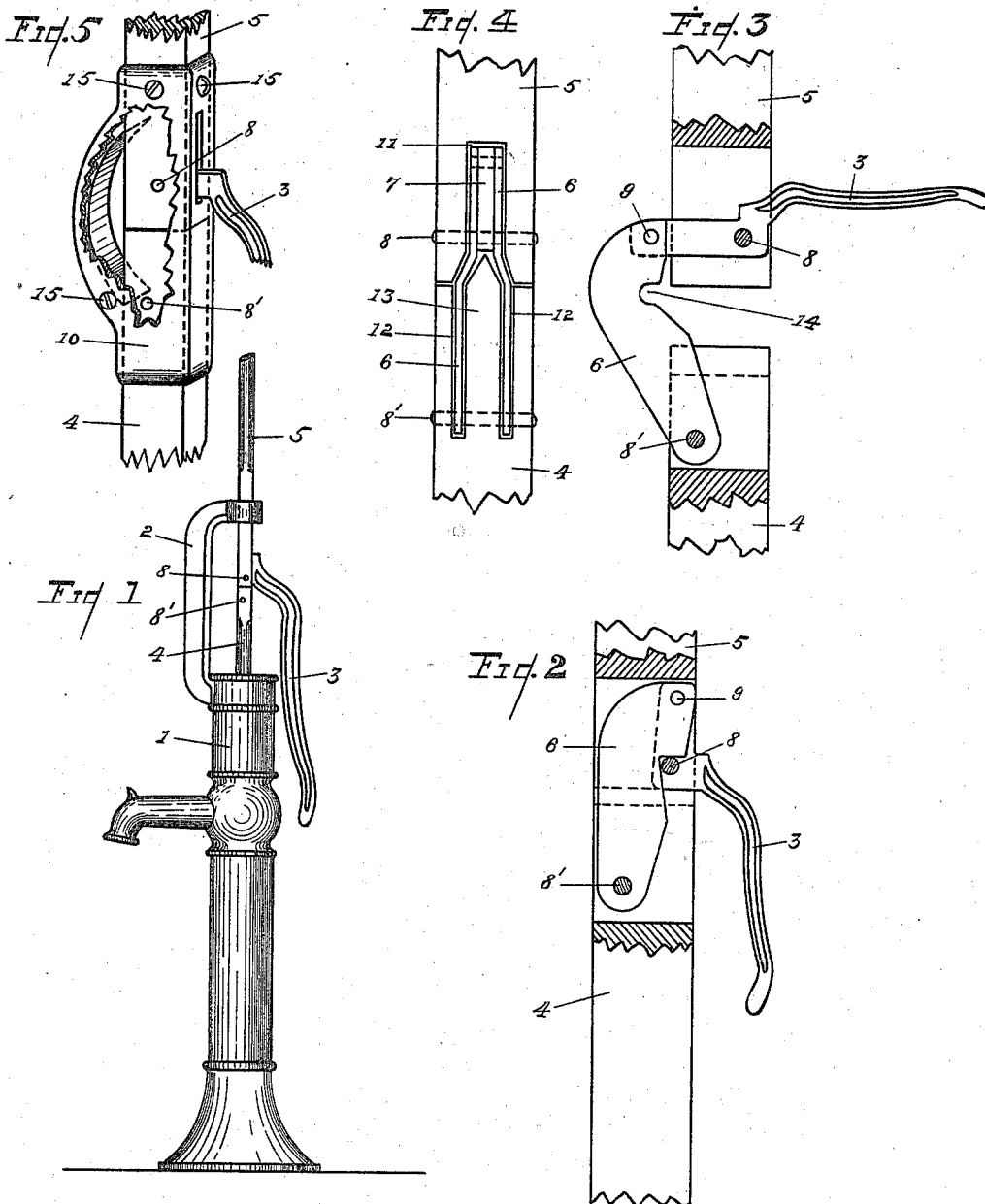


(No Model.)

J. AMSTUTZ & J. AMSTUTZ, Jr.
COUPLING FOR PUMP RODS.

No. 577,830.

Patented Mar. 2, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE,

JOHN AMSTUTZ AND JOHN AMSTUTZ, JR., OF LEO, INDIANA.

COUPLING FOR PUMP-RODS.

