2 Sheets--Sheet 1.

# B. MERRITT.
## Jig-Saws.

No. 134,760. Patented Jan. 14, 1873.

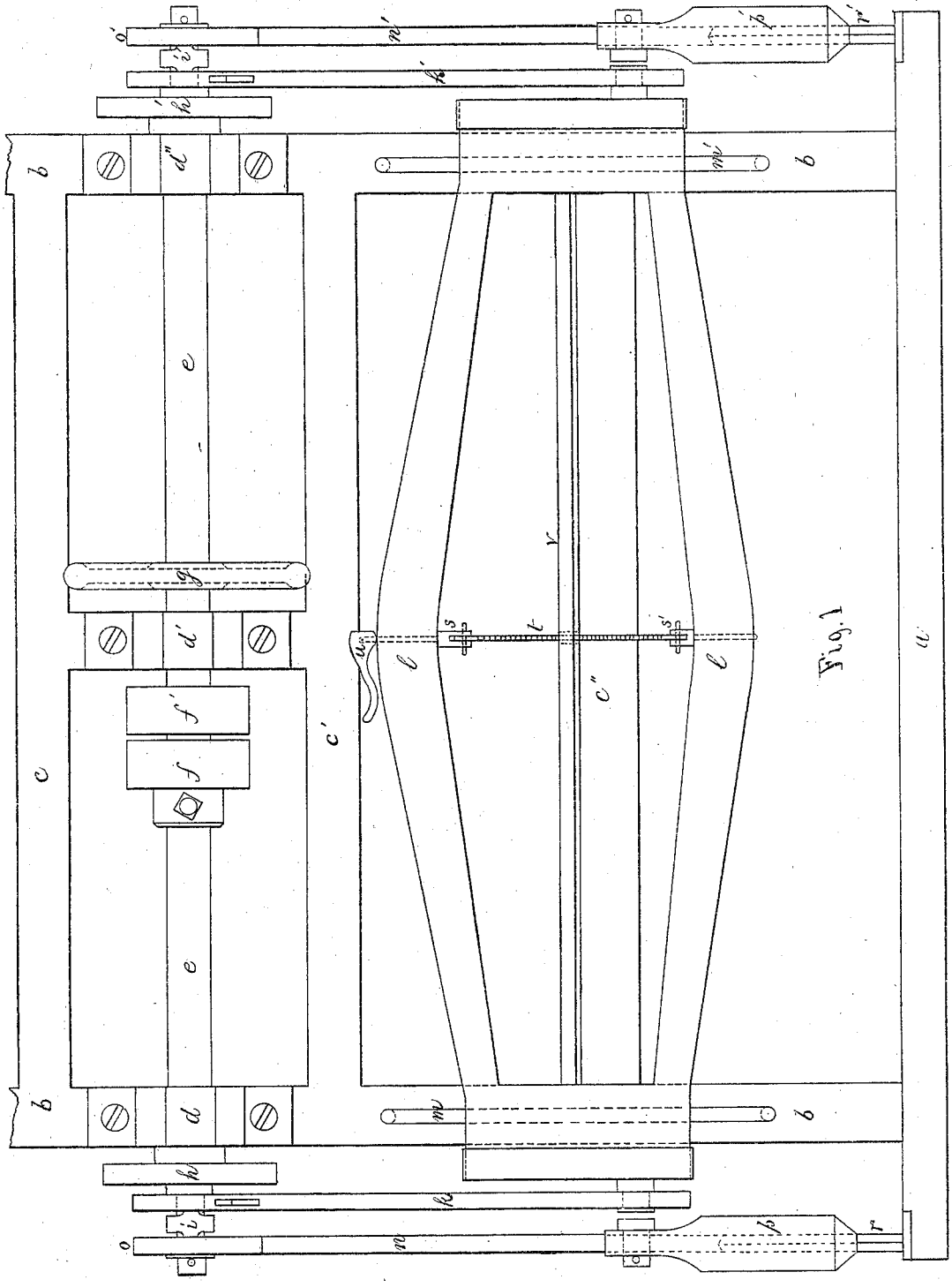


Fig. 1

Witnesses.
Sam[l] M. Barton
Jesse F. Wheeler

Inventor.
Benjamin Merritt
by his atty.
Edmund Wright

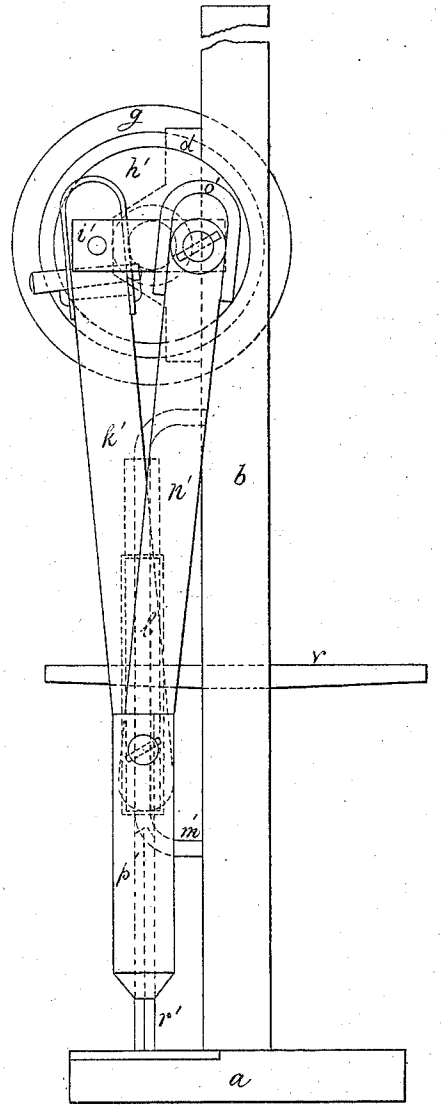
2 Sheets--Sheet 2.

