July 24, 1956 E. E. LINDENBEIN 2,755,556

SAW CONSTRUCTION

Filed Jan. 3, 1952

Fig.1

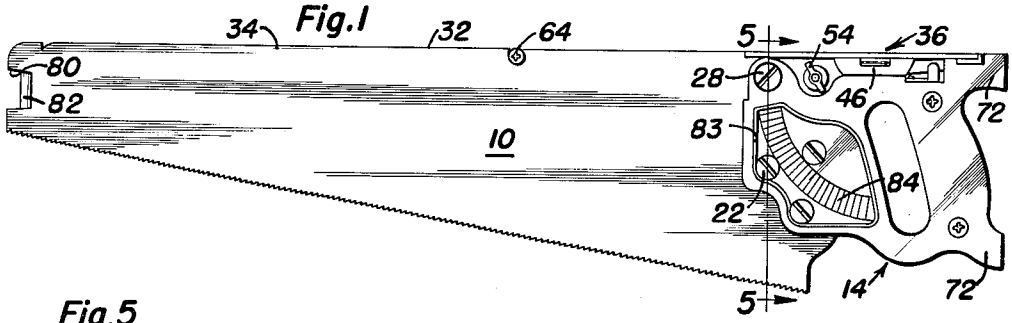


Fig.5

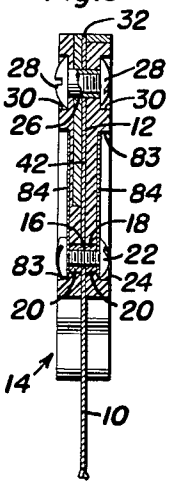


Fig.2

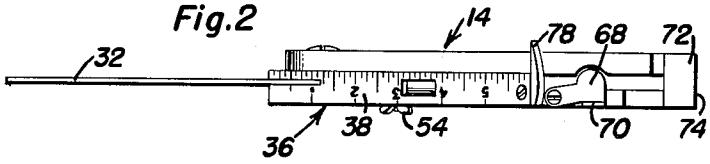


Fig.3

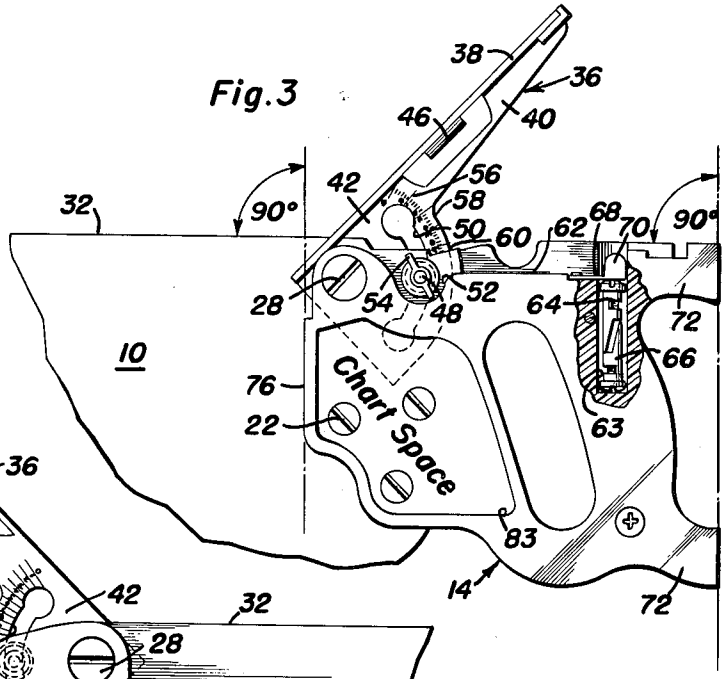
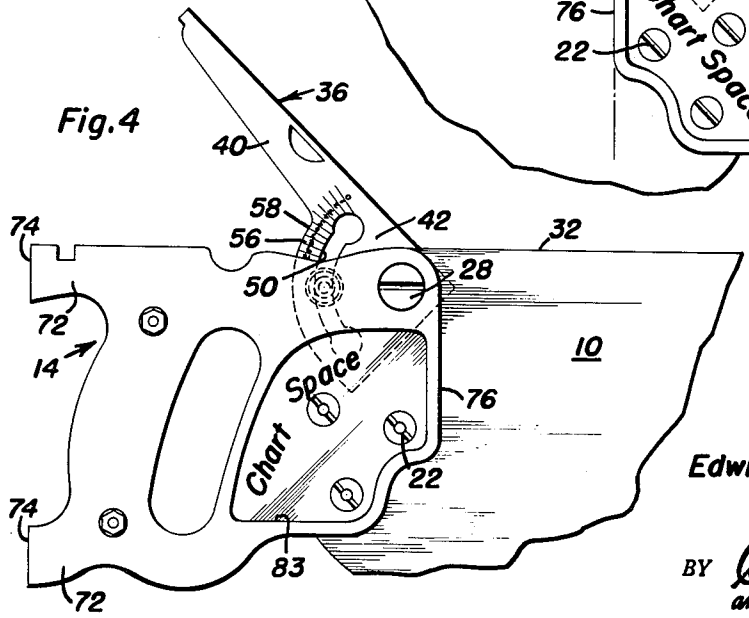


