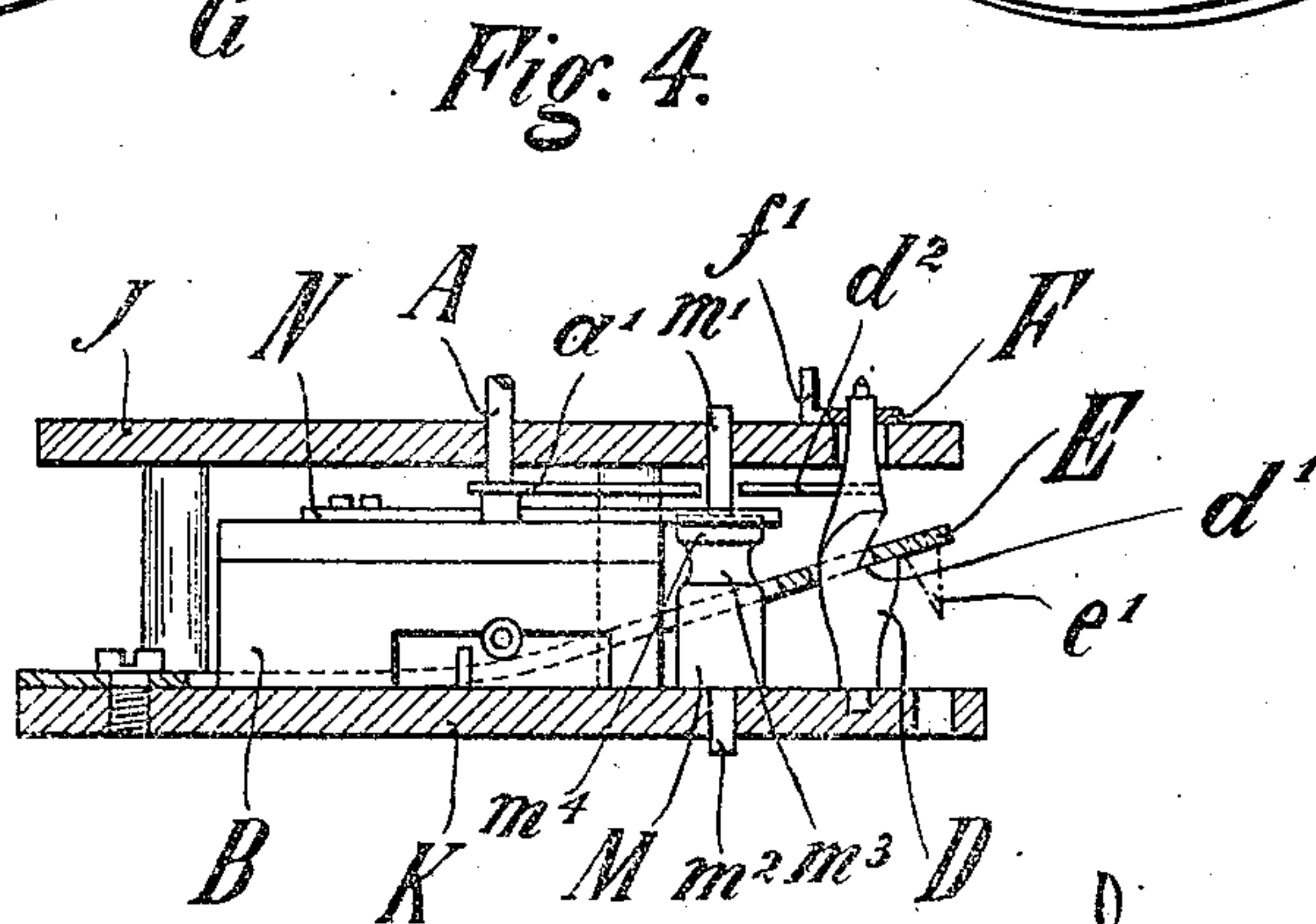
