Jan. 23, 1951

C. H. SPARHAWK
PIVOTED HAND TOOL FOR BODY
AND FENDER STRAIGHTENING.

2,539,040

Filed Oct. 13, 1947

2 Sheets-Sheet 1

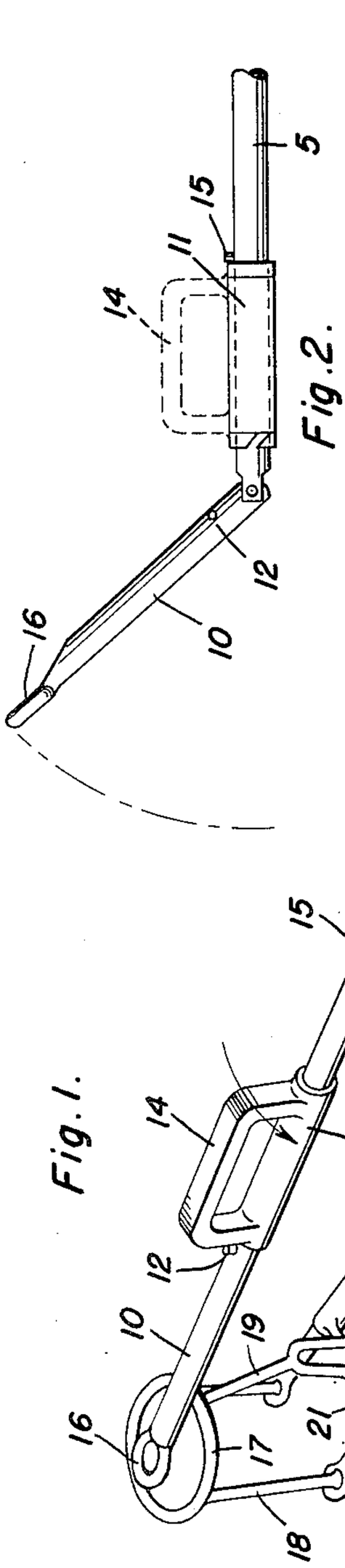

Fig. 2.

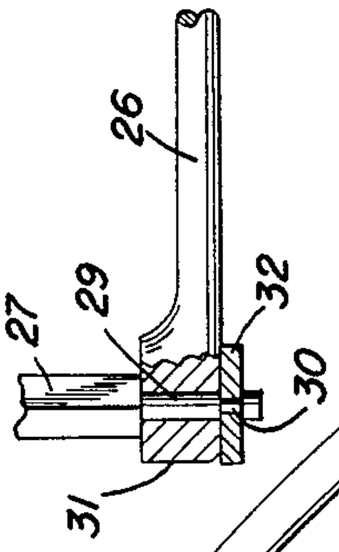

Fig. 6.

