

Aug. 6, 1935.

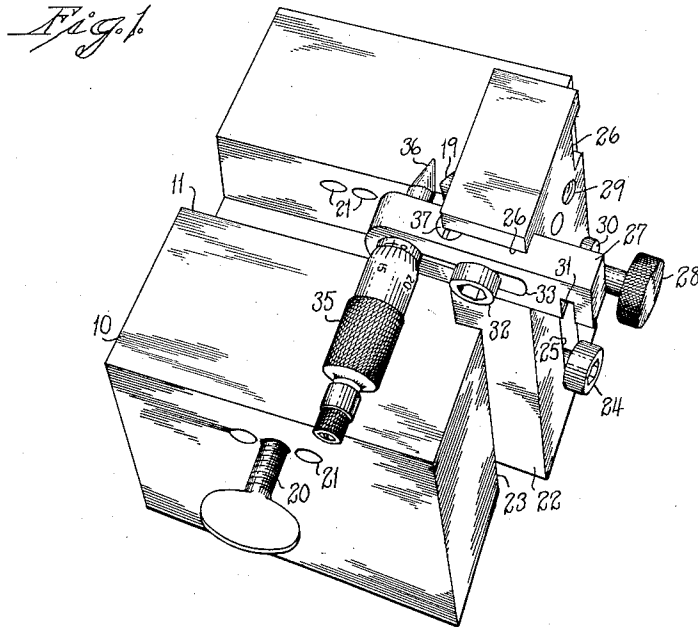
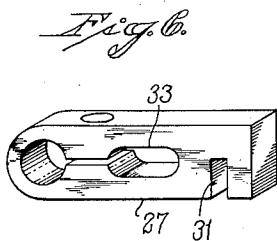
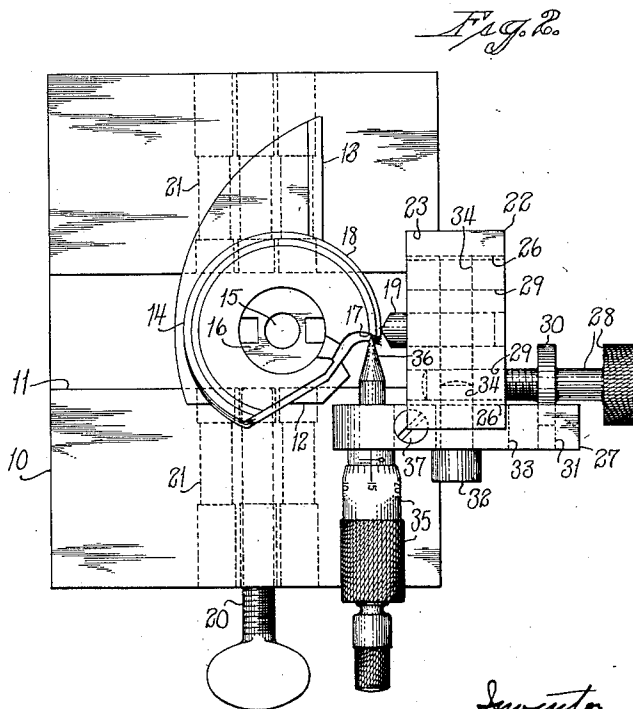
A. F. BREITENSTEIN

2,010,215

GAUGE FOR SETTING CIRCULAR CHASERS

Filed Sept. 1, 1934

2 Sheets-Sheet 1



Inventor
 & Albert F. Breitenstein
 Seymour Earle & Nichols
 attys.

Aug. 6, 1935.

