

No. 649,444.

Patented May 15, 1900.

T. G. GOOD, Dec'd.

F. G. GOOD, Administrator.

PUMP ATTACHMENT.

(Application filed Feb. 15, 1900.)

(No Model.)

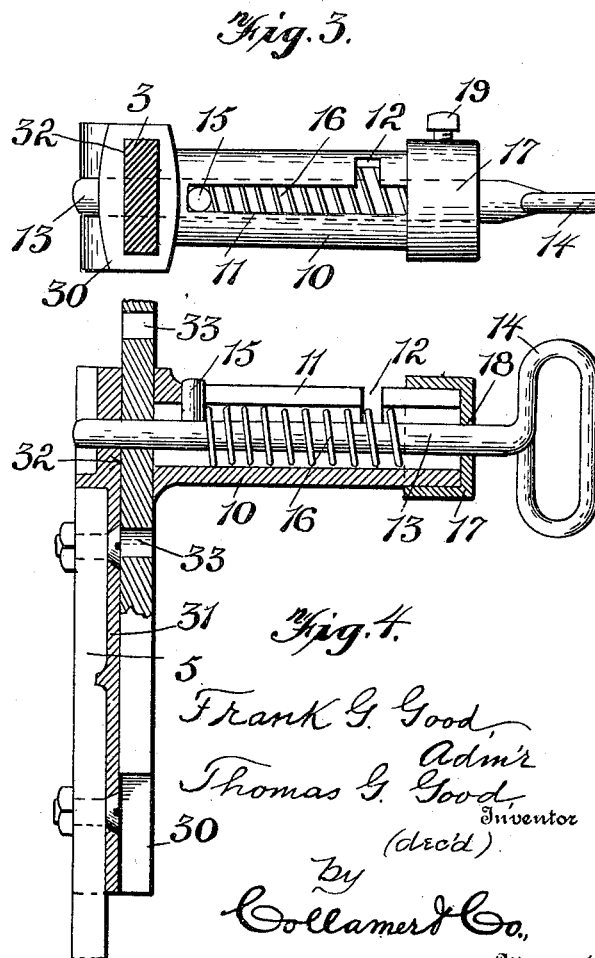
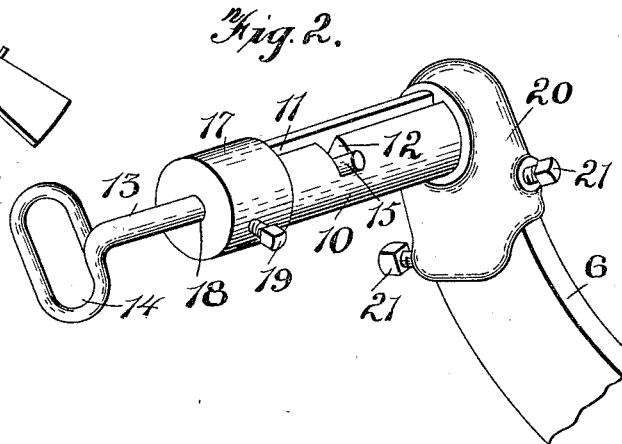
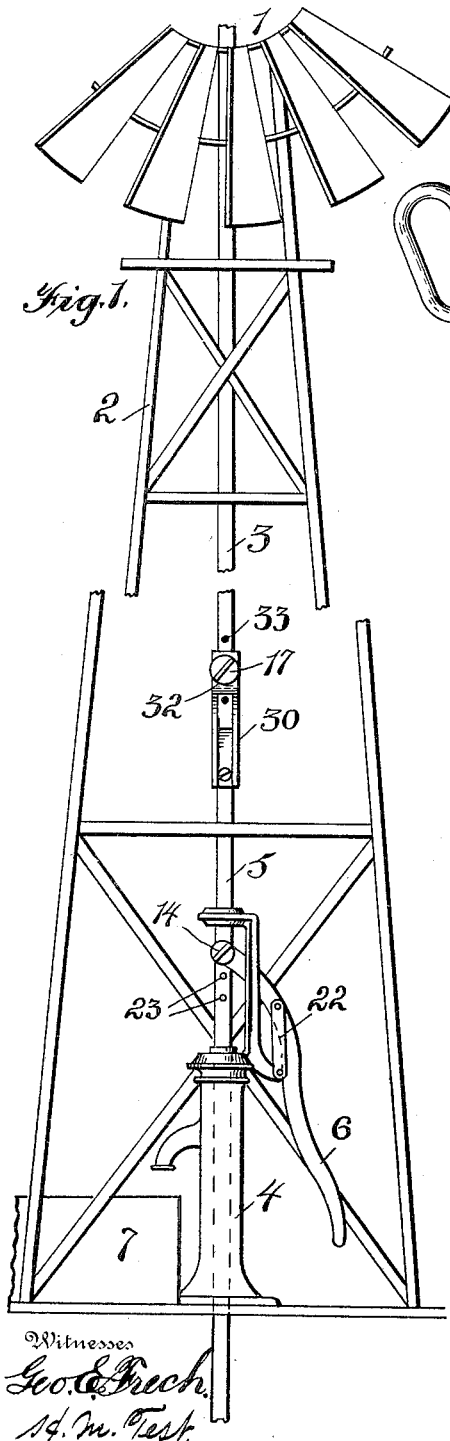