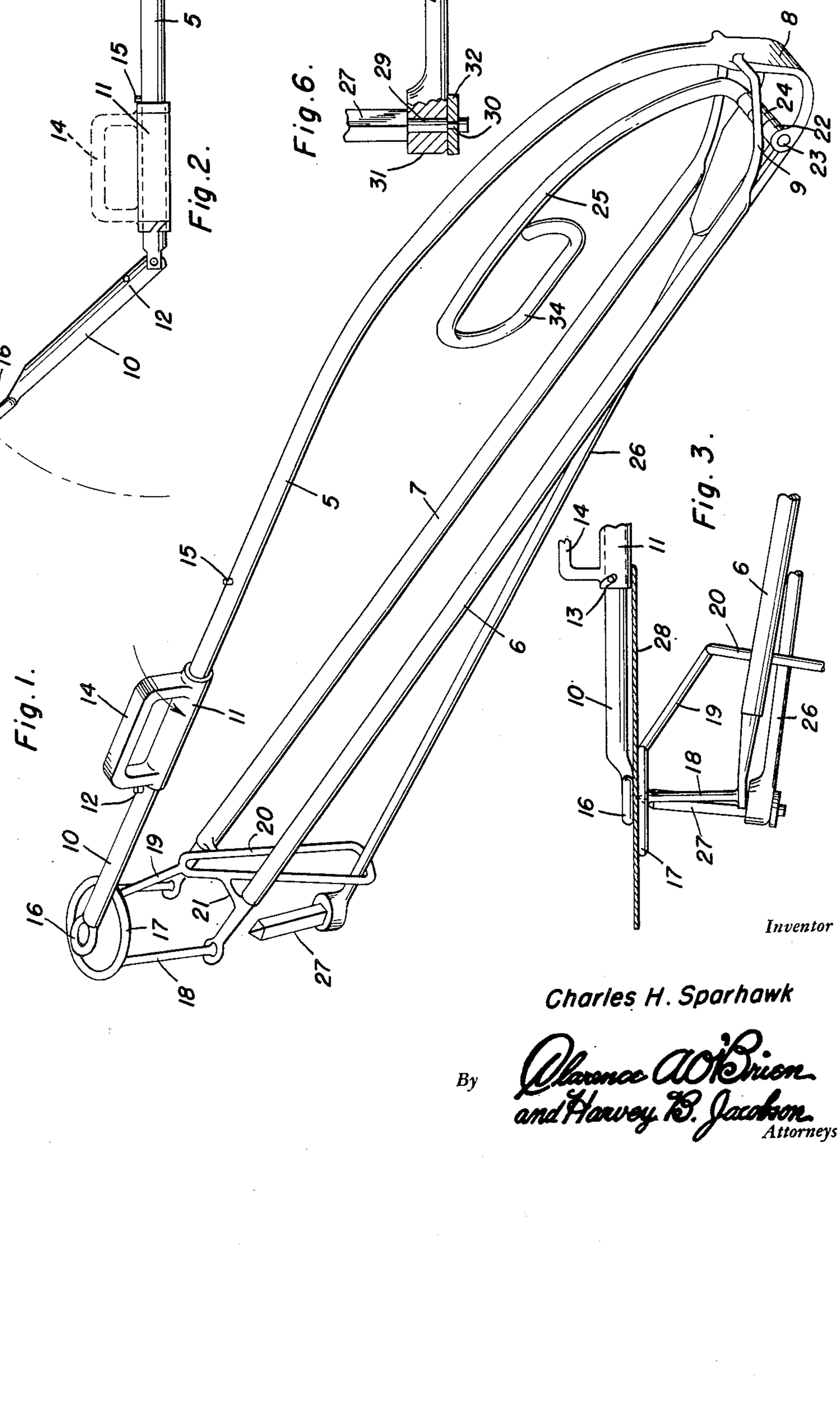

Fig. 1.

Fig. 3.

