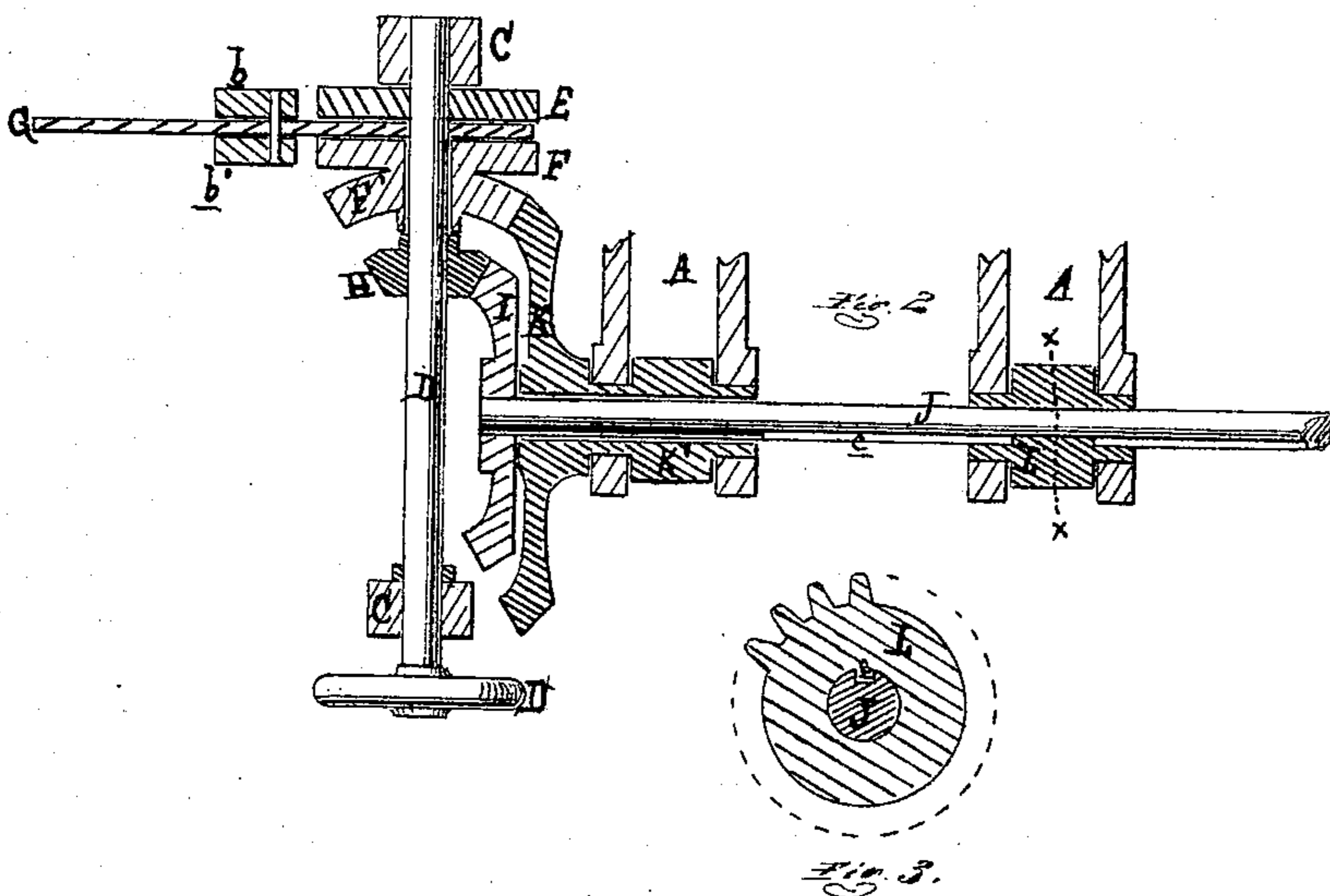
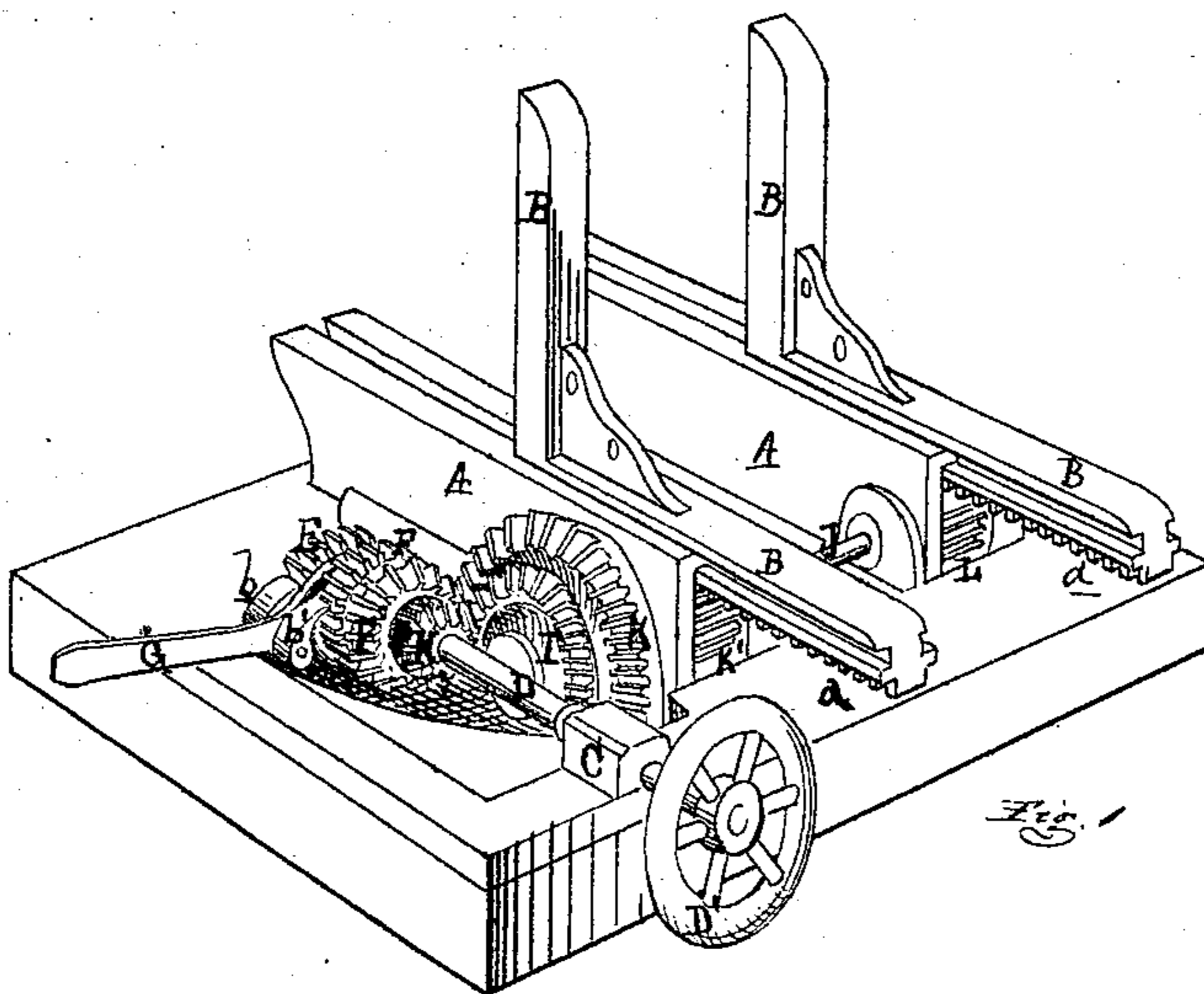


