S. MOSHER.

LEVELING INSTRUMENT.

APPLICATION FILED FEB. 16, 1918.

1,295,352. Patented Feb. 25, 1919.

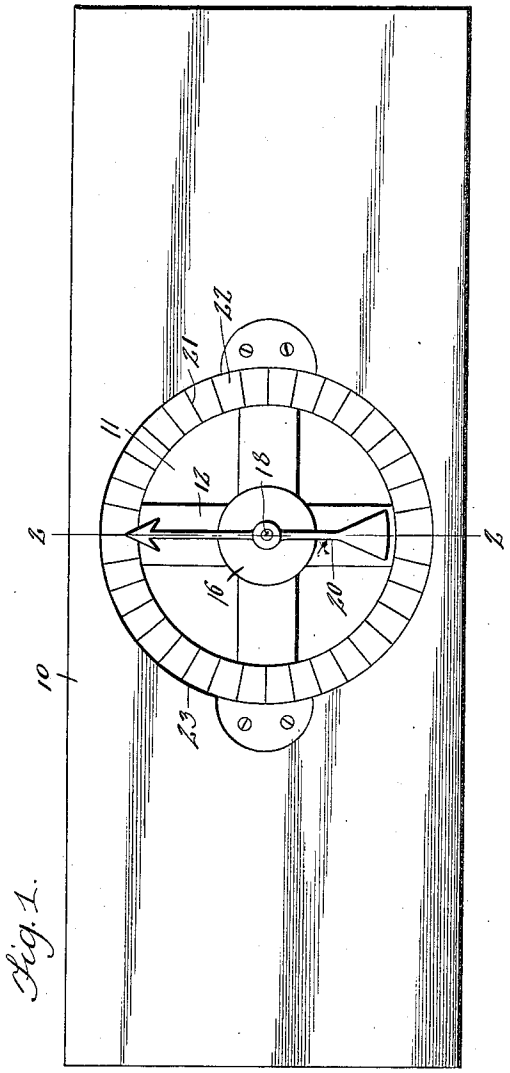


Fig. 1.

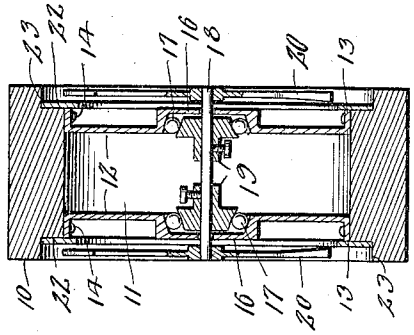


Fig. 2.

WITNESSES

E. Schleuse Jr.

Edward Seager

Inventor

S. Mosher,

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SMITH MOSHER, OF PEORIA, ILLINOIS.

LEVELING INSTRUMENT.

1,295,352. Specification of Letters Patent. **Patented Feb. 25, 1919.**

Application filed February 16, 1918. Serial No. 217,617.

To all whom it may concern:

Be it known that I, SMITH MOSHER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented new and useful Improvements in Leveling Instruments, of which the following is a specification.

This invention relates to leveling instruments and comprehends the provision of a novel construction and arrangement of parts to be hereinafter described and particularly pointed out in the appended claim.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawing, wherein like numerals of reference indicate similar parts in the several views, and in which:—

Figure 1 is a side elevation of the instrument constructed in accordance with my invention.

Fig. 2 is a sectional view taken on lines 2—2 of Fig. 1.

The instrument essentially consists of an elongated level bar 10, which at a suitable point in its length is provided with a transverse opening 11 extending entirely through the bar 10. Diametrically disposed within the opening 11 are strips 12 of metal or other suitable material, and as shown these strips are spaced to lie adjacent the opposite sides or faces of the bar 10. In addition to being spaced the strips 12 are arranged at right angles with respect to each other, thus producing a strong and compact instrument of the class in question. The strips may be secured in any suitable manner within the opening 11, but by preference have their extremities offset as at 13 to provide attaching portions through which suitable fastening elements 14 are driven to maintain the strips fixed relatively with respect to each other and also with respect to the bar 10. Each of the strips 12 at a point midway between the extremities thereof is offset as at 16 to provide a raceway for the anti-frictional bearings 17, the strips being so disposed within the opening 11 that the offset portions 16 assume a position in confronting relation. A transversely disposed shaft 18 is arranged within the opening 11 and journaled in the offset portion 16. Fixed upon the shaft 18 are the collars 19 which are partly fitted within the offset portions 16 and utilized to maintain the bearings 17 properly positioned in the raceway. The extremities of the shaft 18 project beyond the outer sides of the strips 12, and rigidly carried by each extremity is a pointer 20 weighted at one end to cause the pointers to maintain a vertical position irrespective of the angle or inclination at which the bar 10 is held. The pointers of course coöperate with graduations 21 on dials 22 which surround or partly surround the opening 11. The body 10 is mortised or recessed as at 23 to frictionally accommodate the dials, and as the pointers move in unison the levels and angles of various surfaces may be determined from either side of the instrument. The opening 11 and strips 12 are of such size as to permit of the insertion of a suitable tool within the opening 11 to adjust the set screws and collars 19 upon the shaft 18 while assembling or disassembling the parts.

It is believed that from the foregoing description the nature and advantages of the invention will be readily apparent, although I desire to have it understod that what is herein shown and described is merely illustrative of the preferred embodiment of the invention to which I do not limit myself, and that such changes in the construction and arrangement of parts may be resorted to when desired as fall within the scope of what is claimed.

What I claim:—

In a level, a bar having a transverse opening therethrough, dials secured to the opposite sides of the bar about said opening, spaced elongated strips arranged within said opening, said strips being disposed in right-angular relation, a shaft journaled between said strips, said strips being offset at points in their length to provide raceways, anti-frictional bearings arranged within said raceways, collars adjustably mounted upon the shaft for holding said bearings within the raceways and weighted pointers carried rigidly by the extremities of said shaft and movable over said dials for the purpose specified.

In testimony whereof I affix my signature.

SMITH MOSHER

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