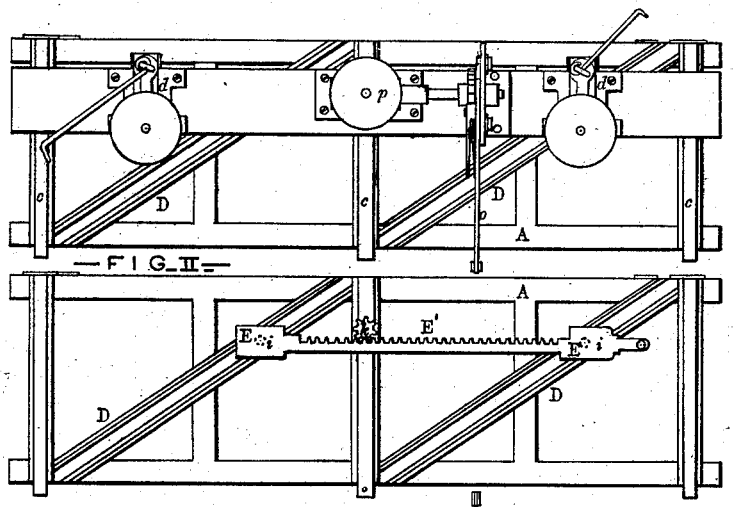
J. F. COOK.

Head-Block.

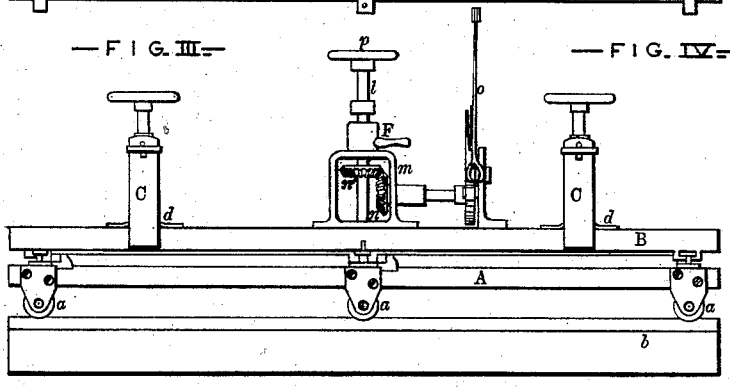
No. 165,065. Patented June 29, 1875.

—FIG. I.—

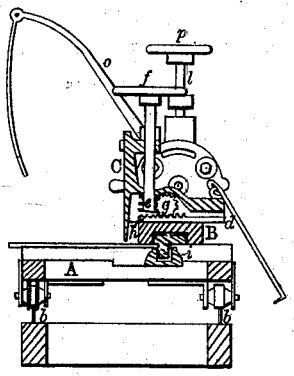


—FIG. II.—

—FIG. III.—



—FIG. IV.—



—WITNESSES.—

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UNITED STATES PATENT OFFICE.

JOHN F. COOK, OF BALTIMORE, MARYLAND, ASSIGNOR TO GEORGE PAGE & CO., OF SAME PLACE.

IMPROVEMENT IN HEAD-BLOCKS.

Specification forming part of Letters Patent No. **165,065**, dated June 29, 1875; application filed May 10, 1875.

To all whom it may concern:

Be it known that I, JOHN F. COOK, of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Head-Blocks, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to means whereby the log-beam, to which the log is indirectly secured, is moved laterally of the saw-carriage upon which it rests; and to improvements in the set-outs to which the side of the log is directly attached, which set-outs are made adjustable laterally of the log-beam, to admit of the placing of the log in an angular position with reference to the plane of revolution of the saw.

My invention consists, first, in the adaptation to the upper surface of the saw-carriage of diagonal slides, grooved longitudinally to admit of the longitudinal motion therein of rollers projecting from the under side of two or more cross-heads, sustained movably in suitable guides, and rigidly connected to a toothed rack adapted to be moved, together with bars extending therefrom, lenthwise of the log-beam, in a suitable depression therein, as hereinafter described. My invention consists, secondly, in a certain combination of movable parts, attachments to the set-outs, by means of which the adjustment of the set-outs independently of the log-beam is accomplished.

In the further description of my invention which follows due reference must be had to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 is a plan of my improved saw-carriage and its attachments, and Fig. 2 a similar view of the same with the log-beam and a portion of its connections removed. Fig. 3 is a side view of the improved saw-carriage, and Fig. 4 a cross-section of the same.

Similar letters of reference indicate similar parts in all the figures.

A is the saw-carriage proper, fitted with wheels *a*, which run upon the track *b*. B is the log-beam, supported by the log-bearers *c*, extending across the carriage A. The movement of the saw-carriage and attachments upon the track is caused by mechanism, which, as it forms no part of the present invention, is not illustrated in the drawing. The adjustable set-outs before alluded to, and which are represented by C, are confined in slides *d* secured to the upper face of the log-beam. The mechanism by means of which the set-outs are adjusted, and their projection beyond the outer edge of the log-beam regulated, consists in the worm-wheels *e*, which are operated through the medium of the hand-wheels *f*, the spirally-toothed pinions *g*, and the correspondingly-toothed racks *h*. The conjoined movement of the log-beam and set-outs laterally of the saw-carriage, as aforesaid, is attained by means of the following combination of parts: D D are grooved slides secured diagonally to the upper face of the carriage, and adapted to receive the rollers *i* projecting from the cross-heads E, which are connected by the toothed rack E′, and constructed to move in suitable guides. The longitudinal motion of the rollers, cross-heads, and toothed rack, is caused by the revolution of a pinion, *k*, fastened to the vertical shaft *l*, which is supported within a frame, *m*. The revolution of the pinion *k* is obtained in two ways: one by means of the mitered or beveled gear-wheels *n* *n′*, through the medium of the ratchet-lever *o*, and the other directly from the hand-wheel *p*. The former method produces a slow motion, which may be graduated and adjusted to regulate the thickness of the slab or board sawed, and is adapted to the forward movement of the log-beam when the log is attached thereto for the purpose of being sawed; and the latter one a motion which, owing to its rapidity, is specially applicable to the backward movement of the log-beam when relieved of the weight of the log. To obtain the direct movement of the pinion *k*, independently of the ratchet-lever, the gear-wheel *n*, with its shaft *l*, is elevated by means of the handle F, which fits over a projection on the upper part of the frame *m*, and is provided with a pin, which enters a spiral groove in the said projection.

As the cross-heads E and toothed rack are moved longitudinally of the log-beam through the agency of the mechanism above described, the rollers *i* are forced into contact with the inclined sides of the grooves in the slides D, and by taking their direction are carried with their attachments laterally of the saw-carriage as well as longitudinally of the log-beam.

Having thus described my invention what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The log-beam B, cross-heads and rack E E′, grooved diagonal slides D, rollers *i*, pinion *k*, and shaft *l*, combined substantially as and for the purposes specified.

2. The combination of the log-beam B, frame *m*, shaft *l*, pinion *k*, gears *n n′*, and handle F, whereby the log-beam can be moved laterally on two ways, substantially as herein described.

3. The log-beam B, provided with the slides *d*, and spirally-toothed racks *h*, in combination with the set-outs C, having the worm-wheels *e*, and spirally-toothed pinions *g*, substantially as and for the purposes specified.

In testimony whereof I have hereunto subscribed my name this 30th day of April, A. D. 1875.

JOHN F. COOK.

Witnesses:
WM. H. H. YOUNG,
WM. T. HOWARD.