

(No Model.)

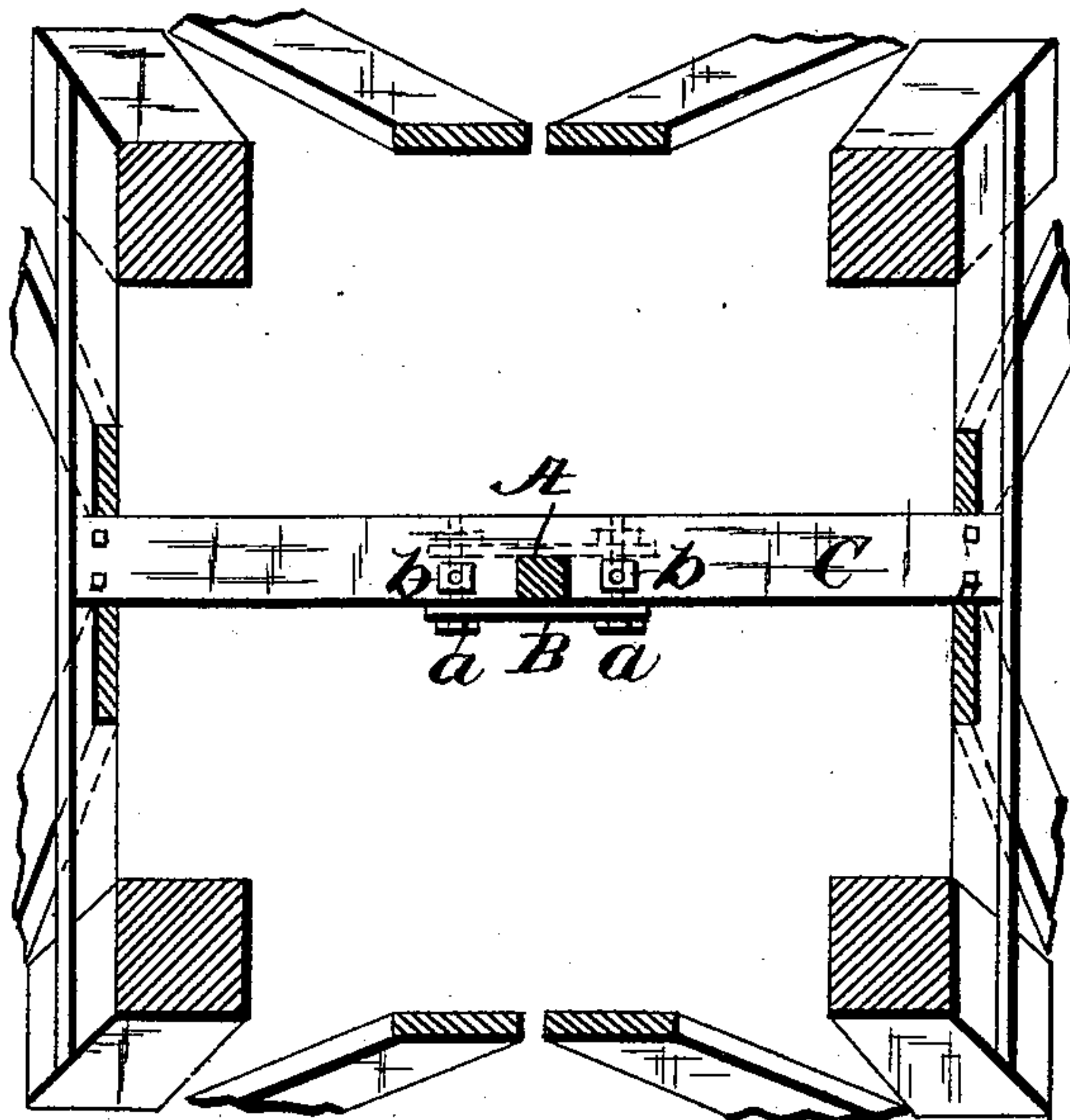
W. F. KLAUS.

SPRING CONNECTION FOR PUMP RODS.

