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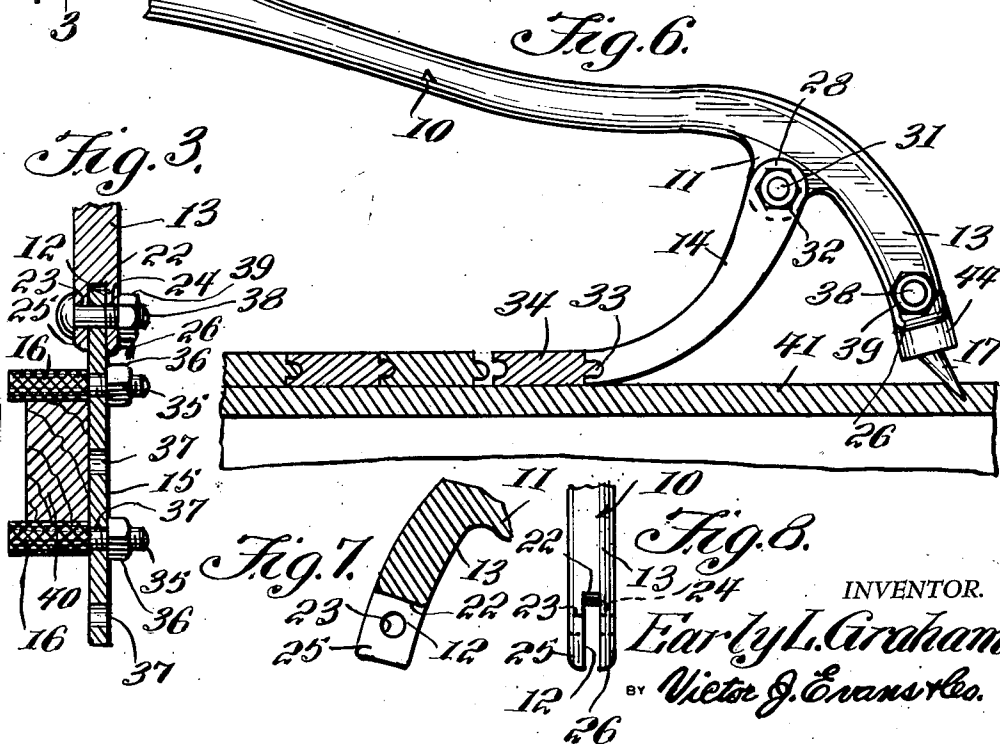
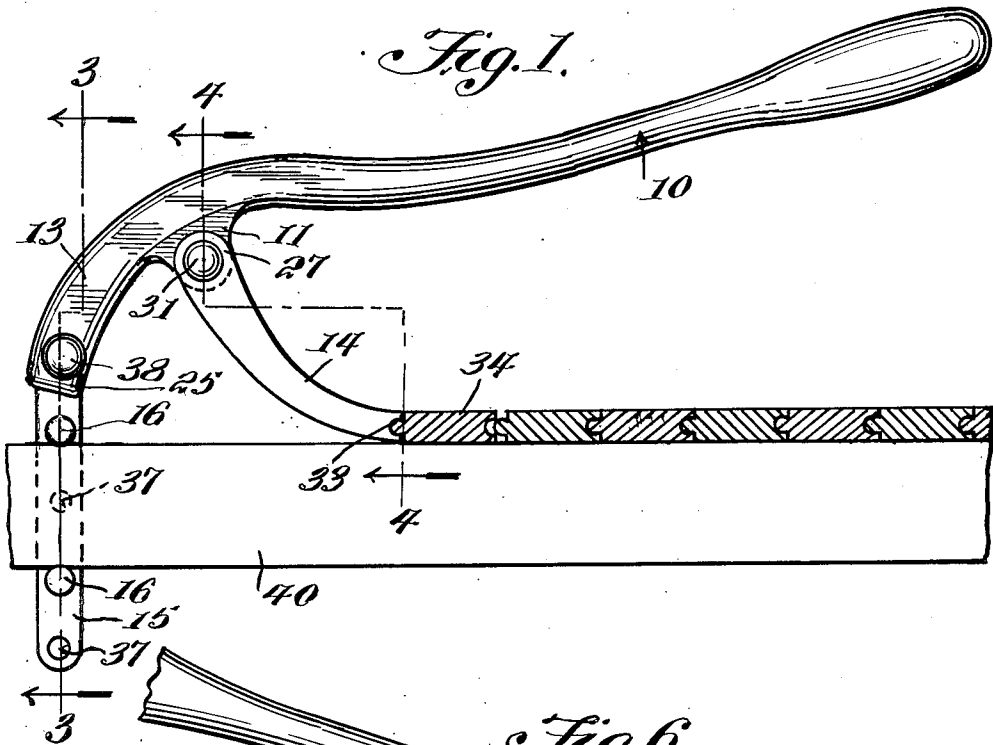
E. L. GRAHAM

