(No Model.)

M. A. HAGER.

PUMP ATTACHMENT.

No. 560,791. Patented May 26, 1896.

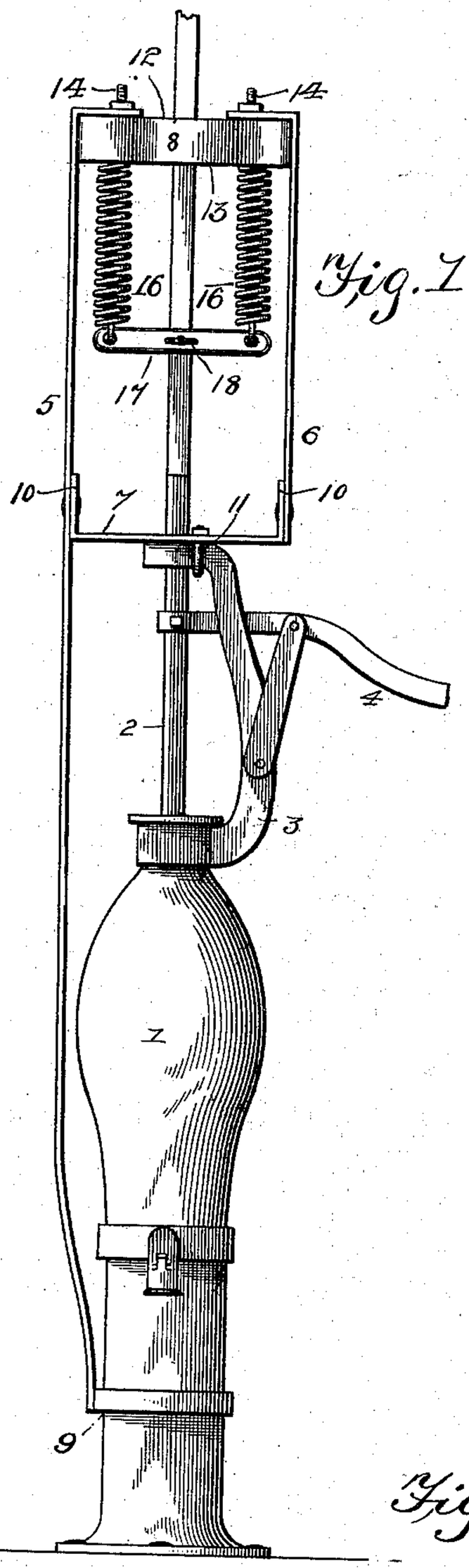

Fig. 1.