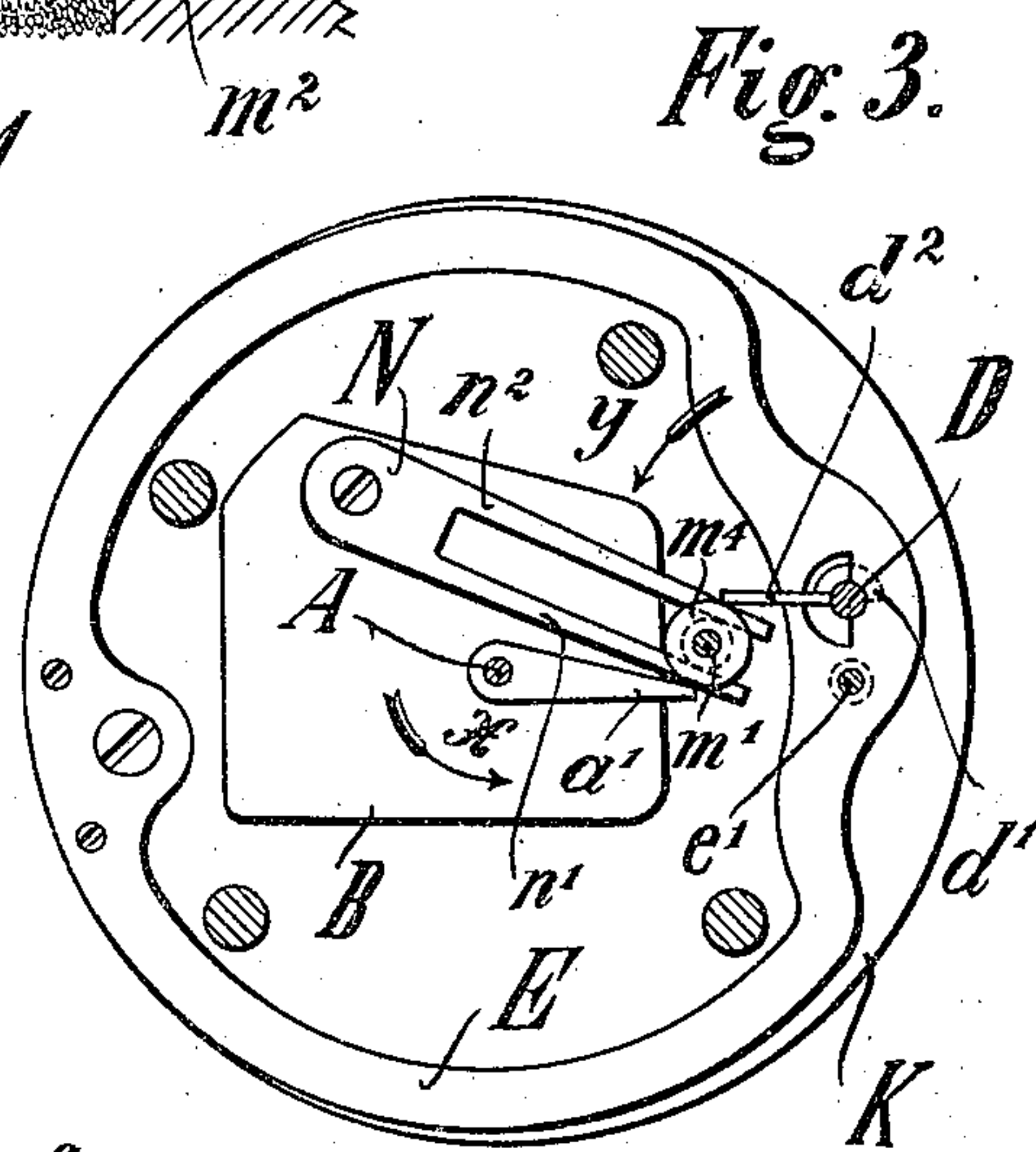
