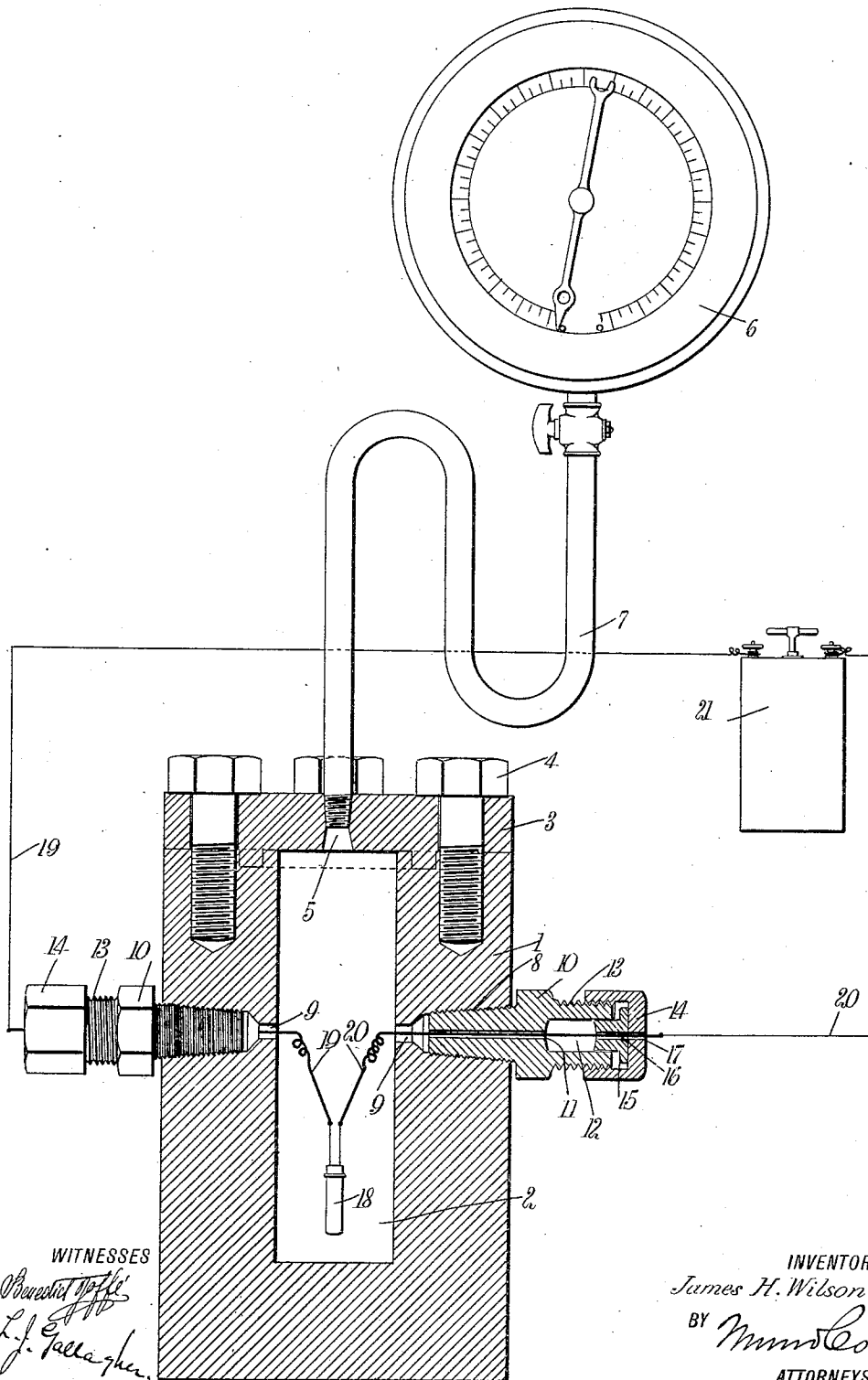


J. H. WILSON.
PRESSURE INDICATOR.
APPLICATION FILED JAN. 23, 1912.

1,049,187.

Patented Dec. 31, 1912.



UNITED STATES PATENT OFFICE.

JAMES H. WILSON, OF ASHLAND, PENNSYLVANIA.

PRESSURE-INDICATOR.

1,049,187.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed January 23, 1912. Serial No. 672,910.

To all whom it may concern:

Be it known that I, JAMES H. WILSON, a citizen of the United States, and a resident of Ashland, in the county of Schuylkill and State of Pennsylvania, have invented a new and Improved Pressure-Indicator, of which the following is a full, clear, and exact description.

My invention relates generally to pressure indicators and more particularly is directed to a device especially adapted for testing the explosive pressure of detonators or blasting caps.

The principal object of my invention is to provide a testing device whereby the explosive pressure in pounds exerted by a blasting cap or electric detonator will be directly indicated.

A further object of my invention is to provide a testing device of substantial construction whereby the force exerted when a blasting cap or an electric detonator explodes may be indicated directly on a pressure gage.

Other objects and advantages of the invention will appear as the description thereof proceeds, all of which is particularly pointed out and included in the appended claims.

