A. D. REESE.

REGISTERING DEVICE.

APPLICATION FILED OCT. 18, 1917.

1,264,439.

Patented Apr. 30, 1918.

2 SHEETS—SHEET 1.

Fig. 1

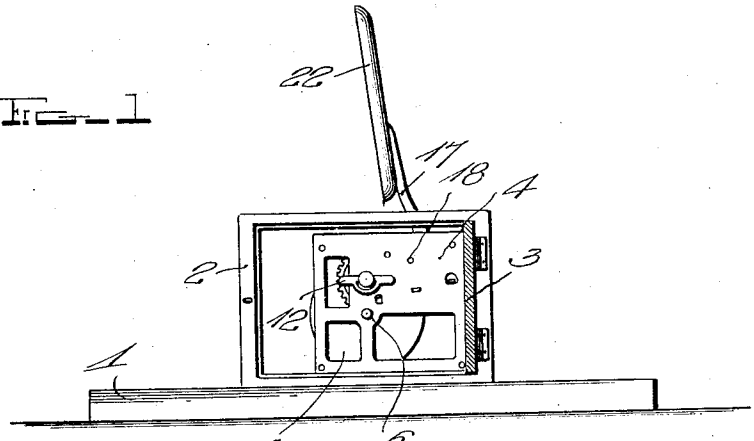


Fig. 2

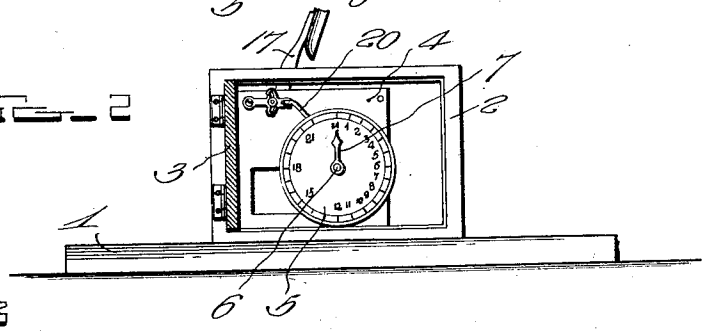
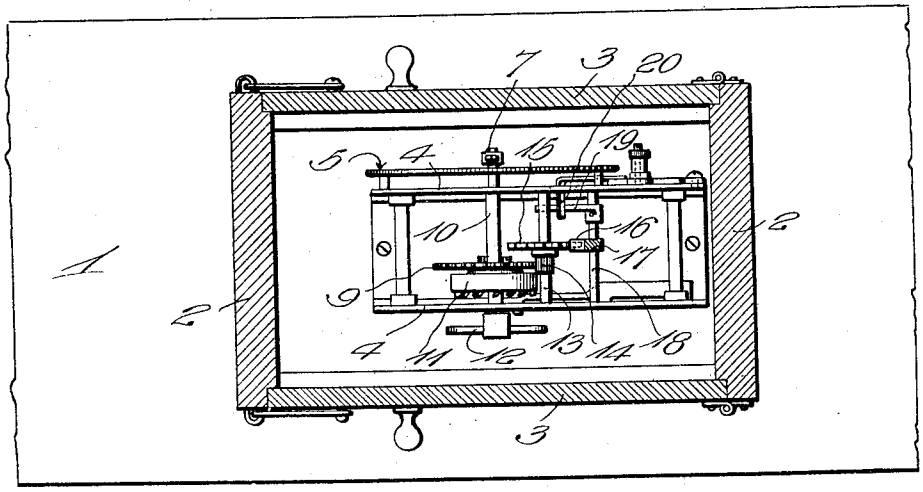


Fig. 3



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2 SHEETS—SHEET 2.

