

Dec. 31, 1957

H. W. THORNBURG

2,818,093

CUT OFF CALCULATORS AND MARKERS

Filed Feb. 25, 1957

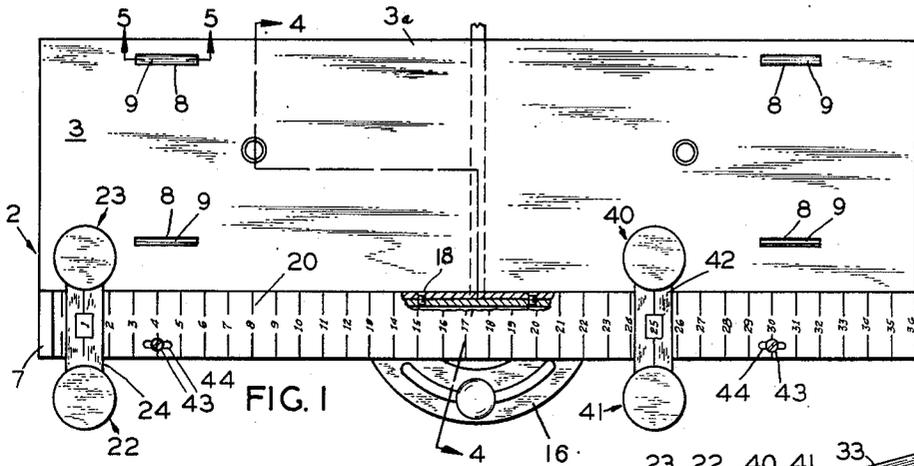


FIG. 1

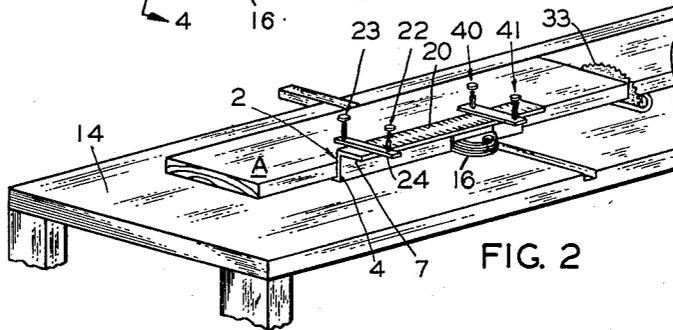


FIG. 2

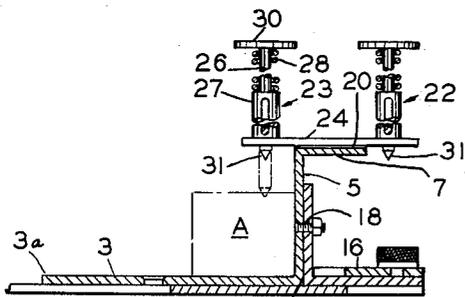


FIG. 4

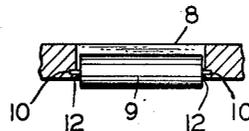


FIG. 5

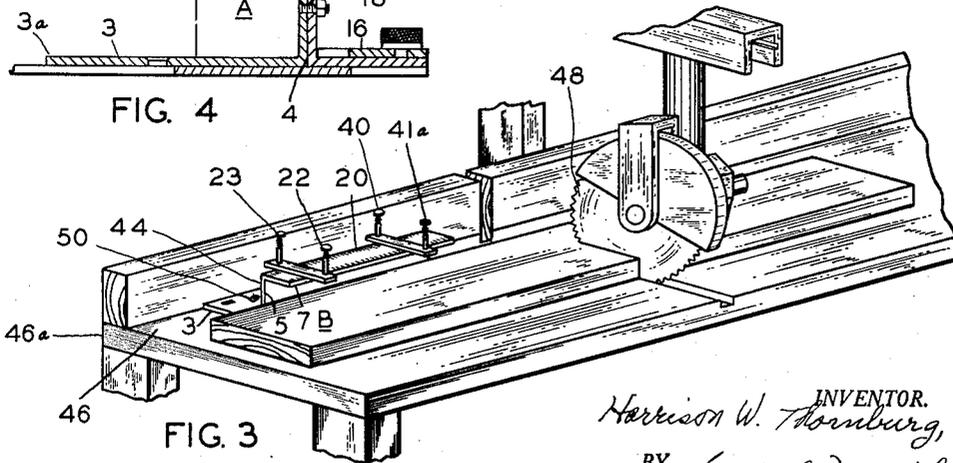


FIG. 3

INVENTOR.
Harrison W. Thornburg,
BY Scott L. Norvell
Atty.

1

2,818,093

CUT OFF CALCULATORS AND MARKERS

Harrison W. Thornburg, Needles, Calif.