In the accompanying drawings I have shown in section the operative relation of the testing device, together with a blasting cap or a detonator suitably held in position therein and in circuit with a battery.

The body member 1 which is preferably made from an integral piece of steel is provided with a central pocket 2 of suitable dimensions, the pocket extending into the body member for a suitable distance, and being adapted to be closed by a cover 3 of substantial construction which is secured in position on the body member by any desired means, such as bolts 4. The cover 3 is provided with an opening 5 extending there-through, the opening communicating with a pressure gage 6 of ordinary construction, there being the usual gooseneck or siphon pipe 7 between the opening and the gage.

The body member 1 is provided with suitable screw-threaded openings 8 at suitable points therein, the openings preferably tapering as the pocket 2 is approached, the openings communicating with the pocket through suitable channels 9 of reduced diameter; into the openings 8 removable plugs are engaged, each plug being provided with

a passageway 11 extending therethrough, the outer end of the plugs being counterbored, as at 12, and the outer end portion of the plug being screw-threaded, as at 13. The intermediate portion of the plug which is preferably of integral construction is of hexagonal formation whereby a nut 10 is provided in order to turn the plug into operative position within the opening 8. The passageway 11 and the counterbored portion 12 of the plug is closed by a removable cap 14 engaging the threaded end portion 13, there being a shouldered bushing 15 within the cap, the bushing being provided with a passageway 16 extending therethrough, while the cap has a passageway 17 extending therethrough.

The detonating cap or similar device 18, the explosive force of which is to be measured, is positioned within the pocket 2, the wires 19, 20, connected thereto being led through the small openings 9 and through the channels in the plug, the bushings and the caps, and being connected in circuit with a suitable blasting battery 21. The pocket 2 and the pipe 7 between the pocket and the gage 6 are filled with a suitable liquid, the liquid extending to the bottom of the gage; if the cap or detonating device is exploded by means of the battery, the explosive force will be communicated to the liquid in the pocket which will in turn convey it to the gage 6, the liquid forming a relatively denser medium than air, the gage 6 being calibrated to indicate directly the explosive force.

By using the pressure gage of standard construction, the force per square inch which is exerted by blasting caps and electric detonators may be indicated and the disruptive force of an ingredient contained in an explosive mixture may be ascertained.

The body member 1 being of substantial construction is not easily deranged while the removable plugs are held in firm engagement with the body member and within the openings 8, it being noted that the shouldered bushings held in position by means of the caps 15 prevent leakage and loss of pressure by reason of the passageways extending through the plugs and caps. The battery which is used with the device may be any desirable structure adapted to this purpose and the liquid which is used within the pocket 2 and also within the connection between the gage and the pocket may be

anything suited to the purpose in order to provide a denser medium for accurately conveying the explosive force to the gage, it being also clear that the size of the different parts of the outfit, together with the materials of which they are made may be variously modified in order to adapt the device for different testing purposes.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:—

1. The combination of a body member having a recess therein, a cap or detonator within the recess, plugs carried by the body member, the said plugs conveying wires into the recess, the wires being in circuit with the cap or detonator, a pressure gage, a communicating passageway between the recess and the pressure gage, a liquid medium within the recess and the passageway whereby, when the cap or detonator is exploded, the force of explosion may be communicated to the gage.

2. A body member having a recess therein, a removable cover on the body member, wires extending through the body member and entering the recess and adapted to be connected to a cap or detonator, a pressure gage, a passageway between the gage and the recess, a liquid medium within the recess and the passageway whereby the force of explosion of the cap or detonator may be communicated to the gage.

3. A device of the class described comprising a body member having a recess therein, openings in the body member communicating with the recess, plugs mounted in the openings, wires entering the plugs and the recess, the wires being adapted to be connected to a cap or detonator, a removable cover on the body member, an opening in the cover, a pipe entering the opening and communicating with the recess, and a gage on

the pipe whereby the indicating mechanism of the gage communicates with the recess in the body member.

4. A device of the class described comprising a body member having a central recess or pocket therein, the pocket being adapted to receive a cap or detonator, a removable cover on the body member, openings in the side of the body member, plugs in the openings, passageways extending through plugs, wires extending from passageways and entering the pocket, the outer ends of the plugs being provided with removable caps, shouldered bushings within the plugs and engaged by the caps, the said cover of the body member being provided with an opening, a pipe entering the opening, a pressure gage, the pressure gage being connected to the pipe whereby the indicating means of the gage is in communication with the said pocket or recess.

5. The combination of a body member having a recess therein, the recess being adapted to contain a cap or detonator, plugs carried by the body member, the said plugs conveying wires into the recess, the wires being adapted to be placed in circuit with the cap or detonator, a pressure gage, a communicating passageway between the recess and the pressure gage, a liquid medium within the recess and the passageway, whereby, when the circuit through the said detonator is closed, thereby exploding same, the force of explosion may be communicated to the gage.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES H. WILSON.

Witnesses:

MATTHEW M. WHALEN,
C. HARRY LAUDEFIELD.