July 27, 1954 W. J. NOE 2,684,538

BREAK GAUGE SETTING DEVICE

Filed Dec. 10, 1951

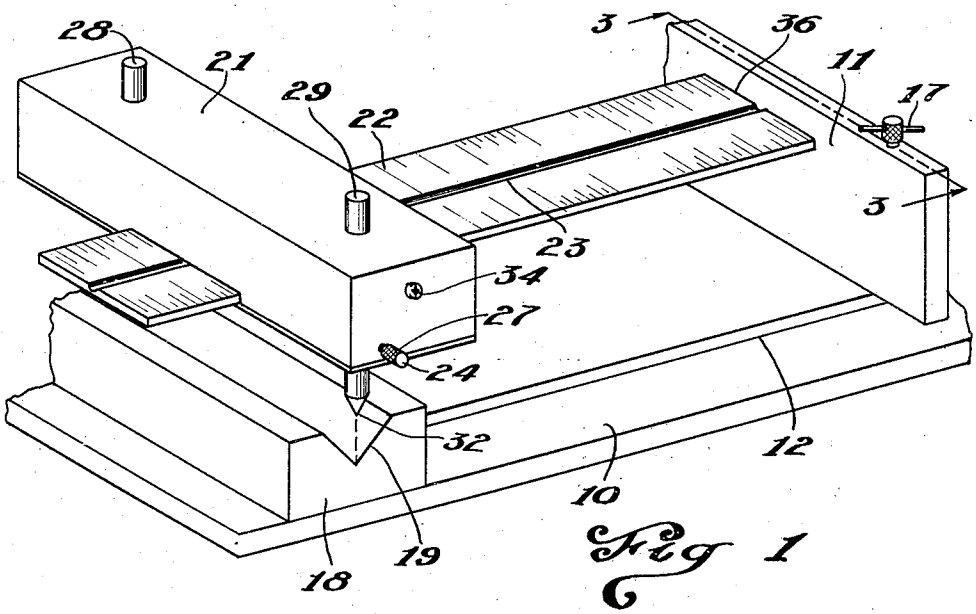


Fig 1

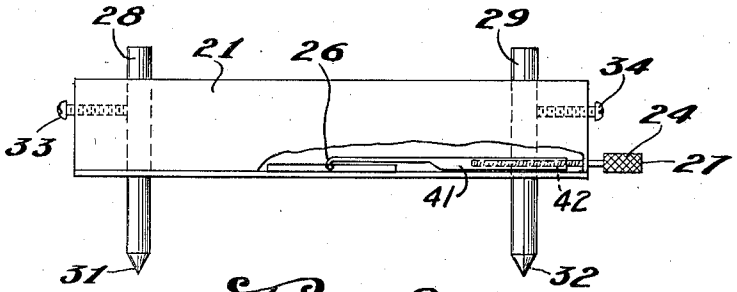


Fig 2

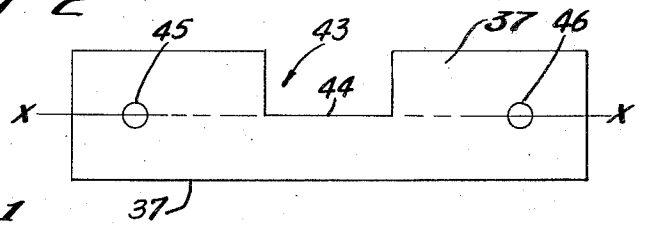


Fig 4

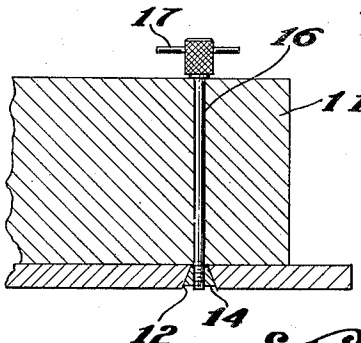


Fig 3

INVENTOR.
WILLIAM J. NOE
BY
ATTORNEY

Patented July 27, 1954

2,684,538

UNITED STATES PATENT OFFICE

2,684,538

BREAK GAUGE SETTING DEVICE

William J. Noe, Marion, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Application December 10, 1951, Serial No. 260,799

1 Claim. (Cl. 33—185)

1

This invention relates in general to means for setting a stop used for accurately positioning a workpiece which is to be bent.

