

(No Model.)

G. PARKER.
PUMP VALVE.

No. 569,884.

Patented Oct. 20, 1896.

Fig. 1.

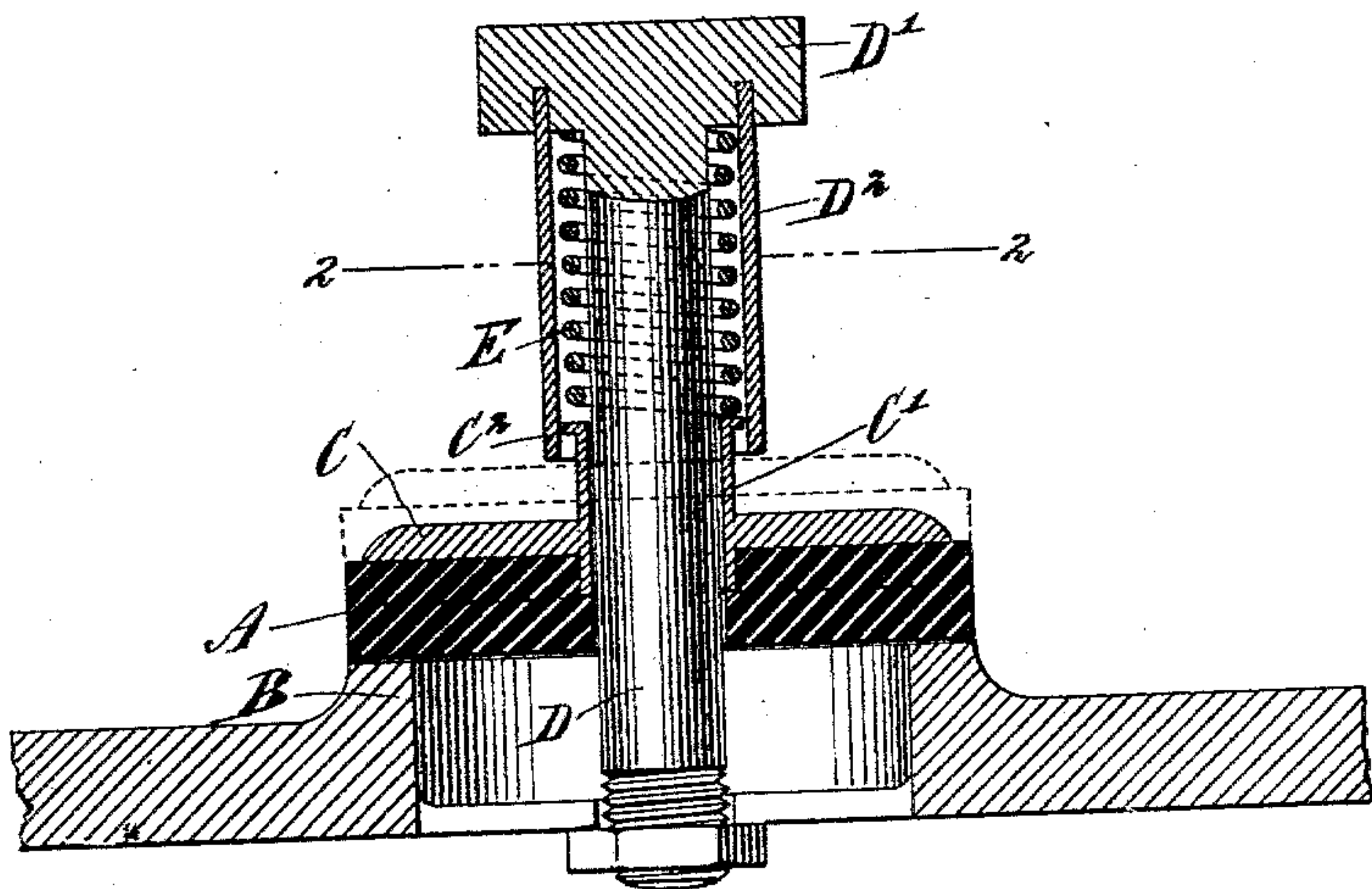