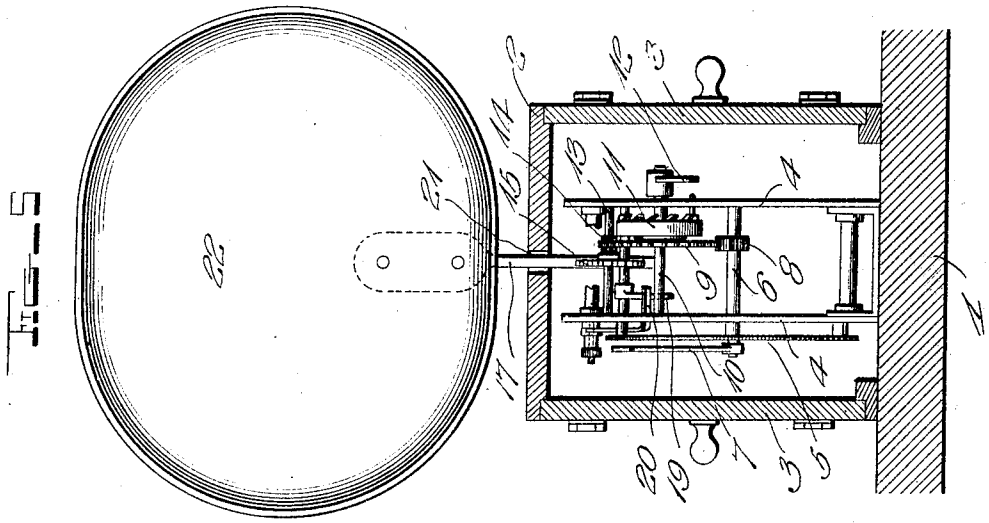


FIG. 5

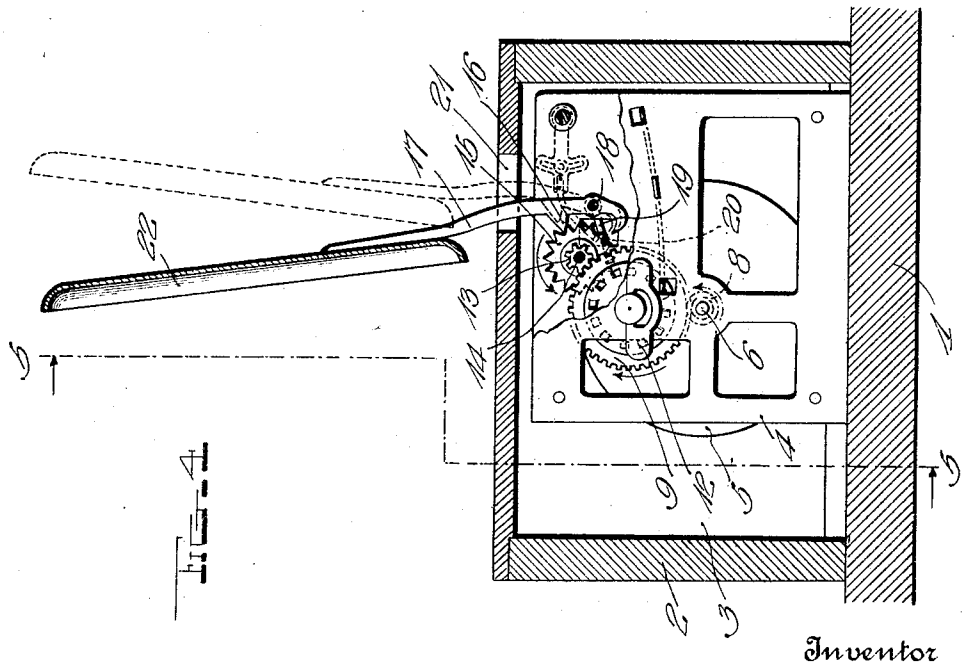


FIG. 4

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UNITED STATES PATENT OFFICE.

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REGISTERING DEVICE.

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Application filed October 18, 1917. Serial No. 197,294.

To all whom it may concern:

Be it known that I, ALBA DAVID REESE, a citizen of the United States, residing at Bisbee, in the county of Cochise and State of Arizona, have invented certain new and useful Improvements in Registering Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in registering devices.

The primary object of the invention is to provide a device which is adapted to be placed in a mine or tunnel where blasting is to be done, said device including registering mechanism and a member acted upon by the concussion of the air caused by the blast to operate the registering mechanism.

Another object of this invention is to provide a device of this character which will be comparatively simple, strong, durable and inexpensive in construction, efficient and reliable in operation, and well adapted to the purpose for which it is designed.