Fig.4



Edwin Emil Lindenbein

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

United States Patent Office 2,755,556 Patented July 24, 1956

2,755,556

SAW CONSTRUCTION

Edwin Emil Lindenbein, Los Angeles, Calif.

Application January 3, 1952, Serial No. 264,771

1 Claim. (Cl. 33—75)

This invention relates to new and useful improvements in saw structures and more particularly to saws having measuring facilities combined therewith, such as that disclosed in my copending application Serial Number 184,546, filed September 13, 1950, now Patent No. 2,677,184, granted May 4, 1954.

The primary object of the present invention is to provide a saw having the necessary elements combined therein to permit use of the saw in determining angles, laying off straight lines, arcs, circles, and for squaring and leveling.

Another important object of the present invention is to provide a novel and improved handle attachment for saws that will pivotally support a protractor which is movable into a recess in the handle to provide a straight extension for the straight edge of a saw.

A further object of the present invention is to provide a saw structure capable of replacing a plurality of relatively large and bulky instruments necessary for construction workers and which saw structure is extremely light in weight to facilitate the convenient handling thereof.

A still further aim of the present invention is to provide a saw of the aforementioned character that is simple and practical in structure, strong and reliable in use, small and compact in construction, 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 as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals are employed to designate like parts throughout, and in which:

Figure 1 is a side elevational view of the present invention;

Figure 2 is an enlarged fragmentary top plan view of Figure 3;

Figure 3 is an enlarged fragmentary side view similar to Figure 1 but showing the protractor pivoted to an inclined angle relative to the straight edge of the saw, and with part of the handle broken away to show the pivot means housed in the handle;

Figure 4 is a side elevational view from the opposite side of Figure 3; and,

Figure 5 is an enlarged vertical sectional view taken substantially on the plane of the section line 5—5 of Figure 1.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a saw blade having its enlarged rear end received in a slot 12 in the forward end portion of a handle 14. The rear end of the blade is formed with a plurality of apertures 16 that register with apertures 18 in the handle.

Bushings 20 are fitted in the apertures 16 and receive fasteners 22 whose heads are positioned in large recesses

24 in the side faces of the handle. One pair of registering apertures 26 in the handle and blade receive a pair of threadingly connecting fastener-halves 28 whose headed ends enter countersinks 30 in the side of the handle.

Saw blade 10 is provided with a straight back or upper edge 32 to permit use of the blade in taking lineal measurements and as a part of a square and protractor. Longitudinally spaced notches 34 in the edge 32 are disposed in six inch lengths for use with or independently of a combined square, protractor and ruler member 36 whose flat edge element 38 is graduated in inches and fractions of inches up to and including six inches.

A flange 40 forms part of member 36 and extends at right angles thereto. Flange 40 is formed with a lateral projection 42 at one end that is pivotally secured within the front end of slot 12 adjacent the edge 32 by the pivot 28. A spirit level 46 is supported on the underside of element 38 opposite the end thereof that is longitudinally slotted to accommodate the edge 32 when the member 36 is pivoted away from the handle.

Means is provided for releasably holding the member 36 adjusted about its pivot 28 and this means comprises a bolt 48 that is secured to the handle and which passes through an arcuate slot 50 in projection 42. The threaded end of bolt 48 enters a recess 52 in one side of the handle and receivably engages a wing nut 54 that is manually tightened to clamp projection 42 against the rear end of the blade.