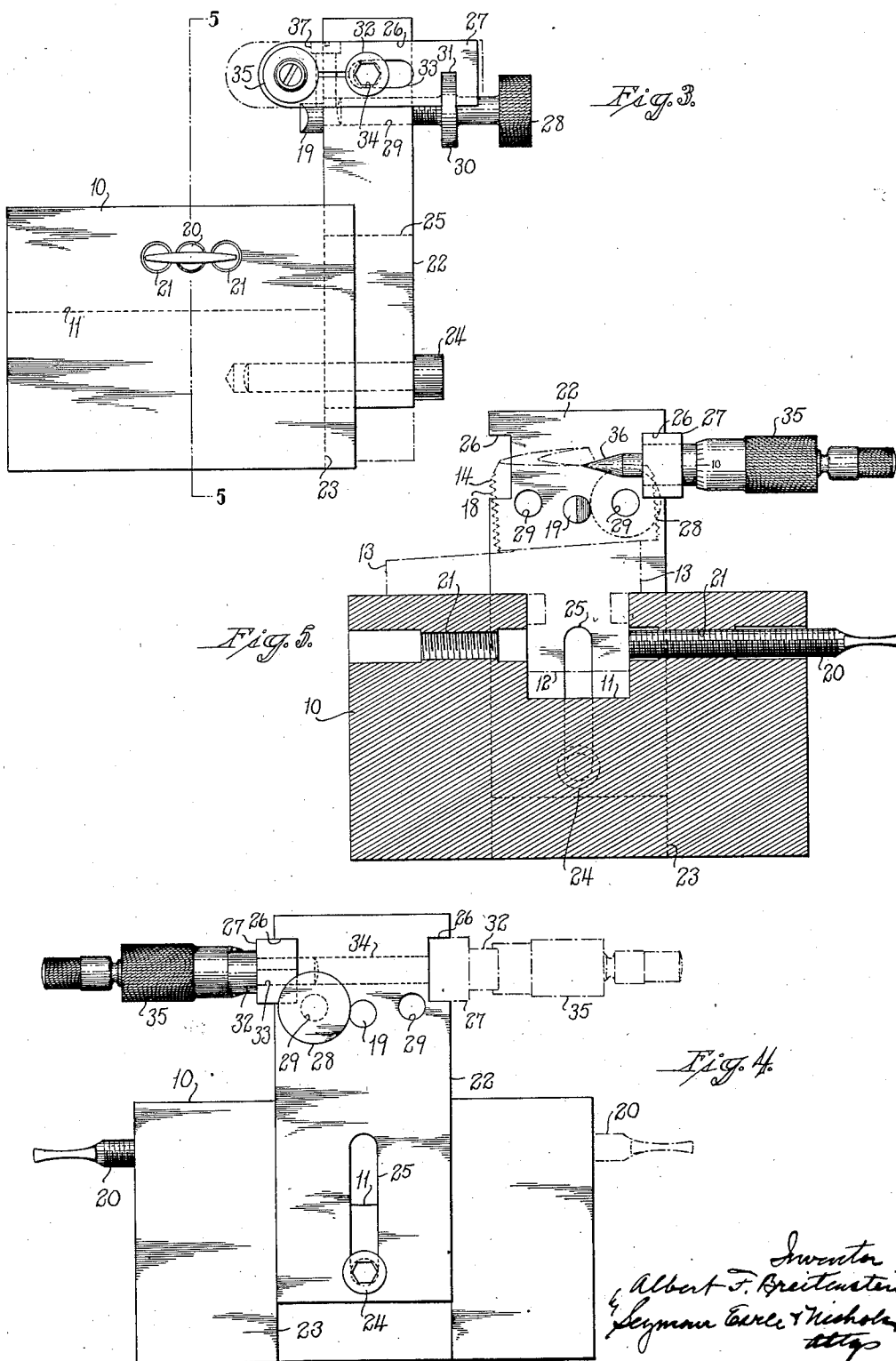
A. F. BREITENSTEIN

2,010,215

GAUGE FOR SETTING CIRCULAR CHASERS

Filed Sept. 1, 1934

2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,010,215

GAUGE FOR SETTING CIRCULAR CHASERS

Albert F. Breitenstein, New Haven, Conn., assignor to The Geometric Tool Company, New Haven, Conn., a corporation

Application September 1, 1934, Serial No. 742,370

6 Claims. (Cl. 33—185)

This invention relates to gauges for guiding in the setting of thread-cutting chasers or dies with respect to the carriers upon which they are mounted. The invention relates more particularly to such gauges for guiding in the orientation of thread-cutting chasers or dies of circular form.

One of the objects of the present invention is to provide a superior gauge of the class described, which will serve for the orientation of circular chasers of various characteristics.

A further object is to provide a circular-chaser gauge which may be conveniently converted for orienting either right- or left-hand chasers.

With the above and other objects in view, as will appear to those skilled in the art from the following, considered in conjunction with the accompanying drawings and appended claims, the present invention includes all features disclosed therein which are novel over the prior art.

