

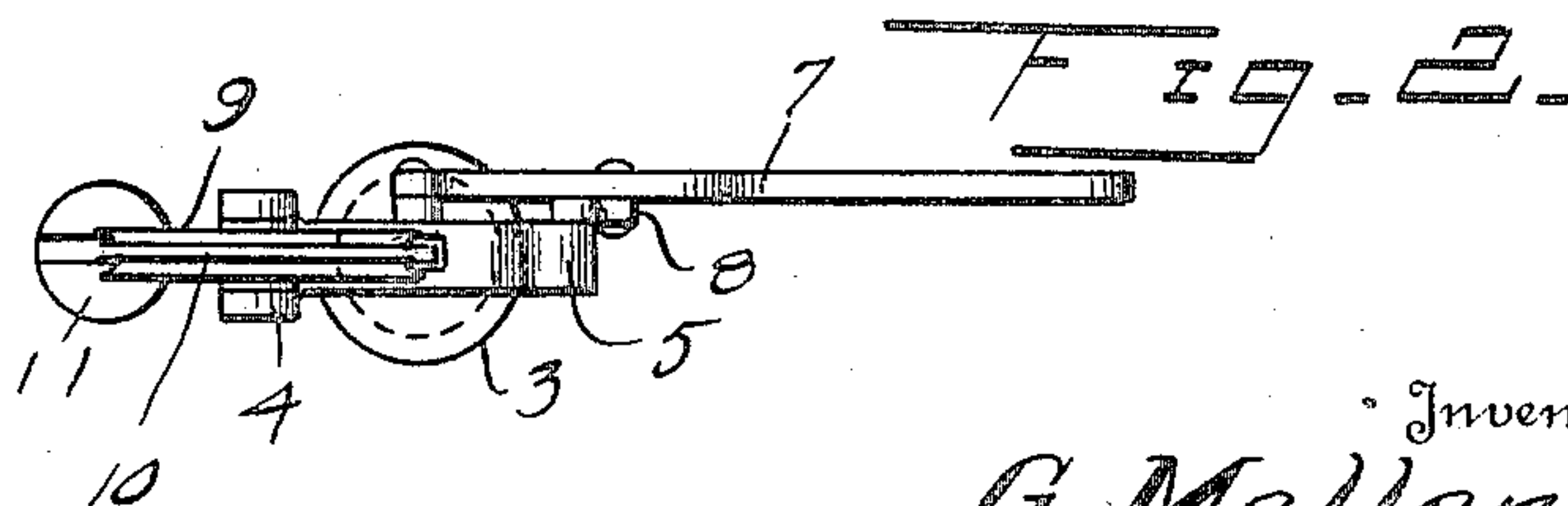
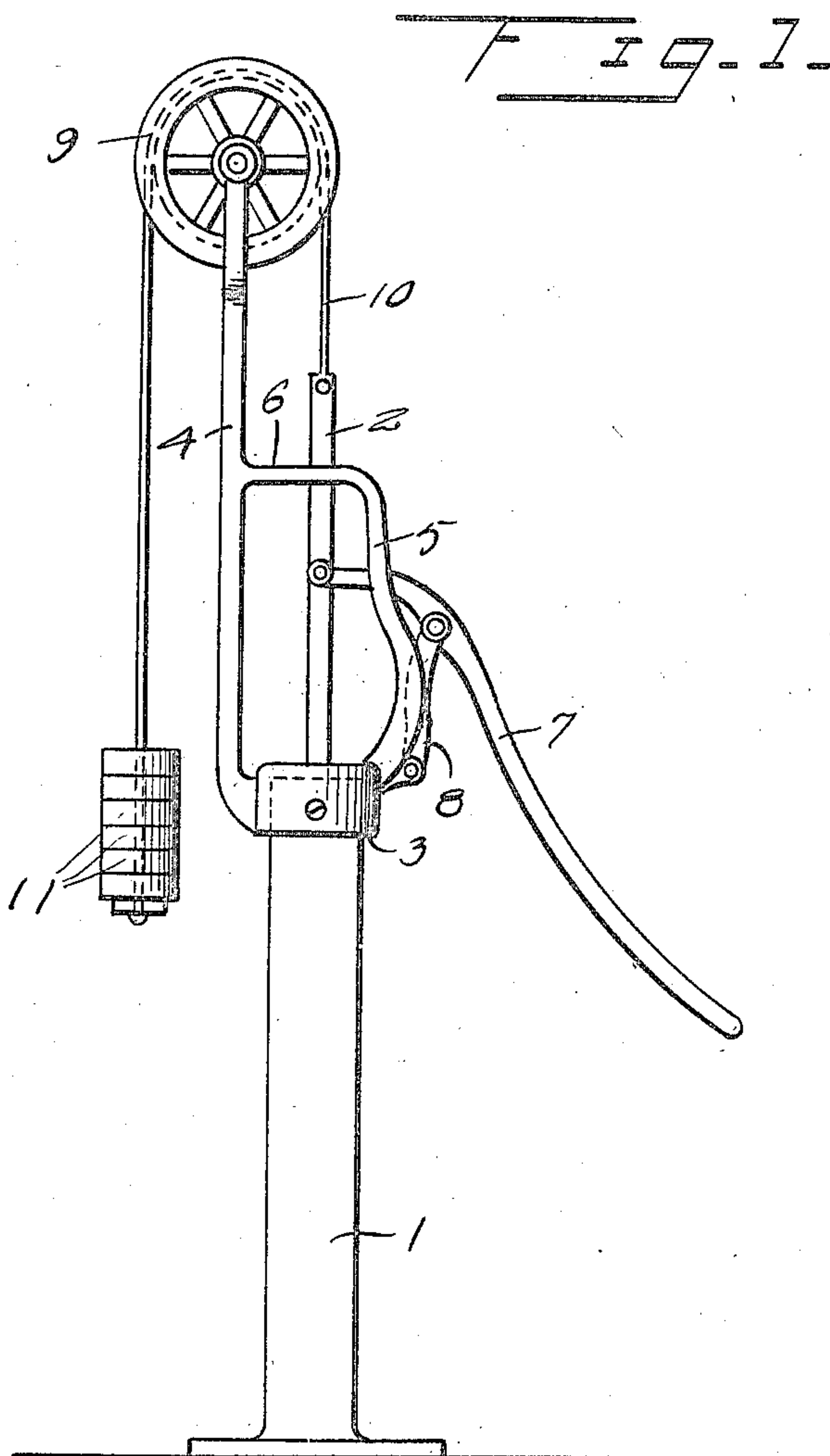
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G. MALLAN

