

Fig. 1.

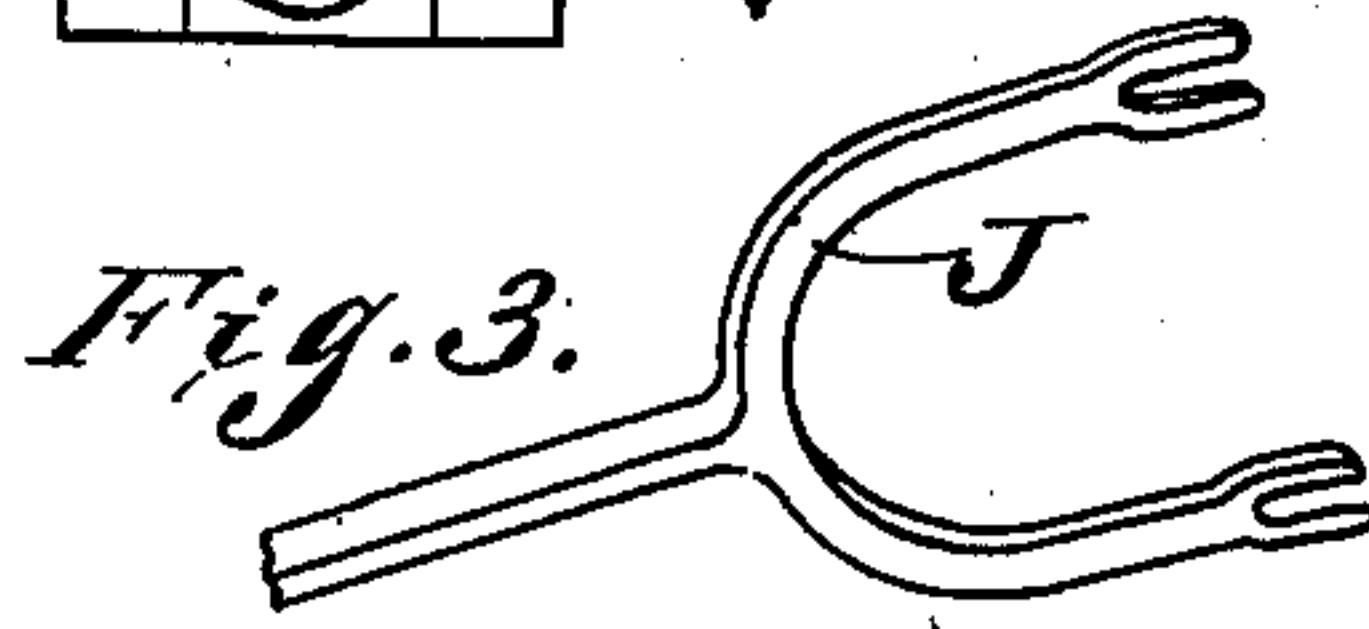


Fig. 3.