In the accompanying drawings:

Fig. 1 is a perspective view of one form which a circular-chaser gauge may assume in accordance with the present invention;

Fig. 2 is a top or plan view thereof with a circular chaser and its mounting-member shown in place;

Fig. 3 is a side view of the gauge;

Fig. 4 is a view thereof in end elevation;

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 3, but also showing in broken lines a circular chaser together with its mounting-member; and

Fig. 6 is a perspective view of the micrometer-carrying slide.

The particular circular-chaser gauge herein chosen as illustrative of the present invention includes a base-block 10 having a groove 11 in its upper face, extending from end to end thereof, and designed for the reception of the tang 12 of a chaser-mounting member 13, indicated by full lines in Fig. 2 and by broken lines in Fig. 5. The chaser-mounting member carries on its upper face a circular chaser 14 secured to it with capacity for being turned with respect thereto by a stud 15 and a nut 16, as indicated in Fig. 2. The circular chaser 14 is of substantially-cylindrical form, save that it is cut away on one side to provide a cutting-lip 17, and has its periphery formed with substantially-annular helically-inclined cutting-teeth 18.

It may be explained in this connection that as the chaser 14 becomes dull, it is removed, together with its mounting-member 13 from the die-head or other tool in which it is used, and it is resharpened by grinding back its cutting-

lip 17. This grinding of the cutting-lip, as just described, disturbs the orientation thereof with respect to the mounting-member, and it is for the purpose of enabling the cutting-lip to be accurately repositioned or oriented with respect to the said mounting-member that the present gauge is mainly designed.

The tang 12 of the chaser-mounting member 13, after having been inserted in the groove 11 in the base-block 10, is slid into position to engage that portion of the periphery of the chaser 14 lying adjacent its cutting-lip 17 with an abutment in the form of an abutment-pin or stop-pin 19, after which the mounting-member is clamped in place in the base-block 10 by means of a clamping-screw 20, which is threaded into the most appropriate one of six (more or less) corresponding threaded bores 21, three of which extend through each of the side-walls of the base-block so as to intersect the groove 11 therein.

The stop-pin or abutment 19 offsets from the inner face of a bar-like elevator-slide 22 sliding in a vertical guide-way 23 in the adjacent face of the base-block 10 and clamped in any desired position of vertical adjustment therein by a socket-headed clamping-screw 24 extending through a vertical slot 25 in the said elevator-slide 22 and into the said base-block.

Adjacent its upper end, each of the respective opposite edges of the elevator-slide 22 is provided with a horizontal guide-groove 26, either of which may receive, as desired, a horizontal micrometer-carrying slide 27, adjustable in a direction parallel with the slot 11 in the base-block 10 by means of an adjusting-screw 28 threaded into the adjacent one of two corresponding threaded bores 29—29, respectively located in the elevator-slide 22 adjacent the respective guide-grooves 26—26 therein. The adjusting-screw 28, just referred to, is provided with an annular flange 30 fitting into a notch 31 in the under face of the adjusting-slide 27 adjacent the outer end thereof and serving to couple the said adjusting-screw to the said slide for effecting the longitudinal adjustment of the latter by the former. After a suitable adjustment of the slide 27 has been effected, the same may be firmly locked in place by a socket-headed screw 32 passing through a longitudinal slot 33 in the said slide and into a threaded bore 34 extending through the elevator-slide 22 from one of the guide-grooves 26 on one side thereof to the other of said guide-grooves.

The inner end of the micrometer-carrying slide 27 mounts a removable micrometer, generally

designated by the numeral 35, having a point 36 and clamped in the said slide with capacity for being bodily removed therefrom by a clamping-screw 37 (Figs. 1 and 2).

After the periphery of the chaser has been engaged with the stop-pin 19 as hereinbefore described, the micrometer-carrying slide 27 may be slid longitudinally by the adjusting-screw 28 until its point 36 is in substantial alignment with the root of the threads 18, where the same break through the cutting-lip 17. It is the desired practice to align the point 36 of the micrometer 35 with the root of the uppermost one of the threads 18 thereon, and since chasers are apt to vary in height, the micrometer may be raised or lowered as desired, by loosening the clamping-screw 24 and moving the elevator-slide 22 vertically as desired, which thereby effects the vertical adjustment not only of the micrometer 35, but concurrently effects the vertical adjustment of the stop-pin 19.