SPECIFICATION forming part of Letters Patent No. 577,830, dated March 2, 1897.

Application filed October 5, 1896. Serial No. 607,978. (No model.)

To all whom it may concern:

Be it known that we, JOHN AMSTUTZ and JOHN AMSTUTZ, JR., citizens of the United States, residing at Leo, in the county of Allen, in the State of Indiana, have invented certain new and useful Improvements in Couplings for Pump-Rods; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to improvements in couplings for pump-rods which are operated by wind or other motive power.

The object of our improvement is to provide a cheap, strong, and economical coupling which by a simple movement of an attached pump-handle can be so adjusted that the pump can be operated by hand independently of the mechanical power and by a like simple movement can be readjusted to be operated by the mechanical power.

The novel feature of our improved coupling consists in the construction whereby the pump may be readily operated by hand, while the rod is driven by a wind-engine or other motor, without detaching the said coupling. We attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a pump and part of the coupling-rod connected by our improved coupling. Fig. 2 is a sectional side plan view of a section of the coupling-rod, showing the coupling adjusted to be operated by mechanical power and the pump-handle pivotally adjusted upon the upper section of the pump-rod. Fig. 3 is also a sectional plan view showing the coupling so adjusted as to operate the pump by hand. Fig. 4 is a rear sectional plan view of a part of a section of the rod, showing the coupling when in position shown in Fig. 2; and Fig. 5 is a perspective view of the part of the coupling-rod inclosed in a casing, with a part of the casing broken away to show the union of the two parts of the rod when the coupling is adjusted for operating the pump by mechanical power.

Similar numbers refer to similar parts throughout the several views.

The numeral 1, Fig. 1, is a metal pump-stock having secured to its upper end in any suitable manner a guide 2, which projects at a suitable distance above the coupling and in which works the coupling-rod section 5. The lower section 4 of the coupling-rod is united by the coupling to the upper part in the manner hereinafter described.

A metal pump-handle 3 is pivotally mounted upon the bolt 8 in a vertical slot 11 in the lower end of the rod 5. The upper and inner end of this handle is constructed out of alignment with the longitudinal axis of the long arm of the handle and is extended so as to project forward beyond the connecting-rod when the handle is elevated, as shown in Fig. 3.

The lower end of the slot 11 flares outwardly, as shown in Fig. 4, and the upper end of the rod 4 has two vertical slots 12 12 in parallel relation with each other, separated by an integral projection 13 of the rod above the point of the meeting ends into the slot 11 in the rod 5, as shown in Fig. 4, and the outer sides of the said slots 12 12 meeting the outer sides of the slot 11.

In the slots 12 12 are pivotally secured two metal coupling-plates 6 6 by the bolt 8', which plates are bent inwardly at the upper ends of said slots and then upwardly to conform to and enter into the slot 11. Above the end of the projection 13 these plates are in parallel relation, leaving a space 7 between them, in which is inserted the short arm of the handle 3, to which they are pivotally secured by the bolt 9. Upon their inner edges below the pivoted connection of the handle 3 is a pin or notch 14, Fig. 3, adapted, when the free end of the said pump-handle is depressed to its lowest limit, to engage upon the bolt 8 and thereby rigidly connecting together the rods 4 and 5, as shown in Fig. 2. The point of connection of the short arm of the pump-handle with the plates 6 6 is such that when the free end of the handle is depressed to its lowest limit the said pivotal connection by the bolt 9 is thrown past a vertical line through the bolt 8, and the notch 14 will engage upon

the pivot-bolt 8 and cannot be disengaged without elevating the free end of the pump-handle, as will be readily understood by reference to Fig. 2.

5 While the separate plates 6 6 are preferably used as being simple in their construction, the coupling may be a single plate having its lower end bifurcated to be inserted in the slots 12 12 and slotted at its upper end
10 to receive the short arm of the handle 3 without departing from the scope of our invention. When the coupling connection is made as shown in Fig. 2, the rods 4 and 5 will be in alinement and the pump can be operated by
15 a wind-engine or any other suitable motor.