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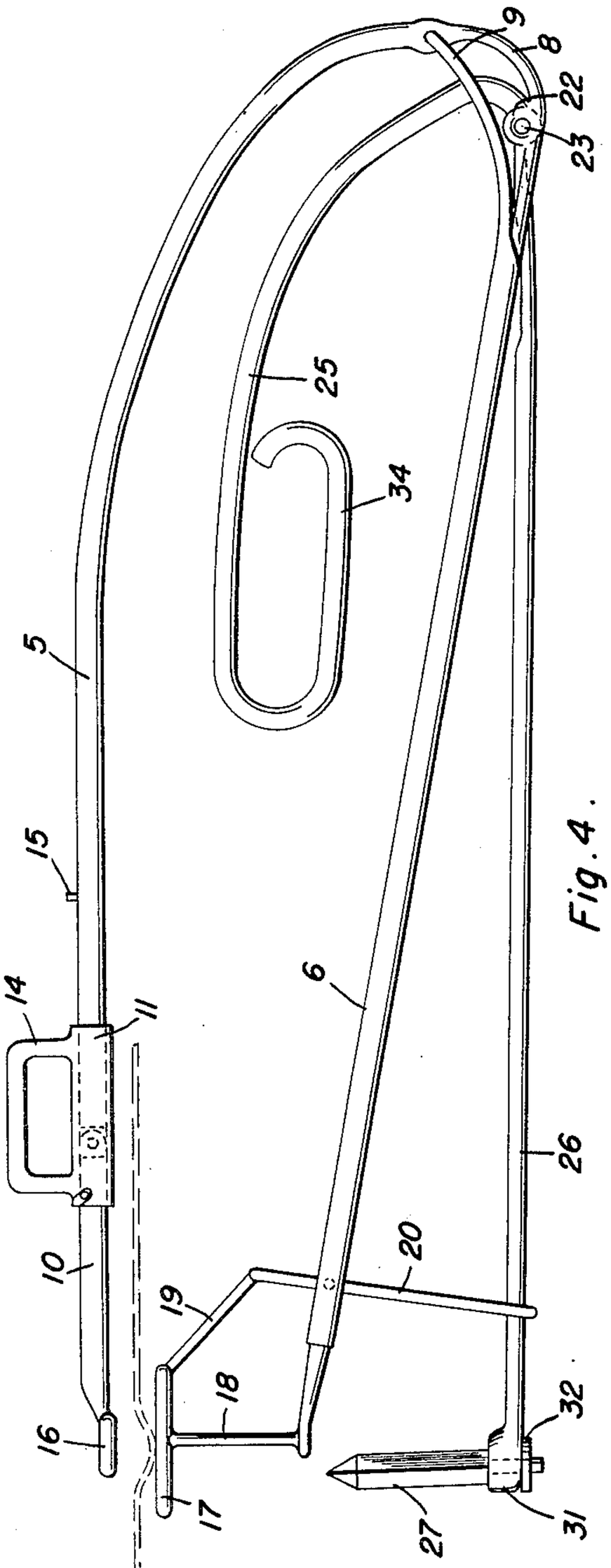

Fig. 4.

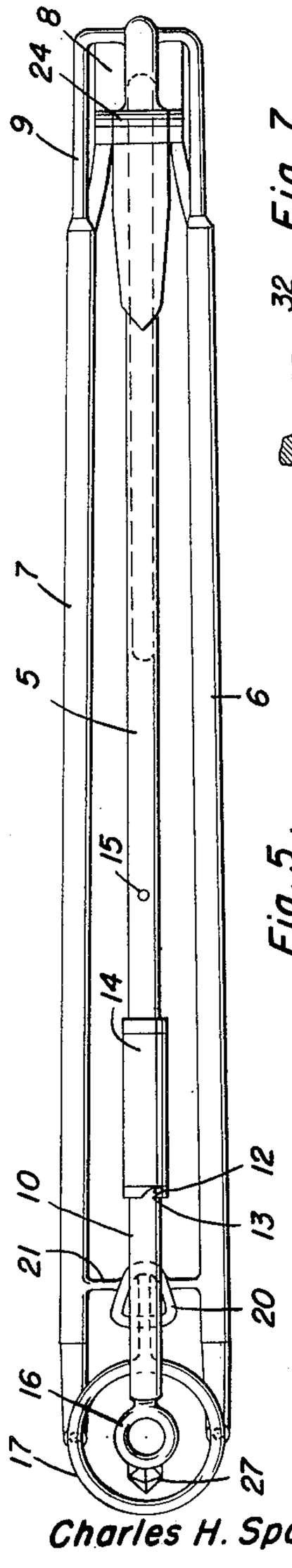

Fig. 5.

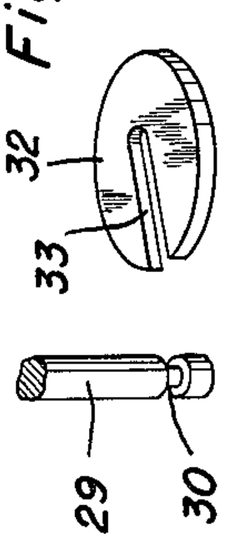

Fig. 7.

