

(Model.)

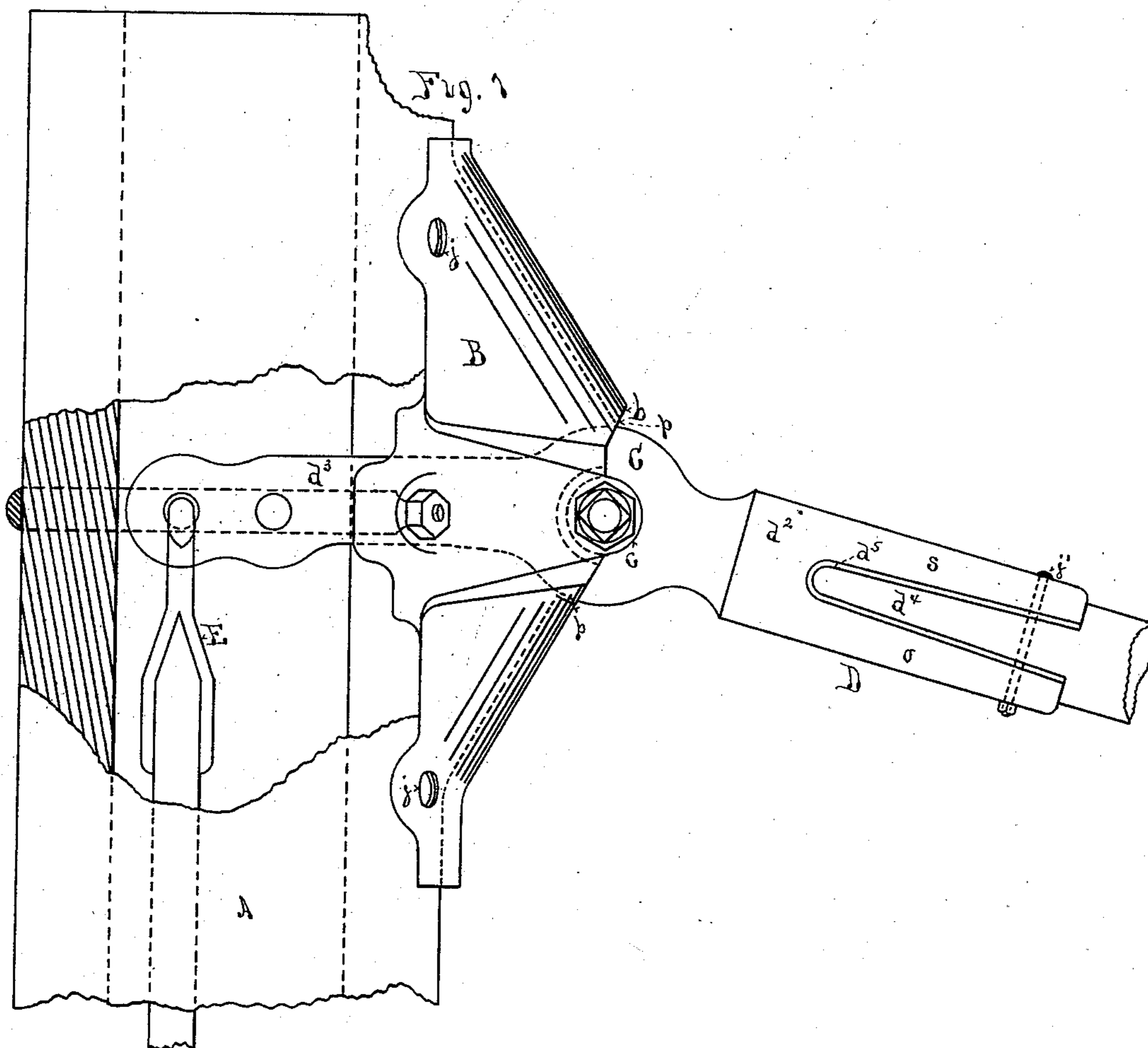
2 Sheets—Sheet 1.

G. H. HOLT.

PUMP.

No. 279,949.