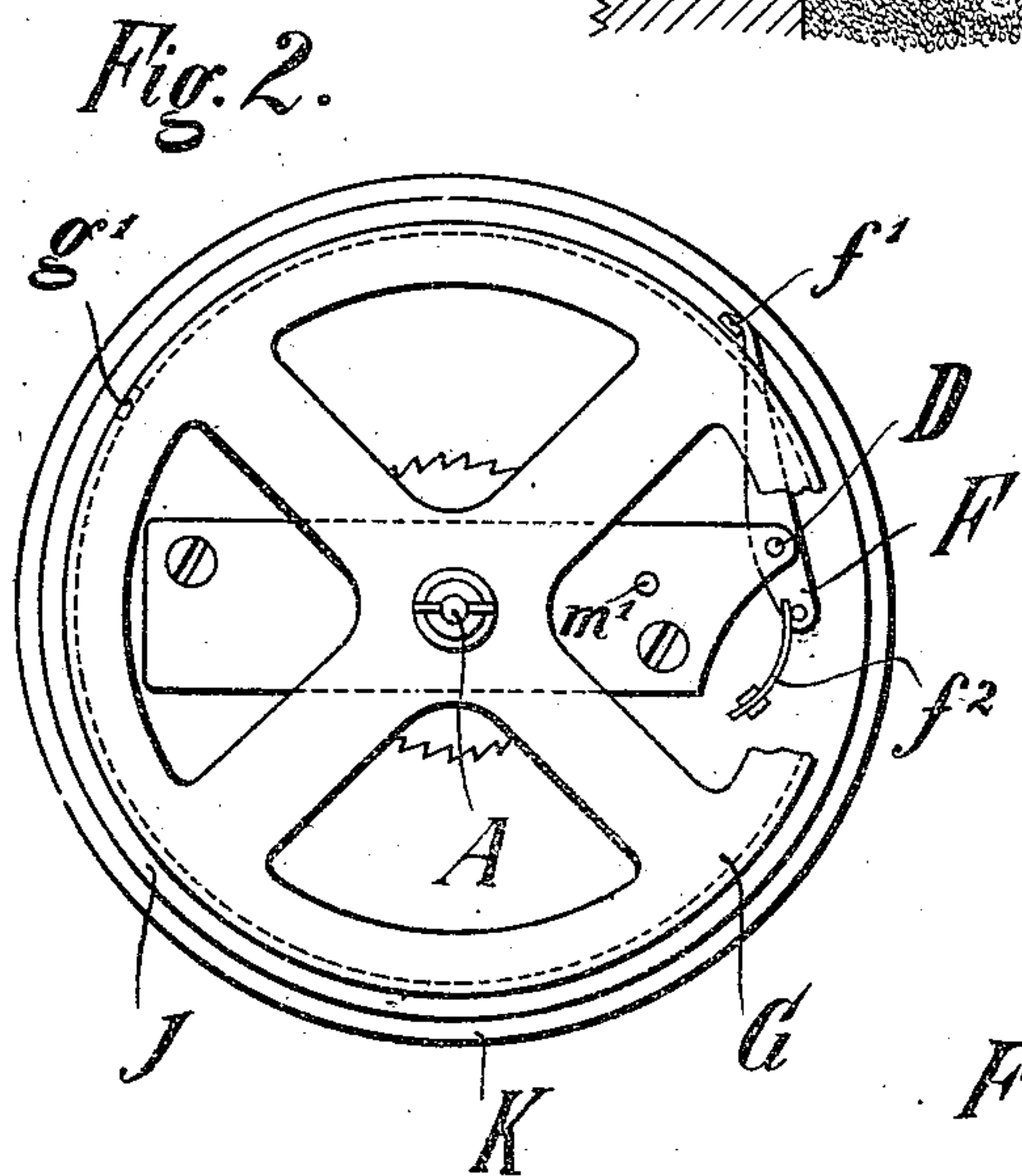
