

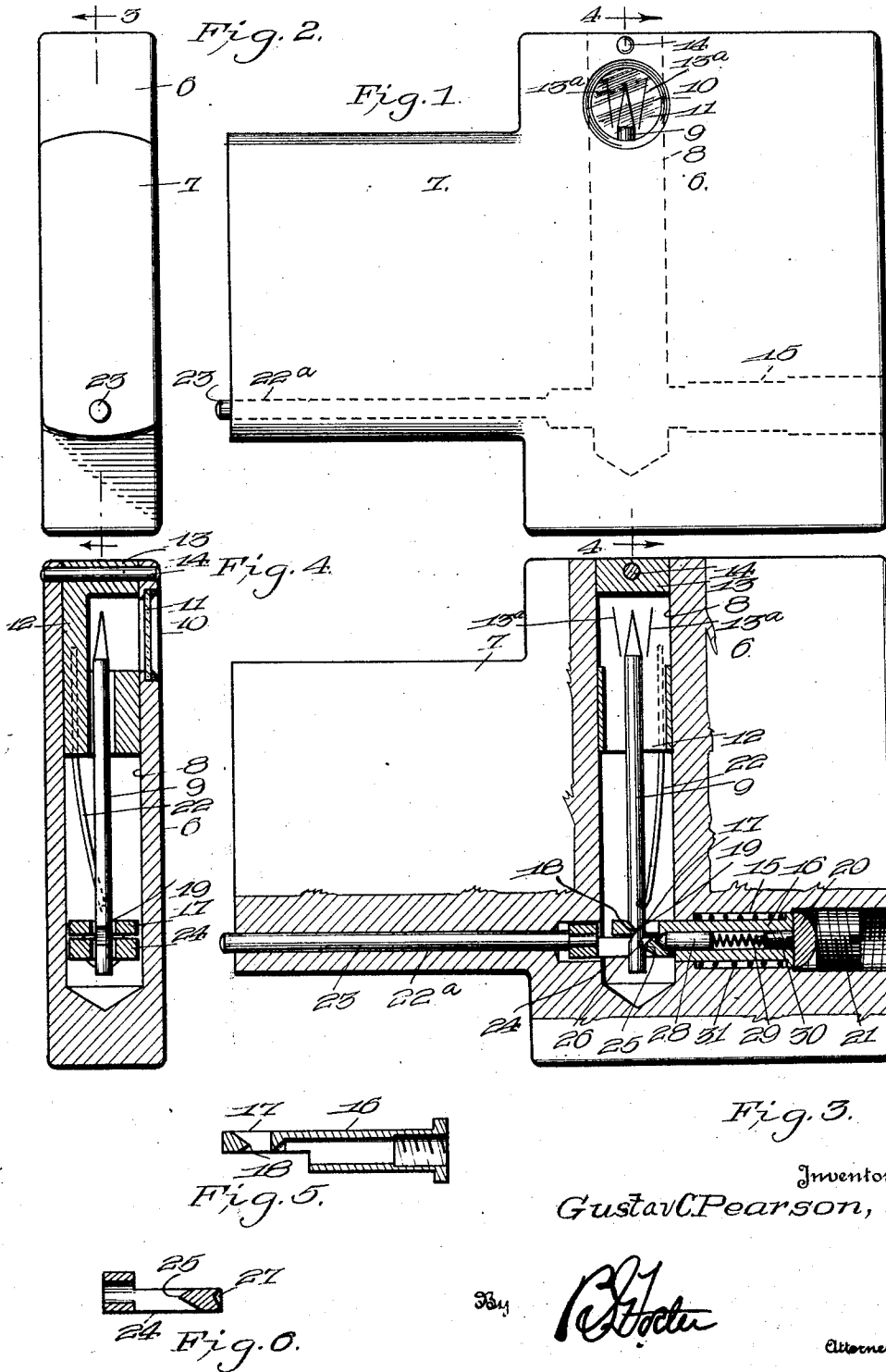
June 2, 1925.

1,540,183

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DEPTH GAUGE

Filed Aug. 29, 1921



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UNITED STATES PATENT OFFICE.

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DEPTH GAUGE.

Application filed August 29, 1921. Serial No. 496,361.

To all whom it may concern:

Be it known that I, GUSTAV C. PEARSON, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Depth Gauges, of which the following is a specification.

The present invention relates to depth gauges; the object being to provide a simple and effective structure that is accurate in its operation, and is provided with means whereby the parts can be adjusted to take up wear.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the same, Figure 2 is an end elevation,

Figure 3 is a sectional view taken on the line 3—3 of Figure 2,

Figure 4 is a cross sectional view on the line 4—4 of Figure 1,

Figure 5 is a detail sectional view of the fulcrum member,

Figure 6 is a sectional view through the yoke of the operating device.