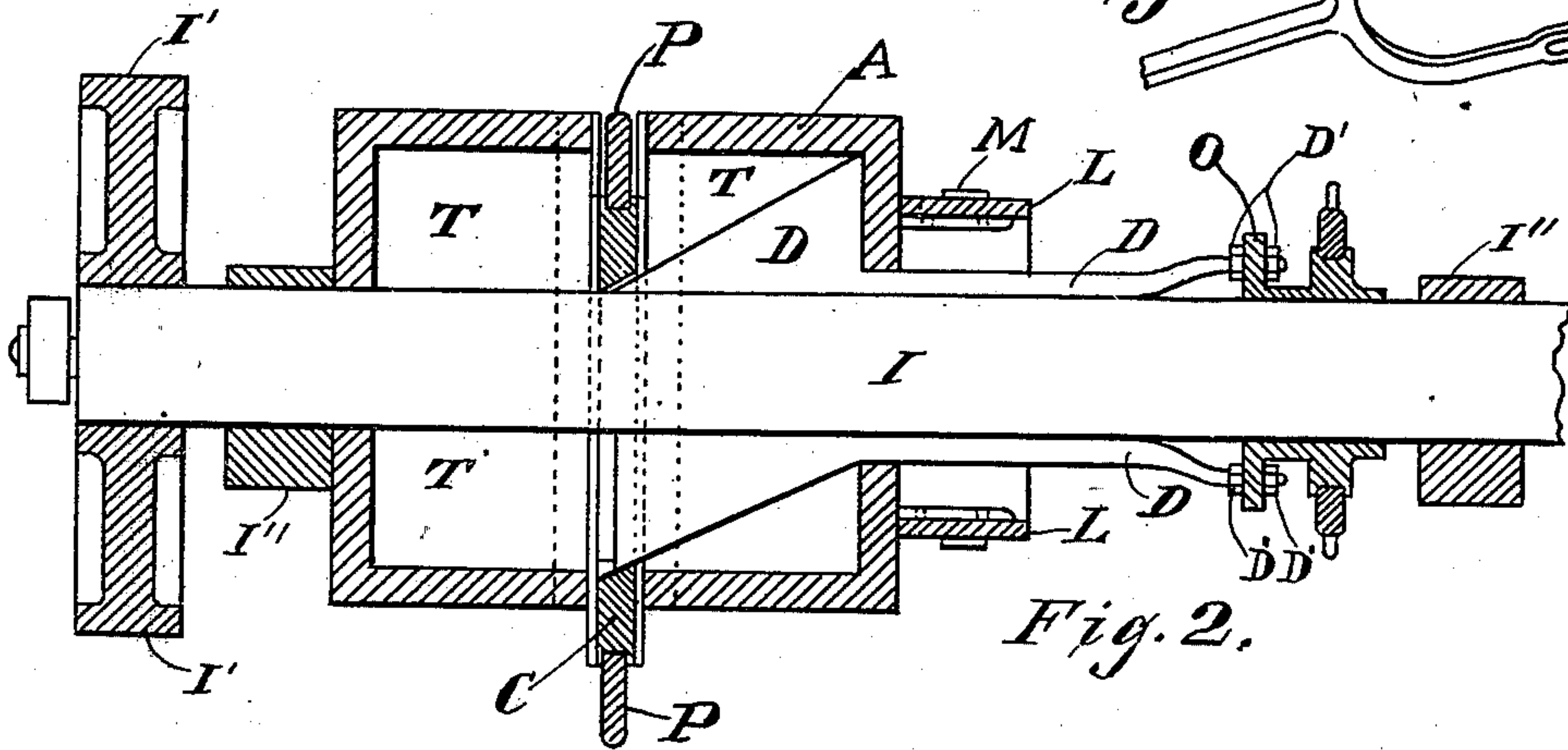


Fig. 2.

Witnesses:

