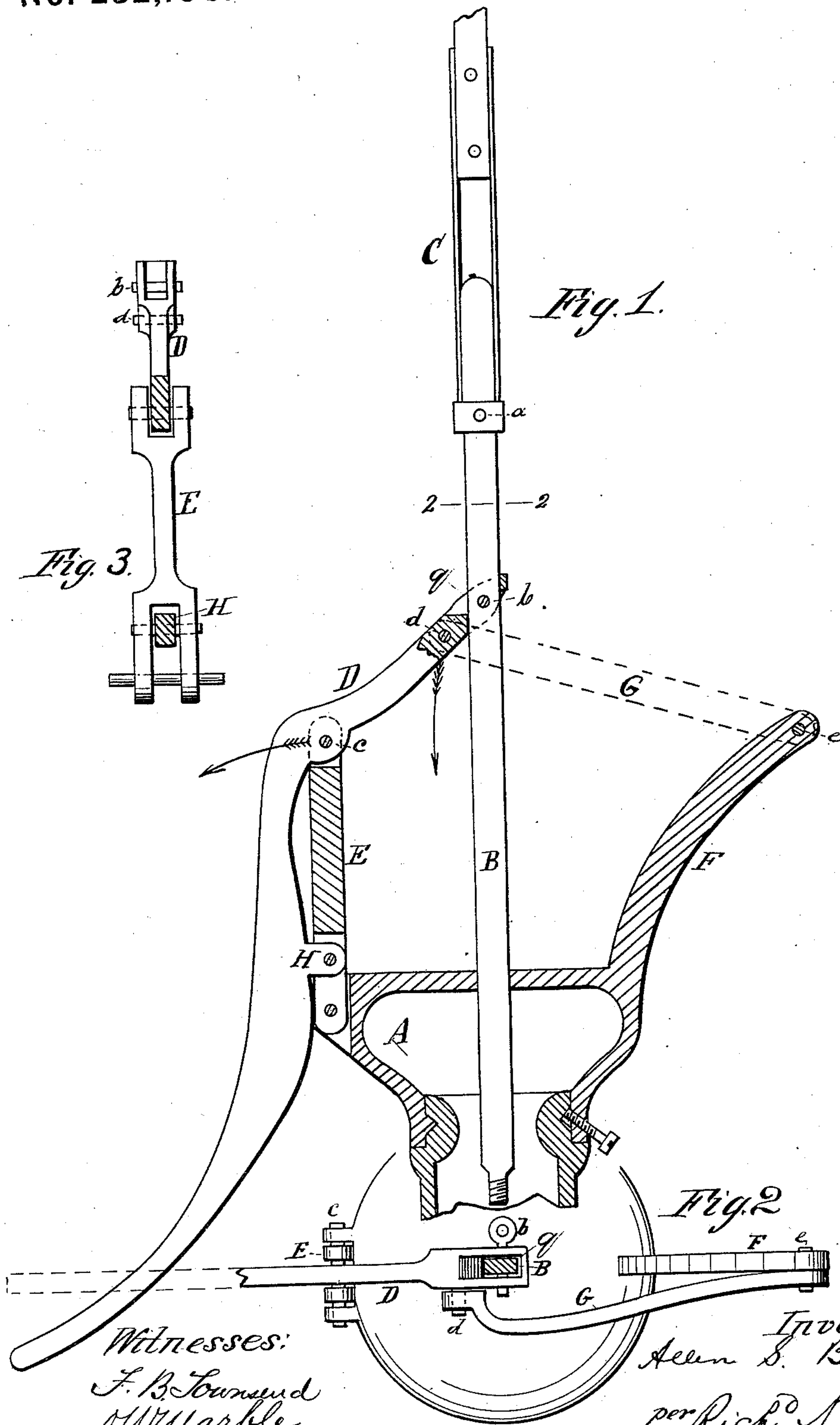


A. S. BAKER.
Pump.

No. 232,103.

Patented Sept. 14, 1880.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALLEN S. BAKER, OF EVANSVILLE, WISCONSIN.

PUMP.

SPECIFICATION forming part of Letters Patent No. 232,103, dated September 14, 1880.

