April 15, 1952

R. E. STARNES

2,592,970

SLIDING CUTOFF SAW

Filed Oct. 24, 1949

2 SHEETS—SHEET 1

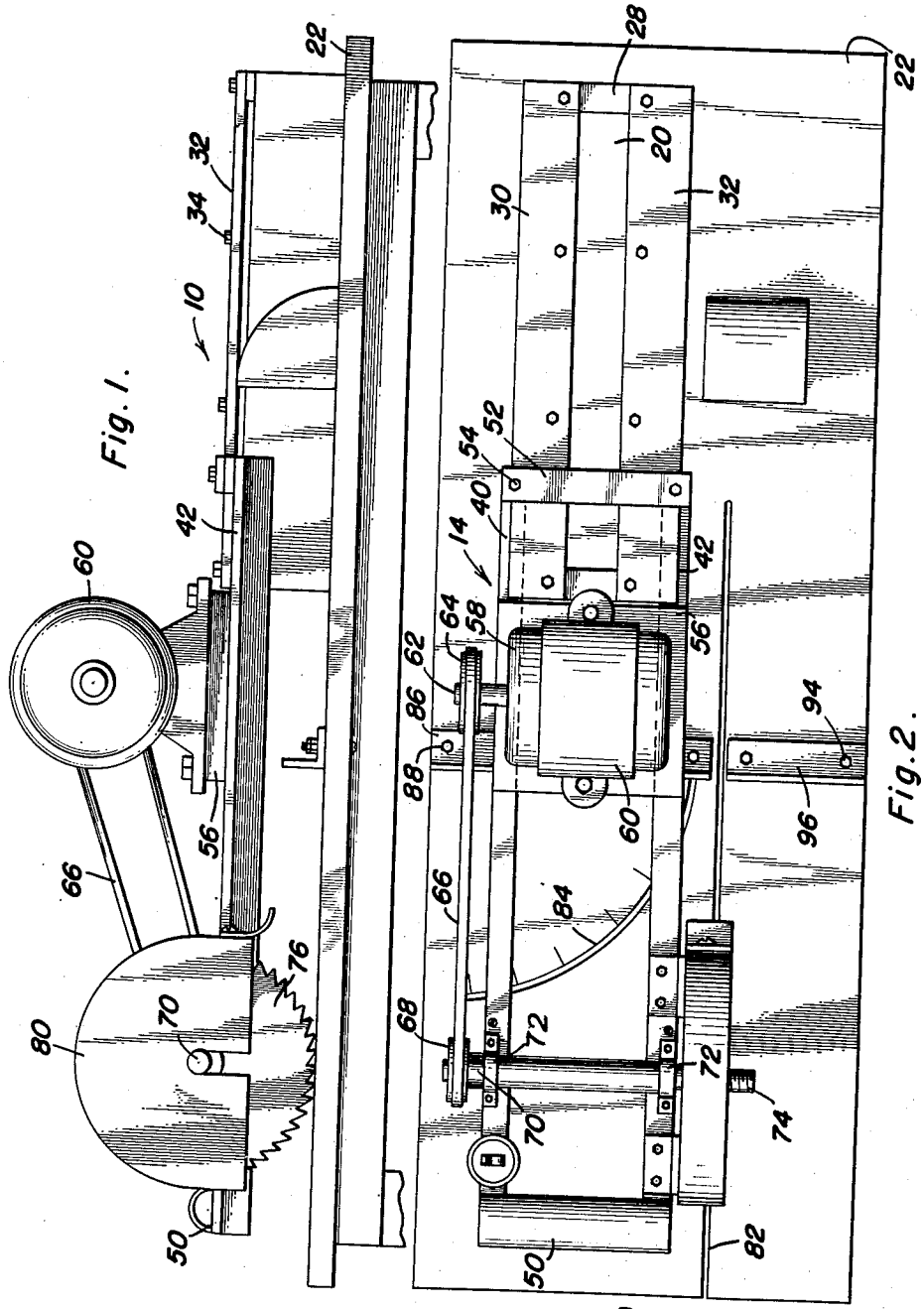


Fig. 1.

Fig. 2.

