No. 860,084. PATENTED JULY 16, 1907.

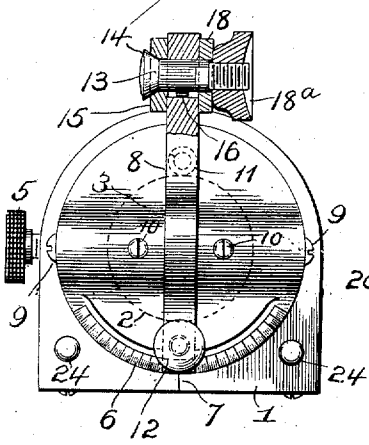
T. EVANS.

SURFACE GAGE.

APPLICATION FILED DEC. 12, 1906.

3 SHEETS—SHEET 1.

Fig. 3.



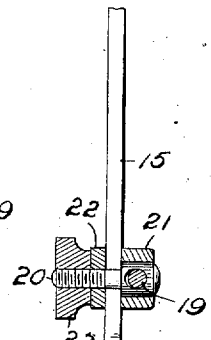


Fig. 1.

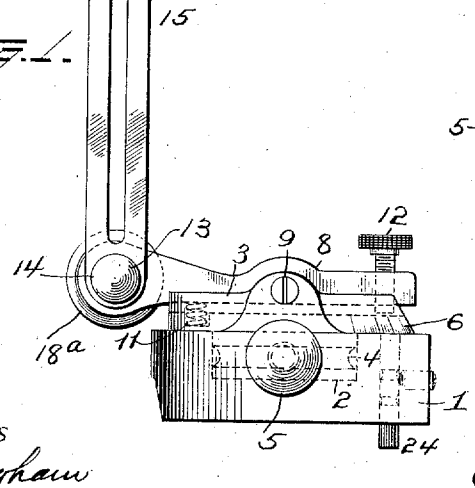
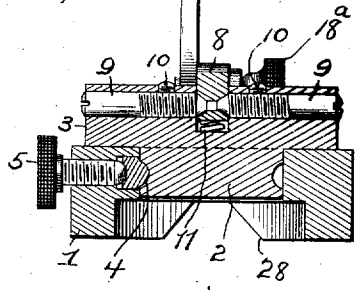


Fig. 2.



WITNESSES

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3 SHEETS—SHEET 2.

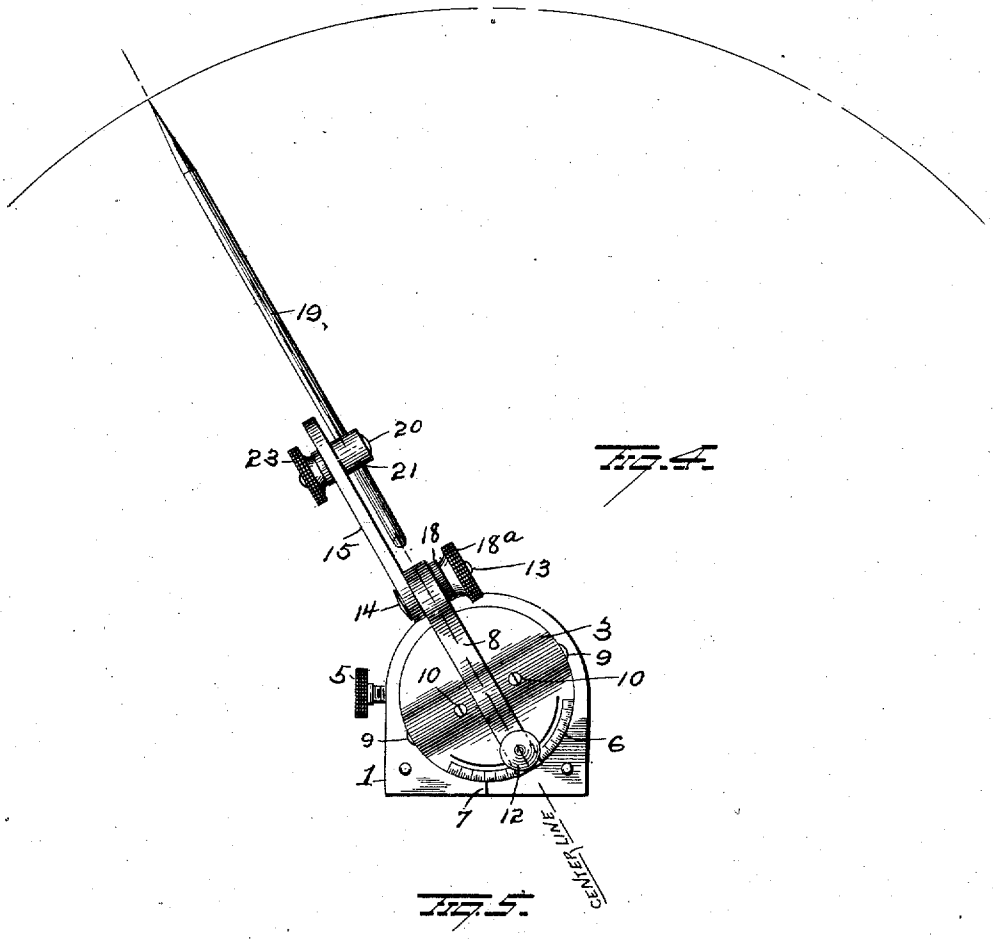
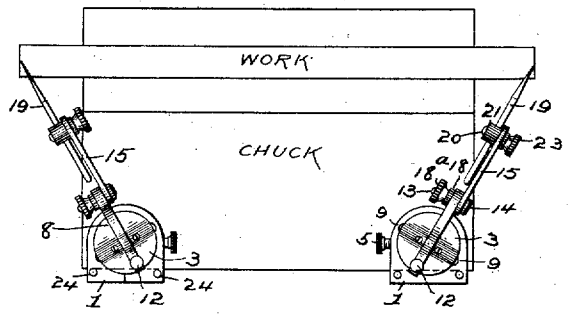


