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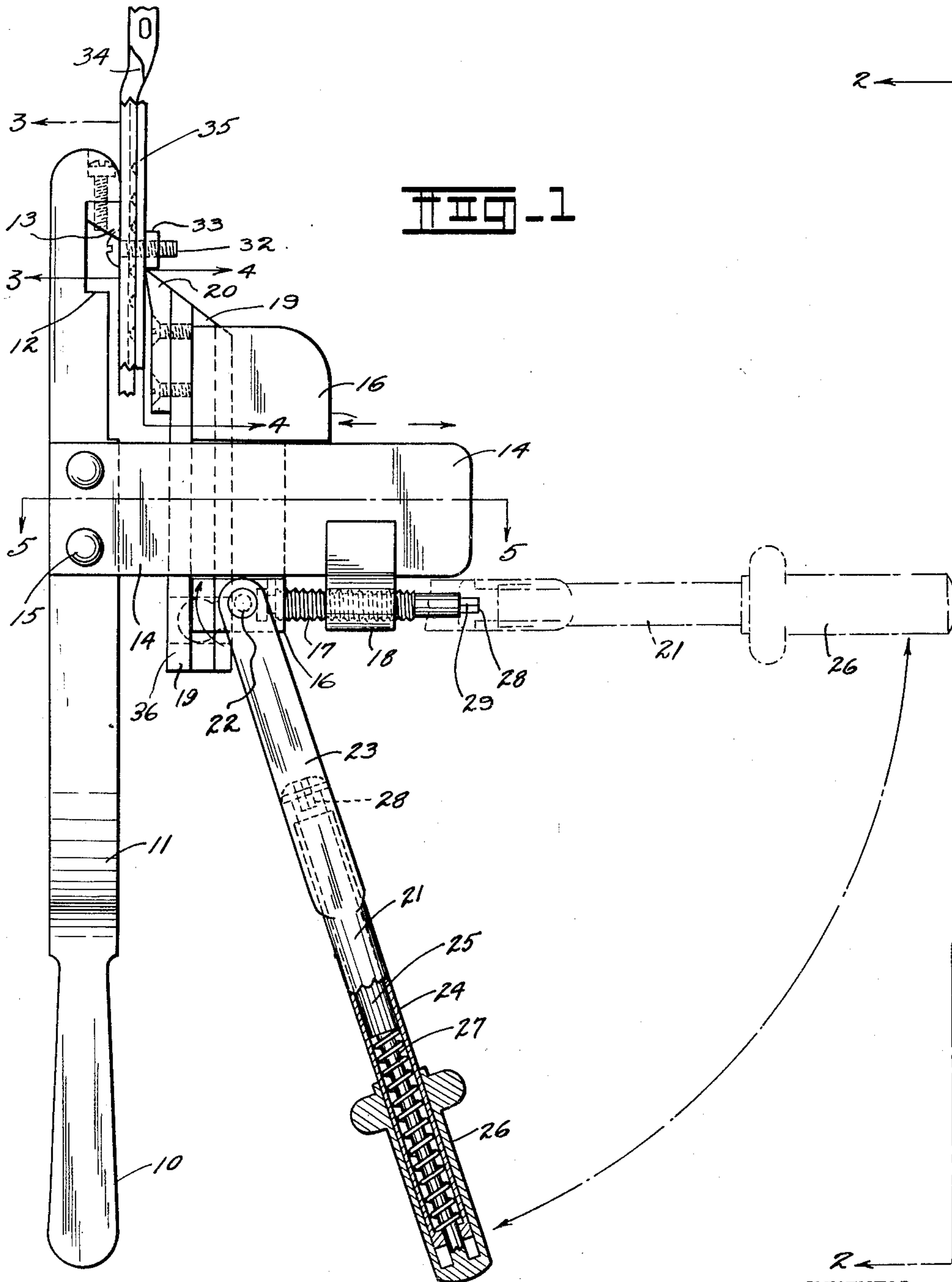
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BOLT CUTTER