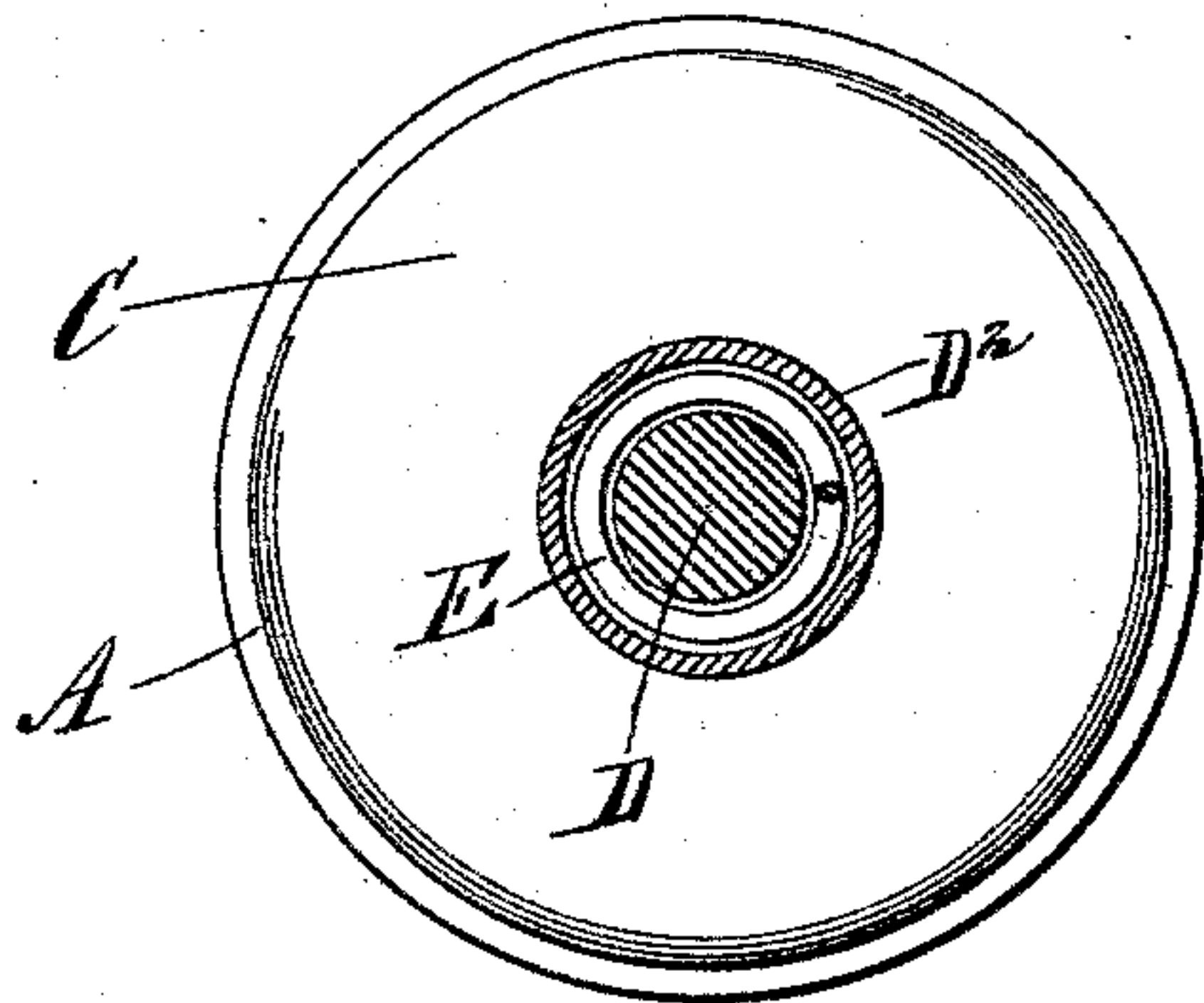


Fig. 2.



WITNESSES:

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GEORGE PARKER, OF WHITING, INDIANA.