FIG. 4.

FIG. 5.



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3 SHEETS—SHEET 3.

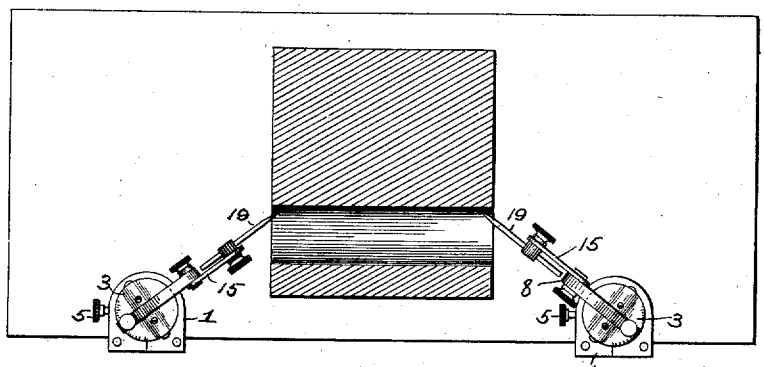
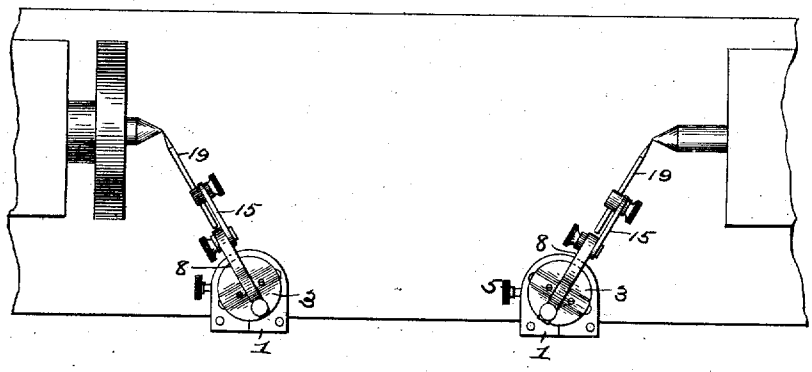


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

THOMAS EVANS, OF GREAT FALLS, MONTANA.

SURFACE-GAGE.

No. 860,084. Specification of Letters Patent. Patented July 16, 1907.

Application filed December 12, 1906. Serial No. 347,482.

To all whom it may concern:

Be it known that I, THOMAS EVANS, a resident of Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Surface-Gages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved surface gage, the object of the invention being to provide an improved rotary turntable, supported in a base and carrying a scriber which will be always in a plane in which is the axis of the turntable, and the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation illustrating my improvements. Fig. 2 is a view in section. Fig. 3 is a plan view illustrating one application of my improvements, and Figs. 4, 5, 6, and 7, are views illustrating other applications of my improved gage.