J. B. WAYNE.
Improvement in Head-Blocks for Saw-Mills.
No. 129,378. Patented July 16, 1872.



ATTEST:
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JAMES B. WAYNE, OF DETROIT, MICHIGAN.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. 129,378, dated July 16, 1872.

To whom it may concern:

Be it known that I, JAMES B. WAYNE, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Head-Blocks for Saw-Mills; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a perspective view of my improved head-block. Fig. 2 is a horizontal section of the same on the plane of the shafts; and Fig. 3 is an enlarged cross-section of the pinions at *x x* in Fig. 2.

Like letters refer to like parts in each figure.

The object of this invention is so to construct the set-works of a circular-saw mill that either knee may be moved independently of the other, or both knees may be moved conjointly and simultaneously with but one set-shaft. The invention consists in the peculiar construction and arrangement of the mechanism for the purpose, as more fully hereinafter set forth.

In the drawing, A A represent the transverse iron head-blocks of a circular-saw mill, and B B the iron knees which move therein, in the manner shown; on the under side of each knee there is a toothed rack, *a*. At one end of the carriage, in bearings C C, is journaled the end set-shaft D, provided with a hand wheel, D', on the out-board end; next the in-board end there is rigidly secured to said shaft D a ratchet-wheel, E, and along side of it is sleeved on the shaft a loose ratchet-wheel, F, of the same diameter, cast with a bevel-gear, F', on the same hub. G is a lever, sleeved on the shaft D between the ratchets, and is provided with two pawls, *b b'*, one pivoted at either side thereof; the former may engage with the ratchet E, and the latter with the ratchet F, or both may be thrown back, as seen in Fig. 2, or either independent of the other. Out-board from the gear F' a bevel-gear, H, is keyed on the shaft D, which gear H meshes with a bevel-pinion, I, keyed on the end of the set-shaft J, which is journaled through the hub of a bevel-gear, K, driven by the gear F', the hub of said pinion K being journaled in the

nearest head-block; the shaft J has a key-way, *c*, cut in it the remainder of its length, in which is feathered a pinion, L, journaled between the sides of the other head-block, so that the latter may be moved to or from the stationary head-block; the pinion L meshes with the rack *a* of the knee above it; the gear K has a pinion, K', formed of that part of the hub which is between the cheeks of its head-block, which pinion meshes with the rack *a* of the knee above it.

The lever G being down, and both its pawls engaging with their ratchets, as seen in Fig. 1, if it be thrown up it is evident that both knees will be advanced uniformly toward the saw, to cause the latter to cut a board of uniform thickness from the log or cant, but if it be desired to advance the further end of the log the pawl *b'* is thrown out of gear, when the lever, acting through the ratchet E, gears H I, and pinion L, will accomplish it; to throw forward the nearest knee, throw out the pawl *b*, engage the pawl *b'* with the ratchet F, when, through the gears F' K and pinion K', it is in like manner accomplished.

For setting back the knees a clutch on the set-shaft may be used in the manner now commonly known, or any simple device may be employed for the purpose. The hand-wheel D' enables the sawyer to move the further head-block either way when the pawl *b* is not engaged with its ratchet.

Thus it will be seen that either or both knees may be moved forward in concert or independently with a single set-shaft, which may be reduced in diameter, as one-half the work of setting is done by the gear and pinion K K', which relieves it to that extent.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction and arrangement with relation to the head-blocks A A, knees B B, and end set-shaft D of the lever G, pawls *b b'*, ratchets E F, gears and pinions F', H, I, K, K', and L, and the set-shaft J, substantially as and for the purpose set forth.

JAMES B. WAYNE.

Witnesses:

H. F. EBERTS,
H. S. SPRAGUE.