

G. A. RHODES.
UNIVERSAL LEVELING DEVICE.
APPLICATION FILED AUG. 19, 1900.

962,467.

Patented June 28, 1916.

Fig 1

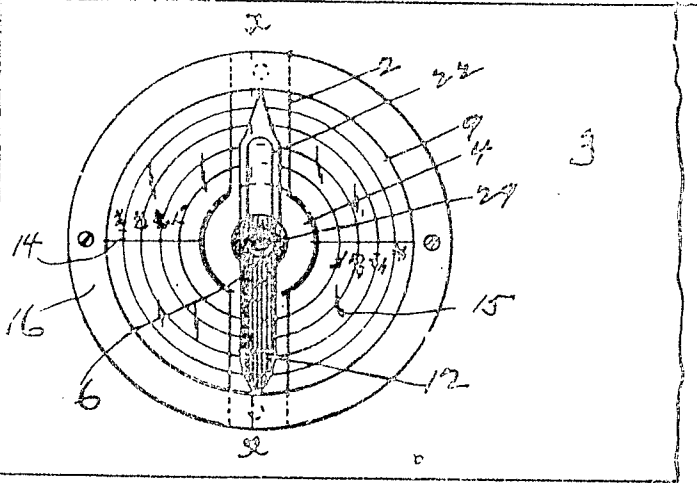


Fig 2

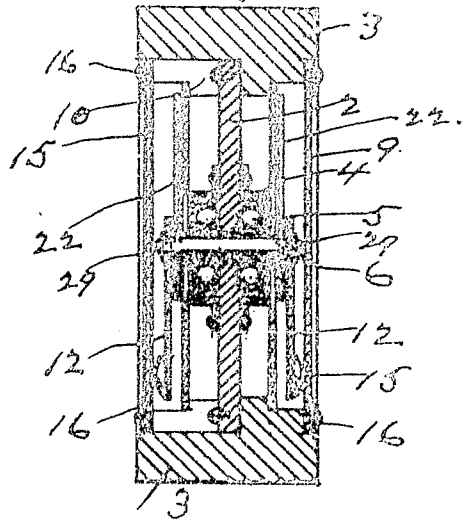


Fig 8

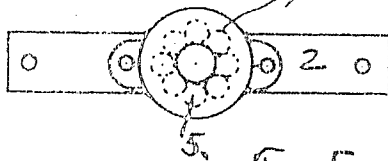


Fig 5

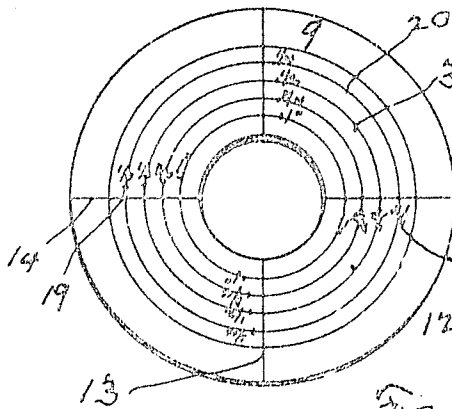


Fig 6



Fig 7

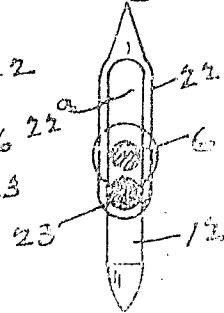


Fig 3

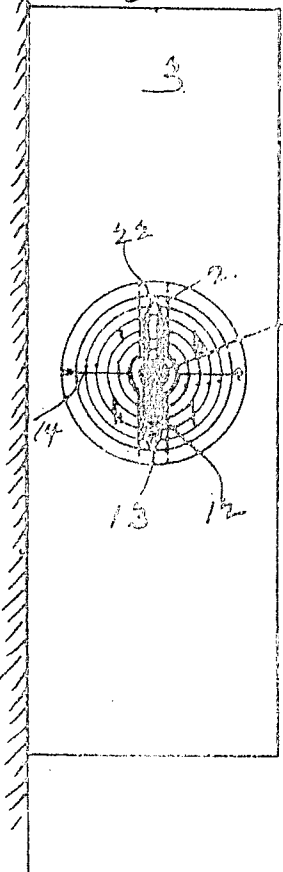
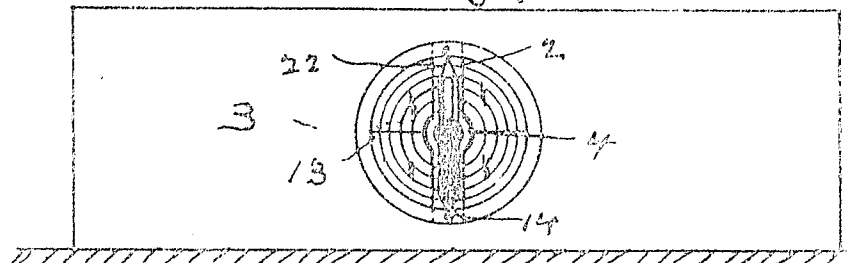


Fig 4



Witnesses
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GEORGE A. RHODES, OF NEW YORK, N. Y.

