(No Model.) 2 Sheets—Sheet 1.

E. T. GARDNER.

SAW MILL FEED MECHANISM.

No. 298,195. Patented May 6, 1884.

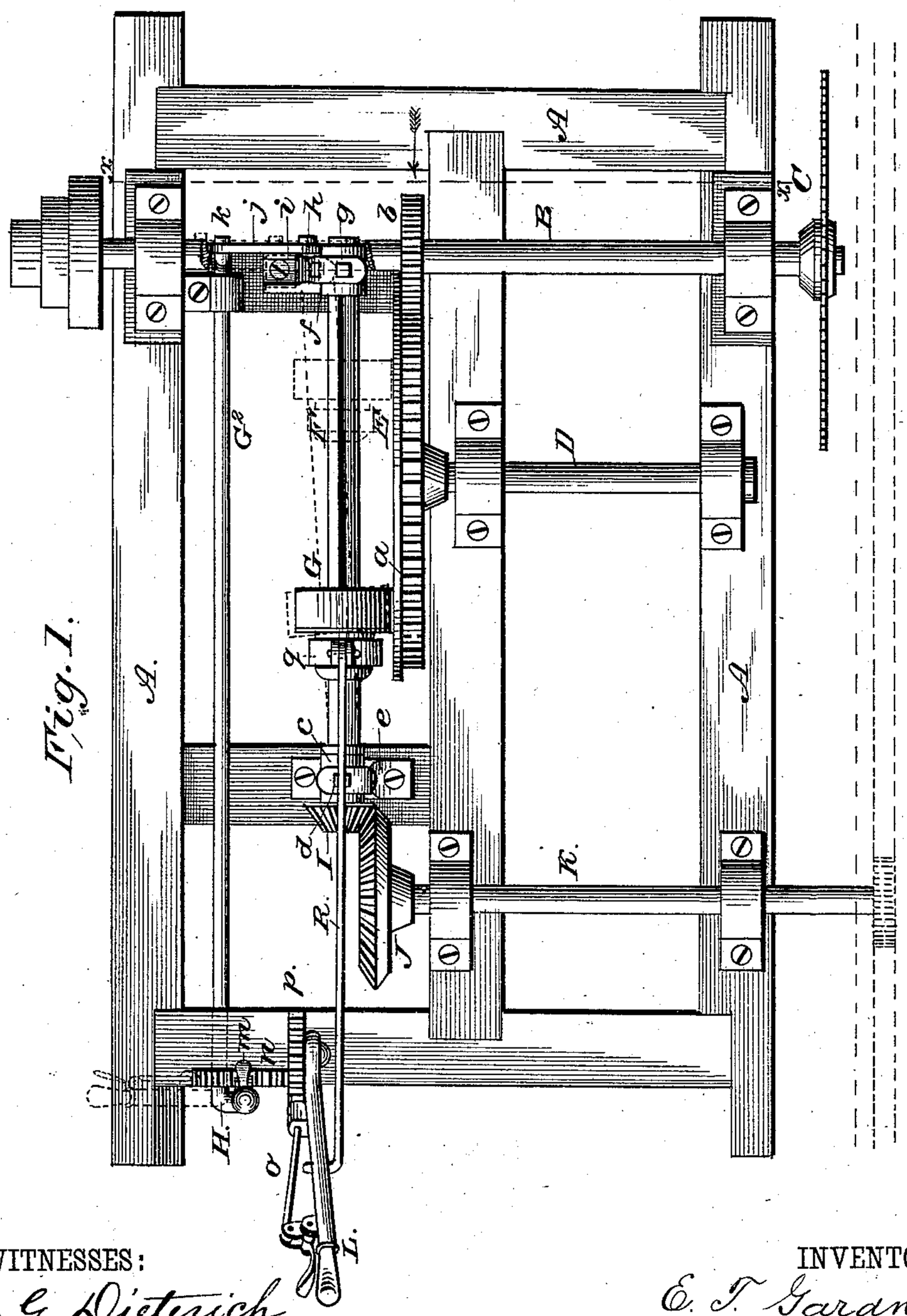

Fig. 1.