Patented June 26, 1883.



Witnesses:

Wm. D. Brown
A. P. Ockington.

Inventor

Geo H. Holt,
Hydrio Atty
Lexington, Ky.

(Model.)

2 Sheets—Sheet 2.

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Fig. 2

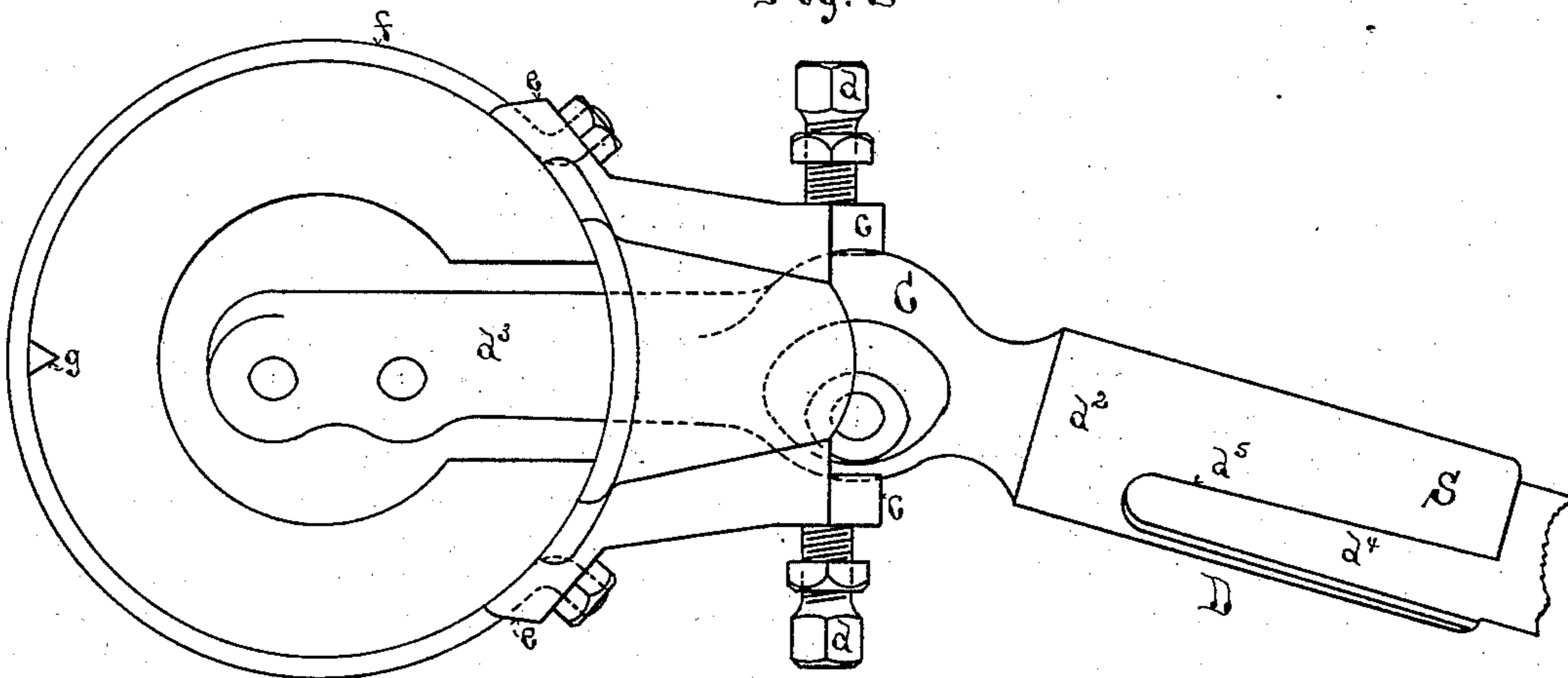
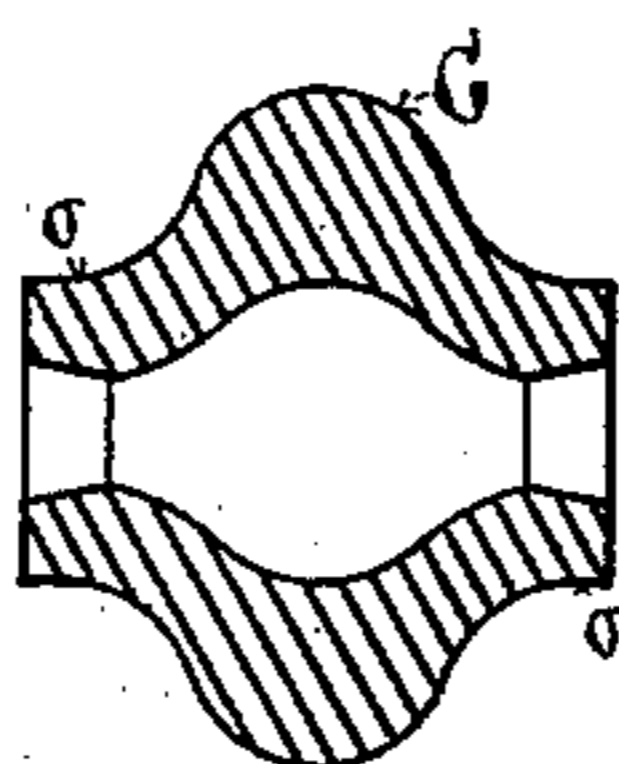