PUMP-VALVE.

SPECIFICATION forming part of Letters Patent No. 569,884, dated October 20, 1896.

Application filed June 12, 1896. Serial No. 595,268. (No model.)

To all whom it may concern:

Be it known that I, GEORGE PARKER, of Whiting, in the county of Lake and State of Indiana, have invented a new and Improved Pump-Valve, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pump-valve which is simple and durable in construction, not liable to get out of order, and arranged to securely hold the valve-disk to its place by the force of a spring completely inclosed in such a manner that in case the spring breaks the pieces thereof are confined, and hence are not liable to injure the working parts of the machine on which the valve is used.

The invention consists principally of a valve-disk provided with a hub fitted to slide on a fixed valve-stem, a casing extending from the head of the said stem and into the open end of which extends one end of the said hub, and a spring coiled on the said stem within the casing and interposed between the said head and the said hub.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a sectional side elevation of the improvement, and Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1.

The improved pump-valve is provided with a valve-disk A, made of hard rubber or other suitable material, and adapted to be seated on a valve-seat B, as plainly indicated in Fig. 1.

The valve-disk A is provided on its outer face with a metallic plate C, provided with a tube forming a hub C' for the valve-disk, the said hub being fitted to slide on the valve-stem D, secured in the usual spider or other part of the valve-seat, as indicated in Fig. 1.

The upper end of the valve-stem D is formed with a head D', from which extends a casing or a shell D², concentric with the valve-stem, the said casing containing the spiral spring E, coiled on the stem D and resting with its upper end on the under side of the head D' and with its lower end on a flange C², formed

on the upper end of the hub C'. This outer end or flange C² of the hub extends into the open end of the casing or shell D², as plainly shown in Fig. 1, so that the force of the spring E is transmitted to the hub of the valve-disk A to hold the latter normally to its seat B.

Now it will be seen that by the arrangement described the disk-valve A is adapted to readily open by the pressure of the water on the under side of the disk, the latter being properly guided in its upward movement by the hub C' on the stem D, and at the same time the spring E is compressed to cause a proper closing of the valve-disk A as soon as the pressure on the water ceases.

It is evident that the spring E is completely confined within the shell or casing D², and consequently the spring is not liable to corrosion by the action of the liquid passing through the valve-seat. It is further evident that in case the spring breaks the pieces thereof cannot pass out of the casing, as the lower end thereof is closed by the flange C² on the hub, and consequently the pieces of the spring do not pass into the working parts of the machine to injure the same, as is so frequently the case with the pump-valves as now constructed.

It is understood that the opening of the disk A is limited by the distance between the plate C and the lower open end of the casing D².

By the arrangement of the rubber disk A, backed by the metallic plate C, and the valve-stem D a direct perpendicular movement of the valve A is secured, thereby preventing the lodgment of any foreign matter or obstructions under the valve A, which is a common occurrence in all valves now in use. It will also be seen that the space over the valve-stem D and under the head D' and the casing or shell D² forms an air-chamber or cushion-pocket which gives easy movement and assists in the quick closing of the valve A.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pump-valve, comprising a valve-disk having a hub consisting of a thin cylinder having an external flange of larger radius on its outer end, a fixed valve-stem on which slides the said hub, a casing surrounding the valve-stem attached to the outer end thereof

and receiving at its open end the flanged end of the said hub, and a spring coiled on the stem within the said casing and pressing on the flanged end of the said hub, substantially as shown and described.

2. In a pump-valve, the combination of the valve-disk, a hollow central hub projecting from the upper end thereof and having an external flange upon its upper end, a stem fastened below the valve and fitting the hole through the hub of the valve, a head upon the upper end of the stem, a hollow cylin-

drical casing fixed to the head and surrounding the stem leaving an annular space just sufficient to receive the flanged end of the hub, and a spiral coiled spring within the annular space between the casing and stem and pressing upon the head of the valve-stem and the flanged end of the valve-hub, substantially as described.

GEORGE PARKER.

Witnesses:

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WILLIAM BRUCE GIBSON.