WITNESSES:

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BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

E. T. GARDNER.

SAW MILL FEED MECHANISM.

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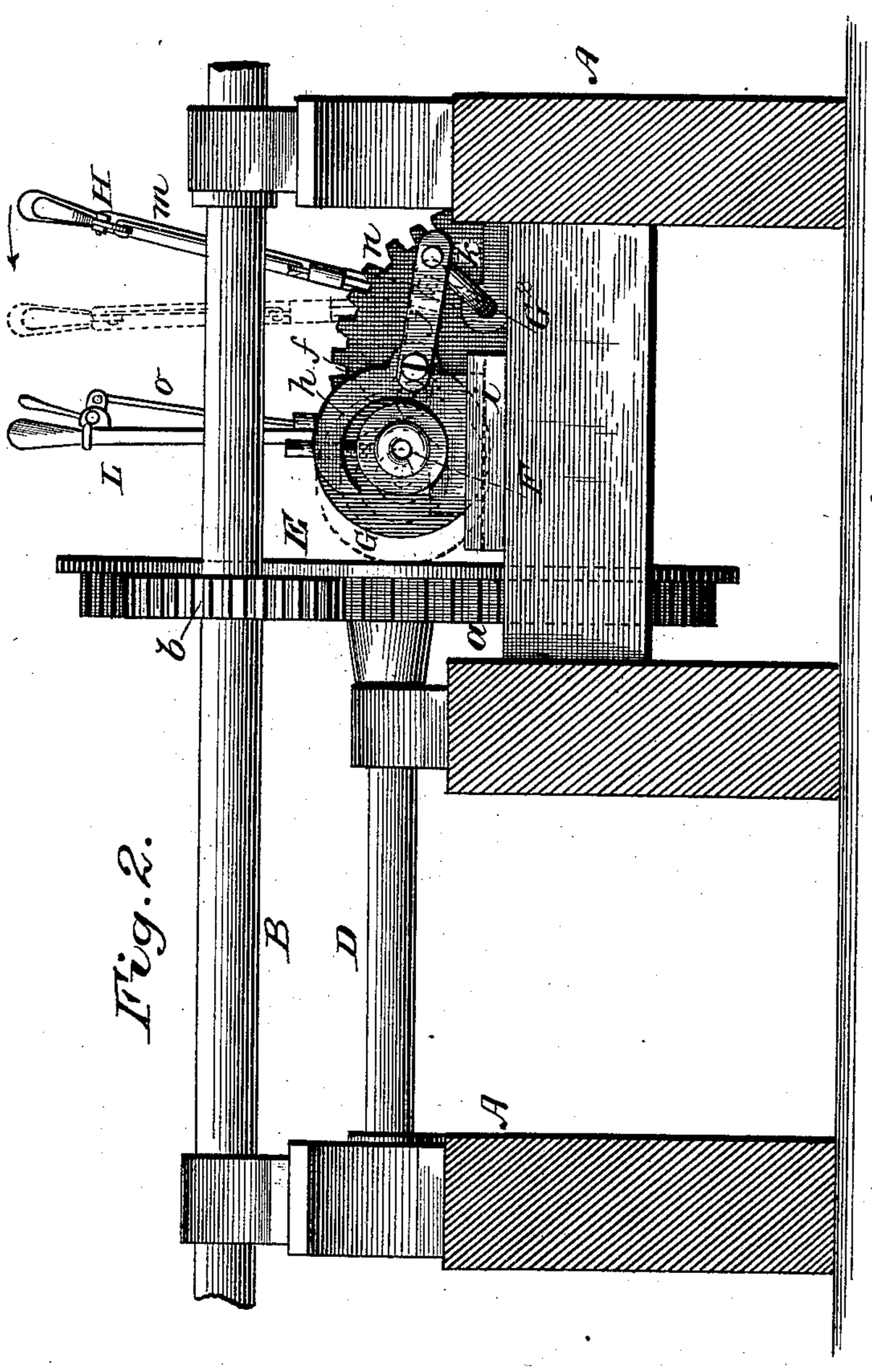

Fig. 2.

