

B. F. SPRY.

ADJUSTABLE ECCENTRICS FOR PUMPS.

No. 177,435.

Patented May 16, 1876.

Fig. 1.

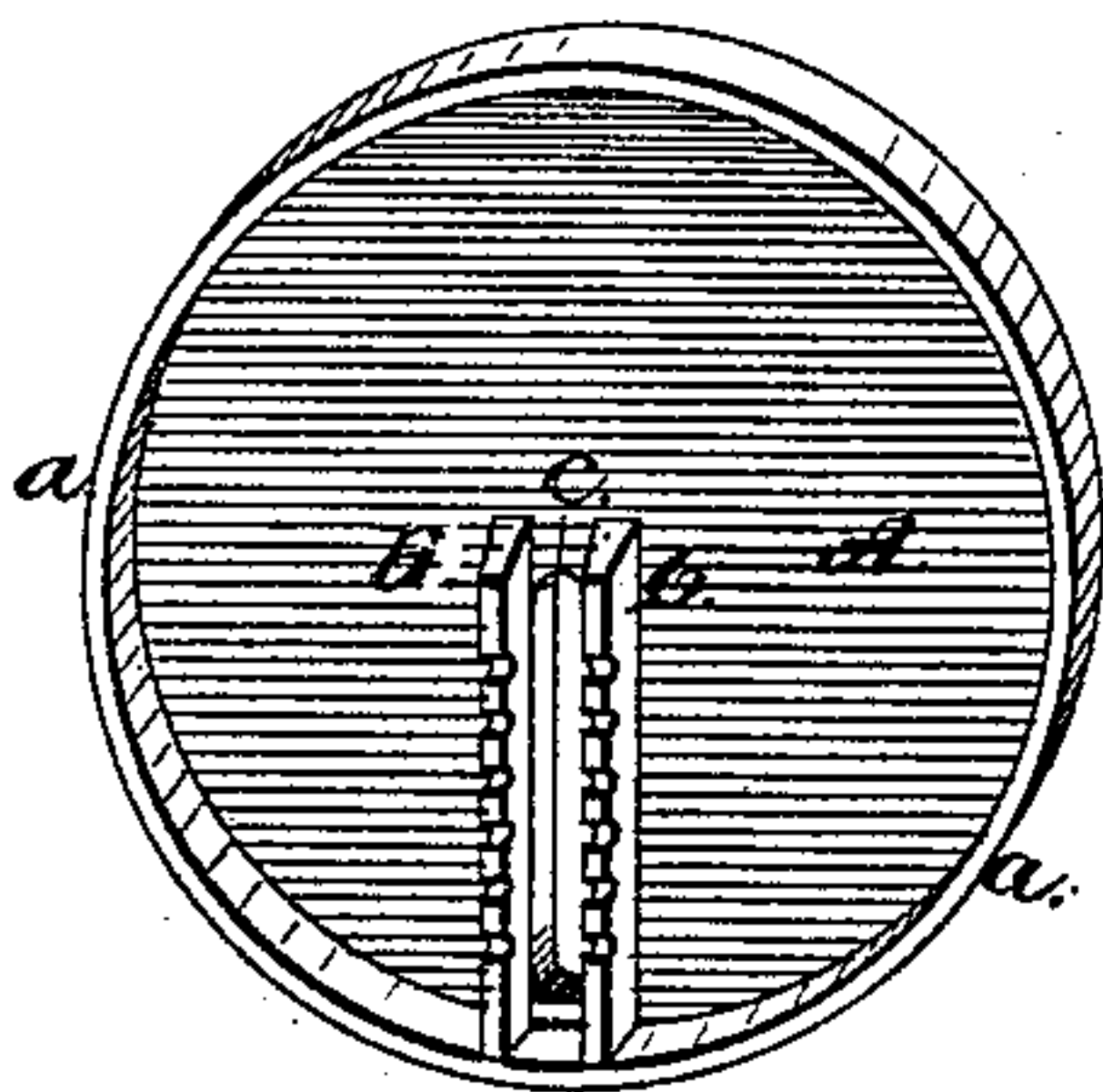


Fig. 2.

