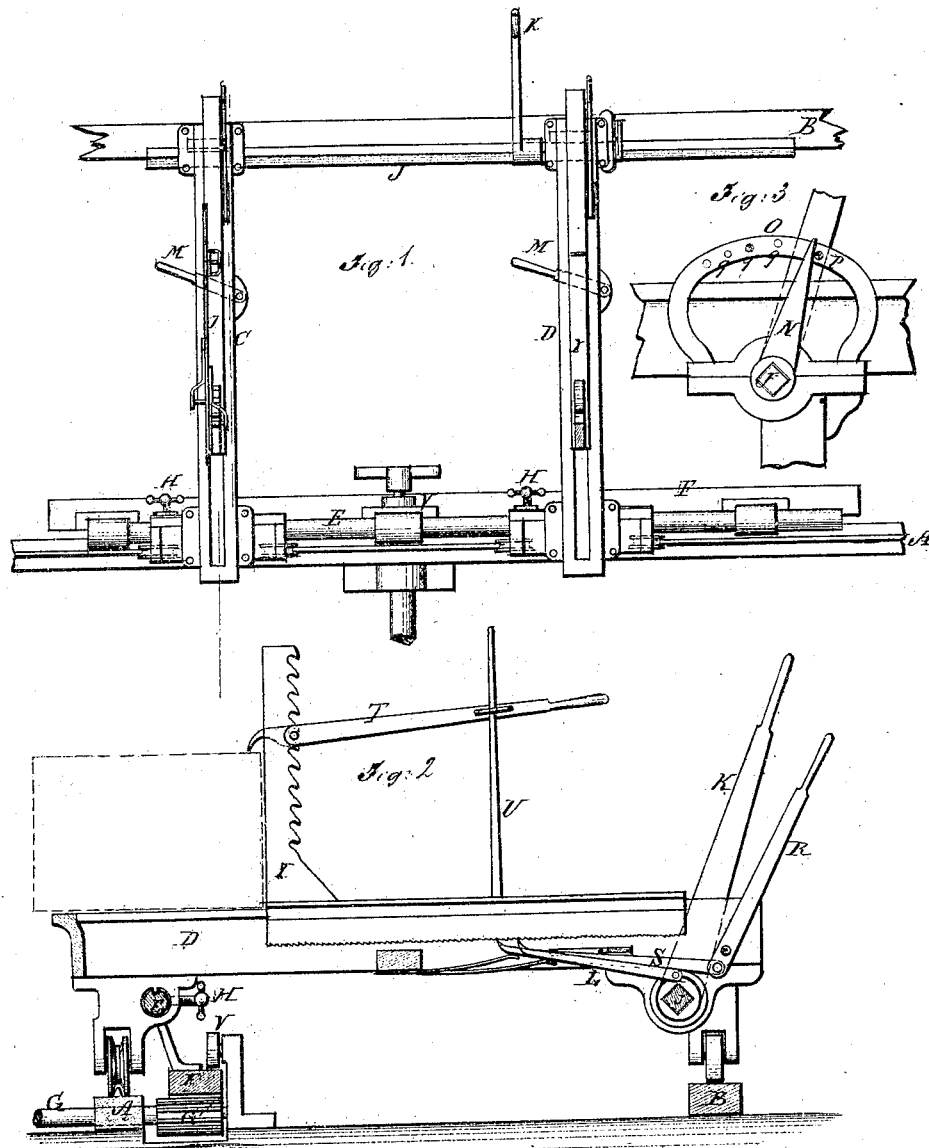


*B. F. & D. Richardson,*

*Saw Mill Head Block.*

*No. 10,9052.*

*Patented Nov. 8. 1870*



**Witnesses:**

*Cas. Nida*  
*S. S. Maber*

**Inventor:**

*B. F. Richardson*  
*D. Richardson*  
PER *Munn & Co*  
**Attorneys.**

# UNITED STATES PATENT OFFICE.

BENJAMIN F. RICHARDSON AND DAVID RICHARDSON, OF MARTINSBURG,  
IOWA.

## IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **109,052**, dated November 8, 1870.

*To all whom it may concern:*

Be it known that we, BENJAMIN F. RICHARDSON and DAVID RICHARDSON, of Martinsburg, in the county of Keokuk and State of Iowa, have invented a new and useful Improvement in Saw-Mill Head-Blocks; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to saw-mill head-blocks, and our object is to introduce to the public certain improvements thereon. These improvements will be first described in connection with all that is necessary to a full understanding thereof, and then clearly specified in the claims.

In the accompanying drawings, Figure 1 represents a plan view. Fig. 2 is a vertical cross-section on the line *xx* of Fig. 1. Fig. 3 is a detail of the index for governing the thickness of the lumber sawed.

Similar letters of reference indicate corresponding parts.

A and B represent the carriage-ways upon which the head-block carriages move.

C and D are the head-blocks, each of which is supported on three wheels—two wheels on the way A, which are grooved to fit a V guide-rib on that "way," and one wheel on the way B, which is flat and not ribbed.

E is a round bar, by which the two head-blocks are connected together, or to which they are fastened when they move together. This bar is rigidly attached to the feed-rack F, by which the head-blocks are moved when the saw is in operation, or which gives the feed.

G is a shaft with a pinion, G', thereon, which engages with the rack, for moving the head-blocks and log.

H H are hand-screws, by which the head-block carriages or chairs are clamped to the bar E. When the log is properly adjusted on the head-blocks the revolution of the pinion-shaft G carries the log to the saw, or gigs it back, as may be desired.

I is the triangular knee in each head-block,

the horizontal portion of which works in a tongue and groove in the beam of the block, the lower edge of which has ratchet-teeth, as seen in Fig. 2.

J is a square bar, which passes through the rear carriages or chairs, by means of which the knees are moved forward for setting the log.

K is the setting-lever, by which this bar is turned or partially revolved for working the pawls L. The pawls engage with the ratchet-teeth in the knee of each head-block for moving the entire log the distance required, according to the thickness of the lumber to be sawed. The points of the pawls are pressed up to the ratchet-teeth by springs, as seen, and are disengaged therefrom by means of the levers M, which serve to throw the pawls from the teeth, so as to allow the knees to be moved back. The movement of the log in "setting" is controlled by the arrangement seen in Fig. 3.

N is an index-finger on the square shaft J, and O is an arch with a series of holes.

P is a fixed pin or starting-point. By placing a pin in one of the holes *q*, as a stop to the movement of the finger N, the knees are moved more or less, and the thickness of the lumber sawed is regulated.

R is a lever, and S' a pawl in each head-block, by means of which the head-blocks are moved independently of each other.

T is a dog-lever for each head-block, which have their fulcrums in the ratchet-teeth on the upright portion of the knees I, as seen in Fig. 2. The back ends of these levers are supported by ratchet-teeth on the upright stands U, which are fast in the horizontal portion of the knees.

V is a binding-roller over the cogged rack F.

It will be seen that by this arrangement the head-blocks may be adjusted to suit logs of different lengths by simply loosening one of the hand-screws H from the coupling-bar E. The setting and dogging of the log is accomplished in the most accurate and expeditious manner, and the head-blocks being supported on separate wheels, and operating independently of each other, allows the mill to be arranged with far less trouble and expense than ordinary saw-mills.

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

1. The shaft E and hinged rack F, in combination with the feed-shaft G, pinion G', and retaining-wheel V, all constructed and operating as and for the purpose specified.

2. In combination with the elements above

named, the carriages C and D, constructed and operating as shown and described.

BENJAMIN F. RICHARDSON.  
DAVID RICHARDSON.

Witnesses:

J. M. WERTZ,  
A. H. WHEELLOCK.