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UNITED STATES PATENT OFFICE

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PIVOTED HAND TOOL FOR BODY AND FENDER STRAIGHTENING

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5 Claims. (Cl. 81—15)

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The present invention relates to new and useful improvements in body and fender tools adapted for use in straightening dents or depressions in a metal vehicle body or fender and more particularly to a hammer for striking a blow at one side of the work and an anvil for positioning at an opposite side of the work and which forms a guide to indicate the position for striking the hammer blow.

In repairing or removing dents or depressions in an automobile body or fender and particularly where it is necessary to strike a hammer blow from the under side, it is difficult to deliver the hammer blows to certain inaccessible parts of the work, and accordingly, it is an object of the present invention to provide a tool of this character by means of which the hammer may deliver a blow to a desired part of the body or fender without necessitating the mechanic reaching under the same.

A further object of the invention is to provide supporting means for the hammer and to which the hammer is pivotally attached and embodying means whereby the supporting means may be clamped in position against the opposite surfaces of the work, thus leaving the hands of the mechanic free for operating the hammer.

A still further object is to provide a tool of this character of simple and practical construction, which is strong and durable, efficient and reliable in operation, relatively 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 refer to like parts throughout, and in which:

Figure 1 is a perspective view of the tool;

Figure 2 is a fragmentary side elevational view showing the pivoted extension for the upper clamping arm in its released position;

Figure 3 is a fragmentary side elevational view showing the tool clamped in position at the opposite surfaces of the work, the latter being shown in section;

Figure 4 is a side elevational view;

Figure 5 is a top plan view;

Figure 6 is an enlarged detail of the interchangeable hammer head with parts shown in section; and

Figure 7 is a group perspective view of the

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attaching stem for the hammer head and locking key therefor.

Referring now to the drawings in detail wherein, for the purpose of illustration, I have disclosed a preferred embodiment of the invention, the numeral 5 designates an upper clamping arm and the numerals 6 and 7 designate a pair of lower clamping arms arranged in spaced parallel relation with respect to each other and between which the upper clamping arm is centered. The rear ends of the upper and lower clamping arms are rigidly connected to each other by means of an arcuate plate 8 at the rear end of the upper arm 5 and to the side edges of which the rear ends of the lower arms 6 and 7 are welded or otherwise suitably secured. Braces 9 also extend from the rear ends of the lower arms 6 and 7 to the upper edges of the plate 8.

An extension 10 is pivoted at the front end of the upper arm 5 for vertical swinging movement and the extension is locked in a rigid longitudinally aligned position with the arm 5 by means of a locking sleeve 11 slidably mounted on the arm into and out of position over the connected ends of the arm and extension. The rear portion of the extension 10 is provided with a locking pin 12 engaged in a bayonet slot 13 at the front end of the sleeve 11 to lock the sleeve by a partial rotary movement thereof. The sleeve 11 is provided with a handle 14 to facilitate the sliding thereof into and out of its locking position and the arm 5 is provided with a stop 15 in the path of rearward movement of the sleeve to limit the rearward movement thereof.

The front end of the extension 10 is formed with an eye 16 which provides an anvil for bearing against the outer surface of the work.

An annular clamping head 17 is supported in position centrally under the eye 16 by means of a pair of rods 18 extending upwardly from the lower arms 6 and 7, the rods preferably being welded to the arms as well as to the head 17. A brace 19 also extends from the rear edge of the head 17 to the upper end of a substantially oval-shaped guide 20 which is rigidly supported in an upright position between the arms 6 and 7 by connecting arms 21. The lower side edges of the plate 8 are provided with bearings 22 in which the ends of a pin 23 are received and the bearing sleeve 24 is pivoted on the pin between bearings 22, the bearing sleeve being formed at the junction of an upwardly and forwardly curved handle 25 and the rear end of a hammer rod 26 which

extends forwardly under the arms 6 and 7 and through the guide 20 for the vertical movement of the hammer rod in the guide. Suitably secured to the front end of the hammer rod 26 is an upstanding hammer 27 for working upwardly through the annular head 17 and against the under side of the work 28 clamped in position between the head 17 and the anvil 16.

