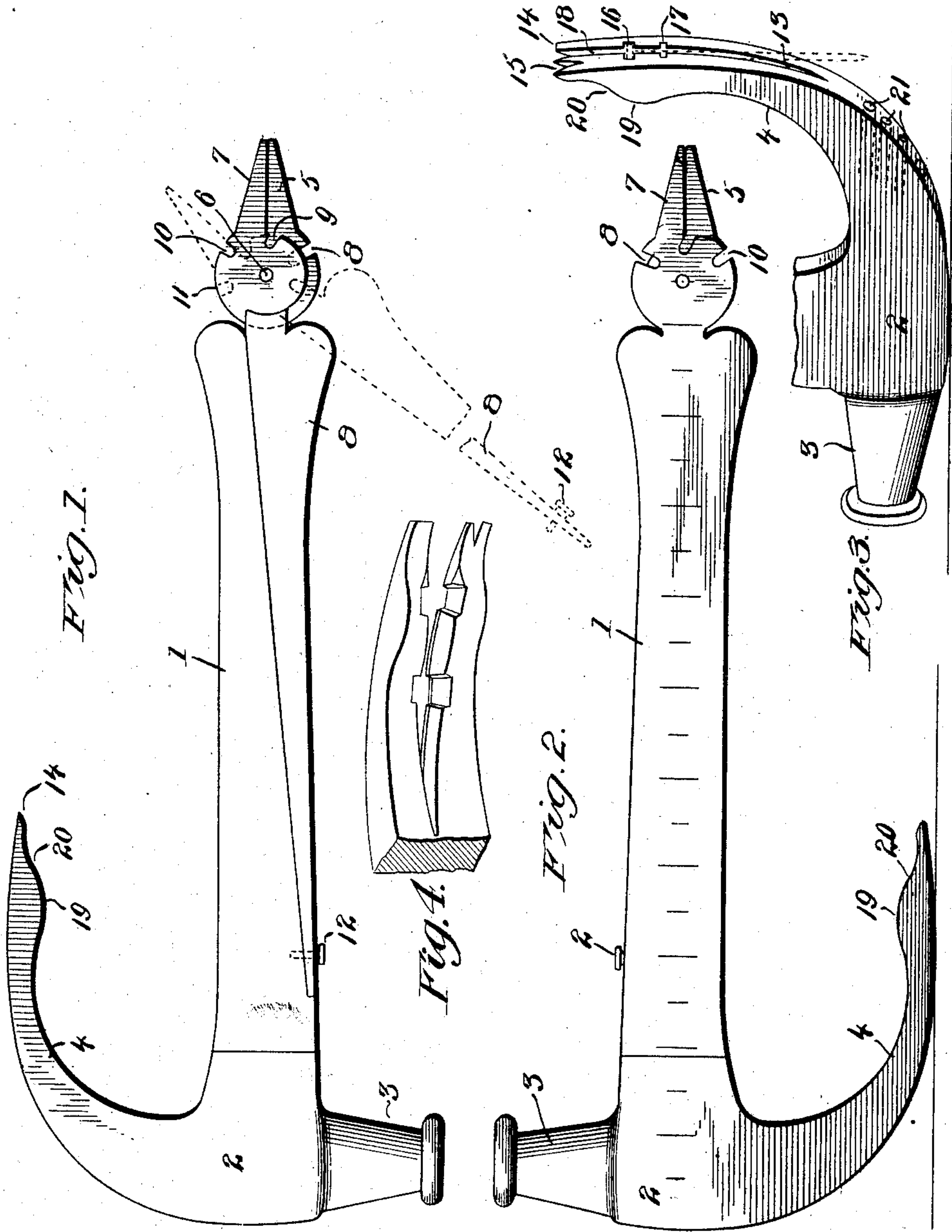


J. G. EVANS.
HAMMER.

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905,676.

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WITNESSES:

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HAMMER.

No. 905,678.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN G. EVANS, a citizen of the United States, residing at Phoenix, in the county of Maricopa and Territory of Arizona, have invented a certain new and useful Improvement in Hammers, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to hammers, and especially to the arrangement of nail pulling devices in connection therewith.

The object of my invention is to produce a claw hammer by means of which nails can be drawn without bending.

