July 5, 1966 G. M. PFUNDT 3,259,035

HYDRAULICALLY OPERATED TAMPER

Filed March 9, 1964

FIG. 1.

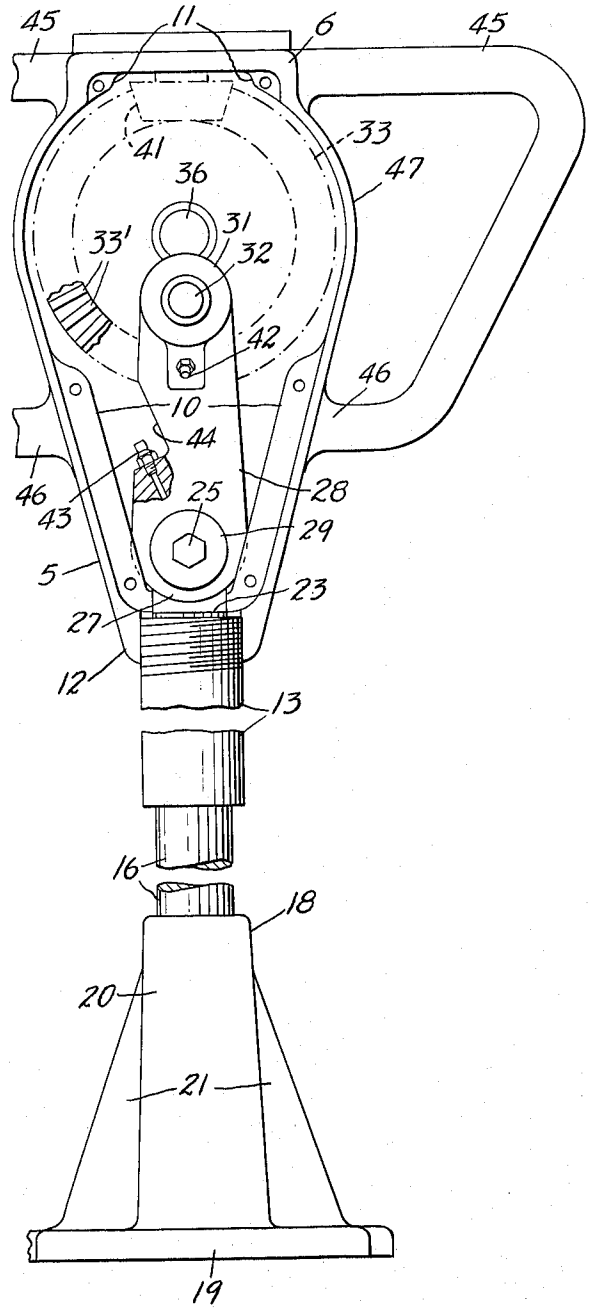
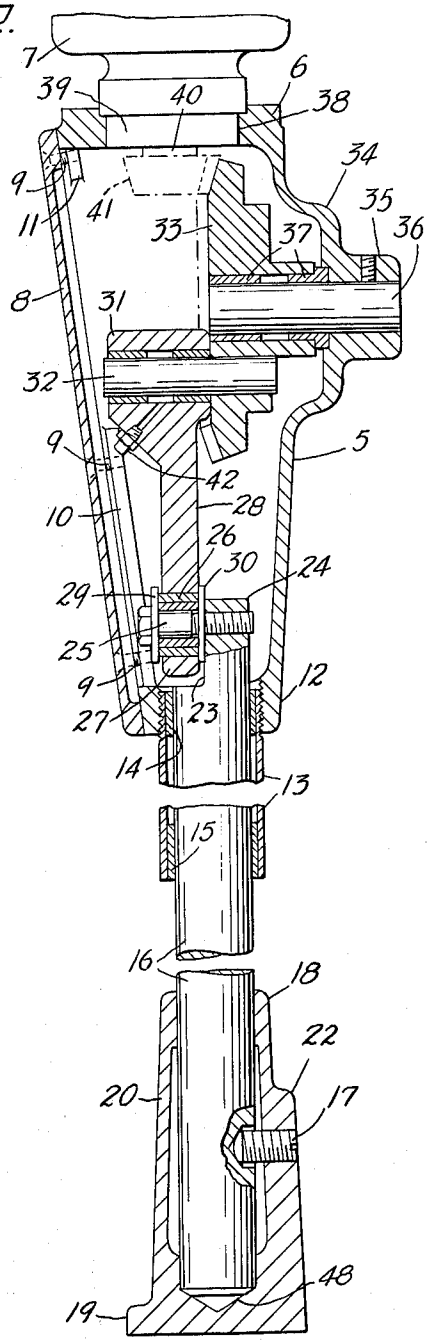


FIG. 2.



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HYDRAULICALLY OPERATED TAMPER

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This invention relates to devices for use in tamping soil and the like around a set electric line pole of any type or kind or in connection with fence posts and the like. More particularly, the invention deals with a device of the character defined, wherein the tamper foot or head is actuated through the medium of a hydraulic motor mounted in connection with the casing or housing of the tamper and, wherein, the casing or housing includes laterally extending handle members facilitating manual movement of the tamper into different positions.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a face view of a tamper made according to my invention showing the cover of the housing removed, with parts of the construction broken way and in section and diagrammatically illustrating the gear drive, the motor shown in FIG. 2 being omitted, except for for drive pinion of said motor; and

FIG. 2 is a longitudinal section through the device showing the cover of the housing mounted in position and with parts of the construction broken away, the motor drive being diagrammatically shown, in part, in position.

