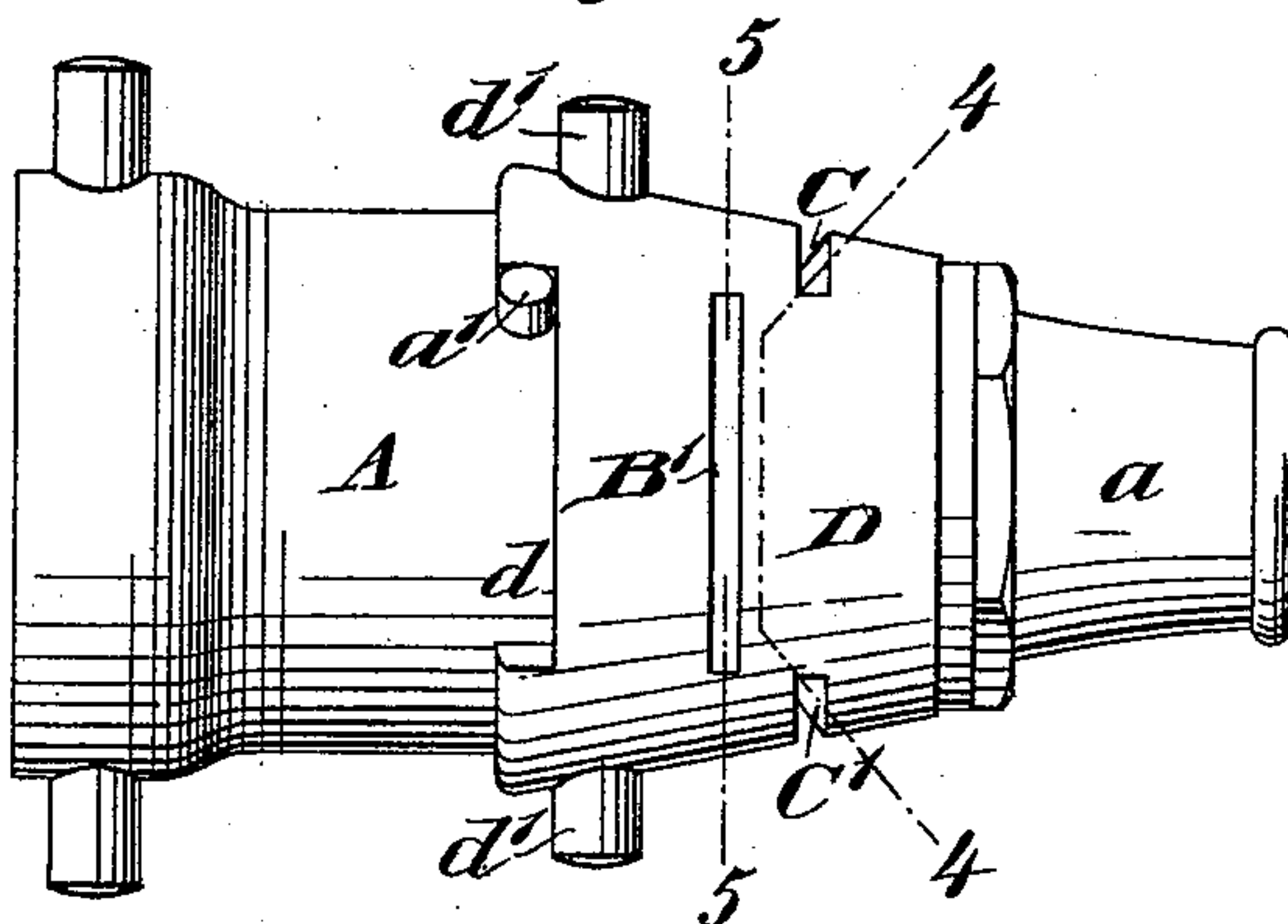
*Fig. 1.*



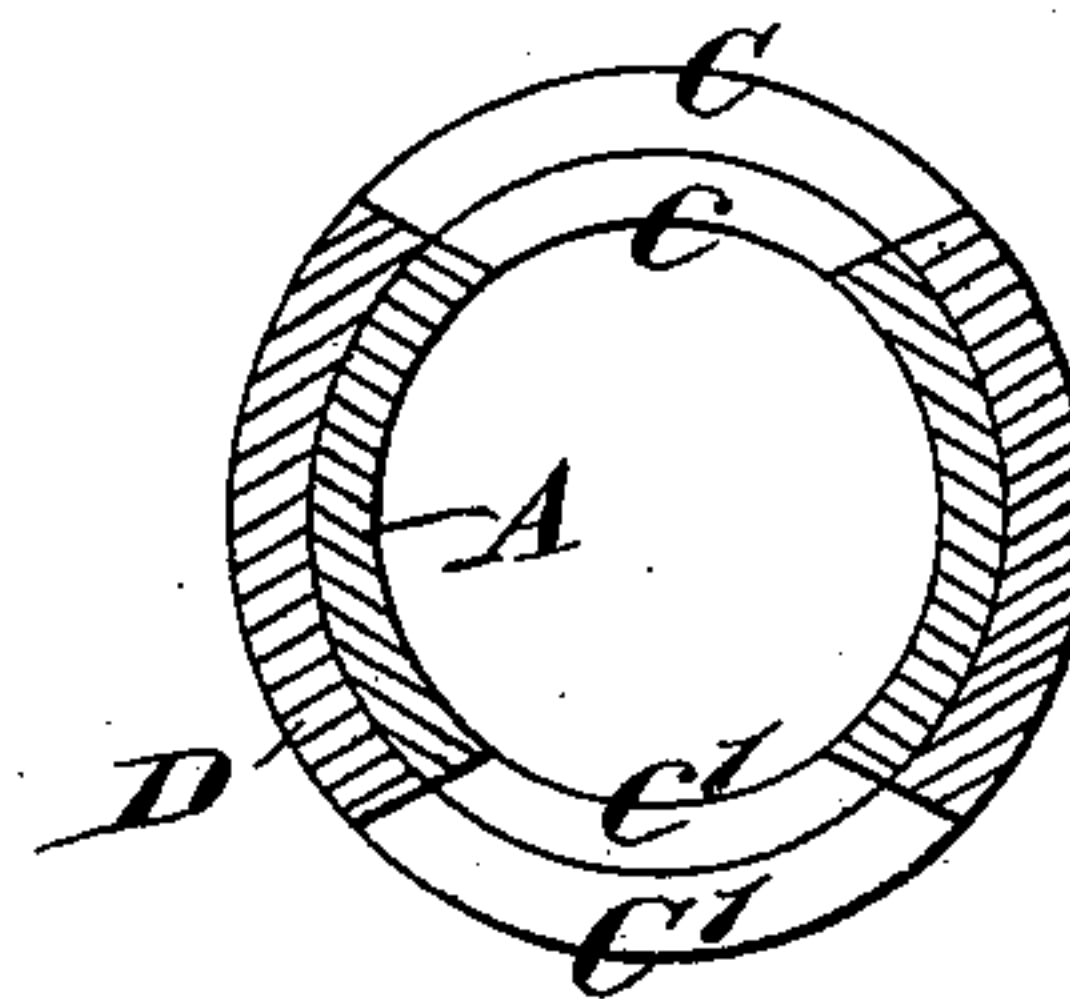
*Fig. 2.*



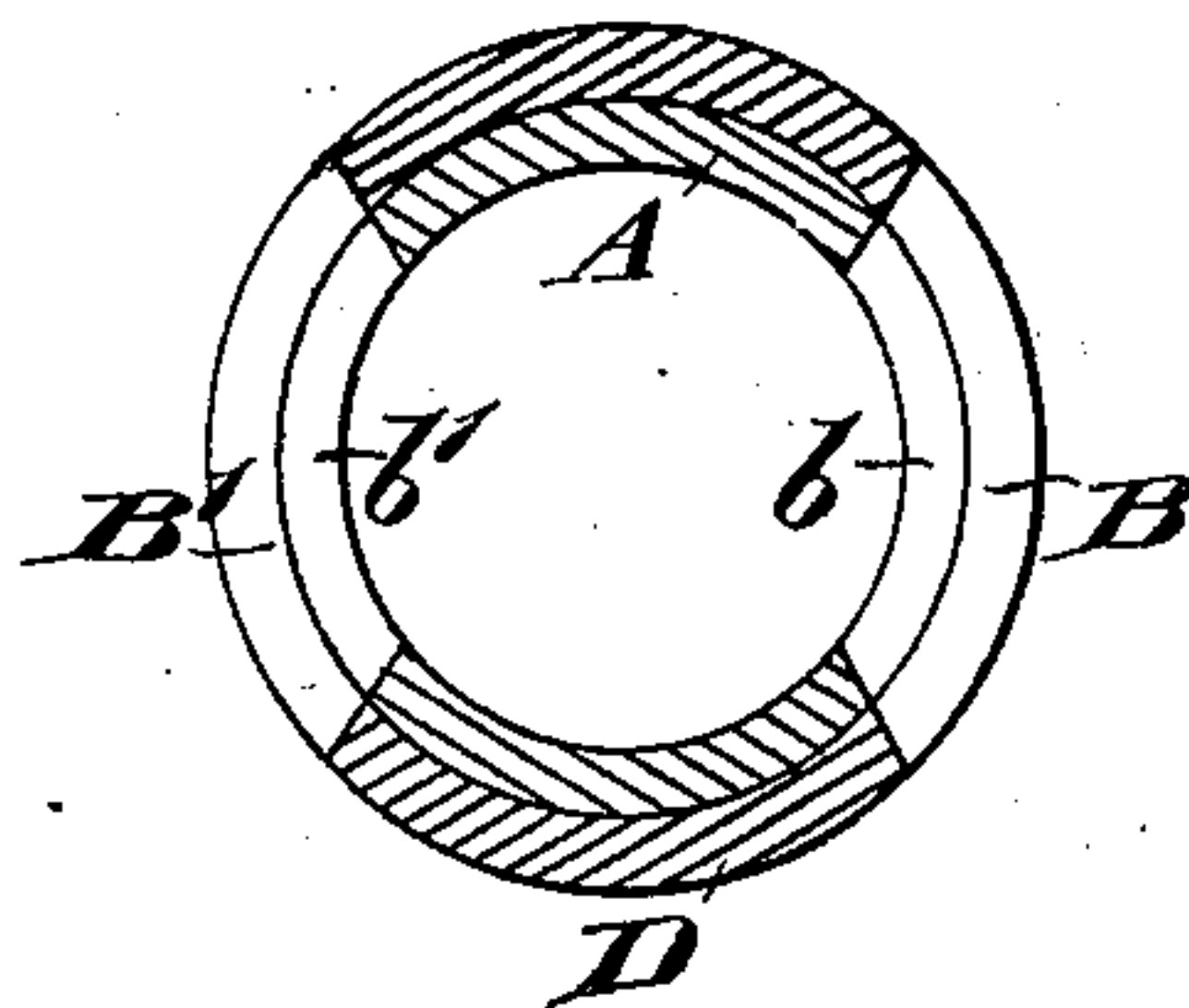
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Witnesses:*

*Robert B. Seward.*  
*George Barry Jr.*

*Inventor:*

*William F. Cunningham.*  
*by attorneys:*  
*Brown & Seward*



# UNITED STATES PATENT OFFICE.

WILLIAM F. CUNNINGHAM, OF BROOKLYN, NEW YORK.

## SHIELD-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 563,454, dated July 7, 1896.

Application filed December 28, 1895. Serial No. 573,603. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. CUNNINGHAM, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Shield-Nozzles, of which the following is a specification.

My invention relates to an improvement in shield-nozzles for directing a sheet of water radially from the nozzle to protect the fireman or person carrying the nozzle through fire or smoke.