UNIVERSAL LEVELING DEVICE.

362,467.

Specification of Letters Patent. Patented June 28, 1910.

Application filed August 16, 1909. Serial No. 513,204.

To all whom it may concern:

Be it known that I, GEORGE A. RHODES, citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Universal Leveling Devices, of which the following is a specification.

My invention relates to leveling devices, of the pendulum or swinging arm type, and the object of the invention is to provide this class of devices with an adjustable index arm slidable on the pendulum.

Another object is to provide means for allowing for "batter" or "over hang."

Referring to the drawings—Figure 1 is an enlarged side view of the level. Fig. 2 is a section on line $x-x$ Fig. 1. Fig. 3 is a view of the level showing it as a "plumb." Fig. 4 is a view of the level showing it as a "level." Fig. 5 is a detached view of one of the recording dials. Fig. 6 is a detached side view of the weighted lever and index arm thereof. Fig. 7 is a front view of Fig. 6. Fig. 8 is a detached plan view of the hub-bracket arm.

Numerical 2 represents the bracket-arm having hubs 4, said bracket arm being fastened to the stock 3 by suitable screws. The hubs 4 are so constructed as to receive ball bearings 5 upon which rest and turn the shaft 6. On each of the hubs, are mounted the dials 9 placed within the circular orifice 10 of the stock. The outer ends of the shaft each support a weighted pendulum or arm 12. Behind the weighted pendulums or arms are slidably mounted the index arms 22, which are each provided with a slotted portion 22^a through which passes the shaft 6, and into which partly pass the studs 23 on the pendulums 12. These index arms are fastened into position by set nuts 29 on the ends of the shaft 6.

The faces of the dials 9, are each marked off by four circular lines. Adjacent the "plumb" line 13 and "level" line 14 the circular lines are intersected by cross lines or marks 19, which are arranged and marked off in the following order: Commencing with the outer circular line 20 said lines are marked $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch. These marks

designate the "batter" or "over hang" commonly used. The weighted pendulums with their index arms, are sensitive to any movement of the level. When the said level is placed upright (see Fig. 3) the index arms will point to the plumb line 13, and when laid horizontally the index arms will point to the level line 14 (see Fig. 4).

Each end of the circular orifice 10 in the stock 3 is covered with a glass 15, to protect the ball bearings and other parts; said glass being held in place by a rim 16, secured in place, (by screws,) on to the stock. The least movement of the weighted pendulums is indicated by the index arms thereon. These index arms are made adjustable on the weighted pendulum so that they can be set to the desired circles on the dials for "batter" or "over hang" as the case may be. This is simply done by loosening set nuts 29 and moving index arms to for instance circular line 30, which represents $\frac{1}{4}$ " to 1 foot and then fastening the arms to said pendulums again.

What I claim is—

1. In a universal leveling device, a frame having a central opening, a bracket arm supported within said opening, said bracket arm having ball bearing hubs, a shaft passing through said ball bearing hubs and turning in the same, weighted pendulums mounted on said shaft, adjustable index arms slidable on said shaft, and behind said pendulums and dials placed between the said pendulums and index arms and the faces of the hubs of the bracket arm, said dials being supported in the opening in the said frame.

2. In a universal leveling device, a frame having a central opening a bracket arm supported within said opening, said bracket arm having ball bearing hubs, a shaft passing through and turning in the said ball bearing hubs, weighted pendulums mounted on said shaft, adjustable index arms slidable on said shaft and behind the said pendulums, means for locking said index arms on said shaft, and dials placed between the said pendulums and index arms and faces of the hubs of the bracket arm, said dials having on one side a series of circular lines and radial

lines intersecting said circular lines and
representing "plumb" and "level" lines
said circular lines intersected by marks, said
marks being denoted by inch and fraction of
5 an inch signs or marks to designate "bat-
ter" or "over hang," said dials being sup-
ported in the opening of the frame.

Signed at New York in the county of New
York and State of New York this 24 day of
July A. D. 1909.

GEORGE A. RHODES.

Witnesses:

C. BARRETT,

FRED H. BLOOD.