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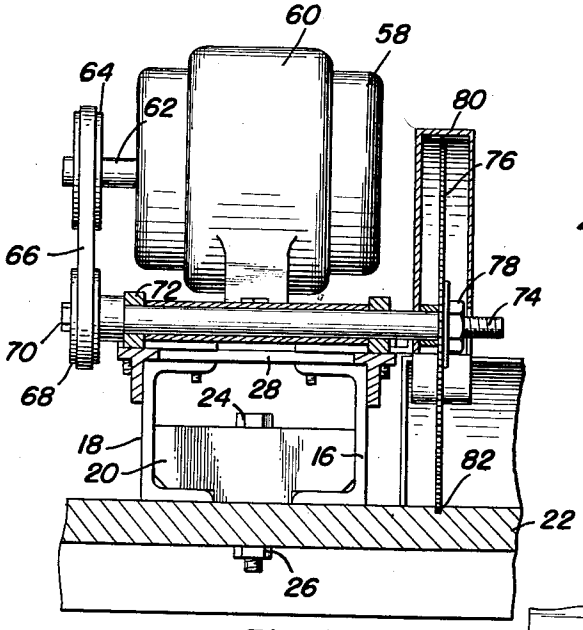


Fig. 3.

Fig. 4.

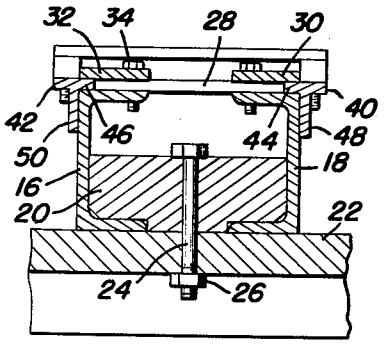
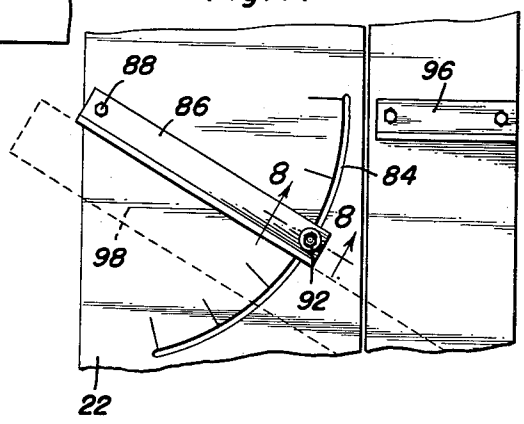


Fig. 7.



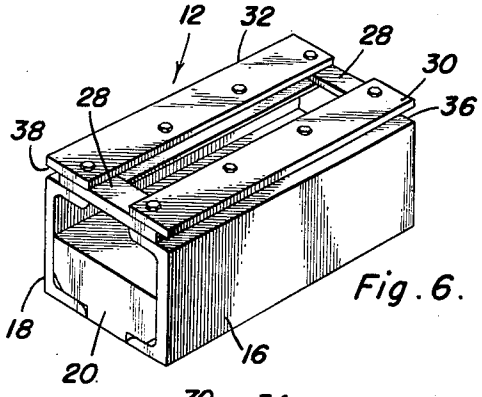
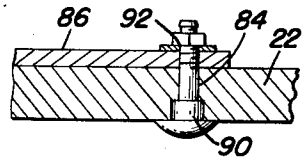


Fig. 6.

Fig. 8.



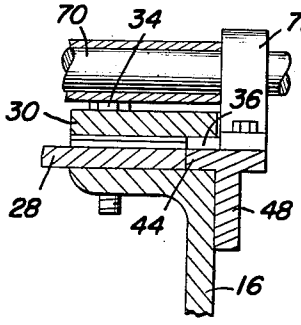


Fig. 5.

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UNITED STATES PATENT OFFICE

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SLIDING CUTOFF SAW

Ray E. Starnes, Mitchell, S. Dak.

Application October 24, 1949, Serial No. 123,170

2 Claims. (Cl. 308—3)

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This invention relates to a simple and compact sliding cut-off saw the primary object of which is to obviate the necessity of employing the overhead rigging common to power saws of this type, and, with the addition of a guide fence, will eliminate the use of a miter box and hand saw in cabinet and furniture carpentry.

A further object of this invention is to provide a sliding cut-off saw of the character described which is relatively simple in design and construction, easy to mount upon a table, simple to operate, and safe and accurate in its performance.

Yet another object of this invention is to provide a sliding cut-off saw comprising an elongated base member, means for securing said base member to a table, a motor operatively connected to a rotatable blade, means slidably and guidingly retaining said motor and blade on said base member for longitudinal movement thereon, and means preventing lateral movement of said motor and blade on said base member.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a side elevational view of the device;

Figure 2 is a top plan view of the device;

Figure 3 is a transverse vertical sectional view through the device and looking to the left of Figure 1;

Figure 4 is a transverse sectional view through the base member shown in Figure 6;

Figure 5 is an enlarged transverse vertical sectional view of a portion of the base member illustrating the means for slidably supporting the motor carriage or frame thereon;

Figure 6 is a perspective view of the base member itself;

Figure 7 is a fragmentary top plan view of a portion of the table upon which the base is supported; and

Figure 8 is a sectional view taken substantially in the plane of section line 8—8 of Figure 7.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specifications similar reference characters indicate corresponding elements throughout.