Heretofore it has been common to provide carpenters' hammers and nail pullers with bifurcated claws having slots whose edges grasp the shank of a nail beneath the head thereof. In so grasping the nail bending thereof proved to be inevitable and if the claw is specially designed to pull nails of one size with efficiency and the minimum amount of bending, then it is inefficient for other sizes.

A further object of my invention, therefore, is to produce a puller which will extract nails of different sizes without bending.

Still another object of the invention is to provide a nail puller with means whereby a nail which has been clenched may be straightened and drawn straight, so as to be in useful condition thereafter.

In order to attain my objects, I provide a handle and a claw secured thereto having a long oval curvature. This claw is bifurcated and may constitute one terminus of a hammer body, the poll thereof forming the other terminus. Upon the inside of the bifurcated parts of the claw, I provide at separated points pockets adapted to receive and hold the heads of nails of different sizes. The inside faces of both claws are shaped so as to form cam surfaces which guide the nail heads into the pockets when the pulling is started. The length of the claw is such that the longest nail for which the puller is designed may stand erect in substantial parallelism with the handle, and clear of the material in which it is placed, at the end of the drawing stroke. In starting to pull, the handle is held substantially horizontal so that the point of the claw can be inserted beneath the head of the nail in the usual manner. The end of the handle is then raised so that the head will turn upon the

curvature of the claw and the points of the claw will rise. In so rising the head of the nail will slide into whichever pocket is designed for its particular size, and as soon as the head reaches the pocket, the nail will be drawn from the head with the shank swinging clear as the claw rises without being bound or in any manner held except from the head.

In order to pull clenched nails straight, one or more special openings are provided in the head whereby the clench can be straightened, the nail then being drawn by the claw as before. This combination enables any nail whether clenched or not, to be picked up at once after pulling and used again if so desired.

Certain additional features are provided in combination with the nail puller and straightener which are especially valuable in regions where it is important to keep nails straight and in useful condition, that is to say, in localities and under circumstances where a large number of separate tools are not available. The most important of these is a pair of combined pliers and wire cutters formed on the handle of the hammer and nail puller. An incidental feature of value is a scale, preferably of inches, graduated upon the handle.

My invention is illustrated in the accompanying drawings in which—

Figure 1 is a left hand side elevation showing in dotted lines the position of the pliers and wire cutters when open. Fig. 2 is a right hand side elevation. Fig. 3 is a detailed perspective view of the body of the hammer. Fig. 4 is a detail perspective view of one leg of the claw showing the formation of the cam.

Referring to the drawings, 1 represents the handle and 2 the body of the hammer having the usual poll 3 at one extremity thereof, and a claw 4 at the opposite extremity. Forming a continuation of the handle 1 is one side jaw 5 of a pair of pliers and hinged to this side at a point 6 is a similar jaw 7 having the extension handle 8^a. Each side 5 and 7 back of the jaws is formed circular in shape, and is notched at 8, 9, 10 and 11 to form wire cutters of the usual type. When it is not desired to use the pliers or wire cutters the set screw 12 is operated to lock the handle extension 8^a to the handle proper.

The claw 4 of the hammer extends on an

arc from the conjunction of the poll with the body for some little distance and then extends off at a tangent to said arc and in substantial parallelism with the handle.

5 One leg of the claw is provided with a sharpened end resembling the bit of a screw driver and numbered 14, and the opposite end is of a similar construction but notched at 15. The sharpened end 14 is used for

10 drawing staples while the latter notched end 15 is used for starting large or small nails. A plurality of pockets 16 and 17 arranged between the legs one half in each, are disposed and adapted to receive the heads

15 of large nails such as 20^a nails which can not be drawn straight by the ordinary claw 18. There may be any number of pockets arranged along the length but I have deemed it unnecessary to illustrate more than two, the

20 top one 16 being somewhat larger than the lower one 17, and each succeeding lower one smaller than the preceding one above to accommodate smaller nails. All the pockets are arranged on that portion of the claw

25 which is substantially parallel with the handle so that when the proper sized nail drops in its respective pocket, it will have a direct pull exerted thereon and will fit within the extension groove 13. The pockets preferably

30 extend through the entire thickness of the claw from the inside to the outside. As shown in Fig. 4, the inner cam surfaces of the claw are such that a nail will first tend to slip into the pocket 16, but as

35 this is meant only for nails of the largest size, it will not retain a smaller nail, but the latter will slip past it to the next pocket 17, and so on. The raised shape 19 may be repeated if necessary at succeeding notches,

40 but I have not found this necessary in practice because the notches after the first one are not large enough to require so much metal in the claw for their formation, nor is so great an elevation required to produce

45 the proper cam surfaces.