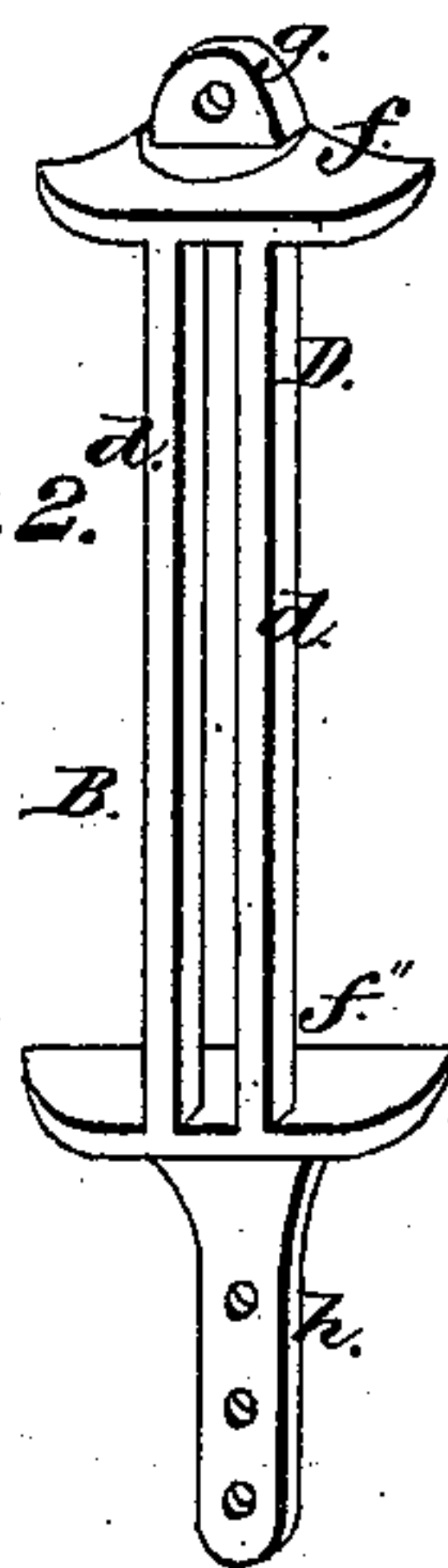
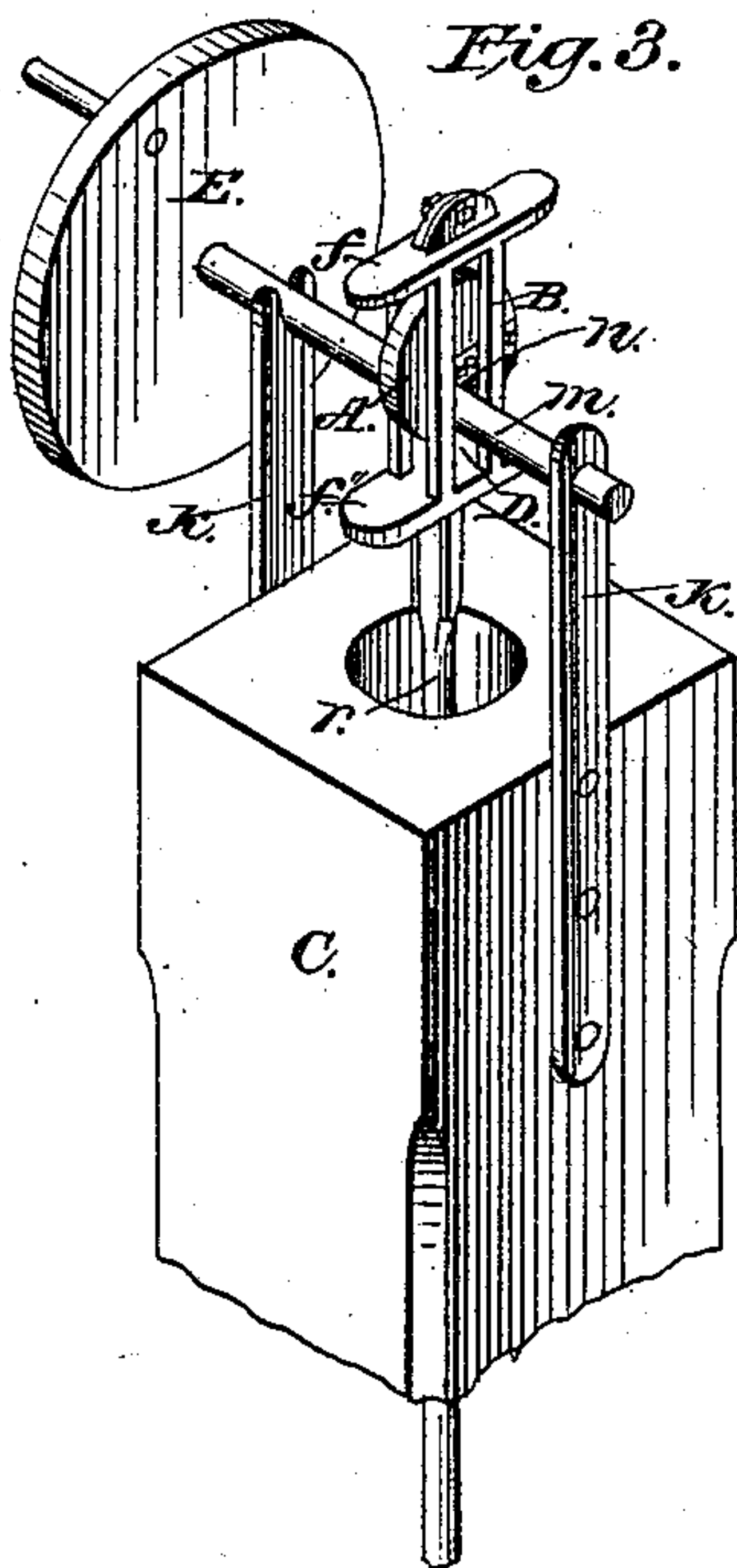


