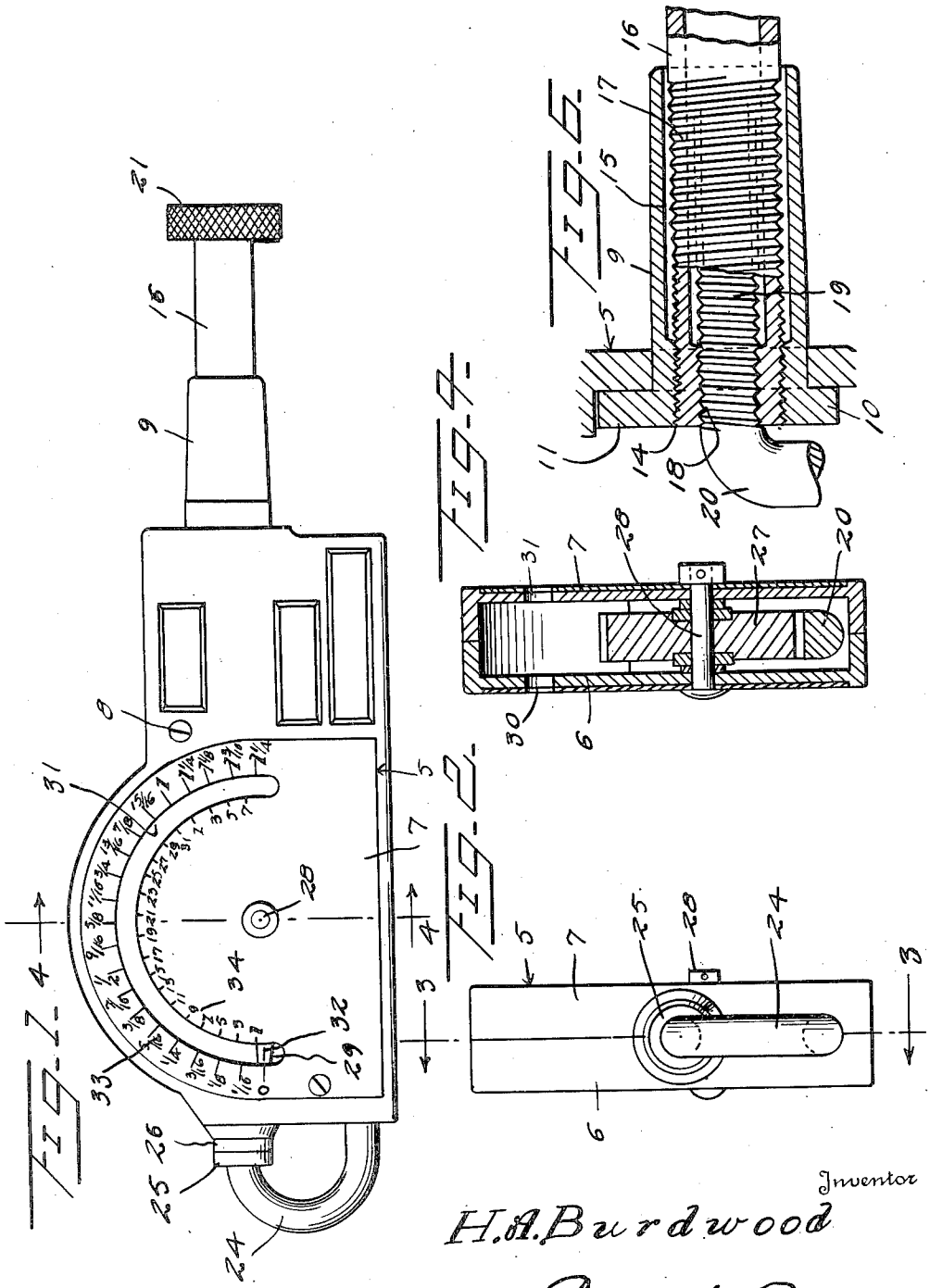
Sept. 6, 1949. H. A. BURDWOOD 2,481,078

INDICATING CALIPER GAUGE

Filed Dec. 8, 1944 2 Sheets-Sheet 1



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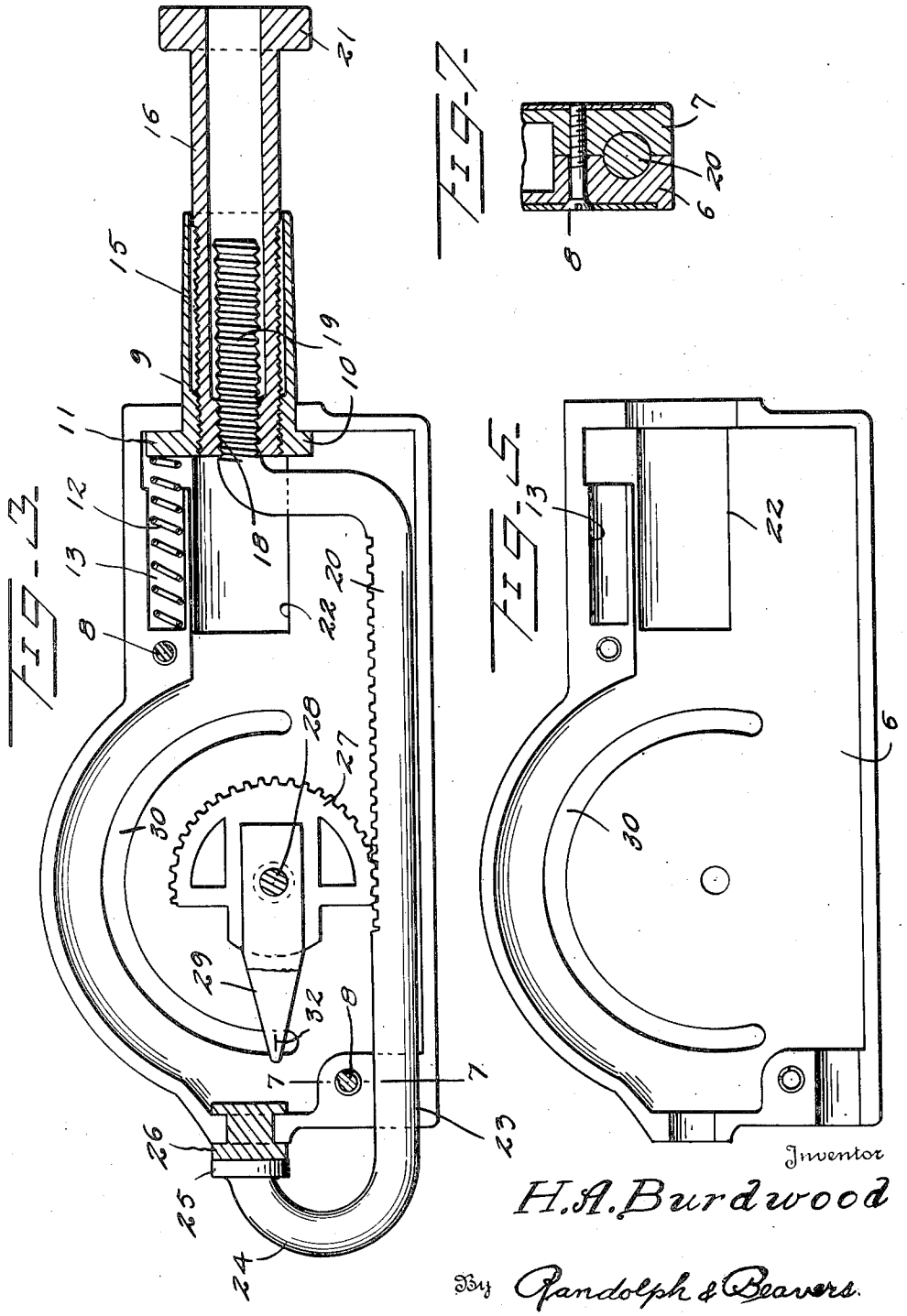
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INDICATING CALIPER GAUGE

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6 Claims. (Cl. 33—147)

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The present invention relates to new and useful improvements in calipers embodying indicating means operatively connected thereto and designed to designate various weights per square foot in accordance with the caliper readings whereby to relieve the mechanic of the work of computing the weight of steel plates and other stocks.