After the parts have been set, as above described, the micrometer 35 is adjusted to indicate the desired measurement, and the chaser 14 is turned upon its stud 15 until the face of the cutting-lip 17 adjacent the root of the outermost thread 18 engages with the previously-adjusted point 36 of the micrometer. The chaser, after having thus been accurately oriented in accordance with predetermined measurements, is firmly clamped to its mounting-member 13 by tightening the nut 16. The clamping-screw 20 may now be loosened and the chaser, together with its mounting-member, removed from the gauge and installed in its intended die-head or other suitable device.

In the event that it is desired to orient a circular chaser having a cutting-lip 17 facing the opposite direction from that shown in Fig. 2, the device may be readily converted by removing the micrometer-carrying slide 27 from the right-hand guide-groove 26 in the elevator-slide 22 and placing the same in the complementary left-hand groove thereof. The adjusting-screw 28 is correspondingly shifted from the right-hand one of the threaded bores 29 to the left-hand one thereof. The micrometer is released from the slide 27 by loosening the screw 37 and is reversed in position so as to project over the groove 11 in the base-block 10 from the left side thereof. The procedure for orienting a left-hand chaser may now be carried out in the same manner as in the right-hand chaser, as before described. Incidentally, it may be mentioned that when the above rearrangement of the parts is made, the clamping-screw 20 is also reversed from the right- to the left-hand side of the base-block 10 in the most conveniently positioned one of the threaded bores 21.

From the foregoing, it will be seen that the gauge may be conveniently adjusted for orienting circular chasers of various heights, thread depths, etc., without disturbing the relative vertical positioning of the stop-pin 19 with respect to the point 36 of the micrometer 35.

The invention may be carried out in other specific ways than that herein set forth without departing from the spirit and essential characteristics of the invention, and the present embodiment is therefore to be considered in all respects as illustrative and not restrictive, and all changes coming within the meaning and equivalency range of the appended claims are intended to be embraced therein.

I claim:

1. A circular-chaser gauge comprising: a base; an elevator carried by and vertically adjustable with respect to the said base; a stop-abutment carried by the said elevator in position to be engaged by a circular chaser; and a micrometer also carried by the said elevator and movable thereby jointly with the said stop-abutment in a direction substantially parallel with the axis of a circular chaser carried by the said base.

2. A circular-chaser gauge comprising: a base having a guide-way therein for the reception of a chaser-carrier; an elevator carried by and vertically adjustable with respect to the said base; a stop-abutment carried by the said elevator in position to be engaged by a circular chaser; and a micrometer extending in a direction substantially transverse to the guide-way in the said base and carried by the said elevator for being moved thereby jointly with the said stop-abutment in a direction substantially parallel with the axis of a circular chaser carried by the said base.

3. A circular-chaser gauge comprising: a base; an elevator carried by and vertically adjustable with respect to the said base; a stop-abutment carried by the said elevator; a horizontal micrometer-carrying slide also carried by the said elevator and horizontally adjustable independently thereof; and a micrometer carried by the said micrometer-carrying slide and hence by the said elevator for being moved vertically thereby jointly with the said stop-abutment.

4. A circular-chaser gauge comprising: a base; an elevator carried by and vertically adjustable with respect to the said base; a stop-abutment carried by the said elevator; a horizontal micrometer-carrying slide also carried by the said elevator and horizontally adjustable independently thereof; a micrometer carried by the said micrometer-carrying slide and hence by the said elevator for being moved vertically thereby jointly with the said stop-abutment; and an adjusting-screw engaging both the said elevator and the said micrometer-carrying slide for sliding the latter horizontally with respect to the said elevator.

5. A circular-chaser gauge comprising: a base; an elevator carried by and vertically adjustable with respect to the said base and having corresponding guide-ways on each of its respective opposite sides; a stop-abutment carried by the said elevator; a micrometer-slide interchangeably fitting either one of the two horizontal guide-ways in the said elevator; and a micrometer carried by the said micrometer-carrying slide and hence by the said elevator for being moved vertically thereby jointly with the said stop-abutment.

6. A circular-chaser gauge comprising: a base; an elevator carried by and vertically adjustable with respect to the said base and having corresponding guide-ways on each of its respective opposite sides; a stop-abutment carried by the said elevator; a micrometer-slide interchangeably fitting either one of the two horizontal guide-ways in the said elevator; a micrometer carried by the said micrometer-carrying slide and hence by the said elevator for being moved vertically thereby jointly with the said stop-abutment; and an adjusting-screw engaging both the said elevator and the said micrometer-carrying slide for sliding the latter horizontally with respect to the said elevator.

ALBERT F. BREITENSTEIN.