(No Model.)

B. BRANSON.

Pump.

No. 237,240. Patented Feb. 1, 1881.

FIG. 1

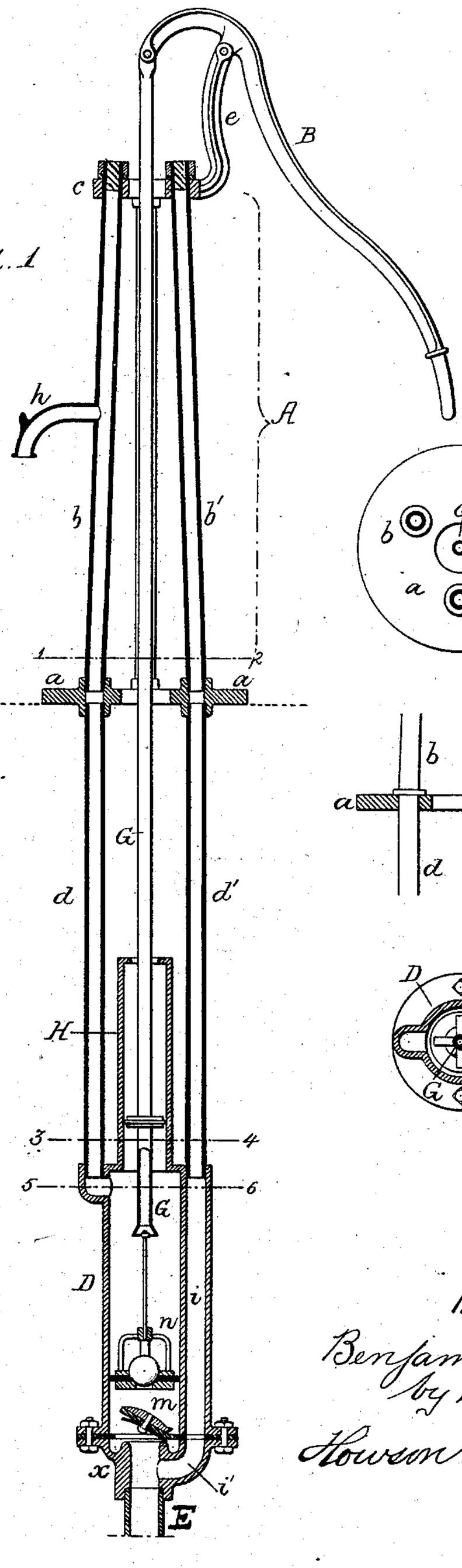


FIG. 2.

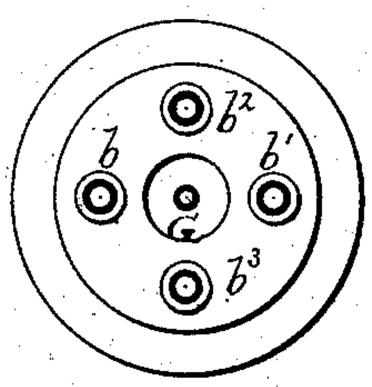


FIG. 3.

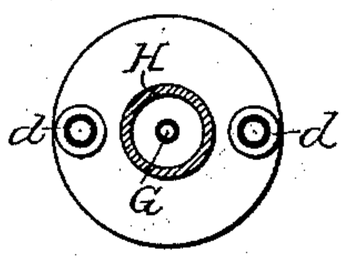


FIG. 6.

FIG. 5.

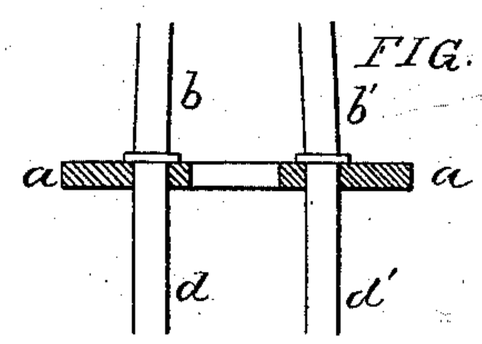
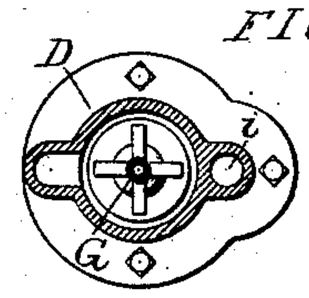


FIG. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

BENJAMIN BRANSON, OF PHILADELPHIA, PENNSYLVANIA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 237,240, dated February 1, 1881.

Application filed November 2, 1880. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN BRANSON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Well-Pumps, of which the following is a specification.