The device of the instant invention is generally indicated at 10 and consists of two essential elements, namely the base member 12 and the carriage or frame 14 supporting the motor and the saw slidably and guidingly upon the base member. The base member consists of a pair of longitudinal, opposed U-shaped metallic bars 16 and 18 and received between the bars and adjacent the bottom edge thereof is an elongated T-shaped spacer block 20. The spacer block is secured to any suitable table 22 by means of appropriate headed bolts 24 receiving closure nuts 26 at the free ends thereof. Positioned adjacent the free upper ends of the bars 16 and 18 is a pair of metallic spacer strips 28 which are shorter in width than the overall width of the base member. A pair of elongated, longitudinally extending bars 30 and 32 are provided which are secured by means of headed screws 34 to the spacer strips and the bars 16 and 18, the bars 30 and 32 overlapping the spacer strips to provide longitudinal channels 36 and 38 for a purpose to be later described.

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The carriage or frame 14 includes a pair of transversely spaced, longitudinally extending T-shaped bars 40 and 42, one horizontally extending arm 44 and 46 of which extends into each of the channels 36 and 38 as will be readily apparent from the drawings. The vertical arms 48 and 50 slidably engage the outer side faces of the U-shaped bars or plates 16 and 18. At one end, the longitudinal bars 40 and 42 are secured together by a transverse member 50 which serves as a handle for moving the frame 14 to and fro of the base member 12. To prevent sidewise or lateral movement of the frame 14 on the base member 10, a transverse bar 52 is secured as at 54 to the forward ends of the longitudinal bars 40 and 42, the same being spaced a substantial distance above the longitudinal bars 30 and 32 of the base member to clear the same and the headed bolts 34.

Secured adjacent the forward end of the frame 14 is a plate 56 which carries a motor 58, the latter being secured to the plate by means of a bracket or housing 60. The motor 58 is provided with a drive shaft 62 which carries a pulley 64 which is operatively connected by means of an endless belt 66 to a further pulley 68 carried at one end of an arbor 70 which is rotatably supported upon the bars or side members 40 and 42 by means of suitable journals 72. The arbor 70 is threaded at its free end as at 74 upon which is received a circular blade 76, the latter being secured on the arbor by means of a lock nut and washer 78. A conventional shield or guard 80 is positioned about the cutter blade 76, and the

table 22 is provided with a longitudinal slot 82 for receiving the blade 76.

As will be seen clearly from Figure 7, an arcuated slot 84 is provided in the table and adjacent that slot is a guide bar 86 which is pivoted to the table at one end as at 88 and which is provided at the other end with an aperture for receiving a headed bolt 90 that extends through the slot 84 and the aperture, the bolt being threaded to receive a nut and washer 92. Secured to the table as at 94 is another guide bar 96 which is disposed at the other end of the longitudinal slot 82 and serves as a reference bar as will be readily understood by those skilled in the art. Thus, if a board 98 were to be cut at a desired angle, the guide bar 86 would be positioned in the manner shown in Figure 7.

Thus it will be seen that a novel cut-off saw is provided which could be manually slid to and fro on a base member which can be readily secured in turn to a table. The present cut-off saw, therefore, is simple and compact and operates without the overhead rigging common to power saws of this type .

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

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

1. A support for a sliding cut-off saw comprising an elongated base member, means for securing said base member to a table, a frame adapted to support a motor and rotatable blade, means slidably and guidingly retaining said frame on said base member, and means preventing lateral movement of said frame on said base member, said base member including a pair of opposed longitudinal U-shaped bars and said securing means includes a T-shaped spacer block mounted between said bars and bolts securing said block to a table, said second-named means including transverse spacer strips disposed on the upper surfaces of said U-shaped bars, longitudinal plates secured to said spacer strips, said plates overlapping the side edges of said strips to form longitudinal channels, said frame having longitudinal T-shaped side members, one horizontal arm of each of said side members being received in the corresponding one of said channels, the vertical arm of each of said side members bearing against the corresponding one of the outer surfaces of said U-shaped bars.

2. The combination of claim 1 wherein said second-named means includes transverse bars secured across the ends of said supporting frame.

RAY E. STARNES.

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