OPERATING ATTACHMENT FOR LIFT PUMPS

Filed May 23, 1921



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UNITED STATES PATENT OFFICE.

GEORGE MALLAN, OF TROY, MISSOURI.

OPERATING ATTACHMENT FOR LIFT PUMPS.

Application filed May 23, 1921. Serial No. 471,671.

To all whom it may concern:

Be it known that I, GEORGE MALLAN, a citizen of the United States, residing at Troy, in the county of Lincoln and State of Missouri, have invented certain new and useful Improvements in an Operating Attachment for Lift Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the operation of deep well pumps considerable energy is required to be expended to lift the plunger, rods and column of water. Much of this energy is wasted because of the dead weight required to be elevated.

The present invention aims to overcome the lifting of excessive weight by the provision of counterbalancing means therefor whereby in effect the pumping operation is rendered relatively easy and may be performed by a child or with the expenditure of a relatively small amount of energy.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the specification,

Figure 1 is an elevation of a lift pump embodying the invention, and

Figure 2 is a detail view.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The numeral 1 designates the pump barrel and 2 the rod connected with the plunger. These parts may be of any well known or preferred construction and are illustrated to demonstrate the application of this invention.

The pump head comprises a cap 3 which is

secured to the upper edge of the barrel 1. The standard 4 is offset from the cap 3 and is disposed at one side of the cup. A brace comprising an upright portion 5 and a horizontal portion 8 is attached at its lower end to the opposite side of the cap 3 and at its upper end to the standard 4. The pump rod 2 is directed in its reciprocatory movements by the cap 3 and horizontal portion 6 of the brace, each having an opening through which the pump rod passes. The pump handle 7 is connected to the cap 3 by means of a link 8 and is attached to the pump rod 2 in any preferred way.

A pulley 9 is mounted upon the upper end of the standard 4 and is grooved in its periphery to receive a cable 10 or like part. One end of the cable 10 is attached to the upper end of the pump rod 2 and the opposite end portion of the cable is provided with weights 11 which are detachable to admit of varying the counter balance as required. That portion of the cable 10 attached to the pump rod 2 is in line therewith to admit of the counter balancing weight exerting a direct pull. The weight 11 may be such as to counter-balance the combined weight of the plunger, pump rod and column of water whereby the operation of the pump is rendered comparatively easy and waste of energy overcome.

Having thus described the invention, what I claim is:—

In a lift pump operating attachment, a cap applicable to the upper end of a pump barrel, a standard at one side of the pump integral with and rising vertically from said cap, a brace integral with said cap comprising an upstanding portion and a substantially horizontal portion having the first mentioned portion extending from the cap opposite to the standard and having the second mentioned portion leading to the standard, said cap and horizontal portion of the brace having registering openings adapted for passage of the pump rod therethrough, said standard extending a distance above said substantially horizontal portion, a pulley on said standard above said substantially horizontal portion having its periphery substantially intersected by a

line passing through said openings, a flexible connection adapted to extend from the pump rod and over said pulley, operating means independently of said standard and
5 brace disposed at one side of said brace and connected to the cap and adapted to be connected to said rod, and said flexible connection being free at one end and having counterbalancing weight means applied thereto,

and the structure thus forming a unitary 10 attachment.

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

GEORGE MALLAN.

Witnesses:

CAS. STEWART,
STUART L. PENN.