

No. 629,160.

Patented July 18, 1899.

O. HARTMANN.  
TIME FUSE.

(Application filed Sept. 2, 1898.)

(No Model.)

Fig. 1.

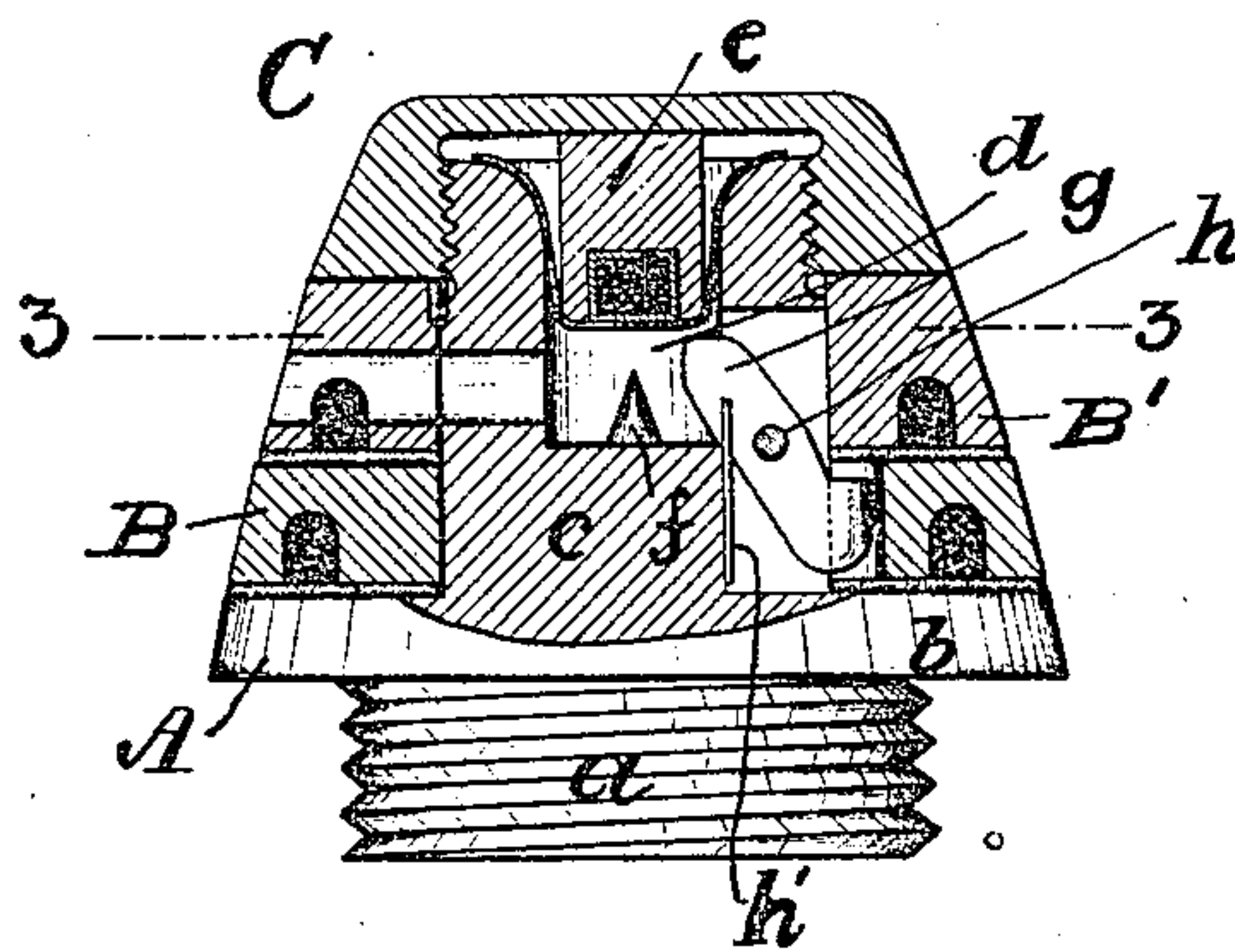


Fig. 2.