Filed May 18, 1948

2 Sheets-Sheet 1



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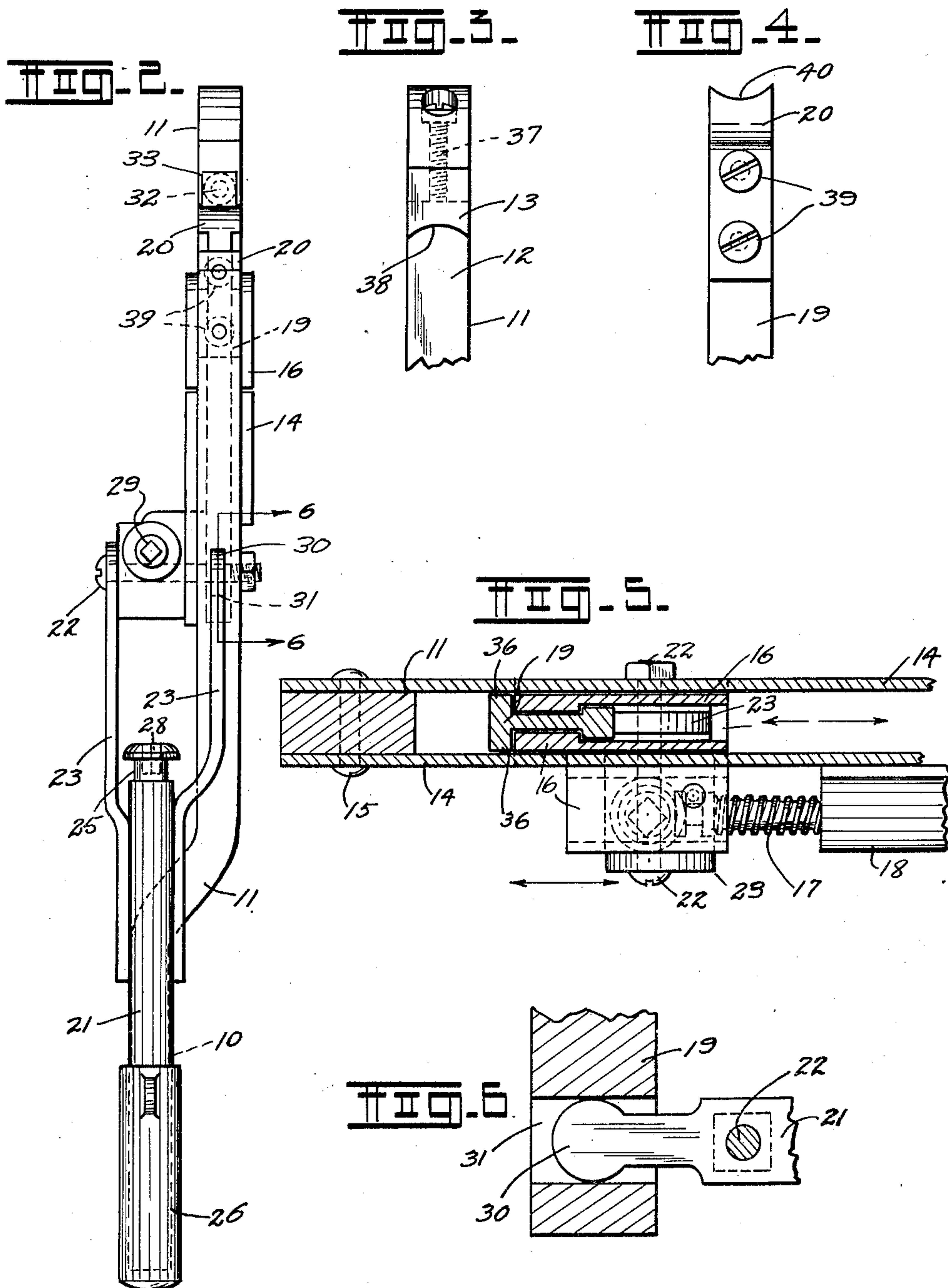
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UNITED STATES PATENT OFFICE

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BOLT CUTTER

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3 Claims. (Cl. 30—182)

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This invention relates to a bolt cutter and more particularly to a bolt cutter specifically designed for cutting bolts normally used in securing shank and circle assemblies as used in hanging eave spouts.

The principal object of the invention is the provision of a bolt cutter having a jaw member positioned for horizontal and vertical movement.

A further object of the invention is the provision of a bolt cutter having a pair of jaws, one of which is stationary and the other of which is movable, and the movable jaw arranged for horizontal and vertical movement with respect to the stationary jaw.

A still further object of the invention is the provision of a bolt cutter having a stationary and a movable jaw and a single handle for imparting both horizontal and vertical movement to the said movable jaw.

