

May 25, 1943.

L. BRODERHAUSEN

2,319,973

SAW ATTACHMENT FOR ELECTRIC DRILLS

Filed Jan. 5, 1942

2 Sheets-Sheet 1

Fig. 1.

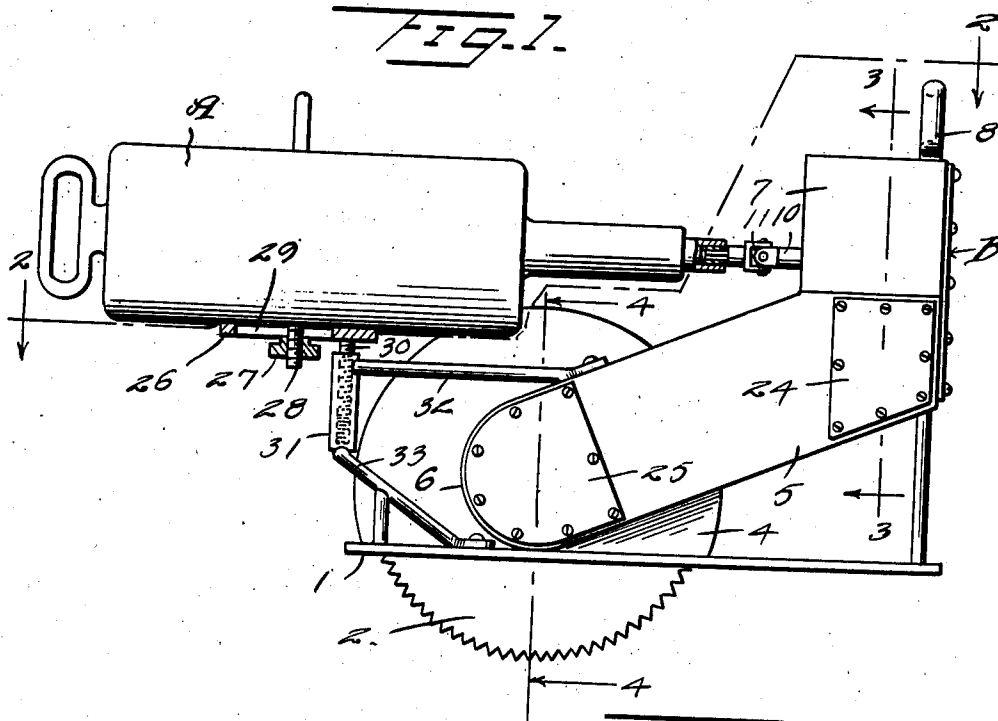
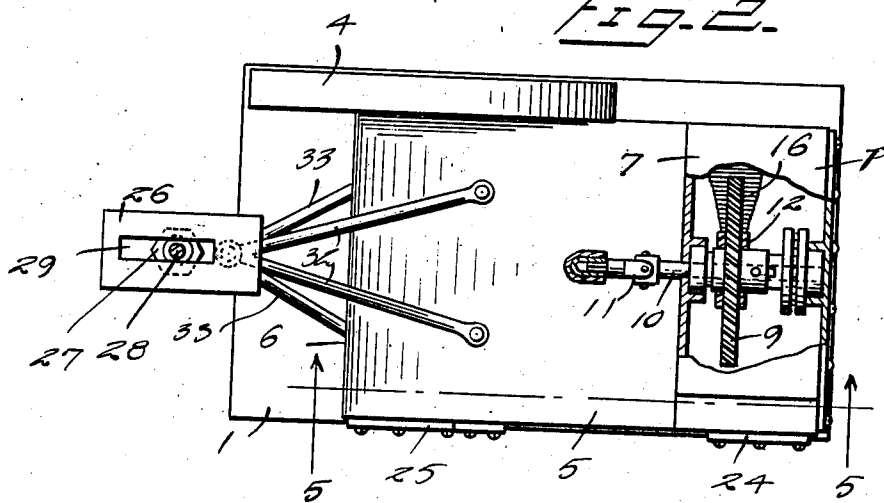


Fig. 2.



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Fig. 3.