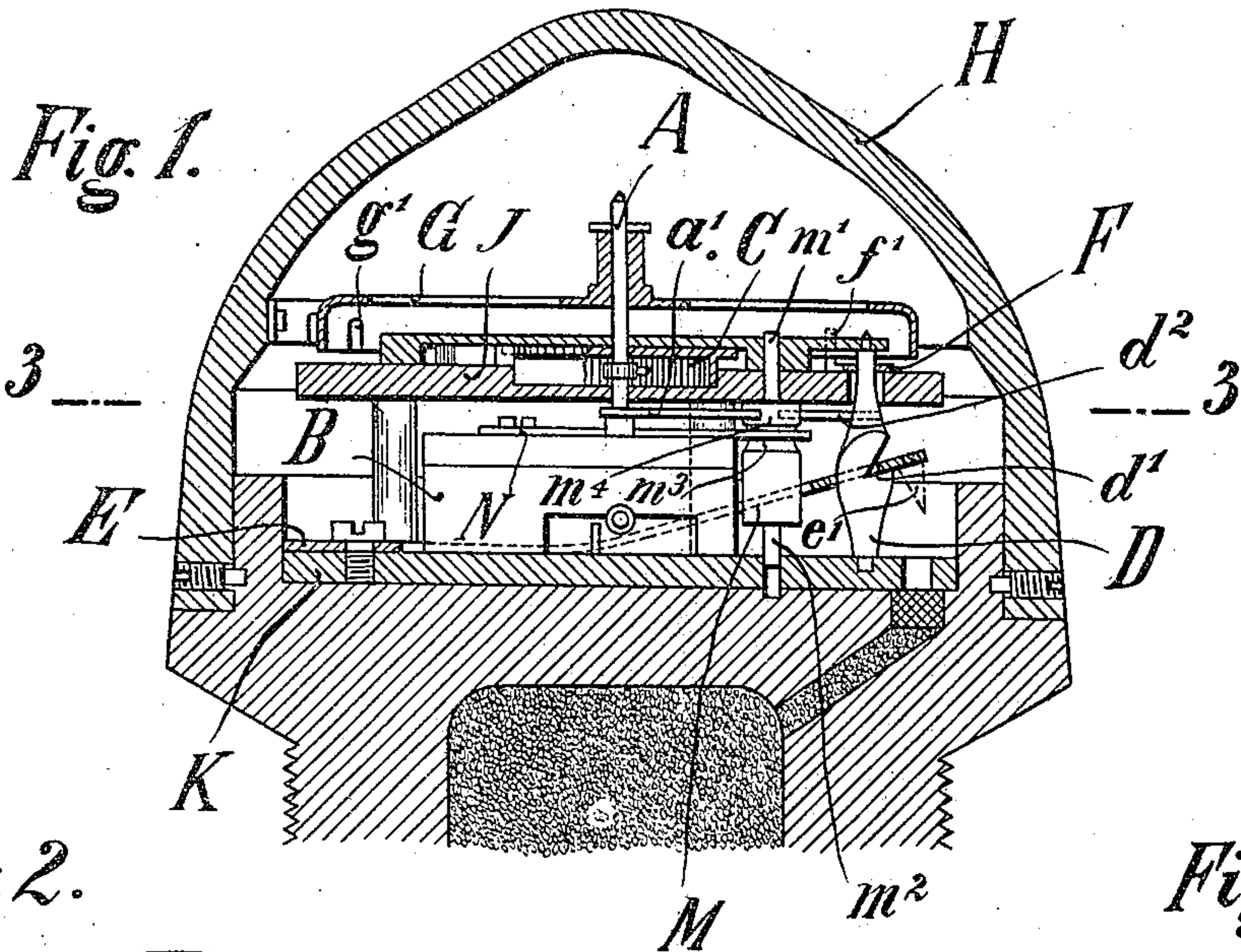