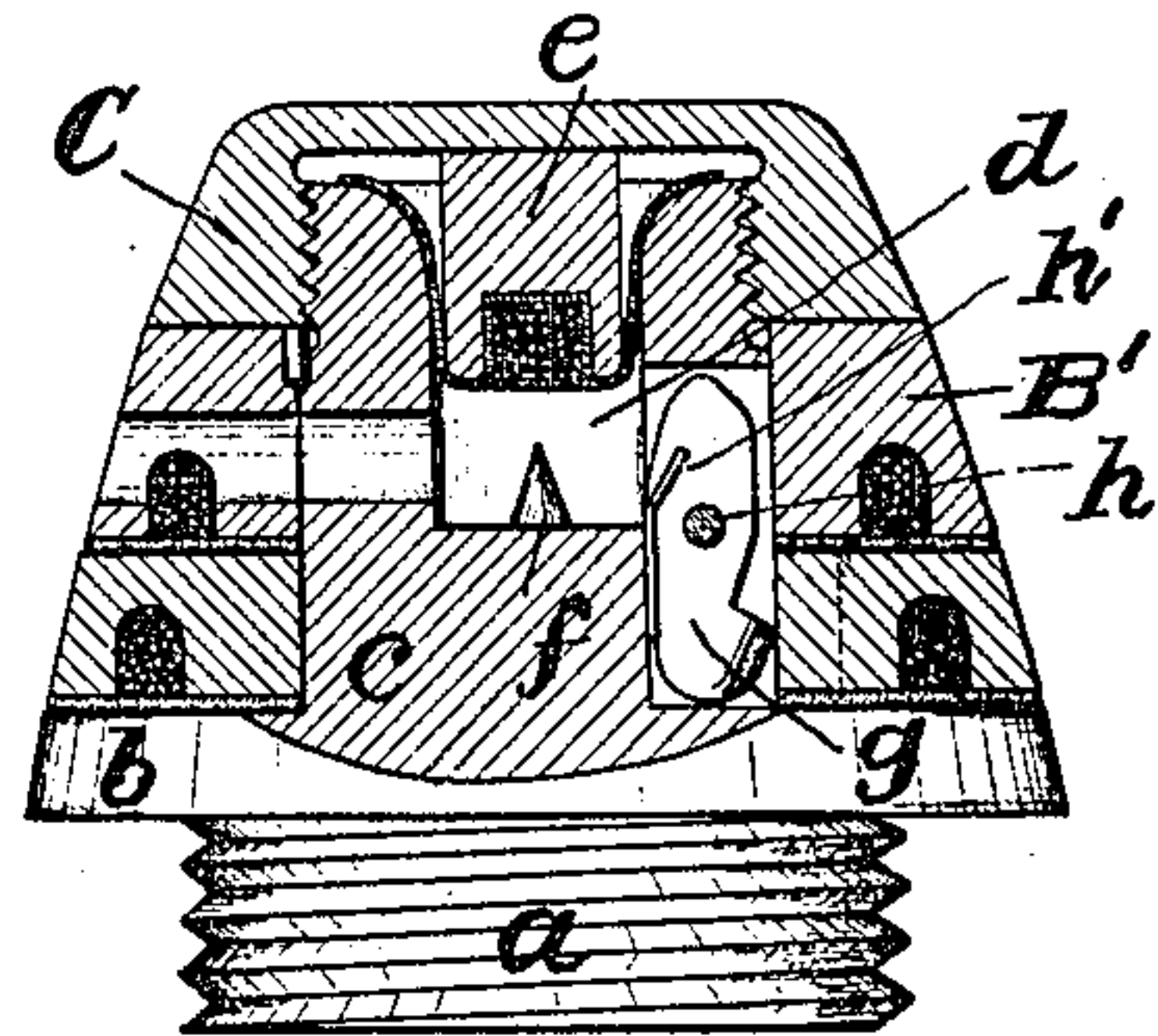


Fig. 3.