Sometimes nails to be extracted are so bent on the side of the plank opposite that of the head of the nail that they require straightening, and so I provide several

50 graduated openings or holes 21 for different sized nails. By inserting the point of the nail in the proper sized hole and moving the body in the reverse direction to the bend of the nail, it is properly straightened

55 out.

As the drawing of all nails of any size is similar I shall describe the drawing of a 20^a nail. This is accomplished as follows: The nail is first started with the small claw

60 or notch 15 and afterwards engaged by the regular claw 18 forward of the cam surface 20. When the pull becomes other than direct upon the nail, its head slips into the pocket 16, thus allowing the shank of the

65 nail throughout its entire length to swing

free in the bifurcation and to assume a position in substantial parallelism with the direction of length of the major portion of the claw, as distinguished from claw hammers now in use which hold the nail head and

70 shank so that the shank of the nail projects at right angles from the claw. To further insure the pull being direct, the length of the claw from the pocket 16 back to the poll is equal to the length of a 20^a nail. 75

The operation of the pliers and wire cutters in this tool is sufficiently apparent from the drawing to need no special description.

Having thus described my invention what I claim and desire to secure by Letters Pat- 80 ent is—

1. In a nail puller, a handle, a claw secured at one end of the handle and having an extended curvature with relation thereto, a pocket formed in said claw, and means 85 for guiding a nail head into said pocket, whereby in drawing a nail the same will be supported entirely from the head and the claw will swing clear of the shank without gripping the same. 90

2. A claw hammer having a relatively long claw provided with a pocket formed in both legs thereof, said pocket receiving and supporting the head of a nail to be drawn, so that the nail may assume a position substantially parallel to the claw, and 95 a cam formed so as to guide the head of the nail into said pocket.

3. A claw hammer having a relatively long claw with its major portion in substantial parallelism with the handle of the hammer, a pocket in said claw, said pocket receiving and supporting the head of a nail to be drawn, so that it may assume a position in parallelism with the major portion 100 of the claw, and a cam formed on both legs of the claw and adapted to guide nails into the said pocket. 105

4. A claw hammer having a relatively long slotted and grooved claw having its 110 major portion in substantial parallelism with the handle of the hammer, with a plurality of pockets arranged in each leg of the claw, the slot and groove in the claw permitting nails of different sizes when being drawn to 115 occupy a position substantially parallel with the major portion of the claw.

5. A claw hammer having a body with a poll and a relatively long claw with its major portion extending substantially parallel to the hammer, a slot and groove in the claw, and a plurality of pockets, each adapted to receive and support a nail-head of definite size, the arrangement of the pockets, the slot and groove being such that a nail 120 of any size while being drawn will be supported by the head only and therefore free to assume a position parallel to the major portion of the claw and to the handle. 125

6. A claw hammer having a long gradu- 130

ally tapering slot and a groove in the outer
face of the claw adapted to receive a nail
shank in substantial parallelism with the
handle and having a nail head receiving
5 notch or recess between the legs of the claw
substantially at right angles to the slot so
that as the nail is drawn the hammer may
tilt with reference to the nail and the han-
dle be brought into substantial parallelism
10 with the shank of the nail so that the draw-
ing of the same may be continued without
bending it against the edges of the claw
slot.

7. A nail puller having a handle and a
15 curved claw with an extended portion lying
substantially parallel to the handle, a slot
in the said claw, extending from the end

thereof toward the head, a groove in said
slot constituting an extension of the slot,
and a plurality of double notches produced 20
in opposite faces of said slot, all of said
notches being so positioned that a nail may
lie with its head in any one of them and
its shank extending parallel to the handle
in the slot and groove without bending, 25
whereby nails of different sizes having heads
adapted to be detained and supported in the
different notches may all be drawn straight.

In testimony whereof I affix my signature
in presence of two witnesses.

JOHN G. EVANS.

Witnesses:

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