Feb. 11, 1930. C. I. WILLIAMS 1,746,570

PULLER

Filed June 18, 1925

Fig. 1.

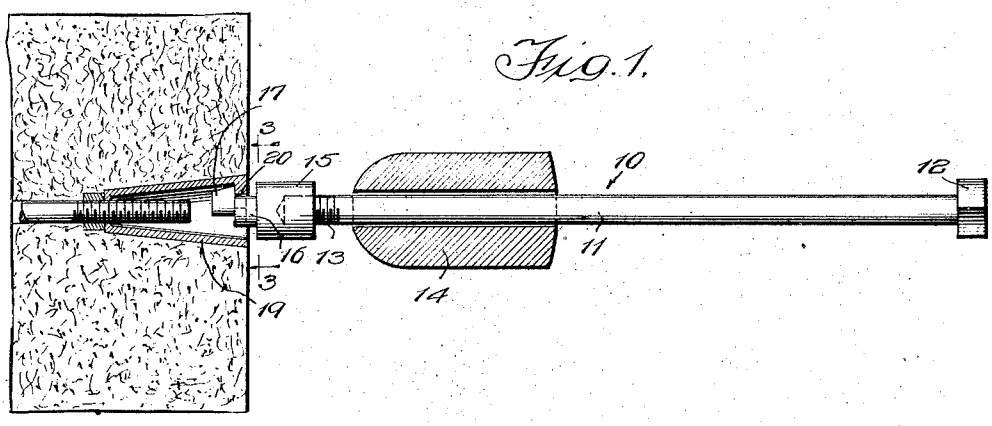


Fig. 2.

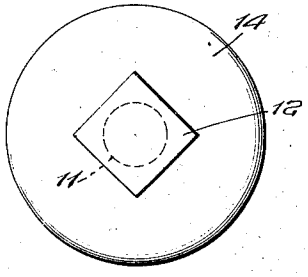


Fig. 3.

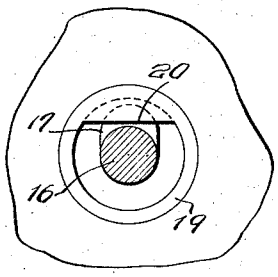


Fig. 4.

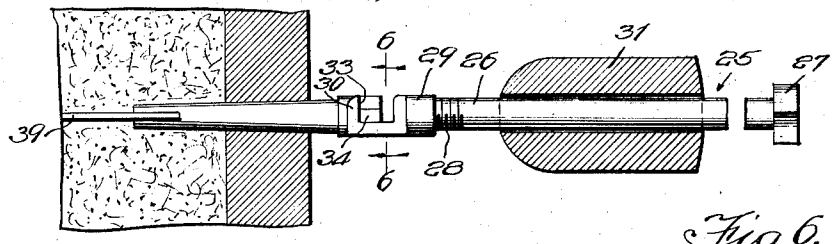


Fig. 6.

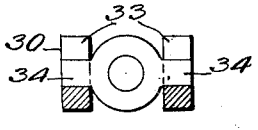
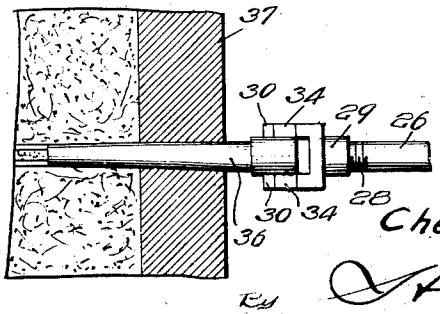


Fig. 5.



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Patented Feb. 11, 1930 1,746,570

UNITED STATES PATENT OFFICE

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PULLER

Application filed June 18, 1925. Serial No. 37,949.

My invention relates to pullers and has among its other objects the production of devices of the kind described, which are simple, convenient, compact, efficient and satisfactory for use wherever found applicable. A particular object of the invention is to provide improved means for the removal or dismantling of concrete form ties after the concrete has been poured, but the invention is limited to such use only in so far as defined in the appended claim. Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claim.