1 represents the base of the gage, which comprises a block or casting having a circular opening to receive a depending journal 2, on a turntable 3, supported on the base 1. This journal 2 fits snugly in the base, but is free to turn without wabbling, and is made with an annular groove 4, into which the inner end of a thumb screw 5 projects, to hold the journal in the base and secure the turntable at any adjustment when the thumb screw is screwed tightly against the journal. The turntable 3 is provided with a scale 6 to register with a mark 7 on base 1 to indicate the angle to which the table is turned, and the table is provided with a groove extending across its center, to receive a rocking bar 8 having an opening between its ends to receive the beveled ends of screws 9, the latter screwed into the table 3 and secured against accidental movement by small screws 10 engaging the threads of the larger screws 9. A coiled spring 11 is located below one end of rocking bar 8, and a thumb screw 12 is provided at the other end of said rocking bar to adjust the bar on its pivot.

The outwardly projecting enlarged end of rocking bar 8, is made with an opening to receive a journal 13 having a beveled head 14 to enter a beveled opening in the slotted mast 15, and said journal is made with a key 16 to enter a key way in the opening in bar 8, and the journal is also flattened where it projects through the bar 8 to receive a washer 18, the latter having an opening conforming to the shape of the flattened journal to prevent turning of the washer on the journal. The extreme end of the journal 13 is screw-threaded to receive a thumb nut 18, to clamp the mast at any pivotal adjustment on the rocking bar 8.

19 represents the scriber, which is securely clamped to the slotted mast as will now be explained. A headed screw 20 projects through the slot in mast 15 and a ring 21 is provided around the head of this screw 20. The ring and screw head are made with alined openings to receive the scriber 19, and a washer 22 and clamping nut 23 are located on said screw on the opposite side of the mast, so that it will be seen, when the nut is tightened, the screw head will be drawn through the ring 21 to move the openings in the screwhead and ring slightly out of alinement to firmly clamp the scriber at the desired adjustment in the bolt head and on the mast. The scriber 19 is located in alinement with the rocking bar 8 and the point of the scriber, when the turn table is turned, will always mark a circle with the center of the turntable as the center of the circle.

Gage pins 24 are located in the base 1 to bear against the edge of a surface plate or for other lineal work, and recesses 28 are provided in the under side of the base 1 to enable the use of the gage on circular work.

In Figs. 4, 5, and 6, I have illustrated other applications of my improvements showing how work may be set by its extreme ends, and by its bore, and showing how lathe centers may be alined.

My improved gage is capable of all the uses of other surface gages and has a great many additional uses, and is therefore a great improvement in the art.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence, I do not restrict myself to the precise details set forth but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a surface gage, the combination of a turntable, a scriber and means connected with the turntable and pivotally supporting the scriber so that the latter may be held either parallel to the axis of the turntable or at an angle thereto but always in the plane of the axis of the turntable.

2. In a surface gage, the combination with a base, of a turntable supported by the base, a rocking bar pivoted to the turn table and projecting across the center thereof, a mast pivotally secured to the bar, and a scriber adjustable on the mast and always maintained in a plane in which is the axis of the turntable.

3. In a surface gage, the combination with a base, of a turntable having rotary mounting in the base, a scale to indicate the angle of turning movement of the table, a screw to secure the table against turning, and a scriber carried by the turntable and maintained in a plane in which is the axis of the turntable.

4. In a surface gage, the combination with a base hav-

ing an opening therein, of a turntable, a journal on the table mounted in the opening in the base and having an annular groove, a thumb screw in the base projecting into the groove, a rocking bar extending across the center of the turntable, a mast pivotally clamped to one end of the rocking bar, and a scriber pivotally and adjustably clamped to the mast.

5. In a surface gage, the combination with a base, of a turntable having rotary mounting in the base, a scale on the turntable, an indicating mark on the base to register with the scale, means for locking the turntable at any adjustment, a rocking bar on the turntable, a mast on the rocking bar, and a scriber carried by the mast and always maintained in a plane in which is the axis of the turn table.

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

THOMAS EVANS.

Two witnesses:
J. W. FREEMAN,
S. M. MCRAE.