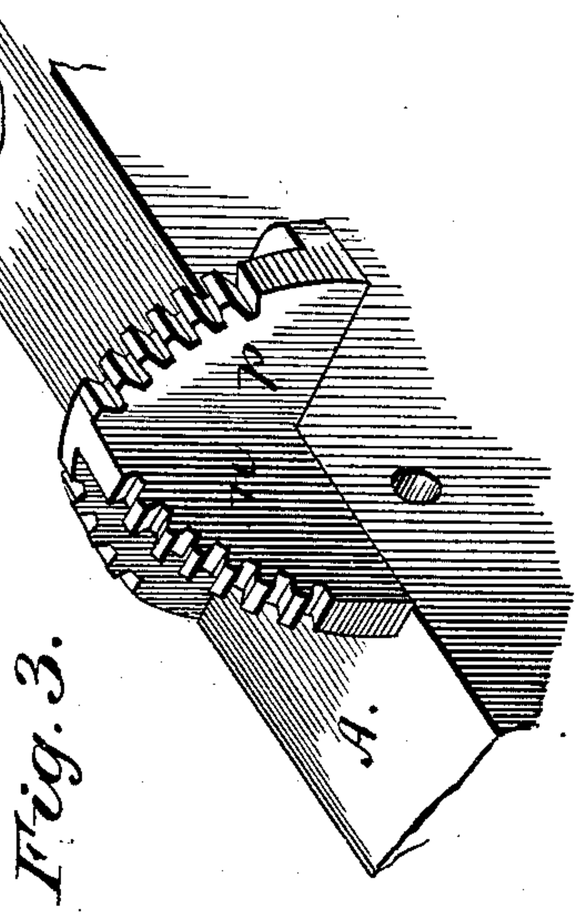

Fig. 3.

WITNESSES:

Fred. G. Dieterich

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INVENTOR:

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UNITED STATES PATENT OFFICE.

EDWIN T. GARDNER, OF ROCKY MOUNT, NORTH CAROLINA, ASSIGNOR OF ONE-HALF TO JAMES H. ODOM, OF SAME PLACE.

SAW-MILL FEED MECHANISM.

SPECIFICATION forming part of Letters Patent No. 298,195, dated May 6, 1884.

Application filed March 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. GARDNER, a citizen of the United States, residing at Rocky Mount, in the county of Edgecomb and State of North Carolina, have invented certain new and useful Improvements in Saw-Mill Feeds, of which the following is a description.

Figure 1 is a plan view. Fig. 2 is a vertical section through the line *x x* of Fig. 1, looking in the direction of the arrow; and Fig. 3 is a detail in perspective of the double-notched plate *n p*.

My invention relates to saw-mill feeds or devices for running the saw-log carriage back or forth and regulating its speed at will. In this class of devices it has been common to place in the train of mechanism between the driving-power and the carriage-driving shaft a friction-disk, and a friction-wheel at right angles to the disk, which friction-wheel is adapted to bear against the side of the disk to be adjusted to or from contact with the same, and upon either side of the center of the disk, to give motion in either direction, the same forming a means for the transmission of motion to the carriage-driving shaft in either backward or forward direction. My invention comprehends this general principle of working; and it consists in the peculiar construction and arrangement of parts, as will be hereinafter fully described.