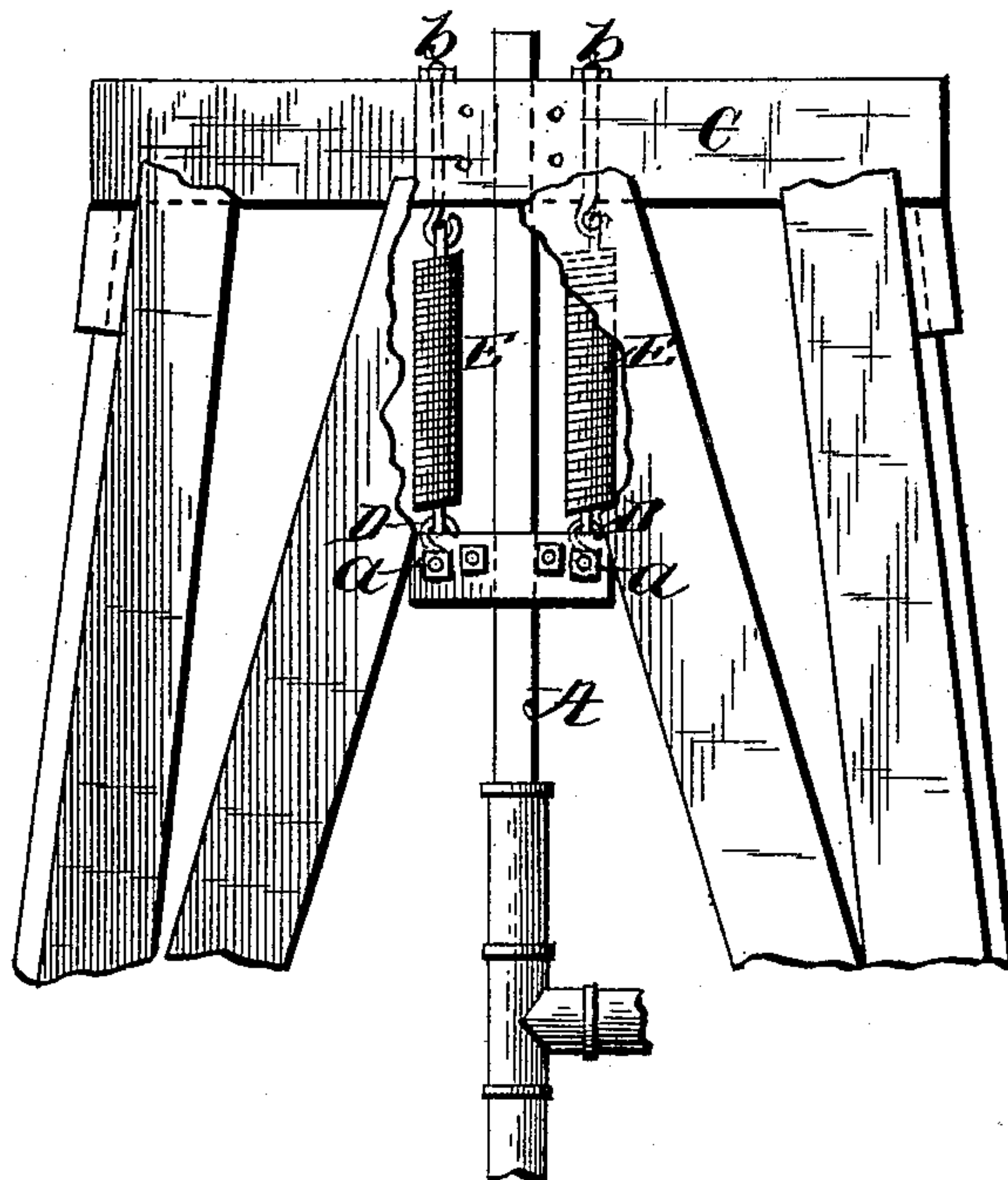
No. 390,683.

Patented Oct. 9, 1888.

*Fig. 1.*



*Fig. 2.*



Witnesses,

*E. A. Bond*  
*Edwin Hiller*

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# UNITED STATES PATENT OFFICE.

WENZEL F. KLAUS, OF SAN ANTONIO, TEXAS.

## SPRING-CONNECTION FOR PUMP-RODS.

SPECIFICATION forming part of Letters Patent No. 390,683, dated October 9, 1888.

Application filed June 12, 1888. Serial No. 276,887. (No model.)

*To all whom it may concern:*

Be it known that I, WENZEL F. KLAUS, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Spring Connections for Pump-Rods; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to certain new and useful improvements in spring-connection for pump-rods, and is designed more particularly for pumps or windmills, and has for its object to provide for the working of the pump with less power and to utilize the downstroke for the purpose of storing power to aid the piston-rod in its upstroke.

The novelty resides in the peculiarities of construction, and the new combinations, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this invention, and in which—

Figure 1 is a cross-section illustrating my invention, and Fig. 2 a side elevation, partly in section.

The invention is applicable to all kinds of pumps, whether worked by hand or other power to raise large or small quantities of water.

Referring to the details of the drawings by letter, A designates the pump-rod, and B B represent two cross-bars secured thereto and extending beyond each side thereof. These cross-bars, near their ends, are connected by the bolts *a*, as shown.

C represents a cross-timber of the platform

or tower, as the case may be, and extended vertically through the same are the bolts *b*, the lower ends of which are hook-shaped.

D D are S-shaped hooks, one end of each engaging one of the bolts *a*, and the other end receiving an eye on the ends of the springs E, the opposite ends of the springs being provided with eyes engaging hooks on the lower ends of the bolts *b*, as shown best in Fig. 2.

The operation is apparent. The weight of the column of water on the pump-piston will carry the latter down to the lower end of the pump-cylinder, and thereby stretch the springs, which are made of proportionate strength to the weight of water in the pipe, and which can be adjusted by turning the screw-bolts *b*. This action stores power, which is utilized in the upward stroke of the piston-rod to assist said upstroke. Thus the downstroke of the piston-rod is made to serve a function—to store up power to help the upstroke thereof—and this will also be found very advantageous, as it gives a uniform motion to the windmill or other device with which it is connected and the power required to raise a given amount of water will be diminished about one-half.

What I claim as new is—

The combination, with the stationary part and the pump-rod, of the cross-head on said pump-rod, the bolts *a*, connecting said cross-head, the adjustable bolts *b* in the stationary part, the hooks connected with the bolts *a*, and the coiled springs connected at one end to said hooks and at the other to said bolts *b*, substantially as shown and described, and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WENZEL F. KLAUS.

Witnesses:

R. C. SYMINGTON,  
JOHN STAPPENBECK.