Oct. 20, 1925.

1,558,260

B. K. GLASS

DETONATOR

Filed Jan. 19, 1925

2 Sheets-Sheet 1

Fig. 1.

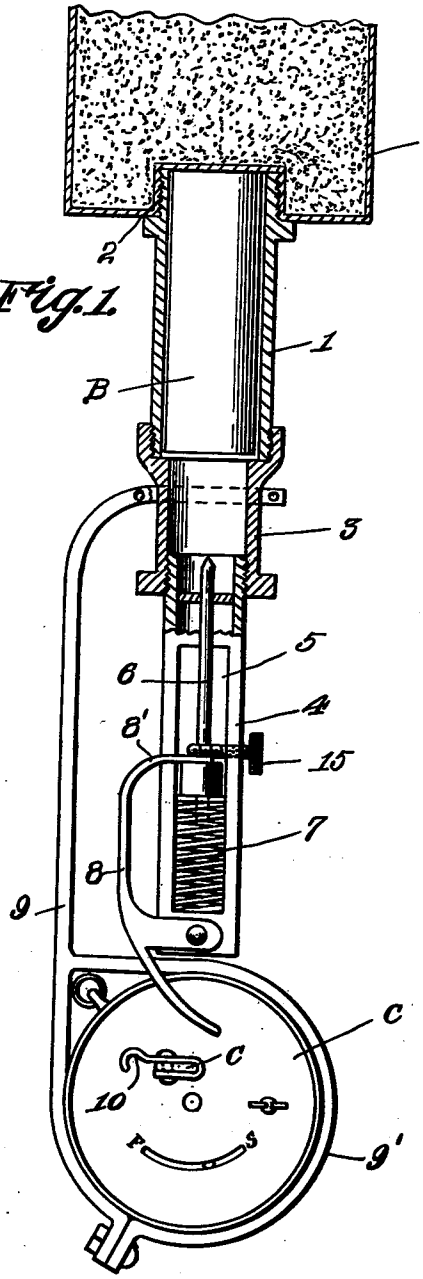
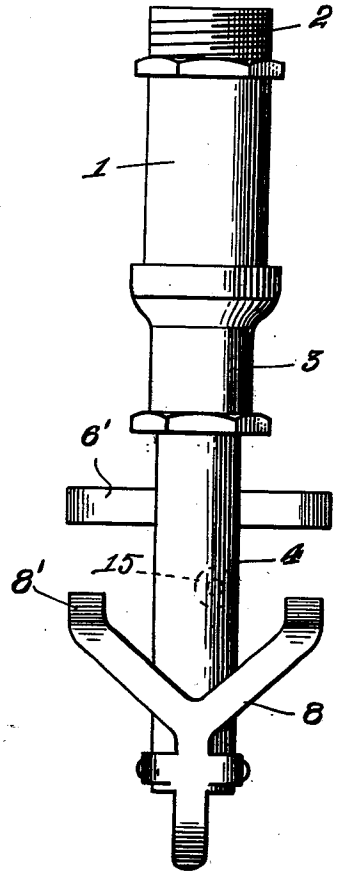


Fig. 2.



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Filed Jan. 19, 1925 2 Sheets-Sheet 2

Fig. 3.

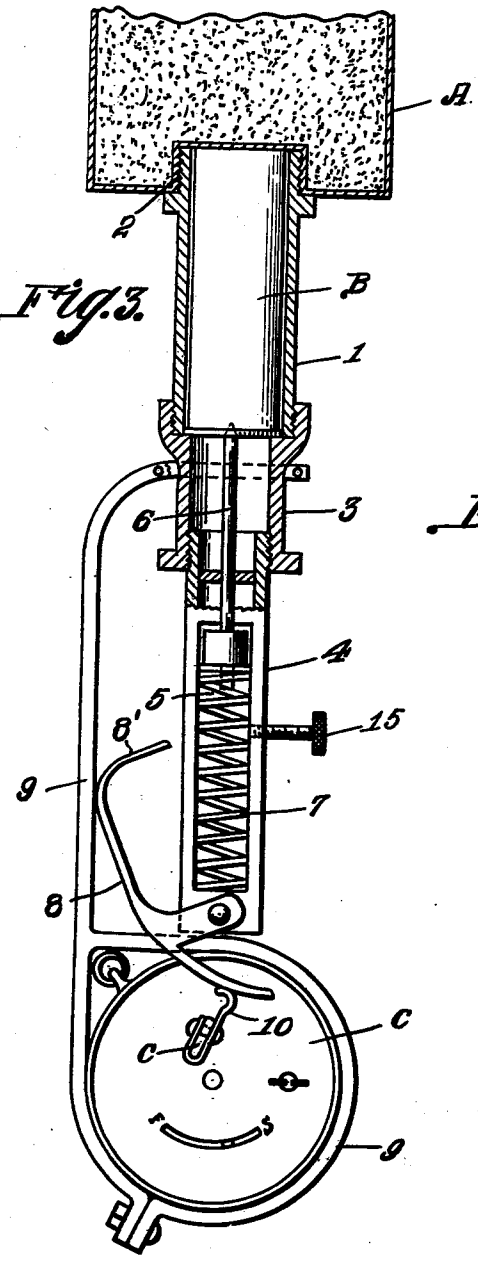
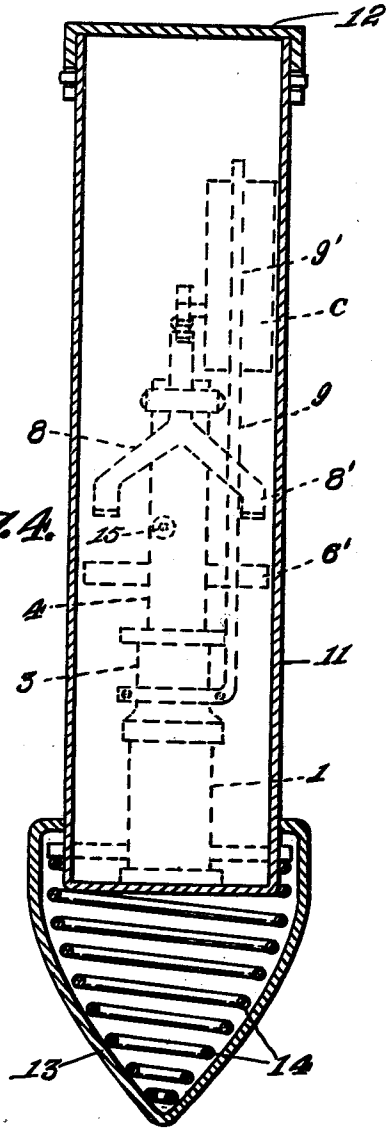