In the operation of the tool, the handle 14 and sleeve 11 are partially rotated to release the sleeve from the locking pin 13 and the sleeve is moved rearwardly on the upper clamping arm 5 and extension 10 at the front end of the arm is swung upwardly, as shown in Figure 2 of the drawing, to facilitate placing of the clamping head 17 at the under side of the work 28. The extension 10 is then swung downwardly and the sleeve 11 moved forwardly to lock the extension at the front end of the arm 5 and in clamping engagement at the upper surface of the work.

The lower clamping head 17 and anvil 16 are free to move over the work to a desired position for removing a dent or depression therein, the anvil 16 functioning as a guide to position the tool at the part of the vehicle body or fender to be repaired.

The rear end of the upper clamping arm 5 and handle 25 are then gripped by one hand of the mechanic and a squeezing action on the handle 25 will raise the hammer arm 26 and hammer 27 to strike a blow against the under side of the work to thus straighten the body or fender as the case may be. Upon release of the handle 25, the hammer will gravitate to its lower position for striking another blow.

The hammer head 27 is formed with a stem 29 having an annular groove 30 therein and removably held in an eye 31 at the outer end of arm 26 by a locking key 32 of disc form having a slot 33 therein receiving the groove of the stem whereby hammer heads of various types may be interchangeably mounted on the arm 26 in accordance with the character of the repair job.

The handle 25 is provided with a finger gripping loop 34 to enable back and forth movement of the arm 26 by the hand of a person when the tool is held in a perpendicular position.

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

1. A mechanical hammer comprising upper and lower work clamping arms, and a hammer arm pivoted at the inner ends of said clamping arms and having an impact member at its outer end for striking a blow against one side of work positioned between the clamping arms, one of said clamping arms including a pivoted anvil, and means for locking the anvil rigidly to its associated arm.

2. A mechanical hammer comprising upper and lower work clamping arms, and a hammer arm pivoted at the inner ends of said clamping arms and having an impact member at its outer end for striking a blow against one side of work positioned between the clamping arms, one of said clamping arms including a pivoted anvil, and

means for locking the anvil rigidly to its associated arms, said locking means comprising a slide movable into and out of locking position between the anvil and its arm.

3. A mechanical hammer comprising upper and lower work clamping arms rigidly connected to each other at one end, a clamping head at the outer end of one clamping arm, an anvil pivoted to the outer end of the other clamping arm, means rigidly locking the anvil to said other clamping arm in clamping position at one side of the work while the clamping head is held at an opposite side of the work, a hammer arm pivoted to the connected ends of the clamping arms and having a striking head at its free end working through the clamping head, and an operating handle at the pivoted end of said hammer arm, said handle substantially paralleling one of the clamping arms for squeezing action of the handle by the hand of a person gripping said last-mentioned clamping arms.

4. A mechanical hammer comprising upper and lower work clamping arms rigidly connected to each other at one end, a clamping head at the outer end of one clamping arm, a hammer arm pivoted to the connected ends of the clamping arms and having a striking head at its free end working through the clamping head, an operating handle at the pivoted end of said hammer arm, a swingably connected anvil at the outer end of the other clamping arm in the path of a blow delivered by the striking head, and means locking the anvil rigidly to its arms.

5. A mechanical hammer comprising upper and lower work clamping arms rigidly connected to each other at one end, a clamping head at the outer end of one clamping arm having an opening, an anvil pivoted at the outer end of the other clamping arm, means locking the anvil rigidly to said other clamping arm and adapted for positioning the anvil at one side of the work while the clamping head is positioned at an opposite side of the work, a hammer pivoted at one end to the connected ends of said clamping arms and having an impact head at its free end, and a guide carried by said first named clamping arm for the hammer to guide the hammer through the opening of the clamping head and against the work in the region of the anvil.

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