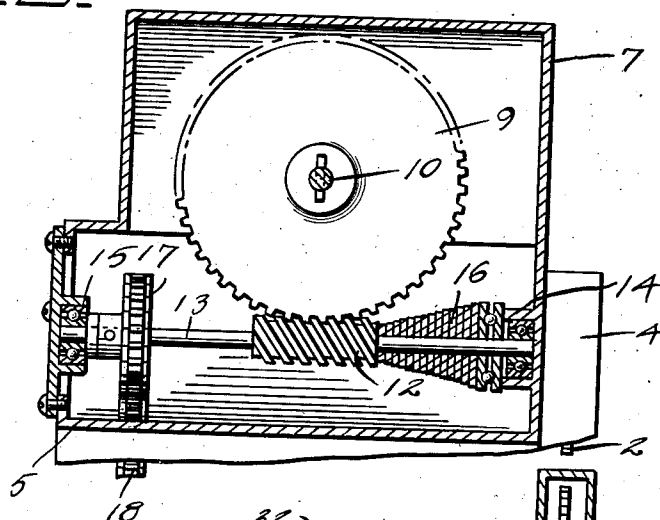


Fig. 4.

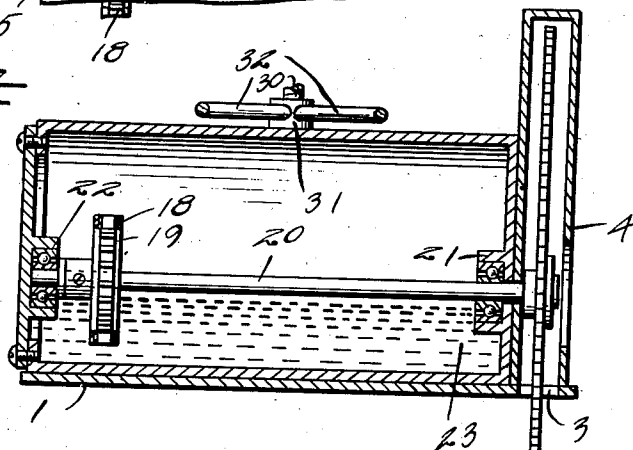
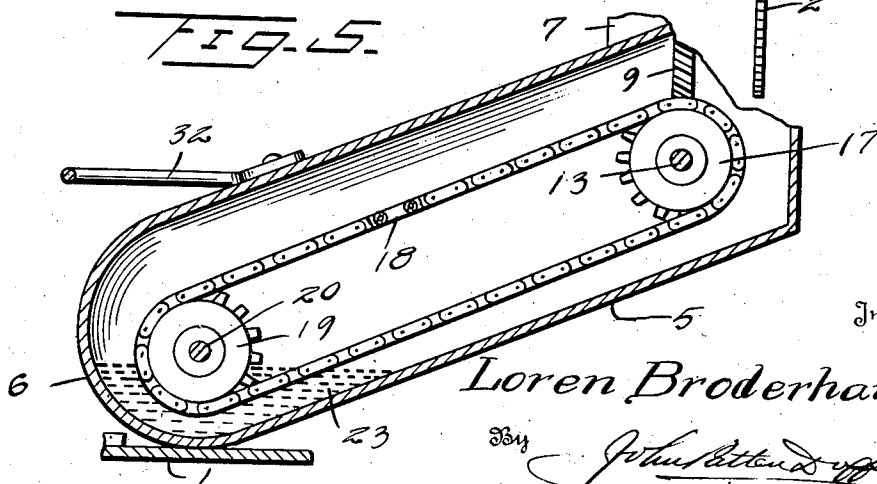


Fig. 5.



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UNITED STATES PATENT OFFICE

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SAW ATTACHMENT FOR ELECTRIC DRILLS

Loren Broderhausen, Evansville, Ind.

Application January 5, 1942, Serial No. 425,705

1 Claim. (Cl. 143—43)

This invention relates to new and useful improvements in saw attachments for electric drills.

The primary object of my invention is to provide a novel saw attachment that may be connected or coupled to the electric drill and the saw driven by the same motive power employed to operate the latter.

A further object of my invention is to provide a saw attachment that may be adjusted to fit any electric drill.

A still further object of my invention is to provide a saw attachment comprising a circular saw and novel driving means for the saw.