Application February 25, 1957, Serial No. 642,189

4 Claims. (Cl. 143—168)

This invention concerns a cut off calculator and marker. More specifically, the device is for marking lumber and similar material so that the user can cut off lengths of the lumber of desired dimensions with a power driven cut off saw, rapidly, accurately and efficiently.

One of the objects of the invention is to provide a device which can be applied to either a bench saw or a cut off saw of the moving blade type and which will efficiently hold lumber to be cut and mark it at a predetermined distance from the saw and then enable the user, after the cut, to move the lumber toward the saw an exact predetermined distance, as indicated on a scale which is positioned on the device; the scale being positioned to read in inches a determined distance relative to the face of the saw opposite to the scale.

A further object is to provide a calculator and lumber marker which has a body of bi-angular section composed of a base plate having means for rolling over the table of a bench saw, a web extending upward therefrom and a horizontal top flat plate having a scale on its top face and two sets of fore and aft markers; the body of the device being adapted for attachment to the mitergage of a bench saw, or the back double stop of a movable blade cut off saw, and the top plate having trommel markers adapted to mark lumber placed against either side of the upright web member.

Other objects will appear hereinafter.

I attain the foregoing objects by means of the devices, parts and combinations of parts shown on the accompanying drawings in which—

Figure 1 is a plan view of my improved cut off calculator and marker;

Figure 2 is a perspective view of a saw table with the marker attached to the miter-gauge of the saw table;

Figure 3 is a perspective view of the table of a movable blade cut off saw with my improved device installed and used as a back stop;

Figure 4 is a fore and aft section of the marker taken substantially on line 4—4 of Figure 1; and

Figure 5 is a fragment of the bottom plate of the marker body drawn on an enlarged scale, and showing a roller in position in the plate.

Similar numerals refer to similar parts in the different views.

In the drawing, numeral 2 indicates the body of my cut off marker in general. This is made of flat metal and includes a rectangular bottom plate 3, which is bent upward along its fore edge 4 to form a vertical web plate 5. At the top of the web 5 the material is bent horizontally and extends forward in a direction away from the bottom plate, and forms the top shelf plate 7.

In the bottom plate there are rectangular openings 8 in which rollers 9 are positioned and held on transverse axle pins 10. These pins may be set into slots in the bottom plate at the ends of openings 8 and then the edges of the slots peened over to retain the pins as indicated by numeral 12, Figure 5. These rollers enable the body of the device to roll over the top face of saw table 14

2

when the web plate 5 is attached to the face plate of the miter-gauge 16. It is to be noted that the attachment is made to this plate by means of bolts 18 having counter sunk heads, as shown in Figure 4.

5 On the top shelf 7 there is a scale 20. In this instance the scale is approximately 35 inches long and at the outer end of the scale where the numbering commences there are two spring type trommel point markers 22 and 23, positioned on a fore and aft plate 24.

10 Each of these markers consists of a plunger shaft 26 slideably operating in a guide body 27 which is attached to plate 24. A spring surrounds shaft 26 and extends between the top of the guide body 27 and the under face of a striker plate 30 on the upper end of shaft 26. The spring normally holds the striker plate and shaft in a raised position, as shown. Striking the plate 30 downward causes the sharpened lower end 31 of the plunger shaft to descend and mark the upper face of work piece A which is held against web 5 and rests on bottom plate 3.

15 Referring particularly to marker 23, it is to be noted that the mark made by point 31 is in line, fore and aft, with the zero mark on scale 20. It is also to be noted that the body 2 of this marking device is positioned on table 14 a determined distance relative to the saw 33.

20 Thus the mark made on the work piece A may be 36 inches (or any other predetermined distance) from the kerf cut by saw 33. If the work piece A, as marked, is now forced through the saw, a trim cut will be made which bears a definite relation to the mark. After the trim cut is made the work piece may be slid along the bottom plate 3 from left to right any desired number of inches up to the limit of the scale, and when the mark is aligned fore and aft with the desired inch mark, a cut may be made which will cut off a piece of stock from the work piece which is exactly the length indicated by the inch mark opposite the mark on the work piece.

25 Where the work piece is not long enough to extend to the trommel point 23, a second trommel point, positioned 12 inches from the saw kerf, may be used for marking such short or stub lengths of material. There are two spring trommel point markers at this place indicated by numerals 40 and 41 and these are supported on fore and aft plate 42. All parts of these markers are similar to those previously described.

30 Where the device is used to mark lumber work pieces such as B, it is secured to the top of table 46, Figure 3. The outer face 44 of the vertical web 5 is then used as a back stop for the work piece B.

