

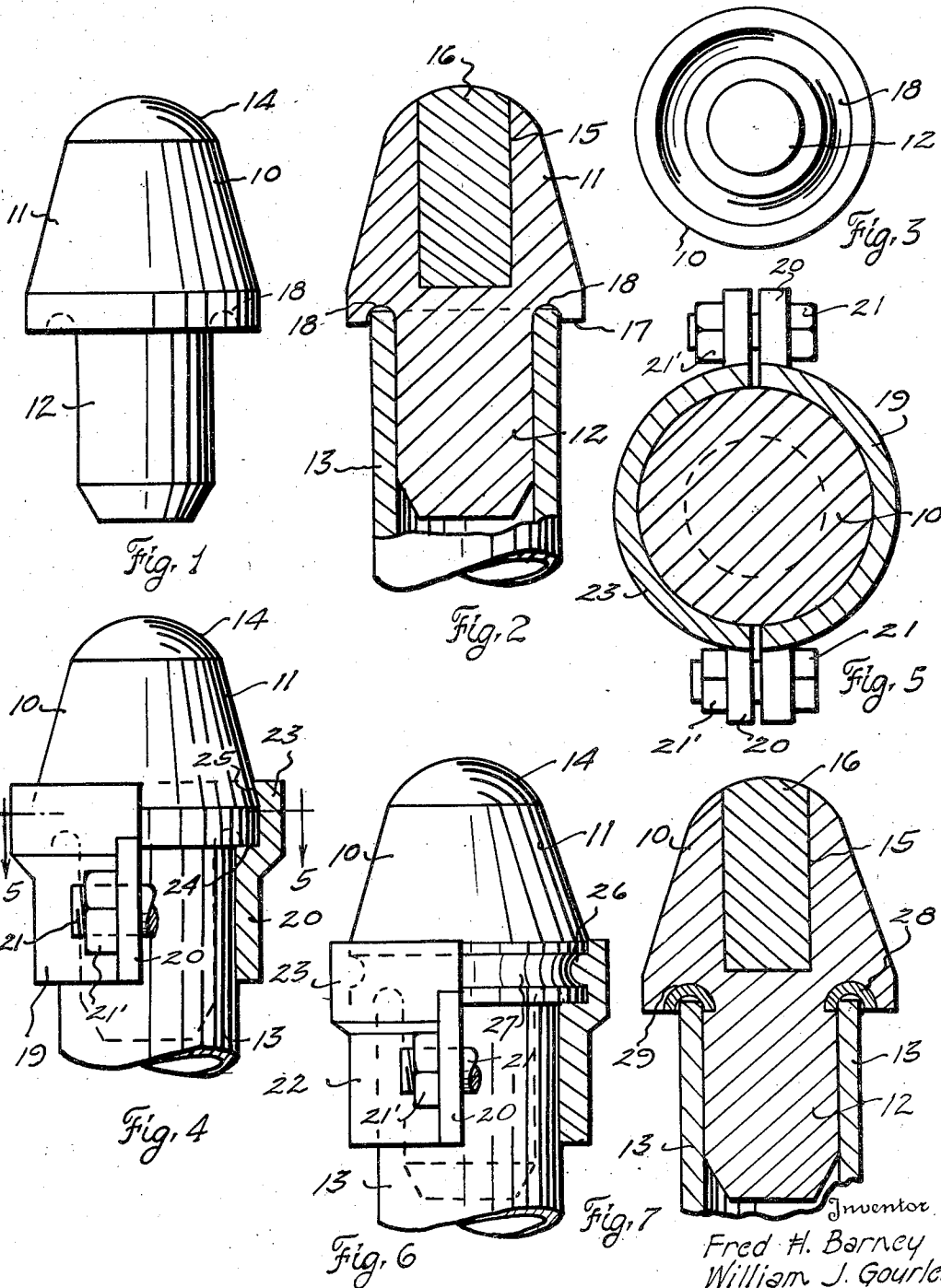
Sept. 8, 1936.

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2,053,508

DRIVE HEAD

Filed Aug. 24, 1934



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## UNITED STATES PATENT OFFICE

2,053,508

## DRIVE HEAD

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Application August 24, 1934, Serial No. 741,292

5 Claims. (Cl. 61—77)

This invention relates to new and useful improvements in drive heads.

One object of the invention is to provide an improved drive head for tubular stakes or posts arranged to withstand prolonged hammering without battering or excessive distortion.

A particular object of the invention is to provide a drive head having a hard metal insert located to receive the blows from a sledge hammer, whereby the head is saved from becoming battered and the shocks from the blows are absorbed by the head.

A further object of the invention is to provide in connection with a drive head, a clamp for engaging around the upper end of the post or stake for preventing the bulging or splitting of the post; and also for holding the head in position.

Another object of the invention is to provide a grief member adapted to be removably mounted in the shoulder of a drive head to engage the upper edge of the post or stake, so as to sustain the impact resulting from the sledge or hammer blows; and which when destroyed or worn out may be replaced.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing, in which an example of the invention is shown, and wherein:

Figure 1 is an elevation of a drive head constructed in accordance with the invention,

Figure 2 is a transverse vertical sectional view of the drive head inserted in the upper end of the post,

Figure 3 is an underside view of the drive head,

Figure 4 is a view, partly in elevation and partly in section, of a modified form of the invention, showing the head co-acting with a clamp engaging the post,

Figure 5 is a horizontal cross-sectional view taken on the line 5—5 of Figure 4,

Figure 6 is a view similar to Figure 4, showing another form of the invention, and,

Figure 7 is a transverse vertical sectional view of another form of the invention.