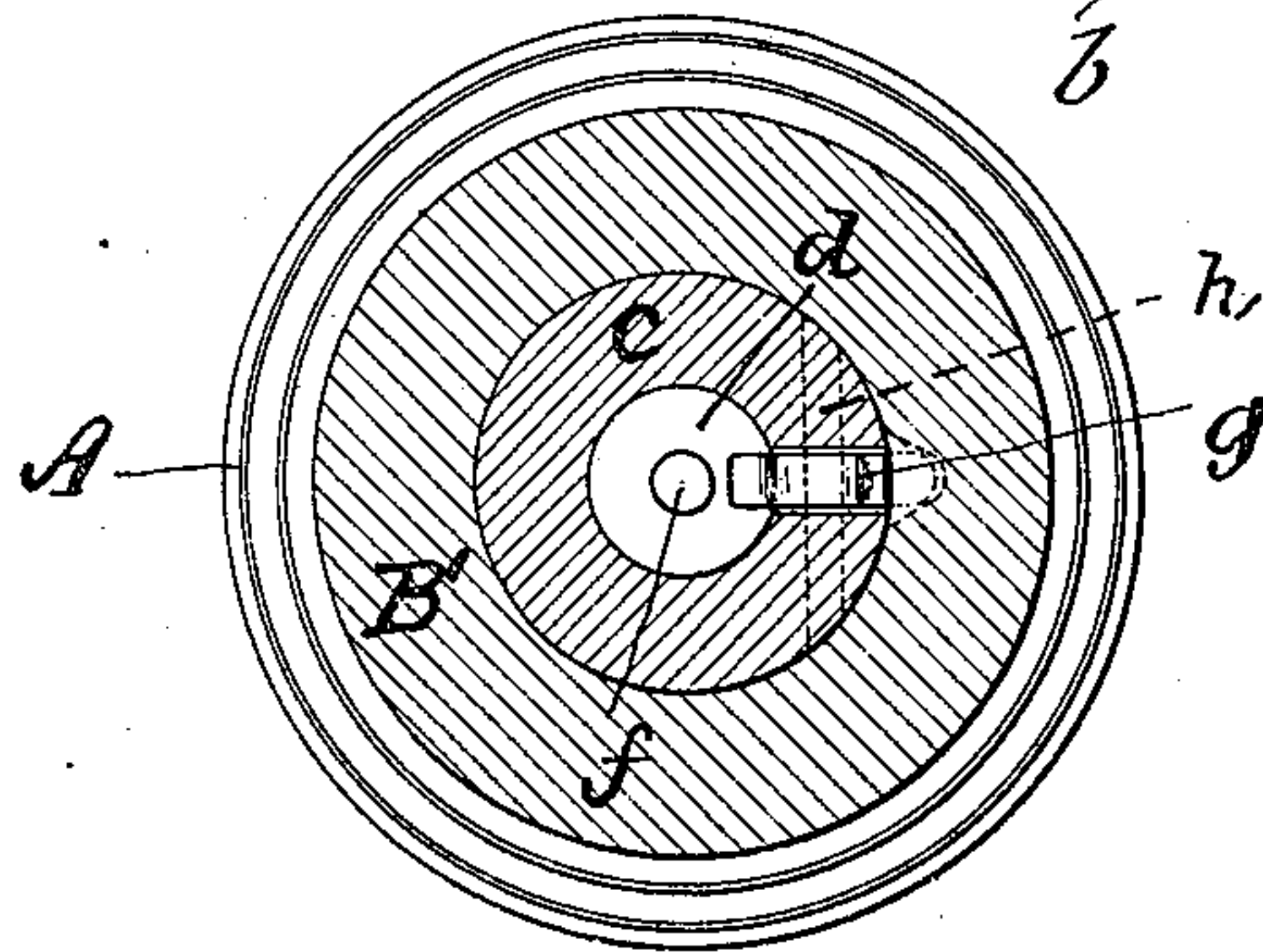
