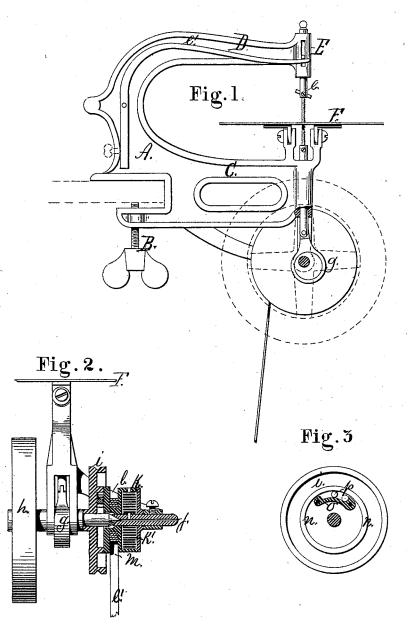
G. W. CARY. Jig-Saw.

No. 212,355.

Patented Feb. 18, 1879.



WITNESSES

Joseph AMiller & Milliam & Roop. INVENTOR

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UNITED STATES PATENT OFFICE.

GEORGE W. CARY, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN JIG-SAWS.

Specification forming part of Letters Patent No. 212,355, dated February 18, 1879; application filed November 21, 1878.

To all whom it may concern:

Be it known that I, GEORGE W. CARY, of the city and county of Providence and State of Rhode Island, have invented a new and useful Improvement in Jig-Saws; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings,

forming part of this specification.

Figure 1 is a view of my improved jig or fret saw, shown as secured to a table. It is shown partly in section, so as to show the eccentric or pitman connection with the saw more clearly. Fig. 2 is an end view of the driving mechanism, parts of which are shown in section. Fig. 3 is a view of the rollingclutch, by which the driving power is connected with and disconnected from the driv-

ing-shaft.
The invention consists in the peculiar and novel manner of driving the saw from a continuously-revolving shaft when the said shaft is driven by a foot-treadle at a greater speed than the treadle, as will be more fully set forth hereinafter, and more particularly pointed out

in the claims.

In the drawings, A is a metal frame, arranged to set on a table, and provided with a clamping-arm, in which the clamp-screw B is secured, so that the whole may be readily secured to a table, bench, or similar support. C is a projecting arm, to which the driving mechanism, the vertical slide, and adjustable table are secured. D is a curved arm, to which the slotted guide E is secured, and within which the reciprocating cross-head or slide e moves. This cross-head e is provided with a pin or equivalent projection resting on the curved spring e', and when the saw is secured and in operation the spring e' secures a tension on the saw, drawing the same upward against the crank or eccentric, so that the saw is not liable to be bent or broken. F is a hinged adjustable table. g is an eccentriccrank, connected with the guide to which the lower end of the saw is secured. The eccentric-crank g is driven by the main drivingshaft, on one end of which the fly-wheel h is secured, and on the other end the clutch i.

may form a part of the fly-wheel, so that the wheel h may be dispensed with. j is a fixed spindle, in the end of which the driving shaft has a step-bearing. On the spindle j the drum k revolves, being limited in its revolution by the helically-coiled spring k', one end of which is secured to the stationary spindle j and the other to the drum k. The strap l' is wound around the drum k in the groove l and connected with the treadle. When, therefore, the treadle is moved down, the drum k will revolve on the spindle in the direction in which the strap l' will unwind from the drum, and as the coiled spring is wound in the drum k in the opposite direction the tension on the spring k' will be increased, and when the treadle makes its upward motion the spring k'will turn the drum k in the opposite direction, and will rewind the strap l' into the groove l, so that an alternate rotary motion in an opposite direction will be imparted to the drum k.

The face m of the drum k fits closely to the disk i, and a projecting rim, n, is placed on the disk i, and on the face m of the drum a curved incline, o, is secured, (shown in section in Fig. 3,) between which and the rim n

the roll p is placed.

Fig. 3 shows the roll p in contact with the rim n of the disk i, and also in contact with the inclined curved piece secured to the drum k. in solid lines, and out of contact with the rim n in broken lines, thus forming a clutch-connection in one direction, and releasing the same by the rolling of the roller p in the other direction, the momentum of the fly-wheel compensating for the time when the strap is rewound, and driving the saw, so that a continuous rotary motion is imparted to the drivingshaft from the reciprocating treadle, and imparting motion to the saw, but many times the number of reciprocations of the treadle.

A saw is thus made to move at a high speed, and fret-work can be executed with great ac-

curacy and rapidity.

The whole driving mechanism may be inclosed in a suitable case and protected from dust and injury.

The construction of the frame is simple and This clutch i is shown in view in Fig. 3, and i strong. The spring e' can be made adjustable by placing a screw against the heel of the same, as indicated in broken lines in Fig. 1.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a jig-saw, the combination, with the saw, the eccentric-crank g, and a disk or flywheel, of the clutch consisting of the curved incline o, the rim n, and roller p, the spring k', and strap l', arranged to operate substantially as and for the purpose set forth.

2. The combination, with the saw, the eccentric-crank g, and a disk or fly-wheel, of a clutch consisting of the curved incline o, rim n, and roller p, the spring k', and strap l', and the adjustable spring e', substantially as and for the purpose set forth.

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Witnesses:

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