Still another object of my invention is to provide a housing for the drive gearing of the saw, having removable sections to permit easy access to the former.

Still yet another object of my invention is to provide a saw attachment of the character specified that is simple and economical in construction and highly efficient and durable in use.

With the foregoing and other objects in view that will appear as the nature of my invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

In the accompanying drawings, which are for illustrative purposes only and are therefore not drawn to scale:

Figure 1 is a side elevation, illustrating the application of my invention to an electric drill.

Figure 2 is a horizontal section, taken on line 2—2 of Figure 1.

Figure 3 is a vertical transverse section, taken on line 3—3 of Figure 1.

Figure 4 is a similar view, taken on line 4—4 of Figure 1 and Figure 5 is a vertical longitudinal section, taken on line 5—5 of Figure 2.

Referring to the drawings for a more particular description of my invention, and in which drawings like parts are designated by like reference characters throughout the several views, A designates a portable electric drill of any ordinary or approved type and B my improved saw attachment, as a whole.

Specifically, my attachment comprises the flat horizontal rectangular oblong base or platform 1, the circular saw 2, which works through a slot 3 in one edge of the base, a housing 4 for the circular saw and the upwardly and forwardly inclined housing 5 for the saw driving means. The housing 5 is preferably of rectangular oblong form in cross section and is formed with a semi-circular

or curved lower end 6, which rests on the top of the base 1, and a vertical upper end portion 7, provided with the handle 8.

In carrying out my invention, a spiral gear 9 is revolubly mounted in the upper end of the housing 5 and its shaft 10 is connected with the chuck of the electric drill by the universal joint 11, or other equivalent means. The teeth of the spiral gear 9 intermesh with the central worm gear 12, carried by the horizontal shaft 13, journaled at opposite ends in the ball bearing boxes 14 and 15. A thrust bearing 16 is disposed between the ball bearing box 14 and the adjacent end of the worm gear. A sprocket gear 17 is fastened to the opposite end of the shaft 13, and an endless sprocket chain 18 works over the former and a corresponding sprocket gear 19 carried by one end of a second horizontal shaft 20, journaled in the ball bearing boxes 21 and 22 at the lower end of the housing 5. The end of the horizontal shaft 20 opposite the sprocket gear 19 carries the circular saw 2. The sprocket chain 18 works in an oil bath or well 23 at the lower end of the housing 5 to reduce friction caused by the high speed attained when the saw is in operation.

One side of the housing is preferably provided with the removable upper and lower plates or sections 24 and 25, respectively, to permit ready access to the parts and allow removal of any of the shafts or gearing, if desired. The top or front of the housing 5 is also preferably made removable.

My saw attachment is connected to the bottom of the drill casing by the rectangular oblong plate 26 and nut 27, screwing on the threaded stem 28 against the aforesaid plate. The plate 26 is provided with a central longitudinal slot 29 to receive the stem 28, and at one end with an exteriorly depending portion 30, which works in the hollow interiorly threaded sleeve 31. The sleeve 31 is connected to the lower end of the housing 5 by the upper radial arms 32 and to the adjacent end of the base 1 by the lower radial arms 33. Through the use of the above described means, the saw attachment may be adjusted both longitudinally and vertically to fit any portable electric drill now in general use.

From the foregoing description taken in connection with the drawings, it is thought that the construction, operation and advantages of my invention will be readily understood, without requiring a more extended explanation.

Various changes in the form, proportions and minor details of construction may be resorted to without departing from the principles or sacrific-

ing any of the advantages of my invention, as defined in the appended claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

A saw attachment for an electric drill having a chuck comprising a base, a circular saw working through a slot in said base, a housing for said circular saw, a second housing for the saw driving means, said second housing comprising an upwardly inclined portion arranged with its lower end resting on the base, and a vertical upper end

portion, said saw driving means including a spiral gear journaled in the upper end portion of said second housing, a worm intermeshing with the teeth of said spiral gear, means including a universal joint for connecting the shaft of said spiral gear with the drill chuck, a sprocket and chain connection between the worm shaft and saw shaft and means for adjustably connecting the base and the lower end of the second housing to the drill casing.

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