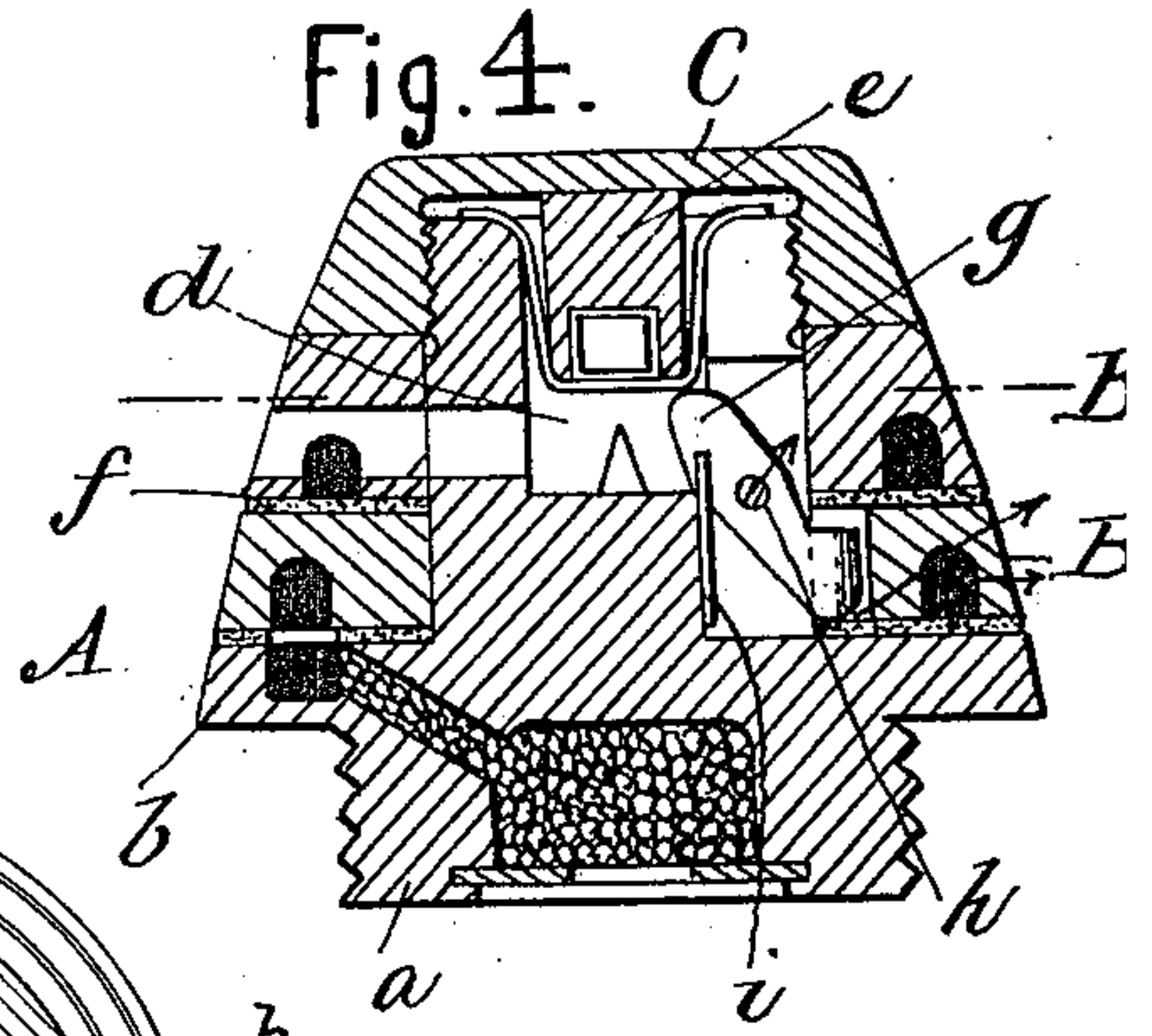