The present invention relates to a bolt cutter particularly adapted for use in cutting bolts normally securing circles and shank assemblies as commonly employed in mounting eave troughs and the like. It is well known in the art that various eave spouts which are hung from the eaves of buildings by circle and shank assemblies must frequently be repositioned to facilitate proper drainage and that in order to adjust the circle directly supporting the eave troughs with respect to the shank which the circle is normally suspended from, it is necessary to remove the bolt ordinarily securing these parts together. It is also known in the art that these bolts are commonly rusted to the point where they no longer can be separated and it is therefore necessary to saw them or file them apart.

The present invention relates to a bolt cutter particularly adapted for manipulation in the area adjacent an eave trough so that the bolt securing the circle and shank assemblies together can be cut thereby.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a side view of the bolt cutter with parts in cross section, showing the same in operative relation to a circle and shank assembly.

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Dotted lines in Figure 1 show the alternate positioning of the handle member of the bolt cutter.

Figure 2 is a side view taken on line 2—2 of Figure 1.

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

Figure 4 is a vertical section taken on line 4—4 of Figure 1.

Figure 5 is a horizontal section taken on line 5—5 of Figure 1 and enlarged with respect thereto.

Figure 6 is an enlarged elevation of a portion of the bolt shown in Figure 1.

By referring to the drawings and Figures 1 and 2 in particular it will be seen that a bolt cutter has been disclosed which comprises a stationary handle 10 having an offset section 11 and a recess 12 formed near its uppermost end and a fixed blade 13 mounted partially in said recess. A hollow body member 14 is secured to the handle 10 inwardly from the uppermost end thereof as by means of rivets 15 and defines a horizontal channel for a secondary hollow body member 16 which is mounted for horizontal movement in the hollow body member 14. A portion of the secondary body member 16 depends below the hollow body member 14 and is rotatably secured to the end of a screw 17 which in turn is rotatably engaged in a projection 18 formed on the hollow body member 14. The secondary hollow body member 16 has a vertically movable jaw 19 positioned therein and the movable jaw 19 has a removable cutting blade 20 secured thereto. It will thus be seen that the removable cutting blade 20 is disposed for lateral movement with respect to the handle 11 and particularly the uppermost end thereof and the fixed blade 13 thereof.

Means for imparting vertical movement to the vertically movable jaw 19 is provided and comprises a secondary handle 21 pivotally mounted by means of a pivot 22 to the depending portion of the secondary hollow body member 16 and best illustrated in Figures 1, 5 and 6 of the drawings. By referring to Figures 1, 2 and 5 of the drawings in particular it will be seen that the depending portion of the secondary body member 16 that extends below the hollow body member 14 is positioned to one side thereof and that the upper end of the handle 21 is bifurcated as at 23 and positioned on either side of the depending portion of the secondary hollow body member 16 by the pivot 22 as heretofore mentioned. The outermost end of the secondary handle 21 is tubular as indicated by the numeral 24 and encloses a rotatable plunger 25, the outermost

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end of which is secured to a rotatable cap 26 which is slidably mounted on the tubular body 24 for longitudinal movement and normally urged inwardly thereon by a coil spring 27.

The innermost end of the plunger 25 is provided with a squared socket 28 which is adapted to engage the squared end 29 of the screw 17 heretofore referred to. It will thus be seen by referring to Figure 1 of the drawings that when the secondary handle 21 is swung upwardly to horizontal position, as shown in dotted lines, and the handle 26 moved outwardly momentarily, the squared socket 28 may be engaged on the squared end 29 of the screw 17 and the same revolved thereby. Thus the handle 21 serves to elevate the vertical movable jaw 19 when swung in an arc based on the pivot 22 and when in horizontal position and engaged on the squared end 29 of the screw 17 to move the hollow body member 16 horizontally in the hollow body member 14.

Means for imparting movement from the bifurcated innermost end 23 of the handle 21 is shown in Figures 1 and 6 of the drawings and comprises a projection having a rounded end 30 engaged in an opening 31 formed in the lowermost portion of the vertically movable jaw 19. It will thus be seen that swinging motion imparted to the handle 21 will cause the projection to rise or fall in the opening 31 of the movable jaw 19 and hence impart vertical movement thereto.