With these and numerous other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of the application and in which similar reference characters are used to designate like parts throughout the several views:

Figure 1 is an elevation of one side of a device constructed in accordance with this invention, the door on this side of the device being shown open and in section;

Fig. 2 is a similar view of the other side of the device;

Fig. 3 is a horizontal sectional view through the device;

Fig. 4 is a longitudinal sectional view of the same; and

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 4.

Referring more particularly to the drawings, the numeral 1 designates a suitable base upon which a housing or casing 2 is mounted. This housing 2 is of rectangular shape in configuration and has its opposite sides provided with doors 3 so that access to the interior of the housing may be obtained from either side.

Mounted within the housing 2 is a registering mechanism, the frame work of which includes a pair of side plates 4. Mounted on the exterior side of one of the side plates 4 in any suitable manner is a dial 5, the latter being provided with a series of successive numbers as clearly shown by Fig. 2. Extending through the central portion of the dial 5 and mounted in the side plates 4 is a shaft 6 which carries a pointer 7 on its outer end and a pinion 8 intermediate of its ends. The pointer 7 is designed to coöperate with the graduation on the dial 5.

Meshing with the pinion 8 is a gear wheel 9 carried by a shaft 10 mounted between the plates 4. The shaft 10 also carries a suitable spring device 11 whereby motion may be imparted to the detent to be hereinafter explained. The spring device may be wound up by a key 12 fixed to the shaft 10 and disposed on the exterior side of one of the side plates 4.

The numeral 13 represents another shaft which is mounted between the plates 4 and which carries a pinion 14 meshing with the gear wheel 9. Carried also by the shaft 13 is an escape wheel 15, the latter being engaged by a detent 16, formed at the inner end of an arm 17 which is fixed to a shaft 18 mounted between the side plates 4. The shaft 18 also carries an arm 19 against which bears one end of a spring 20 fastened to one of the plates 4.

The arm 17 extends through a slot or opening 21 arranged in the top of the housing to the exterior of the same. Riveted or otherwise secured to the outer end of this arm 17 is a blade 22, the latter being here shown in the form of a substantially oval shaped plate having its edges curved or dished outwardly.

The detent 16 is maintained in engagement with the escape wheel 15 to hold the registering mechanism normally inactive by the spring 20 and the blade 22 is consequently held in one of its two positions by the same means. Whenever the blade 22 is moved backwardly or to its other position, the detent will disengage the escape wheel 15 for a moment and permit the spring means 11 to impart motion to the pointer 7. As soon as the pressure is removed from the blade 22 the spring 20 will return the parts to their normal positions and again disengage the detent 16 from the escape wheel 15 and permit the pointer to be moved another predetermined amount. The num-

bers upon the dial 5 are so spaced that the pointer will move from one number to another when the plate 22 is moved from its normal to its other position and then back again to its normal position.

The device is designed primarily for use as what may be termed a blast or explosive register, and obviously must be placed in the mine or tunnel where the blasting is to be done. When a blast takes place the concussion of the air caused by the blast will move the plate 22 backwardly and set the registering device into operation. Every time there is a blast, the registering device will operate and thus a number of blasts will be registered.

By putting the device in a mine or tunnel where a number of blasts are to be set off in succession, the number of blasts which actually fire will be registered and hence the many accidents which have heretofore occurred by drilling into "missed holes" will be lessened.

From the foregoing description taken in connection with the accompanying drawings, the construction, use and operation of the device will be readily understood without a more extended explanation.

As various changes in form, proportion, and in the minor details of construction may be resorted to without departing from the spirit of the invention, it is to be understood that I do not wish to be limited to the construction herein shown and described other than as claimed.

I claim:—

An explosion registering device comprising a plate adapted to receive power from the shocks resulting from explosions and to be moved toward one side by the power obtained from the shock-forces, a support, an arm pivotally mounted on said support and extending approximately vertically therefrom and supporting said plate in approximately vertical position and movable thereby and therewith to and from normal position, a registering mechanism, means constantly tending to drive said registering mechanism, a detent carried by said arm and normally engaging with said registering mechanism to prevent untimely operation of the latter, and a second detent carried by said arm in position to engage with said registering mechanism and arrest movement of the latter after it has been released by the first said detent and thereby allowed to register a shock.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALBA D. REESE.

Witnesses:
REX RICE,
D. DIER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."