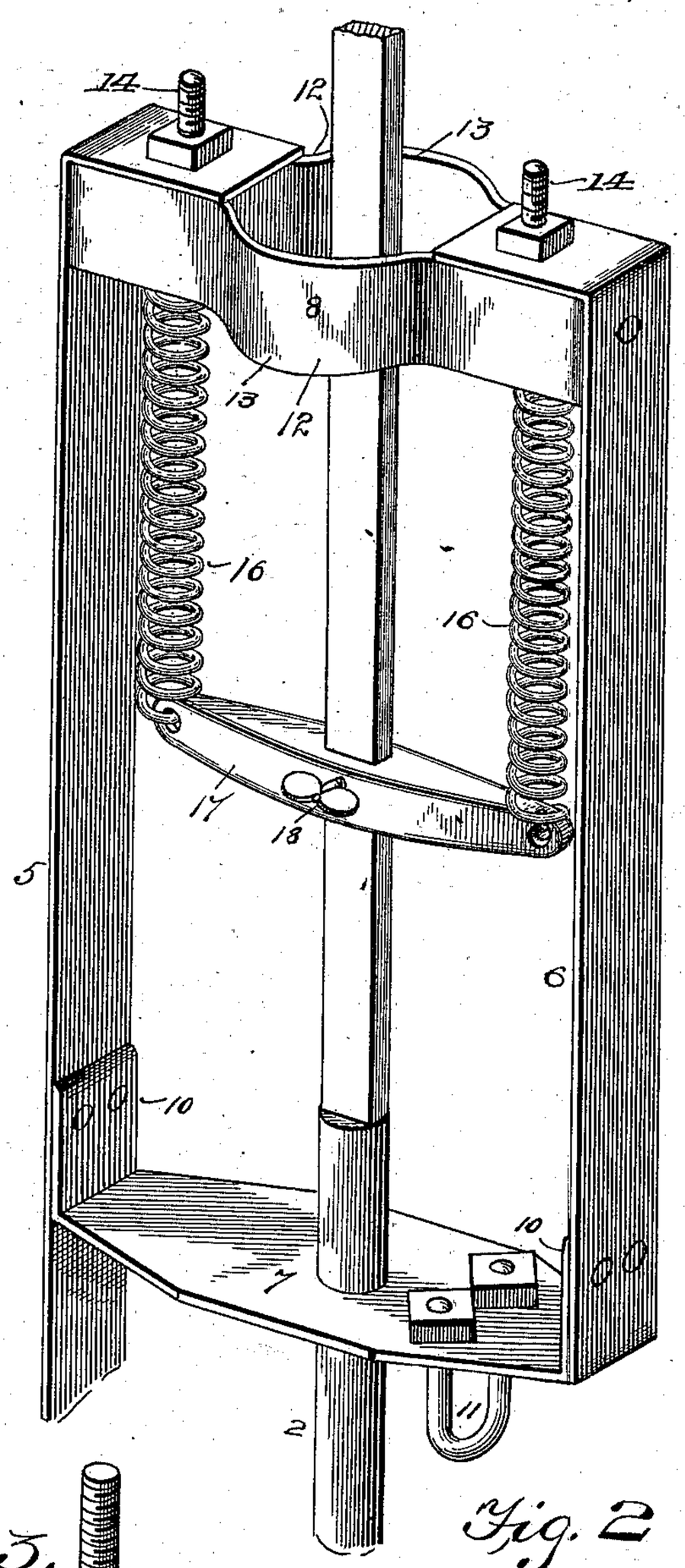

Fig. 2.

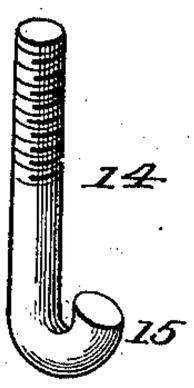

Fig. 3.

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UNITED STATES PATENT OFFICE.

MARTIN A. HAGER, OF ESDAILE, WISCONSIN.

PUMP ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 560,791, dated May 26, 1896.

Application filed May 21, 1895. Serial No. 550,112. (No model.)

To all whom it may concern:

Be it known that I, MARTIN A. HAGER, a citizen of the United States, residing at Esdaile, in the county of Pierce and State of Wisconsin, have invented a new and useful Pump Attachment, of which the following is a specification.

This invention relates to an improvement in pump attachments.

The object of the present invention is to render easier and lighter the process of pumping by supporting and relieving the pumping apparatus or pump-rod in such manner that the pump-rod will require less power to operate it and the strain and jerking incident to the starting and rapid operation of the pump will be obviated.

With the above end in view the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of a pump, showing also my improved attachment applied thereto. Fig. 2 is an enlarged perspective view of the improved attachment complete. Fig. 3 is a detail perspective view of one of the adjusting-screws for regulating the tension of the springs which support the pump-rod.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 represents an ordinary pump, which may be of any usual or preferred construction, and 2 indicates the pump rod or piston, which reciprocates through an aperture in the upper end of the pump-stock and which has a flattened or polygonal upper portion.

3 indicates a bracket attached to the top of the pump and extending upwardly therefrom to receive the pump handle or lever 4, pivoted therein and connected to the pump rod or piston, said bracket 3 being extended above the pump handle or lever to form an upper bearing for the vertically-reciprocating pump rod or piston, such extension forming also a support for my improved attachment, which will now be described.