Fig. 3



Witnesses

Wm. B. Brown
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UNITED STATES PATENT OFFICE.

GEORGE H. HOLT, OF WEST CHELMSFORD, MASSACHUSETTS.

PUMP.

SPECIFICATION forming part of Letters Patent No. 279,949, dated June 26, 1883.

Application filed March 24, 1881. (Model.)

To all whom it may concern:

Be it known that I, GEORGE H. HOLT, of West Chelmsford, in the county of Middlesex and State of Massachusetts, have invented an
5 Improvement in Pumps, of which the following is a specification.

My improvement relates to pumps having a barrel made of wood, and a slot in the side or wall of the barrel, through which the brake or
10 handle extends; and its objects are to provide a case to cover such slot which shall prevent sticks, stones, or other foreign substances from being put into the pump-barrel through the slot; to firmly hold and attach to the pump-
15 barrel such case; to provide a brake the shorter end of which shall be formed of metal and the longer of wood, so formed and united that the metal part shall receive and hold the wood and be adjustable to any shrinkage of the
20 same; to provide a fulcrum which shall prevent the pump-handle from coming in contact with the pump or case, and be adjustable, to take up all lost motion caused by the wear of the parts, and to so shape and adjust the
25 parts as to permit an easy detachment of the working parts of the pump from one another without the necessity of removing the case covering the slot. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

30 Figure 1 is a side elevation of the top of a pump-barrel with my attachments in operative position. Fig. 2 is a plan view of the device, showing how the brake or handle is removed.
35 Fig. 3 is a section through the brake on the line of its axis.

A is the pump-barrel. E is the piston-rod. B is a case made of cast-iron, formed in one piece, provided with an opening, *b*, through which
40 the brake passes, and ears *c c*, through which the taper-ended set-screws *d d*, which form the fulcrum upon which the brake or handle D vibrates, pass. The case B is also provided with ears *e e*, through which the ends of the
45 band *f* pass, which, with the case, encircles the pump-barrel. These ends are threaded and provided with nuts, by which the band is drawn tightly around the pump-barrel and the case B firmly held thereupon, and the pump-
50 barrel prevented from checking or cracking near its top above the part wet by the water

standing in it, as is frequently the case. The band *f* is provided with the spur *g*, which is forced into the wood by the tightening of the band, and effectually prevents the case from
55 being slipped or rotated upon the pump-barrel by any object coming in contact with the end of the brake-rod.