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANK G. GOOD, OF COTTAGE GROVE, WISCONSIN, ADMINISTRATOR OF
THOMAS G. GOOD, DECEASED, ASSIGNOR OF ONE-HALF TO ELIZABETH
GOOD, OF BLOOMING GROVE, WISCONSIN.

PUMP ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 649,444, dated May 15, 1900.

Application filed February 15, 1900. Serial No. 5,274. (No model.)

To all whom it may concern:

Be it known that THOMAS G. GOOD, deceased, late a citizen of the United States, and a resident of Madison, in the county of Dane, in the State of Wisconsin, (FRANK G. GOOD being his administrator, residing at Cottage Grove, same county and State,) did invent certain new and useful Improvements in Pump Attachments, of which the following is a specification sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same.

This invention relates to windmills, and more especially to the attachments used in connection with the pumps thereof; and the object of the same is to produce a serviceable and convenient coupling by means of which the pump-rod may be instantly connected with or detached from the power mechanism.

To this end the invention consists more particularly in the coupling employed, the same being described in two types in the specification, both of which are illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of a windmill-tower and part of its wheel, showing one of the couplings between the piston-rod and the pump-rod and another of the couplings between the pump-rod and pump-handle. Fig. 2 is an enlarged perspective view of one of the couplings attached to a portion of the pump-handle, showing the bolt as retracted. Fig. 3 is a plan view, with the piston in section, showing the other of the couplings with the bolt projected. Fig. 4 is a vertical section through Fig. 3.

In the said drawings, 1 is a portion of the wind-wheel, mounted on the tower 2 and reciprocating the usual piston 3, and 4 is the well-known pump, having a pump-rod 5 and handle 6 and ordinarily delivering water into a tank or trough 7. No further description is necessary for this much of what is illustrated. When the windmill is running and driving the pump, it is often desired to disconnect or uncouple the piston-rod from the pump-rod and stop the pump, and, again, when the windmill is not running and the pump is stationary it is often desired to couple the pump-handle to the pump-rod, so as to work the pump. In the latter case it is advisable

to uncouple the piston, so that when the pump is driven manually it will not necessarily drive the entire windmill mechanism, and in either case it is rarely desirable that both the piston and the handle be connected with the pump-rod at the same time. It is well known to the users of windmills that the bolt or split pin commonly employed to make the detachable connection between the parts above mentioned is forever becoming misplaced or, if handy, is constantly injuring the fingers of the operator who inserts or removes it, and the annoyance caused in these respects is intended to be obviated by the use of the present invention. The latter contemplates the provision of a coupling device which will form a permanent part of or an attachment to the pump rod or handle, so that the bolt only thereof moves to couple or uncouple the parts.

Coming now more particularly to the present invention, the features which are common to both types of coupling in the forms illustrated in the accompanying drawings are a horizontal barrel 10, provided in one side with a longitudinal slot 11, having near one extremity a lateral notch 12, a bolt 13, extending longitudinally through the barrel and having a handle 14, a pin 15, projecting from this bolt and moving in the slot and notch, and a spring for normally throwing the tip of the bolt beyond the barrel. In the present instance this spring 16 is coiled around the bolt between the pin 15 and a cap 17, which closes the inner end of the barrel save for a central opening 18 in its extremity, through which the bolt passes and beyond which stands the handle 14. However, any other suitable form of spring might be substituted, and, in fact, the invention is not limited to a handle of the shape shown nor to the specific use of the slot and notch illustrated herein, as many other forms of catch could be substituted. 19 is a set-screw, employed in the present instance for holding the cap on the barrel at the proper point; but here, again, the cap might be integral, could be screwed on, or could be attached or fixed in any desired manner.