In the drawing the numeral 10 designates a drive head which is provided with a mushroom shaped body 11 having a rounded cap 14. The body is preferably made of a tough metal which is not too brittle and may be of a steel low in carbon content. A cylindrical shank 12 depends from the body and has its lower end bevelled

so that it may be easily slipped into the upper end of a tubular post or stake 13.

A cylindrical recess or socket 15 is formed axially in said body and cap. This socket may be drilled, cast or formed in any suitable manner. A core or insert 16 preferably made of a tough hard metal, which may be high carbon steel, is secured in the socket 15. This core is provided with a rounded upper end to conform to the contour of the cap 14. It is pointed out that the rounded upper end of the core makes for a minimum contact with the flat face of the sledge hammer, when the latter is brought into contact therewith, and also glancing blows may be struck without excessively battering the head.

The core may be inserted in the socket in any suitable manner, such as by shrinking, pressing or in an upset forging machine. It will be seen that the core being of a harder metal than the body, the impact from the sledge will be taken by the core and the shock will be absorbed by the body. Although the hard core receives the direct blow from the sledge, it will not batter to such an extent or as easily as the softer head, if latter were struck directly with the sledge. Thus, it will be seen that the life of the drive head will be prolonged.

The shank 12 being less in diameter than the bottom of the body, an overhanging shoulder 17 is thus formed therebetween. An annular groove 18 is provided in the shoulder for receiving the upper edge of the post, when the drive head is inserted in the post. This groove will aid in retaining the head on said post, and will tend to prevent spreading of the upper edge of the latter.

In driving the tubular posts into the ground, the repeated sledge blows will have a tendency to bulge the post at its upper portion. This usually splits the same, particularly along the weld or seam thereof. For overcoming this difficulty, we provide a split clamp 19 which includes a depending collar 22 for encircling and engaging the upper portion of the post. An annular shoulder 24 is formed at the upper end of the collar for receiving the overhanging margin of the shoulder 17. An annular flange 23 made integral with the upper portion of the collar, extends upwardly from the shoulder 24 and surrounds the lower portion of the body of the drive head. The upper portion of the flange is provided with an overhanging lip 25, which is inclined to conform to the converging surface of the body, for holding the head in position on the post.

It is pointed out that the clamp not only con-

finer the upper end of the post, to prevent the same from bulging, when the drive head is struck with a sledge hammer, but also acts to hold the head in position on the post. The clamp is provided with substantially diametrically opposite ears 20 receiving bolts 21 and nuts 21' fastening the same. It is obvious that the clamp may be fastened on the post in any suitable manner.

In Fig. 6 is shown a slightly different means of holding the drive head in the clamp. The flange 23 is provided with an internal annular rib or bead 26 for engaging in a groove 27 formed in the lower portion of the body of the head, which serves the purpose of the lip 25.

In Fig. 7, a modified form of the groove 18 of the head is shown. In this form, an annular grief ring 28 is mounted in the groove and is preferably of a tougher and harder material than the body. This ring is concavo-convex in cross-section and is secured in a groove 29 formed in the shoulder 17 and the shank 12. This ring will protect the head and take the grief which would otherwise be sustained by the groove 18. Also this ring will tend to save the shank from fracturing across its neck. It is obvious that the ring may be replaced and consequently the drive head will last much longer than the form illustrated in Figs. 1 and 2.

In using the device, the shank 12 of the drive head 10 is inserted in the post 13, the upper edge of which is received in the groove 18, whereby the head is supported on the post. For embedding the post in the ground, the drive head is struck repeated blows with a sledge hammer or other tool. These blows are taken by the core 16, which being of a hard tough metal will not readily batter. The body, being of a softer material, will absorb and distribute the shock from the core and will not become battered, as it is not intentionally struck with the sledge hammer.

Where it is desirable to protect the upper end of the post, and also hold the head thereon, the clamp 19 is used. This clamp engages the lower portion of the body of the head and is placed on the post at the same time as the head. After the head is placed on the post, as is shown in Figs. 4 and 6, it is only necessary to tighten the bolts 21 to securely fasten the clamp.

The description which has been given recites more or less detail of a particular embodiment of the invention, which is set forth as new and useful; however, we desire it understood that the invention is not limited to such exact details of construction because it is manifest that changes

and modifications may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What we claim and desire to secure by Letters Patent is:

1. A drive head for posts and stakes comprising, a body, a reduced shank depending from the body, a shoulder on the body overhanging the shank, and a grief ring embedded in the shoulder.

2. A drive head for posts and stakes comprising, a body, a reduced shank depending from the body, a shoulder on the body overhanging the shank, a grief ring embedded in the shoulder, and means adapted to be fastened around the upper end of a post and co-acting with the head.

3. A drive head for posts and stakes which are tubular at their upper ends including, a body having an annular overhanging bottom portion adapted to rest on top of a post, a shank depending axially from the body for engaging in the tubular end of a post, an annular clamp having an inwardly projecting portion for engaging the overhanging portion of the body and preventing upward displacement of the body and also having a reduced portion for engaging around a post, and means for fastening the clamp on the body and around a post.

4. A drive head for posts and stakes which are tubular at their upper ends including, a body having an annular overhanging bottom portion adapted to rest on top of a post, a shank depending axially from the body for engaging in the tubular end of a post, the body having a circumferential groove, an annular clamp having an internal rib engaging in the groove and the head and also having a reduced portion for engaging around a post, and means for fastening the clamp on a post, whereby the head is held against vertical displacement.

5. A drive head for posts and stakes which are tubular at their upper ends including, a body having an annular overhanging bottom portion adapted to rest on top of a post, a shank depending axially from the body for engaging in the tubular end of a post, the head being reduced above its overhanging portion, an annular clamp having an inwardly projecting portion engaging the reduced portion of the body and preventing upward displacement of the body and also having a reduced portion for engaging around a post, and means for fastening the clamp on the body and around a post.

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