Plate portion or projection 42 is provided with quadrant scale 56 on one side adjacent a curved edge 58 thereof which is concentric with the pivot 28. Blade 10 is notched adjacent the quadrant scale to provide a pointer forming edge 60 disposed radially of the pivot.

A long recess 62 in the upper edge of the handle will accommodate the flange 40 and level bubble 46 when member 36 is pivoted against the handle. A blind bore or chamber 63 extends into the handle laterally from the recess 62 and holds removable pointers or pivots 64 and 66 each of which is formed with a transverse slot and a threaded bore receivably engaging set screws that extend into the slots to bind against the edge of the saw blade received in the slot.

A pivotal plate or closure element 68 is pivotally mounted in the recess 62 and is swingable outwardly from the open side of the recess 62 to permit removal of the pointers 64, 66 from bore 63. A finger grip 70 on the element 68 forms a convenient means for pivoting the plate into or out of the recess 62.

Handle 14 is integrally formed with a pair of rearwardly extending lugs 72 between which the user's hand will be received. These lugs are provided with flat rear faces 74 that lie in a plane perpendicular to the plane of edge 32. The forward edges 76 of the handle 14 also extend perpendicular to edge 14 and are notched to receive the forward end of element 38 so that element 38 will be flush with edges 76 when element 38 is disposed perpendicular to edge 32. Element 38 will be flush with edge 32 when the member 36 is swung into recess 62.

The rear end of member 36 supports a pointer element 78 that projects laterally outwardly from the handle to permit the blade 10 to be pivoted for striking arcs or circles with one of the pointers 64 or 66 functioning as a scriber.

Blade 10 is formed with a U-shaped notch 80 at its forward end with its transversely disposed edge 82 sharpened to permit use of the blade 10 as a chisel or scraper. When used in this capacity, the hand grip or handle 14 is also employed as a gripping device.

The side faces of the handle 14 are formed with recesses 83 in which charts or indicia bearing plates 84 are mounted. These charts are provided with numerals cor-

related with the angle markings on the member **36** so that for a given angle, determined by use of the blade **10** and member **36** as a protractor, the length beams for roof pitch may be determined; also the height of any building structure.

By placing the surfaces **74** of the lugs **72** against a vertical or horizontal surface member **36** may be employed for determining angles with respect to surfaces **74** and/or edge **32**.

Having described the invention, what is claimed as new is:

A measuring device comprising an elongated straight edge, a handle secured to one end of the straight edge, a protractor having a graduated quadrant pivoted in said handle and an arm on said quadrant, said protractor being swingable on said pivot to project said arm from said straight edge in different angular positions relative thereto, said straight edge having an edge notch forming a pointer radial to said quadrant for registration with said graduations in different angular positions of said arm, said handle having a pair of rear corner lugs provided with flat faces lying in a plane perpendicular to said straight edge for positioning against a surface to space the protractor from said surface in finding different angles relative to said surface with said protractor.

References Cited in the file of this patent

UNITED STATES PATENTS

216,267	Gifford	June 10, 1879
265,383	Callihan	Oct. 3, 1882
700,326	Hamel	May 20, 1902
734,892	Kohler	July 28, 1903
799,669	Regnier	Sept. 19, 1905
912,411	Putney	Feb. 16, 1909
939,051	Matthews	Nov. 2, 1909
944,812	Norquist	Dec. 28, 1909
948,059	Larson et al.	Feb. 1, 1910
953,863	Shaw	Apr. 5, 1910
978,509	Swenson	Dec. 13, 1910
997,551	Hall	July 11, 1911
1,026,967	Swick	May 21, 1912
1,035,944	Brooks	Aug. 20, 1912
1,102,293	Pedersen	July 7, 1914
1,217,286	Dewees	Feb. 27, 1917
1,231,338	Desrochers	June 26, 1917
1,266,982	Palmer	May 21, 1918
1,335,659	Collins	Mar. 30, 1920
1,385,855	Balod	July 26, 1921
1,387,599	Grout	Aug. 16, 1921
1,665,504	Midgley	Apr. 10, 1928
2,173,348	Welch	Sept. 19, 1939

FOREIGN PATENTS

29,168	Switzerland	May 10, 1904