By elevating the free end of the pump-handle the coupling-plates will be unseated from their position upon the bolt 8 and their bolted connection at 9 will be thrown forward be-
20 yond a vertical line with the bolt 8 and the meeting ends of the rods 4 and 5 separated, but they will still remain in alinement, and the lower or piston rod 4 can then be operated by means of the handle 3, as in common
25 pumps. While by this device the upper rod 5 being connected with the motor if in motion will obviously carry with it in vertical movement the pump-handle, yet the stroke in all ordinary power-pumps is so limited that
30 the motion will not interfere with operating the pump by means of the handle.

A modification of the form of the notch 14 is shown in Fig. 2, which can be adopted without departing from the scope of our invention.
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The tongue 13 need not necessarily project above the meeting ends of the rods 4 and 5, as seen in Fig. 4, but is preferably so constructed, as it serves as a guide and aids in
40 securing the connecting-rods from lateral movement.

In Fig. 5 the coupling is incased in a boxing 10, which is secured to the rod 5 immediately above the coupling by bolts or screws
45 15. This casing or boxing 10 may be constructed in any suitable manner and is slotted upon its rear side for receiving the pump-handle. The lower rod 4 slides in its vertical movement in this casing, which serves
50 as a guide, thus dispensing with the guide 2 shown in Fig. 1.

So far as we know we are the first inventors in this art to attach the pump-handle and its working connections to the pump-rod without
55 any connection with the pump-stock, the usual method heretofore having been to pivot the handle upon the pump-stock or lugs secured to the same.

Having thus described our invention, what
60 we claim as new, and desire to secure by Letters Patent, is—

1. A two-part pump-rod having its upper part attached to any suitable motor-power and its meeting ends vertically slotted for the oper-
65 ating parts in combination with a pump-handle pivotally fulcrumed in the upper pump-

rod section, and having its inner end extended for the purpose specified, and means for pivotally connecting said handle with the adjacent end of the lower pump-rod section
70 whereby its said sections can be rigidly connected at pleasure and the said lower section can be operated by means of said handle pivotally connected to said upper section without disengaging the said parts, substantially
75 as described and shown.

2. In a pump operated by a wind-engine or other motor-power a pump-rod consisting of an upper and lower section connected at their meeting ends by a coupler constructed as described, pivotally connected to the lower section of said rod and at its upper end pivotally connected to the short arm of a pump-handle, which handle is pivotally fulcrumed
80 upon the lower end of the upper section of the pump-rod and so arranged that when the free end of the handle is depressed the said coupling at its upper end will be seated upon the fulcrum-bolt of said handle and thus rigidly connect the two sections of said rod together for operating the pump by motor-power attached to said upper section, and
85 that when the free end of the handle is elevated the coupling will be disengaged from its seat upon said fulcrum-bolt, and the meeting ends of the two sections will be separated but still in alinement, and connected
90 by said coupling and that the pump can be then operated by the pump-handle independent of the motor-power attachment, in combination with said pump-handle and a proper motor-power attachment.
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3. The combination in a pump operated by a motive power, of a two-part pump-rod, consisting of an upper and lower section connected at their meeting ends by a coupler constructed as described, pivotally connected at its lower end to said lower section, and at its upper part to the short arm of a pump-handle, the handle pivotally fulcrumed upon the
105 lower end of the upper section of the pump-rod as shown, a boxing 10 secured to the upper section of the pump-rod and extending below the meeting ends of the two sections as a guide for said lower section and to keep
110 it in constant alinement with the upper section, and means for connecting said pump-rod to the motive power, all arranged substantially as shown and described.
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4. The combination with a pump operated by mechanical power of a pump-rod comprised of an upper and lower section, having a pump-handle pivotally fulcrumed upon the lower end of the upper section and a coupler constructed as described pivotally secured to
120 the inner short arm of said handle and also pivotally secured to the upper end of the lower section of said rod, and so arranged that by depressing the free end of said pump-handle, the adjacent ends of said sections
125 will be rigidly secured together, and that by elevating said free end of the handle the ad-
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5 jacent ends of the pump-rod sections will be separated and the pump can be then operated by means of the pump-handle independent of the motor, and without disconnecting the coupler from either of the two sections, in combination with said pump-handle and a suitable motor-power, all substantially as described and shown.

Signed by us and dated this 26th day of September, 1896.

JOHN AMSTUTZ.
JOHN AMSTUTZ, JR.

In presence of—
NEWTON D. DOUGHMAN,
IDA L. ROSS-LEWIN.