Fig. 3.



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UNITED STATES PATENT OFFICE.

BENJAMIN F. SPRY, OF HARTFORD, IOWA.

IMPROVEMENT IN ADJUSTABLE ECCENTRICS FOR PUMPS.

Specification forming part of Letters Patent No. **177,435**, dated May 16, 1876; application filed July 23, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN F. SPRY, of Hartford, in the county of Warren and State of Iowa, have invented an Adjustable Eccentric for Operating Pumps, &c., of which the following is a specification:

The object of my invention is to provide a simple, practical means of adjusting the geometrical center of an eccentric relative to its shaft, for the purpose of lengthening and shortening the reciprocating stroke of the rod connected therewith. It consists in a slotted disk, having a series of notches on the sides of the slot, and a yoke, having slots to form bearings for the shaft carrying the disk, mounted and combined as hereinafter fully set forth.

Figure 1 of my drawing is a perspective view, illustrating the construction of the disk.

A represents the disk, which may be cast complete in one piece, and vary in size, as desired. *a a* is a flange, extending laterally from its circumference. *b b* are notched or perforated flanges, extending laterally from the sides of the slot *c*.

Fig. 2 is a perspective view, illustrating the construction of my slotted yoke.

B represents a half-section, cast complete in one piece. *d d* are parallel vertical bars, corresponding in length with the diameter of the disk A. *f* is a cross-bar, connecting the top ends of the bars *d*. It extends laterally and inwardly to form a bearing-surface for the periphery of the disk A. *g* is a perforated ear on the top of the bar *f*, designed to receive a bolt. *f'* is a cross-bar, connecting the bottom ends of the bars *d*, and corresponds in form and size with the top bar *f*. *h* is a perforated shank, extending downward, designed to be bolted to a pitman or rod. A second section, corresponding with the device B, is required, and the two parts bolted together form my complete slotted yoke.

Fig. 3 is a perspective view, illustrating the construction, application, and operation of my complete adjustable eccentric.

C represents the top of a pump. *k k* are

shaft-bearers, rigidly secured to the pump C in any suitable way. *m* is a shaft, passed through the slot *c* of the disk A and the slots D in the yoke B B, and rests upon its bearers *k*. *n* is a pin, passed through the notches in the flange *b* of the disk A to hold the disk and shaft rigidly together. E represents a driving-wheel rigidly fixed on the end of the shaft *m*. *r* represents a piston-rod bolted to the shank *h* of the yoke B.

In the practical operation of my invention, rotary motion may be imparted to the wheel E by hand, by means of a crank, or any suitable power may be applied by means of belts or gearing. Rotating the wheel E and its shaft *m* works the disk A, as an eccentric on the shaft *m*, and thereby imparts a reciprocating rectilinear motion to the slotted yoke B, and the rod or pitman *r* connected with the yoke. The slots D, in the yoke through which the shaft *m* passes, prevent the yoke and rod *r* from getting out of their vertical relation to the shaft *m*, and, at the same time, allow them reciprocal motion corresponding with the movement of the eccentric A. To regulate the length of the stroke of the pitman *r* for various powers and purposes, withdraw the pin *n*, or its equivalent, and move the disk A on the shaft *m* to change its center relative to the shaft *m*. The space between the center of the shaft and the center of the disk will always be the half of the length of the stroke of the rod *r*, and my eccentric can therefore be readily formed and adjusted at will to secure any length of stroke desired.

I claim as my invention—

The disk A having perforated or notched flanges *b* on the sides of its slot *c*, the yoke B B having slots D, in combination with the shaft *m*, and rod or piston *r*, to form an adjustable eccentric, substantially as and for the purposes shown and described.

BENJAMIN FRANKLIN SPRY.

Witnesses:

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