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

Figure 1 is a view of the nozzle in longitudinal section. Fig. 2 is an end view. Fig. 3 is a view in side elevation of the parts in the position which they assume when the ports for discharging the sheet of water are open. Fig. 4 is a transverse section through line 4 4 of Fig. 3, and Fig. 5 is a transverse section through line 5 5 of Fig. 3.

The body of the nozzle is denoted by A, and consists of a cylindrical base portion for attachment to the hose and a tapered end *a* for directing a stream of water, as is usual.

Intermediate of the small end of the tapered portion and the cylindrical base the body A is provided with transversely-elongated ports *b b' c c'*, the ports *b b'* being located in the present instance diametrically opposite each other and the ports *c c'* being located diametrically opposite each other, the ports *b b' c c'* being in length somewhat less than a quadrant and the ports *b b'* being located in a different transverse plane from that in which the ports *c c'* are located.

On the exterior of the tapered portion *a* of the nozzle there is fitted a tapered sleeve D, provided with ports B B' C C', corresponding, respectively, to the ports *b b' c c'* in the body of the nozzle, and two of them at least—viz., C C'—preferably having a forward inclination as they extend outwardly through the sleeve. The lengths of the ports B B' C C' correspond at the inner surface of the sleeve with the lengths of the corresponding ports in the body of the nozzle at the exterior surface of the nozzle and from thence the end walls of the ports in the sleeve diverge, keeping up, preferably, the same degree of divergence as the end walls of the ports in the body of the

nozzle assume in extending from the interior of the body of the nozzle to its exterior until upon reaching the exterior surface of the sleeve the ends of the ports B B' extend to or overlap the ends of the ports C C', but in different transverse planes.

The sleeve is held in position on the tapered portion of the body of the nozzle by means of a nut E, and a washer *e* of some suitable material is interposed between the nut E and the small end of the sleeve. The sleeve D is permitted a rotary movement on the body of the nozzle, sufficient to throw the ports in the sleeve completely out of register with the ports in the body of the nozzle in order to cut off the sheet of water and turn it on at pleasure. To relieve the operator of any delay in determining what the rotary movement for cutting off and turning on the sheet of water shall be, I provide a stud or pin *a'* set in the interior face of the body of the nozzle and provide a recess *d* in the edge of the sleeve to receive the stud or pin *a'*, the ends of the recess *d* serving as abutments to engage the stud or pin *a'* at the opposite limits of the rotary movement of the sleeve D to cut off or turn on the sheet of water. For convenience in operating the sleeve, I provide it with handles *d'*, consisting in the present instance of lugs or studs projecting outwardly from its exterior face upon diametrically opposite sides of the face.

In operation, when it is desired to carry the hose through a room filled with fire or smoke, the sleeve D is rotated in a direction to turn on the sheet of water and the latter issues in a solid sheet completely surrounding the nozzle and forming a wall of water in front of the person carrying the nozzle to shield him from the effects of the fire and smoke. When it is desired to use the nozzle without the sheet of water issuing therefrom, the sleeve D is given a rotary movement in the opposite direction to cut off the discharge.

What I claim is—

1. The shield-nozzle comprising a tapered body portion provided with transversely-elongated ports therethrough, the said ports being located in different transverse planes a tapered sleeve fitted on the body portion and provided with ports therethrough corresponding to the ports in the body portion, a nut

for holding the sleeve in position on the nozzle and a stop for limiting the rotary movement of the sleeve to cut off and turn on the discharge through its ports, substantially as  
5 set forth.

2. The shield-nozzle comprising a tapered body portion provided with transversely-elongated ports, a rotary tapered sleeve fitted upon the body portion and provided with  
10 ports adapted to register with the ports through the tapered body portion, the said

ports in the tapered sleeve having their end walls made to diverge as they extend outwardly and the portions of the ports at the exterior of the sleeve being located in different transverse planes, substantially as set  
15 forth.

WILLIAM F. CUNNINGHAM.

Witnesses:

FREDK. HAYNES,  
GEORGE BARRY, Jr.