(No Model.)

S. BARR.

DEVICE FOR CONVERTING MOTION.

No. 358,529. Patented Mar. 1, 1887.

Fig. 1.

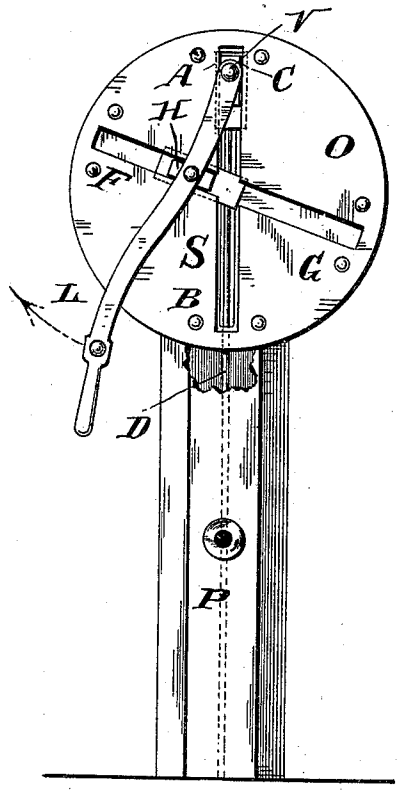


Fig. 2.

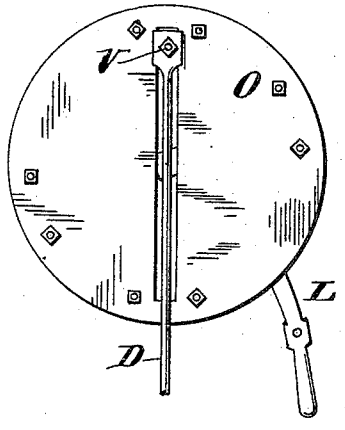
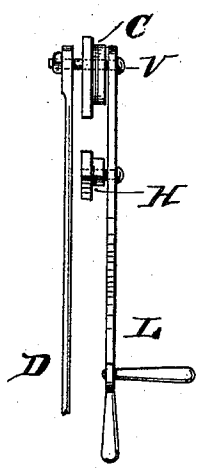


Fig. 3.



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SAMUEL BARR, OF McCAUSLAND, IOWA.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 358,529, dated March 1, 1887.

Application filed September 16, 1886. Serial No. 213,751. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BARR, a citizen of the United States, residing at McCausland, county of Scott and State of Iowa, have invented a new and useful Device for Converting Motion, of which the following is a full specification.

The object of this invention is to provide a continuous circuit motion to the lever of a pump in the form of a crank, which can also be used as an improved sliding fulcrum-lever or pump-handle, which may be operated from either side of the pump-stock at will of the operator, also to increase the length of stroke in a pump.

The drawings herewith illustrate the mechanism employed.

Figure 1 represents a front view of the improved device. Fig. 2 is a back view of the improved parts. Fig. 3 is a side view, plate O being omitted, of the operating parts detached.

Like letters refer to different views of like parts throughout.

In Fig. 1, P represents a common pump-stock supplied with the improved head.

O is a stationary plate mounted on the top of the pump-stock, and constitutes the frame-work of the pump-head.

A B is a vertical slot in the plate O, fitted with a slide, C, to the central pin, V, of which the operating-lever L is attached. The pin V passes through the slide C and receives the top of the sucker-rod D, as seen on the back of the plate O, Fig, 2.

F G, Fig. 1, is a cross-slot, provided to carry the sliding fulcrum H, to which the lever L is pivoted. This sliding fulcrum traverses the slot F G to right or left at any movement of the lever L in either direction, and makes the entire revolution of the lever, as a crank, smooth and easy by thus crossing the vertical line of action A B. By this same arrangement of parts I also gain an extreme length of stroke in a pump by using the full length of the lever between the pivotal points twice at each revolution of the lever—first below, then continuously above the fulcrum slide—thus doubling the length of stroke over the ordinary practice of hanging the pump-handle fixedly on one side of the pump-stock.

The lever L, Fig. 3, is so constructed as to be used as a crank in the rotary motion described. It is also provided with an extension hand-piece at the end, by means of which the pump may be operated as an improved lever-pump from either side of the pump-stock at convenience of the operator.

The angular position of the slot F G diagonally across the plate is introduced as an inclined plane on which the fulcrum-slide rises, thereby adding to the stroke when L is used as a lever, and has the effect of distributing the power favorably to the motion when L is used as a crank by performing an additional lift while the crank is in its descent and under arc, where the human arm or other power has greatest natural effect by reason of gravity and pulling force, as indicated by the broken line and arrow, Fig. 1, during which time the sliding fulcrum H rises in its passage across the plate equal to the height of the angle, as indicated from the position of S, Fig. 1. The employment of this angle also reduces any tendency of the opposing slides to bind when the lift on the sucker-rod occurs, as the motive power is then moving in a direction almost parallel with the sliding fulcrum.

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

The combination of a plate having cross-slats with a lever provided with a movable fulcrum, and a slide at its end adapted to be connected to a rod to be reciprocated, the connection being such that the lever may be either rotated or reciprocated.

SAMUEL BARR.

Witnesses:

T. W. McCAUSLAND,

D. A. YOCUM.