Harry H. Eldredge

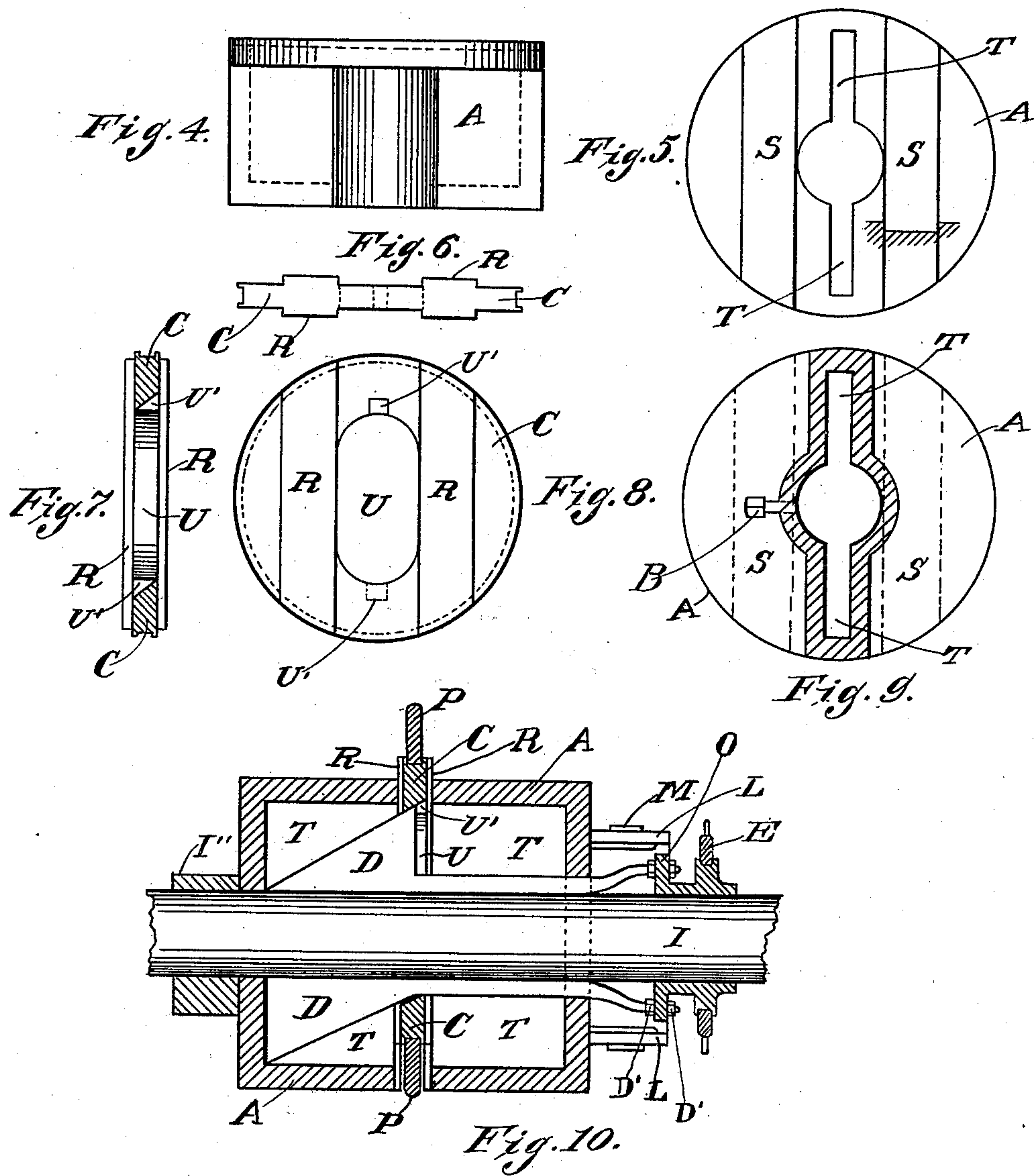
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Inventor:

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UNITED STATES PATENT OFFICE.

WILLIAM A. GLADDEN, OF WATHENA, KANSAS, ASSIGNOR OF ONE-HALF
TO MILTON M. MUNCIE, OF DONIPHAN COUNTY, KANSAS.

ECCENTRIC.

SPECIFICATION forming part of Letters Patent No. 671,476, dated April 9, 1901.