Fig. 4.



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Patented Oct. 20, 1925. 1,558,260

UNITED STATES PATENT OFFICE.

BURTON K. GLASS, OF ALTOONA, PENNSYLVANIA.

DETONATOR.

Application filed January 19, 1925. Serial No. 3,464.

To all whom it may concern:

Be it known that I, BURTON K. GLASS, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Detonators, of which the following is a specification.

This invention relates to a detonator, the general object of the invention being to provide means for exploding dynamite and powder under water, in wells and in other places.

Another object of the invention is to provide means for exploding a cartridge or cap by a clock controlled member which explosion will cause the explosion of the explosive charge.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a sectional view of the invention.

Figure 2 is an elevation of the major portion of the device.

Figure 3 is a view similar to Figure 1 but showing the parts in another position.

Figure 4 is a sectional view through a water tight casing for holding the device and the explosive charge.

In these views, 1 indicates a tubular member which is provided with a threaded end 2 so that it may be screwed into the threaded recess of a can A which contains the powder or other explosive charge. This tubular member 1 is shaped to receive a cartridge B which is similar to cartridges used in shot guns, the outer end of the bore of the member 1 being beveled to receive the edge of the cap of the cartridge, as shown in Figures 1 and 3. A coupling 3 is threaded to the outer end of the member 1, after the cartridge has been placed in said member 1, and a tubular member 4 having oppositely arranged slots 5 therein is threaded to the coupling. A firing pin 6 is carried by the member 4 and is adapted to be projected against the cap of the cartridge by a spring 7 which is placed in the member 4 and engages the firing pin. A trigger member 8 is pivoted to the outer end of member 4 and has its prongs 8′ adapted to engage a cross piece 6′ on the firing pin and which passes through the slots 5 for holding the firing pin retracted and the spring contracted. A frame 9 has a looped part engaging the coupling 3 and its outer end is formed to provide a clamp 9′ for engaging an alarm clock C. A clip 10 is adapted to be fastened to the alarm key *c* of the clock and this clip is formed to strike the trigger member 8 during the rotation of the key so as to swing the trigger member to releasing position and thus permit the spring to project the firing pin against the cartridge to explode the same, the explosion of the cartridge expolding the powder in can A. By setting the alarm mechanism at the proper time the powder can be exploded at any desired time.

In order to prevent the parts becoming wet when immersed in water I provide a water tight casing 11 for holding the can and the device and the clock, this casing 11 having a detachable cap 12 which is arranged to make a water tight fit with the casing when put in place and it has a cone-shaped base piece 13 slidably mounted on its lower end with a coil spring 14 therein which tends to prevent movement of the base 13 and thus acts as a shock absorber when the device is dropped into a well or the like.

From the foregoing it will be seen that the device can be set to explode the charge at any desired time after being placed in the well or other place and by means of the casing the parts are protected from water.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims. For instance, a set screw 15 can be used for holding the trigger against being accidentally projected while the device is being assembled and placed in the casing. After the

parts are properly positioned and the casing is ready to be sealed the set screw is moved out of the path of the trigger.

What I claim is:—

1. A device of the class described comprising a cartridge holding member, means for attaching the same to a member carrying the explosive charge, a coupling detachably connected with the cartridge carrying member, a breech member connected with the coupling, a firing pin in the breech member, a spring in the breech member, for projecting the firing pin against the cartridge, a trigger member pivoted to the breech member and engaging the firing pin for holding the same retracted.

2. A device of the class described comprising a cartridge holding member, means for attaching the same to a member carrying the explosive charge, a coupling detachably connected with the cartridge carrying member, a breech member connected with the coupling, a firing pin in the breech member, a spring in the breech member for projecting the firing pin against the cartridge, a trigger member pivoted to the breech member and engaging the firing pin for holding the same retracted, a clock carrying frame connected with the device and a clip adapted to be attached to the alarm mechanism of a clock for engaging the trigger member to move the same to releasing position.

3. A device of the class described comprising a cartridge holding member, means for attaching the same to a member carrying the explosive charge, a coupling detachably connected with the cartridge carrying member, a breech member connected with the coupling, a firing pin in the breech member, a spring in the breech member for projecting the firing pin against the cartridge, a trigger member pivoted to the breech member and engaging the firing pin for holding the same retracted, a clock carrying frame connected with the device, a clip adapted to be attached to the alarm mechanism of a clock for engaging the trigger member to move the same to releasing position, a casing for enclosing the parts including the explosive charge and a spring pressed shock absorbing member at one end of the casing.

In testimony whereof I affix my signature.

BURTON K. GLASS.