In the drawings, wherein like reference characters indicate like or corresponding parts;

Fig. 1 is a side view partly in section of a puller embodying the invention, the puller being shown in connection with parts of a concrete form tie which it is adapted to dismantle;

Fig. 2 is an end elevation of the improved puller as it appears when looking from the right in Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 1;

Fig. 4 is a view similar to Fig. 1 of a puller embodying another form of the invention, the puller being shown in connection with parts of a concrete form tie which it is adapted to dismantle;

Fig. 5 is a fragmentary plan view of the apparatus shown in Fig. 4; and

Fig. 6 is a section taken on line 6—6 of Fig. 4.

Referring for the present to Figs. 1, 2 and 3, the reference character 10 designates in general a puller embodying my invention and particularly adapted to be used in connection with concrete form ties and the like of the type more fully illustrated and described in my co-pending applications, Serial Nos. 11,754 and 11,755, filed February 26, 1925. As shown, the puller 10 preferably comprises a rod 11 having a head 12 at one end thereof and having its other end threaded as at 13 to engage a member 15. The member 15 is preferably provided with a lug 16 which extends from the longitudinal center thereof and terminates in an over-hanging tongue 17. The tongue 17 extends laterally from the central portion of the lug 16 and projects beyond the outer surface of said lug. The lug 16 and the tongue 17 may be inserted in the open end of a conical housing 19 forming part of the above-mentioned concrete form. As described in the copending applications, the open end of the housing 19 is provided with an inwardly projecting lug 20 which may be engaged by the tongue 17 when the housing 19 is to be removed from the concrete. The housing 19 is imbedded in the concrete when the concrete is poured and in most instances it is desirable to remove the housing for further use.

Slidably mounted upon the rod 11 is a weight 14 which may be manually reciprocated to strike repeated blows upon the head 12. In the operation of my improved puller, the lug 16 and tongue 17 may be inserted in the housing 19 a sufficient distance to permit the tongue to be brought into engagement with the inner surface of the lug 20. The weight 14 is then employed to strike repeated blows upon the head 12 until the housing 19 is loosened from the concrete, after which it may be readily removed therefrom.

Referring now to Figs. 4, 5 and 6, the reference character 25 designates generally a puller which embodies another form of the invention. The puller 25 preferably comprises a rod 26 having a head 27 at one end thereof, the other end of the rod being threaded as at 28 to permit the rod to be secured to a member 29 provided with bifurcations 30. The rod 26 and the head 27 may be substantially identical with the rod 11 and the head 12, respectively, of Figs. 1 to 3, inclusive. Slidably mounted upon the rod 26 is a weight 31. The bifurcations 30 are preferably provided with shoulders 33 adapted to engage lugs 34 formed upon a member 36 which forms part of one type of concrete form ties described in the co-pending applications.

The member 36 is adapted to project through a wooden form member 37 in such manner that a wire tie 39 may be secured to its inner end. The purpose of this construction is clearly set forth in the co-pending applications and in said applications I have described how the wire tie 39 may be severed after the concrete has been poured. After the wire tie 39 has been severed, the member 36 may be readily withdrawn from the concrete by employing a puller embodying my invention. Thus, the shoulders 33 may be engaged with the lugs 34 in the manner illustrated in Fig. 4 and the weight 31 may be manually operated to strike repeated blows upon the head 27 until the member 36 is loosened from the concrete.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

In a tool of the character described, a rod having one end formed with a head, a cylindrical member having a threaded connection with the other end of the rod, said member having a longitudinal projection in substantial alignment with said rod, a transverse enlargement projecting laterally from said longitudinal projection and in spaced relation to the adjacent end of said cylindrical member, and a hammer member slidably mounted on said rod.

In testimony whereof, I have hereunto signed my name.

CHESTER I. WILLIAMS.