No. 854,977.

PATENTED MAY 28, 1907.

C. BÄKER.
TIME FUSE.

APPLICATION FILED MAR. 26, 1906.



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TIME-FUSE.

No. 854,977.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed March 26, 1906. Serial No. 308,165.

To all whom it may concern:

Be it known that I, CARL BÄKER, a subject of the Emperor of Germany, and a resident of Berlin, Germany, have invented certain new and useful Improvements in Time-Fuses, of which the following is a specification.

The present invention relates to time-fuses with clock-work timing mechanism, and particularly to fuses of this type, in which a spring carrying the firing pin is held under tension through the medium of a locking shaft.

The object of the invention is to provide transport safety attachment, or device for securing the fuse against action during transportation, of simple and reliable construction.

Primarily the invention consists in providing a clock-work or other motor time fuse with a safety device, exercising a dual control over the firing means, by providing independent connections through which it opposes the action of both the clock-work and the locking shaft, until the safety device is automatically withdrawn by the act of firing.

In the accompanying drawing, in which the invention is shown, by way of example, as applied to the fuse forming the subject matter of U. S. Letters Patent #728,151, granted May 12, 1903, to Carl Bäker, Figure 1 is a vertical section through the secured fuse; Fig. 2 is a top view of the fuse mechanism; Fig. 3 is a section on line 3—3, Fig. 1, seen from above, and Fig. 4 is a part of the fuse with withdrawn securing device.

The total construction and mode of operation of the fuse is known and will, therefore be but briefly referred to as follows: The spindle A of the clock-work, whose driving mechanism (not shown) is arranged in the casing B, is engaged by a spiral spring C (Fig. 1), which, when under tension, tends to turn the spindle A in the direction of the arrow x (Fig. 3). The locking shaft D provided with a shoulder d' , holds the firing spring E under tension until the time for ignition has arrived when it releases said spring E with its firing pin e' , to ignite the fuse. A locking lever F, which is arranged on the shaft D, has its free end f' bent upwardly, while a spring f^2 (Fig. 2) tends to turn the lever F and the shaft D in the direction of the arrow y (Fig. 3), to bring the shaft D in the position in

which the shoulder d' releases the firing spring E. Spindle A carries a locking disk G (Figs. 1 and 2), adjustable through the medium of the cap H (Fig. 1) and is provided with a notch g' adapted to receive the end f' of the locking lever.

A bolt M is mounted in the plates J K of the clock-work, through the medium of trunnions m' m^2 , in such a manner that when a projectile is fired, the bolt will move under its own inertia from the position shown in Figs. 1 and 3 to the position shown in Fig. 4, while a bifurcated spring N having arms n' n^2 (Fig. 3), embraces the tapered neck m^3 of said bolt M, when the latter is in the position shown in Figs. 1 and 3. This bolt is brought into independent opposing relation to both the clock-work and the locking shaft, by the following means: In the last mentioned position of the bolt, the head is situated in the path of travel of two arms a' and d^2 one of which (a') is rigidly connected to the spindle A while the other (d^2) is rigidly connected to the locking shaft D. The length of these arms is so selected that the arms can swing freely past the trunnion m' of the bolt M, when the latter is in the position shown in Fig. 4.

In the transport-condition of the fuse (Figs. 1 to 3) the springs C and E are under tension and the arms a' and d^2 lie against the head m^4 of the bolt M so that the bolt and the arms a' , d^2 , both prevent the starting of the clock-work and the turning of locking shaft D that is necessary to release the firing spring E. If the locking shaft were not secured against turning in the direction of the arrow y such turning might for instance take place when, upon adjusting the time of ignition, the notch g' in the locking disk G were moved into the path of travel of the end f' of the locking lever.

When the projectile is fired, the head m^4 of the bolt M forces the arm n' and n^2 of the spring N apart and the bolt moves into position shown in Fig. 4, in which the securing device is withdrawn. The clock-work starts and carries along with it the locking disk G through the medium of the spindle A. When the adjusted time of ignition has expired, the end f' of the locking lever passes through the notch g' in the locking disk thereby releasing the firing spring E.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a time fuse having a firing means and a timing mechanism controlling the same, a transport safety device independently opposing the action of both said means and said mechanism and mounted to move longitudinally of the fuse out of opposing relation to such parts by its own inertia at time of firing.

2. In a clock-work time-fuse having a locking-shaft rotating to release a firing device and prevented from completing its rotation by the clock-work; a transport safety attachment controlling both the movement of the clock-work and the rotation of the locking-shaft, consisting of a bolt movable longitudinally of the fuse, and arms carried respectively by a rotary part of the clock-

work and by the locking shaft and engaged by said bolt until the latter is moved out of the paths of the arms at the time of firing.

3. In a transport safety attachment for clock-work time fuses, the combination of a locking shaft holding the igniting spring under tension, and rotating to release said spring, and a securing device M, movable longitudinally of the fuse, under its own inertia, at time of firing, which, while in its securing position independently opposes both the starting of the clock-work and the rotation of the locking shaft.

The foregoing specification signed at Berlin, this twenty-sixth day of February, 1906.

CARL BÄKER.

In presence of—

HENRY HASPER,
WOLDEMAR HAUPT.