It is oftentimes desirable to break a workpiece, as for example, to form an angle which might be 90 degrees. The thickness of the material and more important the width of the punch at its narrow section must be considered to obtain accurate dimensions and it becomes difficult to lay out on the flat sheet the point of contact of the breaking die.

It is an object of this invention therefore to provide a break gauge setting device that may be used for setting a backstop as a reference for the workpiece.

Another object of this invention is to provide an adjusting instrument for accurately and quickly setting the position of a stop.

Further objects, features and advantages of this invention will become apparent from the following description and claim when read in view of the drawings, in which:

Figure 1 is an isometric view of the break gauge setting device of this invention;

Figure 2 is an end view of the setting device;

Figure 3 is a sectional view taken on line 3—3 of Figure 1; and,

Figure 4 is a bottom view of the setting device.

Figure 1 illustrates a base plate 10 which might form a supporting plate of a breaking die. A stop 11 is mounted at one edge thereof. The stop 11 is received in a pair of slots 12, one of which is shown. As best seen in the sectional view of Figure 3 a wedge shaped member 14 is received in the tapered slot 12 and a threaded shaft 16 is threadedly received therein.

A knob 17 is attached to the upper end of shaft 16 and clamps down on the member 11. There are two clamping assemblies which thus make it possible to adjust the stop 11 relative to the plate 10.

A female breaking die 18 is mounted on the base plate 10 and is formed with a V-shaped opening 19 into which the male punch (not shown) presses the material to bend it.

The problem presented is to set the stop 11 relative to the die 18 so that when the workpiece is bent, the bend will be formed a desired distance from the outer edge.

This is accomplished by the break gauge setting device which comprises a body portion 21 which is generally rectangular in shape and which receives slidably therein a rule 22. The rule 22 is formed with a longitudinal groove 23.

A hook clamp 24 passes transversely through the block 21 so that the hook 26 at the end of an internally threaded sleeve 41 engages the groove 23 as best shown in Figure 2. A knob 27

2

is fixed at the end of a threaded shaft 42 that mates with sleeve 41 and may be rotated to tighten the hook 26 in the groove 23 and thus to lock the rule 22 so that it will not move relative to the block 21.

A pair of vertical pins 28 and 29 respectively, extend transversely through the member 21 and have sharp points 31 and 32 respectively. Screws 33 and 34 lock the adjustable pins 28 and 29 to the block 21.

Figure 4 illustrates a plate 37 which is attached to the bottom of the block 21. A rectangular opening 43 has a back edge 44 in alignment with the points of pins 31 and 32 which pass through openings 45 and 46. To set the gauge to the desired dimension the rule 22 is set so that the desired dimension is indicated at the back edge 44 of the plate 37. The knob 27 is then tightened and the points 31 and 32 are seated in the bottom of the V 19. The stop 11 is set so as to engage the end 35 of the rule 22. It is then locked in place and the gauge may be removed. The workpieces may then be placed against the stop 11 and the male punch actuated.

Although this invention has been described with respect to a particular embodiment thereof, it is not to be so limited as changes and modifications may be made therein which are within the full intended scope of the invention as defined by the appended claim.

I claim:

A break gauge setting device comprising, a generally rectangular body portion with a rectangular groove longitudinally cut therein, a pair of vertically adjustable pins extending through said body portion, internal locking means in said body portion to hold said pins at a desired level, a backing plate covering a portion of said groove with a cut-away portion bounded by an edge in line with a line between said pins, a rule extending through said groove and held between said body portion and backing plate with numerical graduations beginning at one end, fastening means mounted internally in said body portion to fix the rule and body portion in any desired position so that the distance from the end of the rule to the line between the pins may be measured.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
694,774	Muehlberg	Mar. 4, 1902
714,172	Giles	Nov. 25, 1902
1,758,959	Meesel	May 20, 1930
2,233,626	McClure	Mar. 4, 1941
2,582,606	Riddle	Jan. 15, 1952