2,624,544

COMBINATION CARPENTER'S TOOL

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2 SHEETS—SHEET 1



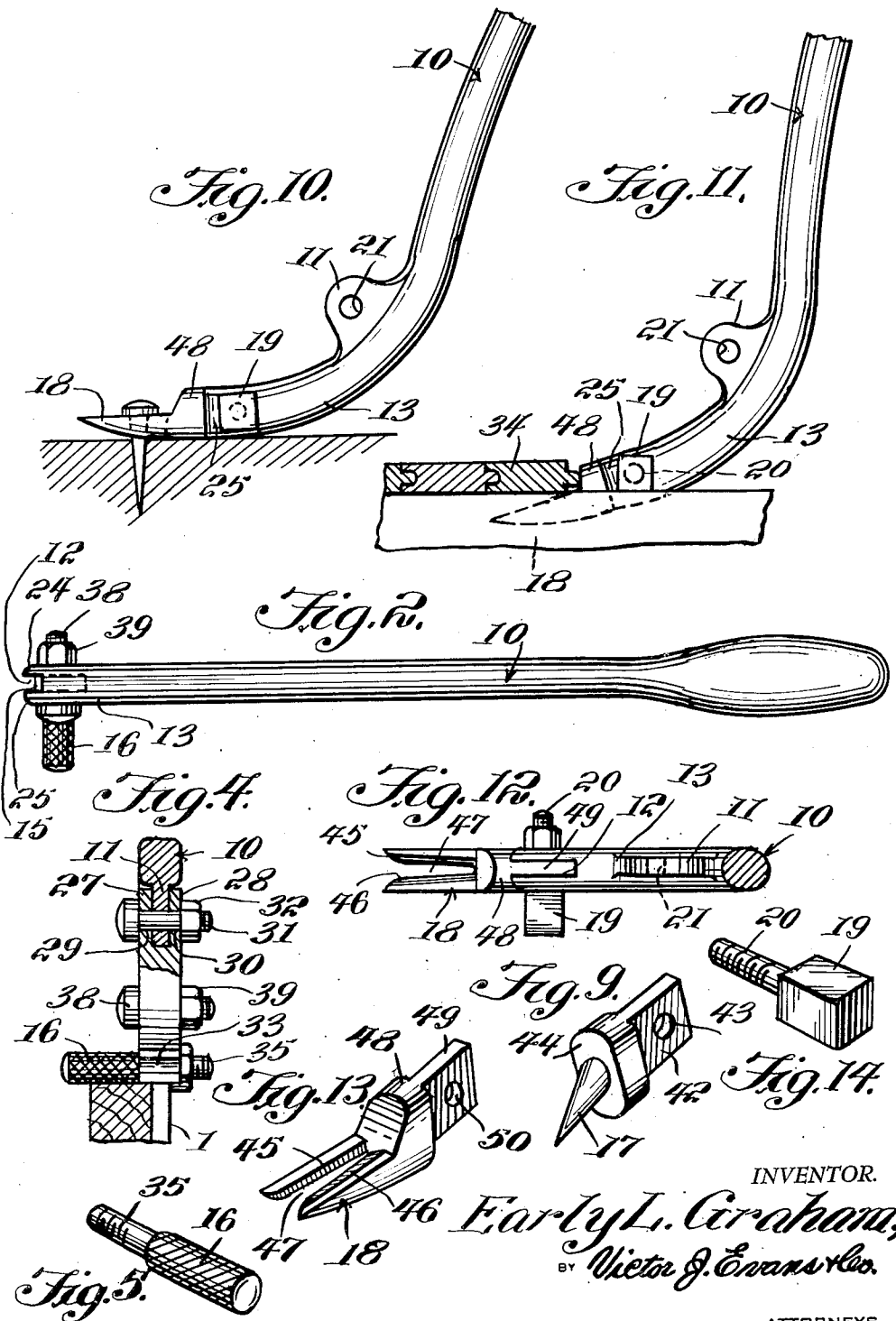
INVENTOR.

