Feb. 28, 1950

B. J. MARASCIO
DEVICE TO CHECK BORE DIAMETERS AT PRESELECTED DEPTHS
Filed Feb. 5, 1947

2,499,251

Fig. 1

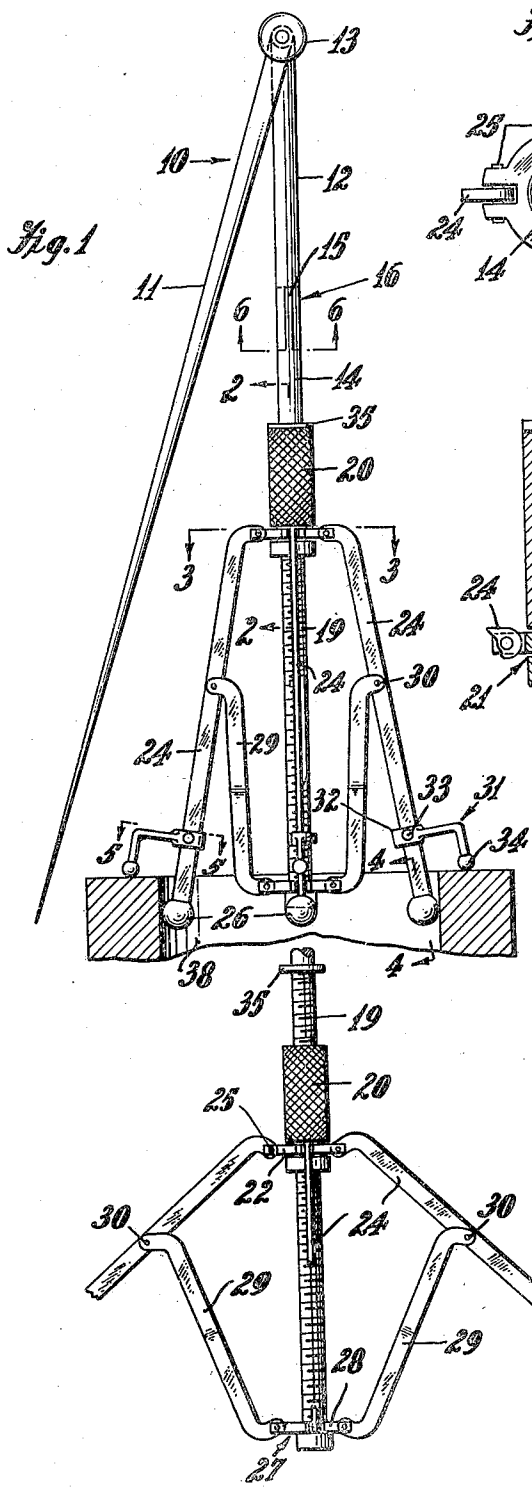
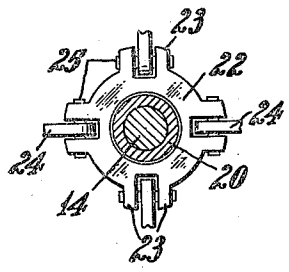


Fig. 3



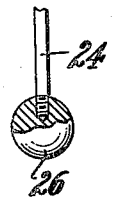


Fig. 4

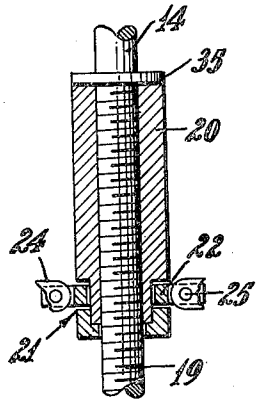


Fig. 2

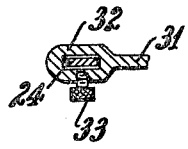


Fig. 5

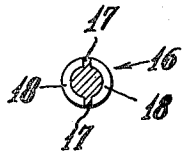


Fig. 6

Fig. 7

INVENTOR.
Bruno J. Marascio
BY J. Lederman
ATTORNEY

Patented Feb. 28, 1950 2,499,251

UNITED STATES PATENT OFFICE

2,499,251

DEVICE TO CHECK BORE DIAMETERS AT PRESELECTED DEPTHS

Bruno J. Marascio, Phillipsburg, N. J.

Application February 5, 1947, Serial No. 726,633

1 Claim. (Cl. 33—178)

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This invention relates to layout instruments or the like and aims to provide, in combination with dividers or like instruments, a novel, useful, and practical instrument for checking on and laying out holes or openings in materials of various kinds such as are used in industry.