In illustrating one adaptation and use fo my invention, I have shown at **5** a housing or casing having an enlarged upper end **6**, in connection with which a hydraulically operated motor **7** is mounted, as diagrammatically illustrated in FIG. 2. One side of the housing **5** is open and closed by a cover plate **8**, having screws, as at **9**, engaging ribs **10** on side walls of the housing, as well as ears **11** at the upper side portions of the housing.

Mounted in connection with the lower contracted end **12** of the housing is an elongated tube **13**, which projects a substantial distance from the end **12** of the housing and arranged in end portions of the tube **13** are suitable bearings **14** and **15** for guidance of a reciprocating member **16**, which is indicated as a rod that can, for the most part, be tubular in form if desired. Suitably keyed to the lower end of the member **16**, as seen at **17** FIG. 2, is a foot or tamper head **18**, comprising a wide base **19**, note FIG. 1, with an upwardly contracted tubular portion **20**, the latter being preferably reinforced by ribs **21**, as seen in FIG. 1 of the drawings. The tubular portion **20** is enlarged, as seen at **22** in FIG. 2, to provide a bearing support for the key screw **17**.

The upper end of the member **16** is recessed at one side, as seen at **23**, and the protuding portion or reduced extension **24** at the opposite side forms a support for a screw **25**, on which are arranged suitable bearings **26** and mounted on these bearings is the end portion **27** of a link or crank **28** retained against displacement from the bearings by washers **29** and **30**, as clearly noted in FIG. 2 of the drawing.

The other end portion of the link **28** has an enlarged hub **31**, having bearing supports for a pin **32** suitably fixed in a large beveled gear **33**, with the hub portion **31** arranged on the surface of this gear, as clearly shown in FIG. 2. The housing **5** has an offset portion **34** terminating in an outwardly extending bearing portion **35**, in which is fixed a stub shaft **36** having suitable bearings, as at **37**, upon which the gear **33** is rotatably mounted.

Considering FIG. 2 of the drawing, it will appear that the upper end **6** of the housing has a large opening **38**

for reception of a tubualr extension **39** of the hydraulic motor **7**. The shaft of the motor which projects into the housing directly above and parallel to the member **16** is indicated, in part, at **40** and on this shaft is mounted a bevelled drive pinion **41** which, for simplification in illustration, is outlined in dot-dash lines. For clear illustration, this pinion has also been illustrated in FIG. 1, although the hydraulic motor is omitted from this illustration. Also to simplify the illustration, the bevelled gear **33**, for the most part, is outlined in dot-dash lines in FIG. 1. However, part of the teeth of this gear is shown at **33'** in FIG. 1.

The inner portion of the hub **31** is fashioned to support a lubricating fitting **42** for lubricating the pivotal support of the link on the pin **32** and a similar fitting **43** is provided on a cutaway portion **44** of the link, as noted in FIG. 1 of the drawing, for lubricating the other pivotal mounting of the link on the screw **25** or the bearings **26** thereof.

At sides of the housing or casing are laterally extending handgrips **45**, one only of these handgrips being illustrated in FIG. 1. These handgrips are in the form of round rods which extend from the upper portion **6** of the housing to a portion midway between the ends **6** and **12** of the housing, as seen at **46**. These handgrips provide free manual movement of the tamper around a hole or post where the soil is to be tamped in secure setting of the pole or post. It will be understood that flexible connections will be provided to the motor **7** and, as such connections are well-known in the art, no showing thereof is deemed to be necessary.

Considering FIG. 1 of the drawing, it will appear that the upper portion of the housing or casing is partially rounded, as seen at **47**, and, considering FIG. 2, it will appear that the foot or tamper head **18** has a conical socket **48**, against which the lower end of the member **16** bears to provide a direct transmission of the downward tamping thrust to the foot or head **18**.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A tamper of the character defined comprising a vertically elongated housing having a large upper end and a reduced lower end, means for supporting a motor to extend above the upper end of the housing, said motor having a rotatable shaft, an elongated reciprocating member slidably mounted in the lower end portion of the housing and projecting therefrom directly below and parallel to the shaft of the motor, a tamper head at the lower end of said member, an elongated bearing support for said member extending beyond the reduced lower end of said housing, said support comprising a tube fixed to the housing, said member having bearings spaced longitudinally thereof, a drive link pivotally coupled with the upper end portion of said member and operating entirely within the housing, a bevelled gear freely rotatable on a bearing support in and at one side portion of the housing, a bevelled pinion driven by said motor shaft and operatively engaging said bevelled gear, said bevelled gear having a pivotal support projecting from a surface thereof, said link having a hub-type bearing mounting on said pivotal support, the other side of the housing being open throughout the full height and the major portion of its width, and a detachable cover closing said open side of the housing for easy access to the gear link assembly.

2. A tamper as defined in claim **1**, wherein the bearing support for said bevelled gear includes a stub shaft perpendicular to the motor shaft and fixed to and extending into said housing, and said tamper head comprising a tubular body in which said member seats.

3. A tamper as defined in claim **1**, wherein said housing includes integral laterally extending side handgrips,

said handgrips comprising rods, upper ends of said rods extending from the upper portion of the housing, and lower ends of said rods terminating intermediate upper and lower ends of the housing.

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