An important object of the present invention is to provide a micrometer type of tool of this character by means of which inexperienced workmen may easily and quickly ascertain the weight per square foot of plate stock and other types of work.

A further object of invention is to provide an indicating caliper of this character which may be easily and quickly adjusted for accurately gauging the work and which may be removed therefrom without disturbing the adjustments for quick and easy reading of the gauge.

Another object is to provide a tool of this character of simple and practical construction, which is efficient and reliable in use, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout and in which Figure 1 is a side elevational view.

Figure 2 is a front end elevational view.

Figure 3 is a longitudinal sectional view taken substantially on a line 3—3 of Figure 2.

Figure 4 is a transverse sectional view taken substantially on a line 4—4 of Figure 1.

Figure 5 is a view in elevation showing the inside of one section of the housing.

Figure 6 is an enlarged longitudinal sectional view of the inner and outer oppositely threaded adjusting screws and

Figure 7 is a fragmentary sectional view taken substantially on a line 7—7 of Figure 3.

Referring now to the drawings in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of invention the numeral 5 designates a substantially narrow flat housing formed of sections 6 and 7 secured to each other by a bolt or screws 8.

A sleeve 9 is slidably mounted in the rear end of the housing, at the meeting edges thereof, the inner end of this sleeve having a flange 10 formed thereon abutting the rear wall of the housing to prevent removal of the sleeve outwardly thereof,

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one edge of the flange being formed with a laterally extending lug 11 engaged by a coil spring 12 mounted in a recess 13 in the opposed upper edges of the housing to yieldingly urge the sleeve to an outwardly projected position.

The inner end of the sleeve is internally threaded as shown at 14 while the bore of the sleeve at its outer end is smooth as indicated at 15.

A hollow screw 16 is threadedly engaged with the threaded portion of the sleeve 9, the screw being formed with righthand threads 17, and the inner portion of the screw is formed with internal threads 18 adapted for threaded engagement by the lefthand threads 19 on the rear end of a rack bar 20. The rear threaded end 19 of the rack bar is offset as will be apparent from an inspection of Figure 3 of the drawings.

The rear end of the screw 16 is formed with an enlarged head or manipulating knob 21 preferably milled or serrated on its outer surface.

The inner surfaces of the sections 6 and 7 of the housing are formed with a recess 22 to accommodate the inner end of the screw 16 during the inward threading movement thereof.

The rack bar 20 extends longitudinally of the housing 5 and is slidably mounted in an opening 23 in the front end of the housing. The front end of the rack bar is curved upwardly and rearwardly as indicated at 24 and is formed with a hardened steel end 25 adapted for movement toward and away from a hardened steel anvil 26 secured in the front end of the housing 5.

A gear segment 27 is secured to a pin 28 extending transversely of the housing and journalled in the sections 6 and 7 thereof, the gear segment having a radially extending indicator 29 adapted for movement along the inside of slotted openings 30 and 31 formed respectively in the sections 6 and 7 of the housing. Each side of the indicator 29 is formed with a mark 32 adapted to register with scales 33 and 34 on the outer surface of one of the sections of the housing, the scale 33 being graduated in inches and fractions thereof and the scale 34 being graduated in thirty-seconds of an inch.

The opposite side of the housing is provided with a scale adjacent the slotted openings therein to indicate weights per square foot to thus convert the measurements of the scales 33 and 34 into weights per square foot.