35 The trommel markers are placed on body 2 with reference to the kerf cut by the saw 48 so that marks made by them will bear a definite relationship to the far or outer face of saw 48. In this use trommels 22 and 41a are used. The lumber piece is first squared up by a cross-cut operation of saw 48 and the trommel point of trommel 22 is used to mark the position of piece B. The lumber is then fed toward the saw, left to right, and the distance of the length desired to be cut off from lumber piece B is measured on scale 20 by reference to the mark made by the trommel 22. When the mark on the work piece is opposite the inch mark on scale 20, as desired, the saw is again fed through the work with the result that a piece is cut from the lumber the exact length measured. Here again short lengths of material may be cut using the trommel 41.

40 Installations on this type of saw are made by securing plate 3 to the table top by means of counter sunk head screws 50 with its aft edge 3a extending toward the aft side 46a of saw table 46. The body 2 does not move and the trommel markers 22 and 41a, adjacent to the outer edge of top plate 7 are used to make the necessary markings, and trommel markers 23 and 40 are not used. The same scale 20 is used in both installations.

3

Since the width of the saw kerf may vary, it may be necessary to vary the longitudinal position of scale 20 on shelf plate 7. This is done by securing flat steel scale 20 to plate 7 by screws 43 which extend through longitudinal slots 44 in the tape with the screw heads engaging the material of the tape on the sides of the slot.

I claim:

1. A cut off marker for use with cut off saws operating relative to tables for marking and measuring desired lengths of lumber to be cut from a work piece consisting of a body of sheet metal having longitudinal folds forming a bi-angular cross section and providing a bottom plate, a vertical web member extending upward from one edge of said bottom plate and a top shelf plate extending horizontally from the top edge of said vertical web in a direction opposite to the extent of the bottom plate, a plate attached to the top shelf of the body and extending fore and aft beyond the edges of the shelf, marking trommels, having trommel plungers normally retracted by springs, attached to each end of said plate, a measuring scale secured to and extending along said shelf with the marking indicia bearing a relation to the marking trommels to indicate a length of material to be cut off including the width of the kerf of the cut-off saw with which the marker is used, and means for operatively attaching the marker body to the table of a cut-off saw in predetermined spaced relation to the saw.

2. A lumber marker and measurer for cut off saws having a body including a base plate with a front edge and a rear edge, adapted to be supported on the top of a cut off saw table, a web plate member extending upward from the rear edge of said base plate, and a top shelf plate extending horizontally from the upper edge of said web plate in a direction opposite to the extent of said base plate, a scale on the top face of said shelf plate having indicia marks adapted to bear a predetermined relation to a cut off saw operative relative to said table, a plate extending fore and aft on said shelf plate near the end of said body farthest from said saw, vertically slidable plunger markers operating adjacent the fore and aft faces of said web plate, each having a sharpened lower end for marking lumber and spring means normally holding said plunger upward in non marking position.

3. In a mechanically driven circular cut off saw operating on a table adapted to support lengths of lumber to be cut into pieces of predetermined length, a lumber

4

marker and measurer having a body with a rectangular base plate adapted to be supported on the upper face of said table and having a rear edge extending toward the rear of said table and a forward edge extending toward the fore part of said table, a web plate extending upward from the fore edge of said base plate forming a stop for lengths of lumber placed on said table, and a top shelf plate extending horizontally from the top of the web plate in a direction away from said bottom plate, a scale having measuring indicia on the top face of said shelf plate, and pairs of vertically slidable, workpiece-marking, trommel plungers normally held resiliently in raised non-marking position oppositely disposed on each side of said web plate at predetermined distances along said plate and scale.

4. In a mechanically driven circular cut off saw operating on a table adapted to support lengths of lumber to be cut into pieces of predetermined lengths, a lumber marker and measurer having a body with a rectangular base plate adapted to be supported on the upper face of said table and having a rear edge extending toward the rear of said table and a forward edge extending toward the fore part of said table, a web plate extending upward from the fore edge of said base plate forming a stop for lengths of lumber placed on said table, and a top shelf plate extending horizontally from the top of the web plate in a direction away from said bottom plate, a scale having measuring indicia on the top face of said shelf plate, and pairs of vertically slidable, workpiece-marking, trommel plungers normally held resiliently in raised non-marking position oppositely disposed on each side of said web plate at predetermined distances along said plate and scale, longitudinally extending rollers on the bottom face of said bottom plate, and means on the web plate for the attachment of a miter-gauge to its fore face.

References Cited in the file of this patent

UNITED STATES PATENTS

1,619,695	Boese et al.	Mar. 1, 1927
1,735,216	Sims	Nov. 12, 1929
2,515,008	Humphrey	July 11, 1950
2,674,280	Pierce	Apr. 6, 1954

FOREIGN PATENTS

936,091	France	Feb. 16, 1948
---------	--------------	---------------