Earl L. Graham,
BY *Victor J. Ennis & Co.*

ATTORNEYS

2,624,544

2 SHEETS--SHEET 2



UNITED STATES PATENT OFFICE

2,624,544

COMBINATION CARPENTER'S TOOL

Early L. Graham, Henderson, Tex.

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1 Claim. (Cl. 254—15)

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This invention relates to combination tools for use by carpenters and the like, and in particular an elongated handle having an arcuate end with a slot through the end for holding attachments for clamping the handle to floor joists and the like, or for pulling nails, and the handle is also provided with a lug to which a jaw may be attached whereby with the end of the handle clamped to a floor joist the device is useful for laying floor boards.

The purpose of this invention is to provide a combination tool having an elongated handle wherein by using different attachments on the handle the handle may be used as a wrecking bar, floor board pusher, nail puller and the like.

Various combination tools have been provided for different purposes and although wrecking bars have been provided in different forms and used for various purposes it has been found difficult to provide removable attachments for extending the use of wrecking bars without making the bar cumbersome for ordinary use. With this thought in mind this invention contemplates an elongated handle having means for mounting attachments on one end thereof whereby the handle forms a plurality of tools.

The object of this invention is, therefore, to provide means for attaching a plurality of elements to the end of an elongated handle having an arcuate section therein whereby the handle may be used as a wrecking bar, floor board clamp, nail puller and the like. Another object of the invention is to provide a method of mounting heads of various types of tools in the end of an elongated handle with the heads readily removed and, at the same time, rigidly held in the end of the handle.

A further object of the invention is to provide an elongated handle having an arcuate end with a plurality of attachments adapted to be mounted on the arcuate end for providing tools, which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies an elongated rod having an arcuate end with a lug having an opening therethrough extended from one side and with a longitudinally positioned slot extended through the end, and a plurality of elements adapted to be mounted on the handle whereby the handle is adapted to be used for different purposes.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a side elevational view of the tool

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having a floor board holding jaw pivotally mounted on one side and having a clamp extended from the end for anchoring the end of the tool on a floor joist or the like.

Figure 2 is a side view of the tool with the attachment illustrated in Figure 1, thereon.

Figure 3 is a cross section through the tool shown in Figure 1 taken on line 3—3 of Figure 1.

Figure 4 is a similar view taken on line 4—4 of Figure 1.

Figure 5 is a detail illustrating a knurled holding element as used with the tool shown in Figure 1 for gripping opposite edges of a floor joist.

Figure 6 is a side elevational view similar to that shown in Figure 1 showing the tool with a point mounted on the end thereof instead of the floor joist clamp shown in Figure 1.

Figure 7 is a detail showing a longitudinal section through the arcuate end of the handle.

Figure 8 is a similar detail showing a front elevational view of the end of the handle.

Figure 9 is a detail illustrating the point mounted in the end of the handle shown in Figure 6 with the handle removed.

Figure 10 is a side elevational view showing the arcuate end of the handle with an attachment having nail gripping jaws thereon mounted in the slot in the end of the handle.

Figure 11 is a similar view showing a different use for the tool shown in Figure 10 wherein a block extended from a stud that holds the jaw in the end of the handle is used as a fulcrum.

Figure 12 is a plan view of the tool with the nail gripping jaw thereon.

Figure 13 is a detail illustrating the nail gripping or pulling jaw shown in Figures 10 and 11 with the handle removed.

Figure 14 is a detail illustrating the block having a threaded stud extended therefrom which is mounted on one side of the handle with the stud extended through the opening on the side of the slot in the end of the handle.

Referring now to the drawings wherein like reference characters denote corresponding parts the combination tool of this invention includes an arcuate handle or bar 10 having a lug 11 on one side with a slot 12 through the tip of an arcuate end 13, and a plurality of attachments including a jaw 14, a clamp bar 15, knurled rollers 16, a point 17, a forked jaw 18, and a block 19 having a threaded stud 20 extended from one end thereof.