The attachment comprises an open rectangular frame, made for the most part from iron or steel, composed of side bars 5 and 6, a lower connecting-bar 7, and an upper connecting and guiding frame bar 8, which will be severally described. The side bars 5 and 6 extend in vertical and parallel relation to each other, one of said bars 5 being extended considerably below the lower extremity of the other bar 6 and below the cross-bar 7 downward a sufficient distance to form a brace, which is firmly secured to the pump-stock, as indicated at 9, for supporting the attachment and sustaining the same in proper position. The lower cross-bar 7 is provided at its ends with angular feet 10, through which it is riveted to the side bars 5 and 6 and is also centrally perforated to admit of the passage of the reciprocating pump-rod. As a further means of securing the attachment in position, the lower cross-bar 7 is perforated to receive the upper ends of a staple 11, which passes around beneath the upper extension of the bracket 3, above referred to, and is screw-threaded at its ends to receive suitable clamping-nuts, as shown. By the aid of the staple or loop 11 and the downward extension of the side bar 5, connected with the pump-stock, as described, the attachment is effectually and firmly supported in place.

The upper connecting-bar is composed of an oppositely-disposed pair of metallic straps 12, which are provided centrally with oppositely-extending curved portions 13, forming a guiding-eye, through which the pump-rod or the rod which extends up to a windmill crank-shaft is adapted to reciprocate. The straps 12 are preferably formed from a single strip of metal, being riveted between the upper ends of the side bars 5 and 6, as shown. The upper extremities of the side bars are bent inwardly over and above the straps 12 and perforated to permit the passage of an oppositely-disposed pair of adjusting-bolts 14, the lower ends of which are hooked, as at 15, to receive the upper ends of a pair of spiral springs 16, arranged within the rectangular frame and spaced apart to permit the passage of the pump-rod between them. The lower ends of the springs 16 are connected by means of a cross-bar or link 17, perforated at its opposite ends to receive the lower hooked

ends of said springs, and also provided with a central perforation adapted to receive the pump-rod and having a set-screw 18, by means of which the relation between the cross-bar 17 and the pump-rod may be fixed at any desired point. The central perforation of the cross-bar or link 17 is rectangular to receive the polygonal or flattened portion of the pump-rod, and the side clamp 18 engages one of the side faces thereof. The ends of the straps 12 are spaced sufficiently apart to receive the upper ends of the springs 16, and the tension of said springs may be adjusted either by tightening the nuts of the adjusting-screws at the tops of said springs, or by adjusting the position of the cross-bar 17 with relation to the pump-rod by means of the set-screw 18.

By means of the construction above described the tension of the springs may be utilized for the purpose of assisting in the operation of pumping, the idea being to equalize the power required for elevating or lowering the pump-valve and pump-rod. The longer the stroke of the pump-rod and the greater the amount of water lifted at each stroke the tighter should the springs be adjusted, and vice versa, where the stroke is a short one and only a small quantity of water is lifted at a time.

The device is simple in construction, effective in operation, and may be readily attached to a pump of any description, being adapted for use in connection with any ordinary hand-pump or with the plunger-rod of any ordinary windmill-pump.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

The combination with a pump comprising a stock 1, a vertically-reciprocating pump-rod 2, provided at its top with a flattened or polygonal portion, a bracket 3 extending upward from the top of the stock of the pump and having its upper end extended horizontally, provided with a perforation and receiving and forming a guide for the pump-rod, a link pivoted to the bracket and forming a movable fulcrum, and a pump rod or handle fulcrumed on the link and adjustably connected with the pump-rod, of an open rectangular frame comprising vertical parallel sides, a lower horizontal connecting-bar clipped to the upper end of the bracket, and an upper guide-bar composed of two side pieces having parallel end portions and oppositely-curved central portions 13, forming a guide-eye, the upper ends of the side pieces being bent inward over the parallel portions of the upper bar to form housings, a pair of springs having their upper ends arranged in said housings and adjustably connected with the top of the frame, a cross-bar 17 attached to the lower ends of the springs, provided with a central opening to receive the pump-rod and having a clamp, whereby it is adjustably secured to the latter, and a brace disposed substantially vertical and extending downward over one side of the rectangular frame to the lower portion of the stock of the pump and secured to the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARTIN A. HAGER.

Witnesses:
O. A. ULVIN,
E. GILBERTSON.