To hold the case B in position while the band *f* is being tightened in place, screws *j* are put
60 through the case into the wood of the pump-barrel in the usual manner of attaching such cases; but as these screws must enter the barrel near the slot and have only the thickness of the wood forming the barrel, they alone afford an imperfect protection against the tearing
65 off the case if any object moving horizontally comes in contact with the brake-rod. Especially is this the case if the ears sustaining the brake extend some distance outward from
70 the case, as they necessarily must if a barrel of no great thickness be used, and if it is desired to give the piston a considerable stroke. I therefore do not depend greatly upon these
75 screws, but allow them to remain when put in as auxiliaries to the band.

The brake D is composed of a longer arm part, *d²*, and a shorter arm, *d³*, united with the ball C, formed at the intended center of oscillation. The arm *d²* consists of a metal socket
80 part, *s*, and a wooden handle part, *d⁴*, secured in the metal part, as hereinafter described. These arms *d²* and *d³* are not exactly in the same plane passing through their working-axis, but are placed at such an angle to one another that
85 when the longer one is at its lowest point of movement its extremity shall be quite close to the pump and out of the way of passing objects, while its upper shorter arm still extends within the bore of the pump-barrel. As such curvature is usual and ordinary, no extended description is necessary. The shorter arm of the
90 brake is of metal, cast with the ball, and the longer end consists, as before stated, of a wooden handle inserted in the iron socket *s*, which is cast with the ball. This handle is held in place
95 in the socket by a bolt, *j*, which passes through the socket and handle. This bolt is provided with a nut, and the socket *s*, having two slots, *d⁵*, on opposite sides of the handle part, exactly
100 alike, cut in it, can be sprung together and tightened upon the wooden handle part whenever it

becomes loose from the shrinkage of the wood from exposure to the rain and sun, thus supplying a brake both better and cheaper than when all iron, while obviating the objections heretofore existing to the use of the compound wood and iron brake for outdoor pumps.

The ball C is made spheroidal in shape and has cast upon it opposite its axis the hubs *o o*. These hubs are of such length that their ends abut against the ears *c c* closely but loosely, while the axial line through the hubs and ball is less than the other diameter of the ball. This form facilitates the uncoupling of the brake from the piston-rod, which has a hook that enters into an eye in the end of the brake in the usual manner, by enabling the operator to keep the eye in the brake-rod more nearly central than is possible with ball or drum joints of the ordinary construction, for when the brake is loosened by withdrawing its pivotal rod or set-screws and drawn outward to get its hubs outside of the end of the ears, the piston-rod below the brake will be brought into contact with the wall of the pump and cannot be unhooked; but with the hubs and ball constructed as I have described, when the longer end of the brake is swung around outside of the plane of its ordinary movement to permit of its being turned, and the shorter arm kept from contact with the sides of the bore and slightly rotated, the end of the ear projecting beyond the set-screw and necessary to hold it enters into the hollow between the hub and the larger part of the spheroid, and thus permits the brake to re-enter the barrel a short distance, which distance, though short, is sufficient to clear the piston-rod of the pump-barrel, and to permit of the unhooking of the piston-rod from the brake. The hubs are

countersunk at the outer ends of their axial hole with the same taper as is given to the ends of the set-screws *d d*, so that when the parts are put into operative position the hub and ball will be prevented from coming into contact with either of the ears *c c* of the case B, and all wear upon these parts is prevented, while a more lasting and more easily operated pump is produced. The orifice *p* of the case B, through which they pass, abuts nearly against the ball and hubs thereon when the brake is in position all around them, thus preventing the introduction of foreign substances in the pump-barrel either by accident or design.

What I claim as new and of my invention is—

1. The combination of the pump-barrel A and the case B, provided with the band *f*, with the brake D, substantially as described.

2. The combination of the barrel A and case B with the brake D, provided with a ball part placed axially with the center of its oscillations, spheroidal in form, and having projecting hubs upon its axis, substantially as described.

3. The combination of the barrel A and case B, provided with the ears *c c*, set-screws *d d*, and aperture *p*, with the brake D, provided with the ball C, having hubs *o o*, into which the set-screws are received, substantially as described.

4. The combination of the barrel A and case B with the brake or handle D, provided with the socket *s*, made with the slots *d^s* cut from its side, substantially as described.

GEO. H. HOLT.

Witnesses:

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