Application filed August 27, 1900. Serial No. 28,153. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. GLADDEN, a citizen of the United States, residing at Wathena, in the county of Doniphan and State of Kansas, have invented certain new and useful Improvements in Eccentrics; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My object in this invention is to provide an eccentric which having a slot square in the center is reversible each way on the shaft, in which there is no lost motion, and consequently greater power, and in which the liability to get out of order is greatly reduced and the wearing capacity increased. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top plan of the eccentric and eccentric-lugs. Fig. 2 is a longitudinal section through the eccentric-lugs and the eccentric, showing the eccentric-keys; Fig. 3, a perspective view of a reverse-fork; Fig. 4, a side view of the lugs; Fig. 5, a face view of the eccentric-lugs; Fig. 6, a section view of the eccentric; Fig. 7, a section view across the eccentric, showing the groove around the eccentric that is adapted to carry the eccentric yoke or band; Fig. 8, a face view of the eccentric, showing the tongues and openings; Fig. 9, a section through the rear part of the lugs, showing the slots through which the keys pass back and forth; and Fig. 10 is a section of the eccentric and eccentric-lugs and showing the position of the keys when the lever has been thrown.

Similar letters refer to similar parts throughout the several views.

In the drawings, A A represent two eccentric-lugs, having set-screws B B.

C is the eccentric, which is provided with tongues R R, which fit within grooves S S in each lug. These tongues and grooves are

adapted to keep the eccentric in perfect position while the same is in motion.

D D are eccentric-keys fastened into a reverse-flange O by means of burs D' D'.

E is a reverse-band for the eccentric.

H is a side rod fastened to eccentric-band P and having connection with the valve-stem.

I is the shaft, I' a crank-wheel attached thereto, and I'', at the opposite ends of the shaft, are the boxes.

J is a reverse-fork. This fork is attached to a reverse-lever rod K and to reverse-band E by means of a pin. Pulley L is provided to carry governing-belt M whenever its use is necessary. Keys D D are adapted to be slid back and forth on shaft I into lugs A A, which throws eccentric C on or off its center. Said eccentric is provided with slanting openings V' V', which are made on the same angles as keys D D. This slant is given for the purpose of preventing lost motion, and when keys D D become loose they may be tightened by loosening one of burs D' D' and tightening the other. A snug fit is thereby secured.

To operate my device, pull on rod K, which is attached to fork J, working on pivot Q and having connection with a pin in reverse-band E, and is also connected with flange O, which flange moves keys D D back and forth through openings T T in eccentric-lugs A A and through openings V and V' V' in eccentric C. Rod H, which has connection with the valve-stem, is thus moved back and forth.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with an eccentric provided with an oblong opening through its center and smaller slanting openings at each end thereof, and with tongues, of the eccentric-lugs, provided with parallel grooves, said tongues and grooves being adapted to engage each other and hold the eccentric in position, the set-screws in said lugs, and suitable means to operate said lugs and eccentric, substantially as described and for the purpose specified.

2. The combination of the shaft, the crank-wheel attached at one end thereof, the crank-

boxes at each end thereof, the reverse-fork, the connecting reverse-band and its pin, the reverse-fork rod and pivot, the reverse-flange, the eccentric-lugs provided with key-openings through the center and parallel grooves on each side of said openings, the eccentric provided with a key-opening in its center with slanted openings at the ends thereof, and with parallel tongues adapted to engage with the lug-grooves, the keys, the operating-rod and its connections with the reverse-band and the flange which moves said keys, substantially as described.

3. The combination with a shaft and its wheel and boxes, of the eccentric provided with an oblong opening set across the middle thereof and an opening at each end, and with tongues, the eccentric-lugs provided with openings across the middle and parallel grooves to receive said tongues, the reverse-flange and reverse-fork and its rod and pivot, the keys adapted to operate through said

openings, the connecting-rod, the bands, and burs, substantially as described and for the purpose specified.

4. The combination with the crank-shaft, of the eccentric provided with an oblong opening set across the middle thereof and with an opening at each end of said oblong opening, the tongue on each side of said opening extended parallel therewith, the eccentric-lugs also provided with openings set across the middle of each and parallel grooves adapted to receive the eccentric-tongues, the keys adapted to operate in said openings, together with the necessary bands, belts, set-screws, reverse-fork and crank-wheel, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. GLADDEN.

Witnesses:

CHAS. FREUND,
S. R. GARVIN.