The bar 10 which provides an elongated handle is preferably formed as illustrated in Figure 1 with the lug 11, which has an opening 21 there-

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through positioned on the inner surface of the arcuate end 13 and with the slot 12 longitudinally positioned and extended inwardly from the end to a point 22. Openings 23 and 24 are provided in the sides 25 and 26, respectively, between which the slot 12 is positioned.

The jaw 14 is provided with a bifurcated upper end, having side walls 27 and 28 that straddle the lug 11, as illustrated in Figure 4, and the walls 27 and 28 are provided with bolt holes 29 and 30 that receive a bolt 31 extended through the opening 21 in the lug 11, and with the bolt provided with a lock nut 32 the jaw may be securely mounted on the handle. The lower end of the jaw 14 is provided with a transversely disposed slot 33 that is shaped to fit over a tongue on the edge of a floor board, as indicated by the numeral 34. It will also be understood that the jaw 14 may be of any other suitable shape or design.

The floor joist clamp, as illustrated in Figures 1 and 3 is formed with the bar 15 in combination with the knurled cylindrical elements 16 which are provided with studs 35 and lock nuts 36. The bar 15 is provided with spaced openings 37 and the studs 35 of the element 15 extend through the opening as shown in Figure 3.

The upper end of the bar 15 is secured in the slot 12 in the arcuate end 13 of the handle by a bolt 38 that extends through openings 23 and 24 in the sides 25 and 26 in the end 13 of the handle, and the bolt 38 is provided with a lock nut 39.

With the parts arranged in this manner the knurled elements 16 are positioned over the edges of a floor joist 40 and with the slot 33 in the end of the jaw 14 positioned over a tongue of a floor board 34, the handle is actuated in a clockwise direction with the end anchored to the floor joist by the members 15 and 16 and as the movement of the handle is continued the board 34 is forced into position against the edge of the next board.

When laying floor boards over sub flooring as indicated by the numeral 41 the clamping bar 15 is replaced by the point 17 which is mounted in the slot 12 in the outer end of the handle through a tongue 42 that is provided with an opening 43, and a collar 44, between the point and tongue, is positioned against the end of the handle. The point is secured in place by bolts, similar to the bolt 38 passing through the openings 23, 24, and 43 and secured in position by the lock nut 39.

The nail pulling jaw 18 as illustrated in Figures 12 and 13 is formed with extended force jaws having beveled inner edges, as indicated by the numerals 45 and 46 and a V-shaped slot 47 is provided between the jaws for receiving a nail, or the like. The jaw 18 is provided with a hub 48 and a tongue 49 with an opening 50 there-through extends from the opposite side of the

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hub, with the opening positioned to register with the openings 23 and 24 in the end of the handle. With the tongue 49 positioned in the slot 12 in the end of the handle a bolt similar to the bolt 38 is placed through the end of the handle for securing the jaw end position, however, when it is desired to use the jaw, as illustrated in Figure 11, the bolt 38 is removed and the threaded stud 20 of the block 19 is extended through the opening in the sides 25 and 26 and in the tongue 49 so that the block 19 provides a fulcrum, and with the fulcrum positioned comparatively close to the jaw an extended leverage is attained whereby the floor boards are readily pried from the joist.

With the parts arranged in this manner the combination tool of this invention is useful for cinching up floor boards whereby the boards are positively held in position while nailing or with the jaw 14 and bar 15 removed the nail pulling jaw 18 may be mounted in the end of the handle whereby the device may be useful as a wrecking bar for pulling nails and the like.

It will be understood that attachments of various types and forms may be used in combination with the handle whereby the use of the handle may be extended.

It will be understood that other modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In a combination tool, the combination which comprises an elongated handle having an arcuate end with a longitudinally disposed slot extended through the tip of the arcuate end and with a lug extended from the inner surface of the arcuate end and spaced from the tip thereof, a bar having openings therethrough pivotally mounted in the slot in the tip of the arcuate end of the handle and extended therefrom, spaced knurled cylindrical elements having threaded studs on the ends thereof positioned in the openings of the bar, lock nuts on the threads of the knurled cylindrical elements for securing the elements on the bar, and an arcuate gripping jaw having a transversely positioned slot in the end thereof pivotally mounted on the lug extended from the inner surface of the said arcuate end of the handle.

EARLY L. GRAHAM.

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