The two types of coupling herein shown

have substantially the same constructions and functions, but differ in other details, as is required by the positions in which they are used. In Fig. 2 a socket 20 is cast integral with the front end of the barrel 10, and the pump-handle 6 is shown in the present instance as held in this socket by a number of set-screws 21, although it will be clear that the casting could be fastened to the handle in any other well-known manner. The latter is fulcrumed at 22 to the pump 4, so as to bring the bolt 13 in proper position to engage one of the holes 23 in the pump-rod 5. This occurs when the bolt is projected, and the operator may then manipulate the handle to work the pump manually. To uncouple, he has but to grasp the handle 14, retract the bolt 13, and then turn it so as to throw the pin 15 into the notch 12 of the barrel 10. This withdraws the tip of the bolt from the hole 23 and out of the path of the pump-rod 5, which latter may thereafter remain idle or may be reciprocated by the piston 3. In the type illustrated in Figs. 3 and 4 in the present instance the barrel 10 carries at its front end a pendent casting or socket 30, having a central upright partition 31, to one side of which the pump-rod 5 is fastened, while the other side thereof forms a guide extended, as at 32, upward through the barrel and across the line of the bolt 13. It will be clear that the entire socket or casting is mounted on and supported by the pump-rod, and there is no reciprocating motion until the bolt 13 is projected, when its tip passes across the opening 32 and through one of several holes 33, formed in the piston 3. Thereafter the reciprocation of the latter will cause a similar movement of the coupling and pump-rod, and the pump will work. To uncouple or disconnect, it is only necessary to draw out the handle 14 and turn the pin 15 into the notch 12, as above described.

While it may not be desirable always to employ two of these couplings, as shown in Fig. 1, yet it is clear that when the piston is working the pump or handle need not necessarily move. Also when the pump is being worked by the handle it is quite undesirable that the operator should have the load of the entire windmill to drive in addition. Hence the use of both these couplings simultaneously is of advantage; but it will be clear that either can be used with or without the other as a means of detachably connecting the piston with the pump-rod.

The invention is not limited to the exact shapes, sizes, proportions, or materials of parts, and considerable latitude must be allowed the manufacturer, according to the requirements of the trade.

What is claimed as new is—

1. A coupling consisting of a tubular barrel having a socket-piece at one extremity and an irregular-shaped slot in its side, a cap closing its other extremity save for a hole in line with the axis of the barrel, a bolt in the latter projecting through said hole and carrying a handle, a pin on the bolt engaging said slot, and a set-screw through the cap against the barrel; combined with a rod standing across the path of the bolt and having openings to receive it when it is projected, as and for the purpose set forth.

2. A coupling having a tubular barrel with a socket-piece at one end, the side of the barrel having a longitudinal slot closed at the end adjacent the socket-piece and provided with a lateral notch near its other end, a cap removably closing the other end of the barrel and solid except for a hole in line with the axis, a bolt extending through the barrel and said hole, a pin in this bolt moving in the slot and notch, and a coiled spring surrounding the bolt between the pin and the cap; combined with a rod standing across the path of the bolt and having openings to receive it when it is projected, as and for the purpose set forth.

3. In a windmill, the combination with the vertically-reciprocating piston having holes, and the pump and pump-rod; of a coupling comprising a substantially-horizontal barrel having one end adjacent the piston, a socket-piece fast to the barrel and having an upright hole in which the piston is free to move, the pump-rod being fastened to this socket-piece, a bolt within the barrel, a spring pressing it toward said piston, and a handle for retracting it, as and for the purpose set forth.

4. In a windmill, the combination with the piston-rod, and the pump and pump-rod; of a coupling comprising a substantially-horizontal barrel standing at one side of one rod, a bolt moving therein for engaging or disengaging this rod, a pendent socket-piece fast on the barrel and having a partition against the farther side of which the other rod is secured, and a groove on the opposite side of the partition extending up through the barrel and across the line of the bolt to serve as a guide for the first-mentioned rod, as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my signature this 29th day of January, A. D. 1900.

FRANK G. GOOD,

Administrator for Thomas G. Good, deceased.

Witnesses:

M. S. DUDGEON,
J. G. KANOUSE.