In the drawings, A represents the frame-work, upon which, in bearings, is mounted the saw-shaft B, carrying the saw C and pinion *b*. Parallel with the saw-shaft is a short shaft, D, also mounted in bearings on the frame-work. This shaft has upon its end a large flat disk, E, with teeth *a* cut or formed below its periphery upon one side, and with which teeth on said disk the pinion *b* on the saw-shaft engages. Running approximately parallel with the plane of the disk E is the laterally-adjustable shaft F, bearing a friction-wheel, G, that is adapted to be brought against the side of the disk or removed therefrom, according to the adjustment of the shaft F. At one end this laterally-adjustable shaft F revolves in a pivoted bearing, *c*, which turns about the vertical pivot-screw *d*, held in the casting or frame *e*. The other end of this laterally-adjustable shaft turns in the vertically-pivoted bearing *f*, which is held by the pivot-screw *g* in the casting or frame *h*, the lower portion of which slides in a grooved guide-plate, *i*, as this end of the shaft moves to or from the disk E. The sliding frame *h* is connected by a link, *j*, to a crank, *k*, on the end of a rock-shaft, G^2, which is arranged parallel with the laterally-adjustable shaft. This rock-shaft is journaled in bearings in the frame-work, and has at its end a rigid hand-lever, H, by turning which the shaft G^2 may be rocked to throw the adjustable shaft to or from the disk E, and cause the friction-wheel G to engage or recede from said disk. For holding this lever to its position, it is provided with the usual form of locking-bar, *m*, and a curved notched plate, *n*, to receive its locking end. On the pivotal or center end of the shaft F is fixed a bevel-pinion, I, that engages with a bevel-wheel, J, on a shaft, K, which carries a pinion, (shown in dotted lines,) by which the saw-carriage is moved in the usual way. Now, to reverse the direction of movement of this shaft K, the friction-wheel G is connected to the adjustable shaft F by a feather or spline, so that while it is compelled to revolve with said shaft it is capable of being slid longitudinally thereon from one side of the center of the disk to the other. For giving it this adjustment a grooved hub is formed on or attached to the friction-wheel, and a swiveled collar, *q*, is fitted in said groove and connected by a rod, R, to a hand-lever, L, which has a locking-bar, *o*, adapted to engage with a curved notched plate, *p*, formed in one piece with and at right angles to the plate-section *n*. By moving the hand-lever it will be seen that the friction-wheel is adjusted across the center of the friction-disk.

The operation of my improved feed devices is as follows: Motion being imparted to the saw-shaft by any suitable connecting mechanism, its pinion is made to engage with and drive the large friction-disk, and when the adjustable shaft F is so disposed as to bring its friction-wheel against the friction-disk motion is transmitted through said friction-disk and friction-wheel to the bevel-wheels and the shaft that operates the log-carriage, driving

the log-carriage in one direction. To reverse the motion, the adjustable shaft F and its friction-wheel are moved away from the friction-disk by means of the rock-shaft and its hand-lever, and the friction-wheel on the adjustable shaft is slid to the opposite side of the center of the friction-disk by the rod R and hand-lever L, and the adjustable shaft is then moved, through the rock-shaft, to bring the friction-wheel into engagement with the friction-disk again. It will be seen that both the hand-levers are arranged in such close proximity as to permit them to be worked simultaneously, one by one hand and the other by the other hand.

In defining my invention with greater clearness, I would state that I am aware of the Patents Nos. 284,443 and 290,078, and I do not claim anything shown therein.

Having thus described my invention, what I claim as new is—

1. The combination of the saw-shaft B, having pinion *b*, the short shaft D, arranged parallel with the saw-shaft and having a toothed friction-disk, E, and the laterally-adjustable shaft F, arranged at right angles to shafts B and D, and bearing a friction-wheel, G, arranged to slide longitudinally on said shaft, but revolve rigidly with it, substantially as shown and described.

2. The combination, with the friction-disk E, of the laterally-adjustable shaft F, arranged at right angles to the axis of said disk, the feathered and sliding friction-wheel G, the pivoted bearing *c* and frame *e*, the pivoted bearing *f*, the sliding frame *h*, guide-plate *i*, and means for moving this end of the shaft, substantially as shown and described.

3. The combination, with the laterally-adjustable shaft F, of a parallel rock-shaft, G^2, having a crank and connecting-link at one end and a hand-lever and locking-bar at the other, and the feathered and sliding friction-wheel G, the connecting-rod R and hand-lever L, with locking-bar, and the double and right-angular notched plate *n p*, for bringing both hand-levers under the simultaneous control of the workman, as set forth.

EDWIN T. GARDNER.

Witnesses:
RICHARD PHILANDER BRITT,
LAWRENCE LANCASTER.