My invention relates to the construction of well-pumps in which wrought-iron tubular rods constitute part of the frame; and the object of my invention is to construct a substantial, light, and economical pump of this character, and to combine therewith a vacuum-chamber cheaply constructed in the manner explained hereinafter.

In the accompanying drawings, Figure 1 is a vertical section of my improved pump; Fig. 2, a sectional plan on the line 1 2; Fig. 3, a sectional plan on the line 3 4; Fig. 4, a sectional plan on the line 5 6, and Figs. 5 and 6 views illustrating modifications of my invention.

The portion A of the pump, which is generally above ground, and which is termed the "stock," consists of the plate *a*, secured to a suitable foundation, four wrought-iron tubes, *b*, *b'*, b^2, and b^3, and the top plates, *c*, carrying the bracket *e*, to which the handle B is pivoted. These rods may be screwed into the foundation-plate *a* and into the upper plate, *c;* but I prefer to screw the two rods *b b'* (shown in Fig. 1) to the base-plate, and let them pass freely through the upper plate, above which they are furnished with nuts, the other tubes, b^2 and b^3, simply fitting into sockets in the upper and lower plates, and being secured therein by tightening the nuts of the rods *b b'*. By this mode of construction a light, and at the same time substantial, stock is obtained.

The main pump-barrel D is suspended within the well by means of two tubular rods, *d d'*, the attachment of these rods to the plate *a* and pump-barrel being made in any manner which may be deemed most convenient and economical, but so that the rod *d* shall communicate with the rod *b*, the two rods constituting the force-pipe, having its outlet at the spout *h*. The two rods *d'* and *b'* may also communicate with each other, but this is not absolutely essential.

It may be remarked here that the tubular rod *d* may be in one piece with and a continuation of the rod *b*, and the same with the rods *b'* and *d'*, the rods passing through the base-plate, as shown in Fig. 5, and being secured thereto in any suitable manner.

The tubular rod *d'* communicates with the suction-pipe E through a passage, *i*, formed within an enlargement of the pump-barrel, and through a passage, *i'*, formed in the coupling *x*, whereby the suction-pipe is attached to the pump-barrel; or the rod may have any other direct communication with the suction-pipe below the suction-valve *m*.

It is well known to those familiar with pumps that a chamber communicating with a suction-pipe, but otherwise closed, contributes to the easy working of the pump; hence such chambers are frequently applied to rapidly-working steam-pumps, and are termed "vacuum-chambers." In my improvements this chamber is economically formed, partly by the tube *d'* and partly by the passage *i i'* forming the communication between the said tube and the suction-pipe; and if a chamber of large capacity is desired, the interior of the tubular rod *b'* may form an extension of the vacuum-chamber.

The suction or foot valve *m* may be of the ordinary construction, as also may be the bucket or piston *n*, which, in the present instance, is connected to a tubular pump-rod, G, the interior of which constitutes the air-chamber, and the upper end of which is joined to the short arm of the pump-handle B.

A supplementary barrel, H, projects above and communicates with the main barrel, and to this supplementary barrel is adapted a piston secured to the tubular pump-rod. It should be understood, however, that neither the valve, buckets, supplementary barrel, nor tubular pump-rod, serving as an air-chamber, constitute any part of my present invention.

A substantial pump-stock may consist of three tubular rods, arranged as shown in Fig. 6, one of these rods serving as the discharge-pipe, and one of the other rods serving as part of the vacuum-chamber.

I claim as my invention—

1. A pump in which a base-plate, *a*, and top plate, *c*, having a bearing for the pump-handle,

are combined with tubular wrought-iron rods, forming, with said plates *a* and *c*, the stock of the pump, all substantially as set forth.

2. A pump in which a barrel, D, and plates *a* and *c* are combined with tubular wrought-iron rods, which serve to connect the said barrel and plates together, substantially as described.

3. The combination of the base-plate *a*, the top plate, *c*, the rods b^2 b^3, adapted to sockets in said plates, and the rods *b* and *b'*, serving to clamp the plates *a* and *c* together and confine the rods b^2 and b^3, the rod *b* forming an extension of the discharge-pipe of the pump, all substantially as set forth.

4. The combination of the base-plate *a*, the pump-barrel D, and suction-pipe E with a tubular supporting-rod forming a vacuum-chamber, or part thereof, communicating with the suction-pipe below the suction-valve *m*, all substantially as set forth.

5. The combination of the suction-pipe E of the pump, the pump-barrel D, having an extension inclosing a passage, *i*, and the coupling *x*, having a passage, *i'*, leading from the passage *i* to the suction-pipe, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN BRANSON.

Witnesses:
JAMES F. TOBIN,
HARRY SMITH.