In the operation of the device the head 24, 25 of the rack bar 20 is moved inwardly toward the work held against the anvil 26 by the adjustment of the screw 16, the thickness and weight of the

work thus being determined by the indicator 29 when read in connection with the scale on the sides of the housing.

By sliding the sleeve 9 inwardly against the tension of the spring 12 the gauge may be removed from the work and the desired measurement and weight ascertained without disturbing the adjustment of the screw 16.

It is believed that the details of construction, manner of use and advantages of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention what I claim is:

1. A gauge of the class described comprising a housing, a fixed gauge element at one end of the housing, a movable gauge element including a rack bar carried by the housing and adapted for movement toward and away from the fixed gauge element, a screw carried by the rack bar of the movable gauge element, an internally threaded sleeve slidably mounted in the housing, spring means projecting the sleeve outwardly of the opposite end of the housing, and an internally and externally oppositely threaded screw threadedly connecting the screw of the movable gauge element and the sleeve and operable to move the movable gauge element relative to the fixed gauge element.

2. A gauge of the class described comprising a housing, a fixed gauge element at one end of the housing, a movable gauge element carried by the housing and adapted for movement toward and away from the fixed gauge element, a screw carried by the movable gauge element, an internally threaded sleeve slidably mounted in the housing, spring means projecting the sleeve outwardly of the housing, and an internally and externally oppositely threaded screw threadedly connecting the screw of the movable gauge element and the sleeve and operable to move the movable gauge element relative to the fixed gauge element, said movable gauge element including a rack, and an indicator including a toothed member meshed with the rack.

3. A gauge of the class described comprising a housing, a fixed gauge element at one end of the housing, a rack bar slidably mounted in the housing, a movable gauge element at one end of the rack bar and arranged for movement toward and away from the fixed gauge element, a screw on the other end of the rack bar, an internally threaded sleeve slidably mounted in the housing, spring means projecting the sleeve, an internally and externally oppositely threaded screw threadedly connecting the screw end of the rack bar and the sleeve and adapted to adjust the movable gauge element, a gear segment journalled in the housing and operatively engaged with the rack bar, and an indicator carried by the gear segment, said rack bar and movable gauge element being movable away from the fixed gauge element independently of the screws.

4. A gauge of the class described comprising a housing, a fixed gauge element at one end of the housing, a rack bar slidably mounted in the housing, a movable gauge element at one end of the rack bar and arranged for movement toward and away from the fixed gauge element, a screw on the other end of the rack bar, and screw adjusting means for the rack bar and the movable gauge element and including a sleeve slidably mounted in the housing and manually operable to separate the gauge elements independently of the screw adjusting means, said screw adjusting means also including a hollow screw in threaded engagement with the sleeve and rack bar screw.

5. A gauge of the class described comprising a housing, a fixed gauge element at one end of the housing, a rack bar slidably mounted in the housing, a movable gauge element at one end of the rack bar and arranged for movement toward and away from the fixed gauge element, a screw on the other end of the rack bar, and screw adjusting means for the rack bar and the movable gauge element and including a sleeve slidably mounted in the housing and manually operable to separate the gauge elements independently of the screw adjusting means, said screw adjusting means also including a hollow screw in threaded engagement with the sleeve and rack bar screw, and spring means bearing against said sleeve for normally urging the movable gauge element toward the fixed gauge element.

6. A gauge of the class described comprising a housing, a fixed gauge element at one end of the housing, a rack bar slidably mounted in the housing, a movable gauge element at one end of the rack bar and arranged for movement toward and away from the fixed gauge element, a screw on the other end of the rack bar, and screw adjusting means for the rack bar and the movable gauge element and including a sleeve slidably mounted in the housing and manually operable to separate the gauge elements independently of the screw adjusting means, said housing having indicia bearing portions, a toothed member journaled in the housing and meshed with the rack bar teeth, and an indicating pointer connected to the toothed member and disposed for movement along the indicia bearing portions.

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