The above broad as well as additional and more detailed objects will become apparent in the following description, wherein characters of reference refer to like-numbered parts in the accompanying drawing. It is to be noted that the drawing is intended for the purpose of illustration only and that it is neither desired nor intended to limit the invention to any or all of the specific details of construction shown, excepting insofar as they may be deemed essential to the invention.

Referring briefly to the drawing,

Fig. 1 is a side elevational view of the instrument applied to a block having a hole therein.

Fig. 2 is an enlarged sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 1.

Fig. 6 is an enlarged sectional view taken on the line 6—6 of Fig. 1.

Fig. 7 is a fragmentary side elevational view of the instrument, showing the expansible member in the expanded condition.

Referring in detail to the drawing, the numeral 10 indicates, a dividers comprising the two legs 11 and 12 joined by the pivot 13, the former being pointed in the usual manner. The leg 12 is provided with any suitable means for frictionally and rotatably receiving the reduced tip 15 of a stem 14, described below. One such means is illustrated, and consists in providing a hollow extension 16 on the leg 12, and splitting it longitudinally to form slots 17; thus, the two opposed halves 18 of the split extension 16 form yieldable wings which are frictionally receptive of the stem extension or tip 15.

The stem 14 is threaded at 19 over the greater portion of its length, and threadedly riding thereon is a knurled sleeve 20. The latter has a peripheral groove 21 near its lower end, and a collar 22 loosely registers in this groove. The collar is provided with a spaced pair of ears 23, in which the extremities of arms 24 are pivotally supported by pins 25. In the device illustrated four such arms are shown.

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The arms are all of the same length, and at their lower extremities are provided with balls or the like 26. At the lower extremity of the stem 14, a collar 27, substantially similar to but smaller than the collar 22, is secured and is provided with similar hinge ears 28 which are in substantially vertical alignment with the ears 23. Links 29 which are substantially S-shaped in conformation are provided, and each has its upper extremity pivoted at 30 to the adjacent arm 24 intermediate the length of the latter. The lower extremity of each link 29 is pivoted to its appropriate hinge ear 28 on the collar 27.

Slidably mounted on each of the arms 24 is an L-shaped bracket 31 through the medium of a collar 32 on one end and a set screw 33. At the other end of the bracket 31 is a ball or the like 34, preferably smaller than the balls 26. A limit stop flange 35, rigid on the stem 14 serves to limit the upward movement of the sleeve 20.

With the instrument applied to a block or other piece of work, which may be a block having a hole 38 therein, the leg 11 may be supported on any suitable support, not shown, or on the work itself. The sleeve 20 is turned to expand or contract the four arms 24 in an obvious manner, until the balls 26 all engage the inner wall of the hole 38. Assuming that this hole is of standard diameter, the instrument may then be applied to a similar piece of work with a similar hole therein, to check whether the diameter of the latter agrees with the standard. By use of the balls 34, after sliding the brackets 31 up or down the arms 24 until the balls 34 register on the upper surface of the block at the same time that the balls 26 register against the wall of the hole 38, the diameter at any depth of the hole can be checked, and this would be of particular use in case the hole 38, instead of being cylindrical as shown, were either conical or some other non-cylindrical form, not shown.

By means of the set screw locking means for the balls 34 on the arms 24, their positions along the arms 24 may be varied to suit the needs of the user.

As previously stated, the legs 11 and 12 together constitute the legs of a pair of dividers wherein the leg 12 is made of two interlocking parts, the lower part of the leg 12 having, in the case illustrated, been removed and is therefore not shown, and the stem 14 has been attached to the leg 12 in place thereof. In using the device as set forth above, the leg 11 serves no function other than, as previously stated, as

a support while the device is being adjusted to register in and about the hole 38.

Obviously, modifications in form and structure may be made without departing from the spirit and scope of the invention.

I claim:

An instrument adapted for checking the diameter of a hole in a block or other piece of work, comprising a threaded stem having a sleeve threadably mounted thereon in engagement with the stem, said sleeve having a collar thereon provided with spaced ears, arms having their upper extremities pivoted to said ears, a second collar on the lower extremity of said stem and having similarly spaced ears, links having their lower extremities pivoted to said last-named ears and having their upper extremities pivoted to said arms intermediate the length of the latter, said arms having enlarged rounded extremities, adapted to contact the wall of the hole through said block, said arms having brackets slidably mounted thereon and extending radially outward and downward from said arms, means for releasably locking said brackets on said arms, said brackets having enlarged rounded extremities adapted to contact the upper surface of said block.

BRUNO J. MARASCIO.

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