In utilizing the bolt cutter as in cutting a bolt normally securing a shank and circle, the cutter is positioned with the stationary blade 13 on the head of the bolt as shown in Figure 1 of the drawings, the bolt being indicated by the numeral 32, and the handle 26 rotated while in horizontal position to move the secondary body member 16 transversely to bring the blade 20 into position beneath a nut 33 on the bolt 32. In such position the handle 26 is then moved outwardly momentarily to release the end of the screw 17 and then swung downwardly as shown in solid lines in Figure 1, which motion imparts vertical motion to the movable jaw 19 and hence causes the bolt 32 to be cut. In Figure 1 of the drawings the shank is indicated by the numeral 34 and the circle by the numeral 35.

In practice, the circle supports the eave trough and the shank 34 is bolted thereto as by the bolt 32, and the upper portion of the shank 34 positioned on the eave and secured thereto with conventional fasteners. It will thus be seen that the bolt cutter may be advantageously used for cutting the bolts normally securing these parts in assembly and thereby enabling them to be adjusted with respect to one another for properly suspending an eave trough. The bolt cutter utilizes the novel transverse and longitudinal action, with respect to the handle 11 thereof, for obtaining the desired results. It will be obvious that the various parts are mounted for proper sliding engagement with respect to one another and in a manner preventing them from binding or warping.

By referring now to Figures 2 and 5 of the drawings, the interengagement of the several parts may be seen. For example, it will be observed that the hollow body member 14 provides a track-like support for the secondary body member 16 which is positioned therein for horizontal movement thereon. The secondary body member 16 provides a track-like support for the vertically movable jaw 19. It will be observed

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that the jaw 19 has flanges 36 formed vertically thereon which overlie the front edge portions of the secondary body member 16, while the secondary body member 16 has horizontal flanges which overlie the upper edge of the hollow body member 14, and flanges which underlie the lower edges of the hollow body member 14. Thus, each of the two movable members 16 and 19 are movably held by interengagement against rocking or tilting motion and the tool thereby rendered effective.

By referring to Figures 3 and 4 of the drawings detailed views of the cutting blade portions of the bolt cutter may be seen. Figure 3 illustrates the formation and positioning of the blade 13 carried on the upper end of the handle 11 and in the recess 12 thereof, it being observed that the blade 13 is removably affixed to the tool by means of a screw 37. It will also be observed that the lower edge or cutting edge of the blade 13 is arcuate, as indicated by the numeral 38, so as to be self-centering with respect to a bolt over which it is positioned. In Figure 4 of the drawings the vertically movable jaw 19 is shown together with the replaceable blade 20 which is secured thereto by a pair of screws 39, it being observed that the cutting edge of the replaceable blade 20 is arcuate, as indicated by the numeral 40, to make it self-centering with respect to a bolt to be cut.

It will thus be seen that the bolt cutter disclosed herein may be efficiently used for quickly and easily cutting a bolt such as the bolt 32 shown in Figure 1 of the drawings which normally are used to secure the shank and circle assemblies from which eave troughs are supported on building eaves.

It will be obvious to those skilled in the art that the bolt cutter disclosed herein meets the several objects of the invention.

Having thus described my invention, what I claim is:

1. A bolt cutter including a longitudinally extending fixed jaw having a cutting blade mounted thereon and a movable jaw having a cutting blade mounted thereon, sidewardly extending support means affixed to the fixed jaw for movably supporting the movable jaw, said support means including a movably disposed body member, the said movable jaw being mounted for parallel movement with respect to the fixed jaw and the said movable body member being mounted for lateral movement with respect to the said fixed jaw.

2. A bolt cutter comprising an elongated body member having a blade positioned inwardly from one end thereof, a hollow body member affixed to the said body member and at right angles thereto, and a secondary body member slidably mounted on the said hollow body member and a movable jaw disposed in said secondary body member, and a cutting blade formed on the said movable jaw, lever means pivoted on the said hollow body member for imparting movement to the said secondary body member and screw means on the said secondary body member for imparting movement to the said movable jaw whereby the said blade affixed thereto may be moved into proximity to the blade formed on the said body member.

3. A bolt cutter comprising an elongated body member having a recess formed in one end and a blade mounted partially within the said recess, a bifurcated sideward extension on the said body member and a secondary body member slidably mounted on said bifurcated extension, and a mov-

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able jaw slidably mounted in said secondary body member and at right angles to the said bifurcated extension, a handle pivotally secured to said secondary body member and a projection on said handle and engaging the said movable jaw for imparting movement thereto, a screw threadably engaging a portion of the said bifurcated body member and rotatably secured to the said secondary body member, and a socket formed on the said handle for removably engaging the said screw, the said handle being rotatably mounted so that the screw may be revolved thereby and the secondary body member moved thereby.

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