Fig. 4.



Witnesses:  
Eugenie P. Hendrickson.  
Carlos de Léon

Inventor:  
Oscar Hartmann  
by A. Hendrickson.  
Atty.



# UNITED STATES PATENT OFFICE.

OSCAR HARTMANN, OF ESSEN, GERMANY, ASSIGNOR TO FRIED. KRUPP,  
OF SAME PLACE.

## TIME-FUSE.

SPECIFICATION forming part of Letters Patent No. 629,160, dated July 18, 1899.

Application filed September 2, 1898. Serial No. 690,104. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR HARTMANN, a citizen of the German Empire, residing at Essen, Rhenish Prussia, Germany, have invented certain new and useful Improvements in Time-Fuses, (for which application for Letters Patent has been made in Germany, dated February 16, 1898; in France, dated July 30, 1898, and in Belgium, dated July 29, 1898, all under the name of Fried. Krupp,) of which the following is a specification.

This invention refers to improvements in time-fuses of the class consisting, essentially, of a main chambered body containing a firing-pin and adapted to be screwed into the end of the shell, one or two fuse-rings containing the time-circuit, mounted thereon, a plunger containing the fulminate, and a cap-piece screwed to the main body.

The object of the invention is to secure time-fuses of this class against accidents during transportation; and it consists, essentially, in a latch-lever pivoted to the main body and normally held by a spring, so as to have one end projecting into a recess of one of the fuse-rings and to prevent turning of the same, while the other end projects into the percussion-chamber, so as to prevent contact between the plunger or its fulminate and the firing-pin, and so shaped as to be released by forcibly turning the fuse-ring.

This invention will be best understood by reference to the annexed drawings, in which—

Figure 1 is a vertical central section of my improved fuse, showing the safety position, the lower end being shown in elevation. Fig. 2 is a similar section showing the safety device released. Fig. 3 is a horizontal section on the line III III, Fig. 1. Fig. 4 is a vertical section showing the connection between the fuse-chamber and the explosion-chamber.

Similar letters refer to similar parts in the several views.

In the figures, A designates the body of a well-known time-fuse, B and B' the rings mounted thereon, and C the cap. The lower part *a* of the body A is threaded for screwing it into the shell. The upper part *c* is cylindrical, threaded at its upper end for screwing on the cap C, and provided with a chamber *d* for the percussion apparatus, consisting of the plunger *e*, with small powder-magazine and fulminate, and the firing-pin *f*. The rings B

B' are arranged in the usual manner for transmitting the fire from the percussion through the time-circuit to the shell charge. B is capable of being turned for the purpose of timing the fuse, while B' is fastened to the body A.

*b* is a flange between the upper and lower part of the body A for supporting the timing arrangement.

*g* is a latch-lever mounted in a slot of the upper part of the body A on a pin *h* and having inserted in its upper arm a spring which shuts against the inner end of the slot.

In Fig. 1 the latch-lever *g* is shown in its normal position of safety, its lower end projecting into a recess in the ring B to prevent the latter from turning on the main body A and the upper end slightly projecting into the percussion-chamber *d* and beneath the plunger *e*, so as to prevent the latter from coming in contact with the firing-pin, the spring *h'* holding the lever in this position.

As shown in Fig. 3, the lower end of the latch-lever *g* and the recess in the ring B are so formed that by forcibly turning the ring to the right or left the latch-lever is released and turned into the position shown in Fig. 2, when the ring B is free to be turned for the purpose of timing the fuse, and the way of the plunger *e* to the firing-pin *f* is unobstructed.

What I claim as new is—

The combination with the main body A of a time-fuse, its percussion-chamber *d*, plunger *e*, firing-pin *f*, and recessed fuse-ring B, of a spring latch-lever *g* pivoted within a notch in the body A; the whole being so shaped and arranged that in its normal position the lower end of the lever *g* engages the recess in the fuse-ring B, so as to prevent turning of the latter in the body A, while the upper end of the lever projects into the percussion-chamber against the plunger, so as to prevent the latter coming in contact with the firing-pin, but adapted to be disengaged from its normal position by forcibly turning the fuse-ring B, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

OSCAR HARTMANN.

Witnesses:

WILLIAM ESSENWEIN,  
GEO. P. PETTIT.