In the embodiment disclosed, a body casing 6 is employed, preferably formed of one piece of metal, and having a reduced extension 7 at one end. The body 6 is provided with a bore 8, opening through one end and terminating short of the other end, said bore forming a chamber for a swinging indicator in the form of a rod 9. The free end of this rod which is in the form of a pointer is visible through a side opening 10 preferably covered by a sheet 11 of transparent material, and said end operates in a bushing 12 provided with indicating marks 13^a, with which the pointer 9 cooperates. This bushing terminates at its outer end in a plug 13 constituting a closure for the bore, which plug is held in place by any suitable means, as for example, a pin 14.

Another bore 15 is formed in the body 6 transversely to the bore 8 and opens into the rear end of the same. In said bore 15 is slidably fitted the tubular stem 16 of a fulcrum member that terminates at its inner end in a yoke 17. The yoke 17 surrounds the inner end portion of the indicator 9 and has a knife edge 18 engaged in a notch 19 formed in one side of said indicator and constituting a bearing on which the indi-

cator swings. The stem 16 is provided at its outer end with a bearing head 20 that engages the inner end of an abutment screw 21 adjustably threaded in the outer end of the bore. A leaf spring 22, fitted in the bushing 12, has a bearing against the indicator 9 on the opposite side to the bearing 18—19 and thus normally acts to swing the pointer to the left.

Another transverse bore 22^a opening into the inner end of the bore 8, contains a slidably operating plunger 23 that carries at its inner end a yoke 24. This yoke surrounds the inner end of the indicator 9 at one side of the yoke 17, and is provided with a knife edge 25 operating in a notch 26 formed in the opposite side of the indicator to the notch 19 and in a different transverse plane thereto. The yoke 25 is provided at its inner end with a recess 27 (see Figure 6) in which is engaged a sliding plunger 28 located in the bore of the tubular fulcrum member stem 16, and this plunger is borne against the member 24 by a spring 29 also located in said bore and abutting against a stop screw 30. The spring 29 is thus acting in opposition to the spring 22 and is of sufficient strength to overcome or balance said spring 22. Another coiled spring 31, surrounding the stem 16, operates against the outer end of the same to hold the head 20 against the abutment screw 21.

The operation of the device is as follows: When the extension 7 of the gauge is introduced into an opening, if the bottom of such opening is engaged by the projecting end of the plunger 23, said plunger will be moved inwardly into the body and the yoke 24 thus pressed back against by the action of the spring 29. This permits the spring 22 to operate and swing the pointer to the left. When the pressure on the plunger 23 is relieved the spring 29 will react and return the pointer to its original position. Should wear take place or adjustment for any other reason be desired, it is only necessary to move the abutment screw 21, whereupon the stem 16 and yoke 18 will be moved inwardly by said screw or outwardly by the spring 31.

From the foregoing, it is thought that the construction operation, and many advantages of the herein described invention will

be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a gauge of the character set forth, the combination with a body, of an indicator therein comprising a rod, one end of which is a pointer, a fulcrum member, and an operating device mounted on the body on opposite sides of the other end of the rod, said fulcrum member and operating device having yokes extending around the indicator rod and respectively bearing transversely thereagainst on the sides opposite their mountings and being out of line with each other.

2. In a gauge of the character set forth, the combination with a body casing, of an indicator therein, a fulcrum member mounted in the body on one side of the indicator and including a yoke that embraces the indicator and has a bearing against the opposite side of the same, a spring operating against the indicator to move it in one direction, an operating plunger slidably mounted in said opposite side of the body and having a yoke that embraces the indicator and has a bearing thereagainst on the opposite side to the fulcrum member and at one side of the plane of the axis thereof, and a second spring acting on the plunger to oppose the action of the indicator operating spring.

3. In a gauge of the character set forth, the combination with a body casing, of an indicator therein, a fulcrum member engaged with the indicator, an operating device also engaged with the indicator, and a spring device forming the indicator and op-

erating device, said spring device being carried by the fulcrum member and bearing against the operating device.

4. In a gauge of the character set forth, the combination with a body casing, of an indicator therein, a fulcrum member comprising a tubular stem and a yoke, said yoke being engaged with the indicator, an operating device also engaged with the indicator, and a spring pressed plunger in the stem of the fulcrum member bearing against the operating device.

5. In a gauge of the character described, the combination with a body casing, of an indicator therein, a fulcrum member engaged with the indicator, an abutment for the fulcrum member, a spring engaging the fulcrum member to hold it against the abutment, said fulcrum member bearing against the indicator, and an operating device projecting from the casing and bearing against the indicator.

6. In a gauge of the character set forth, the combination with a body having a bore forming an indicator chamber, an indicator in said chamber, said body having other bores transverse to and intersecting the indicator chamber, a tubular fulcrum stem in one of the transverse bores having a yoke that surrounds and bears against one side of the indicator, an adjustable abutment in the outer end of said transverse bore, a spring bearing against the stem and holding it against the abutment, a plunger rod slidably mounted in the other transverse bore and having a yoke that surrounds and bears against the indicator, and a spring pressed plunger in the fulcrum stem bearing against the plunger rod yoke.

In testimony whereof I affix my signature in the presence of two witnesses.

GUSTAV C. PEARSON.

Witnesses:

SIDNEY JOHNSON,
FRENCH SAMPSON.