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To all whom it may concern:

Be it known that I, ALLEN S. BAKER, of Evansville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

The object I have in view is to produce a pump especially intended for use with windmills, and adapted to be operated by hand or windmill power, which will have its rod guided accurately in its reciprocation, and will work with less friction and less noise than those heretofore used, and at the same time will be simple, cheap, and durable in construction; and my invention therein consists in the several combinations of the operative parts, as fully hereinafter explained, and pointed out by the claims.

In the accompanying drawings, forming a part hereof, Figure 1 is an elevation of the devices for operating the pump with the pump-head in section; Fig. 2, a section on line 2 2, looking down on the pump, and Fig. 3 a separate view of the oscillating link in which the pump-handle is fulcrumed.

Like letters denote corresponding parts in all of the figures.

A is the head of the pump, which is of the usual or any suitable construction. In the pump-head is the reciprocating rod B, which connects at its lower end with the pump-plunger. This rod is removably coupled by a pin, *a*, with the working-rod C of the windmill in the ordinary way, and at a point lower down is coupled to the short arm of the handle D by a removable pin, *b*. The handle is cast with an eye, *q*, which receives and incloses the rod B, for a purpose which will be presently described.

The handle is pivoted to the upper end of a link, E, rising from the pump-head, to which it is pivoted so that it can swing laterally away from and toward the pump-rod B. Opposite to where this oscillating link is pivoted to the pump-head there rises from such pump-head a rigid standard, F, which is connected at its upper end by a pivoted link, G, to the short arm of the handle D at a point, *d*, on the handle a short distance from the pump-rod B.

It is evident that in the true reciprocation of the rod B the point *d* will describe the arc of a circle, and to secure the accurate move-

ment of this rod it is necessary that the pivot *e* of the link G in the standard F should be the center of this circle. To ascertain this center the distance from the pivot *b* to the point *d* should be measured from a number of points on the central line of the pump-rod toward the pivot of the handle in the top of the oscillating link. A curved line drawn through these points will be an arc of the circle whose center is the pivot *e*. The center of this circle being fixed, it will be seen that the link G will compel the pump-rod to move accurately in its reciprocation, which will lessen the friction and wear in the pump-head, and will do away with the necessity of using a stationary guide-plate, which in this class of pumps is accompanied with great wear, friction, and noise.

The link G is curved laterally, as shown in Fig. 2, to avoid the pivot-pin *b*.

Nearly opposite the lower end of the oscillating link E the pump-handle is provided with a lug, H, which, when the handle is thrown down, can be connected by a pin to the link E, as shown.

For pumping by hand the pin *a* is removed, disconnecting the windmill-rod, the lug H of the pump-handle is disconnected from the link E, and the pump-handle is pivoted to the rod B by the pin *b*. Now the pump-handle can be operated and the rod B will be guided accurately, the link G taking the lateral pressure of the pump-handle, which heretofore has caused the friction and wear in the stationary guide-plate.

In my construction there is much less friction and less wear than where the pump-rod plays through a stationary guide-plate, and there is also not nearly so much noise, since the pivot-pins will retain the oil while the guide-plate will not.

For pumping by windmill-power the pump-rod is connected with the windmill-rod by the pin *a*, the handle is thrown down, and the pin *b* is removed from the short arm of the handle and passed through the coinciding holes in the link E and the lug H. This locks the handle and the links E and G in a fixed position, so that the eye *q* in the end of the short arm of the handle serves as a guide for the pump-rod. For convenience in drilling the holes for the pivot-pins the pump-rod is made flat.

What I claim as my invention is—

1. In a pump, the pump-rod adapted to be removably connected with the working-rod of a windmill, in combination with a handle fulcrumed in an oscillating link and a link connected to the short arm of such handle and having its other end pivoted at a fixed point, substantially as described and shown.

2. In a pump, the pump-rod adapted to be removably connected with the working-rod of a windmill, in combination with a handle having an eye inclosing such pump-rod and adapted to be locked in a fixed position to form

a guide when the pump-rod is operated by windmill-power, substantially as described and shown.

3. In a pump, the pump-rod B, adapted to be removably connected with the working-rod of a windmill, in combination with the handle D, having eye *c*, the link E, standard F, link G, and lug H, substantially as described and shown.

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Witnesses:

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