# B. MERRITT.

## Jig-Saws.

No. 134,760. Patented Jan. 14, 1873.

Fig. 2




Witnesses.
Sam'l M. Barton
Jesse F. Wheeler

Inventor.
Benjamin Merritt.
by his atty.
Canoe & Wright

# UNITED STATES PATENT OFFICE.

BENJAMIN MERRITT, OF NEWTON, MASSACHUSETTS.

## IMPROVEMENT IN JIG-SAWS.

Specification forming part of Letters Patent No. **134,760**, dated January 14, 1873.

*To all whom it may concern:*

Be it known that I, BENJAMIN MERRITT, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Jig-Saws, of which the following is a specification:

Figure 1 of the accompanying drawing is a front view, and Fig. 2 is a side view, of my invention.

The present invention relates to certain new and useful improvements in jig-saws, &c., having for their objects the prevention of the jarring hitherto produced by the operation of the saw and the increasing of the speed of the saw.

My invention consists, mainly, in a jig-saw, &c., provided with outer weighted arms, equally balanced with the gate, and weighted at the top to equally balance double cranks connecting said arms with gate-arms, and attached to flanged ends of an arbor that, in its revolution, operates the outer arms and gate-arms in opposite vertical and lateral directions with each other, so as to equalize or counterbalance the action of the arms and gate, and thereby produce a steady and even motion that prevents any jarring of the saw or its surroundings and allows an increased speed to the saw, &c.

In the drawing, *a* represents a base supporting a frame, *b*, having cross-bars *c c' c''* and bearings *d d' d''*, in which turns an arbor, *e*, supplied with belt-pulleys *f f'* and balance-wheel *g*, and having attached at each end flanges *h h'* of any desired shape, to which are attached the ends of double cranks *i i'*, that extend through the tops and support vertical arms *k k'* that connect at the bottom with the ends of a gate, *l*, arranged to slide up and down on rods *m m'* connected with the frame *b*. The other ends of the double cranks *i i'* project horizontally, like the former ends, at right angles with the body of the crank, and connect with the tops of outer vertical arms *n n'*, that are weighted at the tops by metal caps *o o'* or otherwise, so as to equally balance the ends of the cranks *i i'*, that connect with the tops of the arms *k k'* and the flanges *h h'*. The bottoms of the arms *n n'* are provided with weights *p p'*, that equally balance the weight of the gate *l*, and fit over and slide up and down on vertical standards *r r'* attached to the base *a*. The gate *l* is provided in the center, at top and bottom, with standards *s s'*, to which is pivoted or otherwise attached a saw, &c., *t*, the tension of which is tightened or relaxed by means of a curved clamp, *u*, pivoted to the top of the standard *s* and one end of which bears upon or is released from the top of the gate *l*, according as the other end of the clamp *u* is lowered upon or raised from the gate *l*. Attached to the bottom bar *c''* is a feed-table, *v*, formed with an aperture, through which passes the saw *t*.

Referring to the drawing, it will be seen that as the double cranks *i i'* are revolved by the power applied to the arbor *e* the arms *k k'* are raised and the arms *n n'* are lowered, and the former are thrown back and the latter brought forward laterally, at the same time, and vice versa, thus raising and lowering the gate *l*, and, consequently, operating up and down the saw, &c., *t*. It will further be observed that, the gate *l* being balanced by the weights *p p'* connected with the arms *n n'*, and the weight of the flange-ends of the cranks *i i'* being balanced by the weighted tops or caps *o o'* of the arms *n n'*, an even and steady movement of the arms *k k' n n'* and the gate *l* is secured, and the operation of the saw is accomplished without the jar produced by jig-saws as ordinarily constructed, and at an increased speed.

By my improvements, the movement of the arms *k k' n n'* and gate *l* being evenly balanced, the saw *t* rests at the position in which it is left by the stoppage of the power, and the object operated upon can be readily withdrawn and a new object inserted and the saw at once started from the position at which it rested; whereas, in the ordinary arrangement, the saw, if not in a certain position when the power is released, falls upon the object operated upon and has to be raised in order to introduce any new work, thus delaying the operation.

Having thus fully described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

The arms *n n'*, provided with weights *p p'* operating up and down on standards *r r'* and weighted caps *o o'*, so as to counterbalance the weight of a gate, *l*, and double cranks *i i'*, connected with arms *k k'* of a jig-saw, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN MERRITT.

Witnesses:
CARROLL D. WRIGHT,
SAML. M. BARTON.