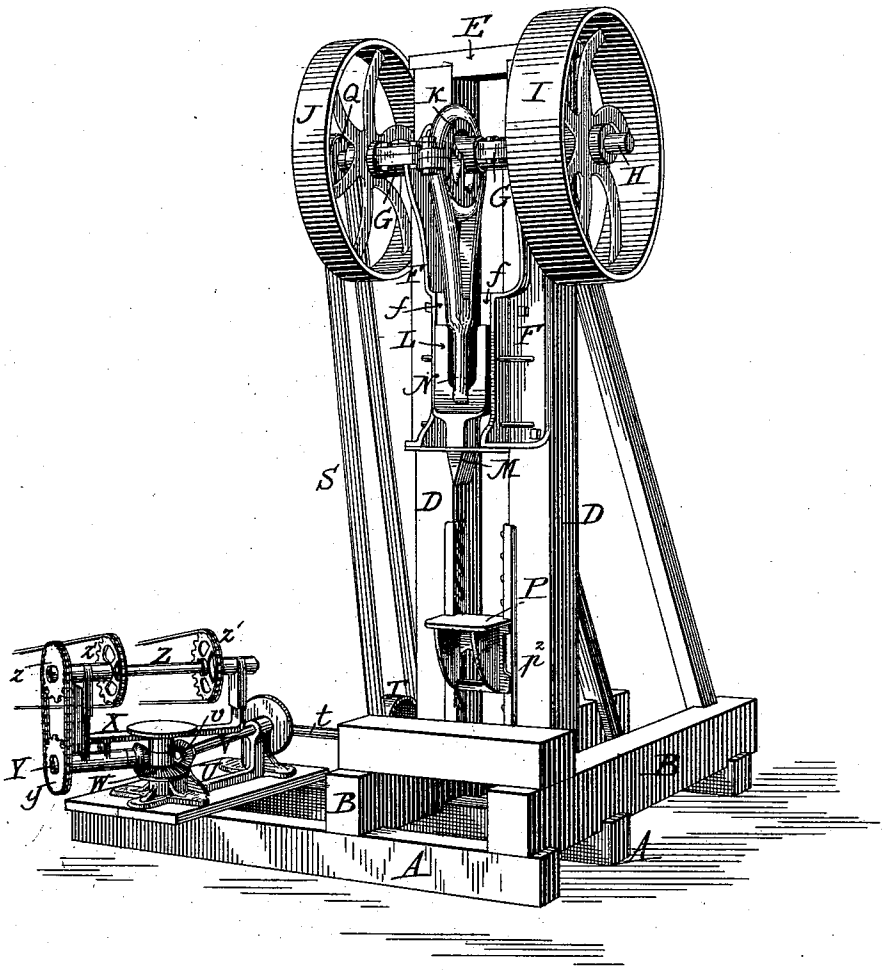
(No Model.) 2 Sheets—Sheet 1.

J. B. IVEY.

WOOD SPLITTING MACHINE.

No. 508,020. Patented Nov. 7, 1893.

Fig. 1.



Witnesses.
Sidney P. Hollingsworth
J. J. Ehrook

Inventor;
James B. Ivey,
by his attorney.
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(No Model.) 2 Sheets—Sheet 2.

J. B. IVEY.

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No. 508,020. Patented Nov. 7, 1893.

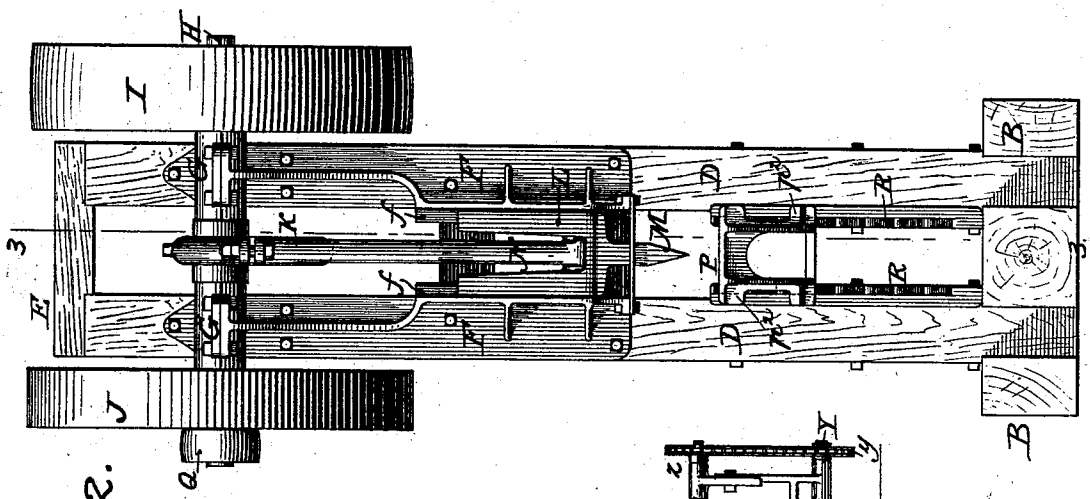

Fig. 2.

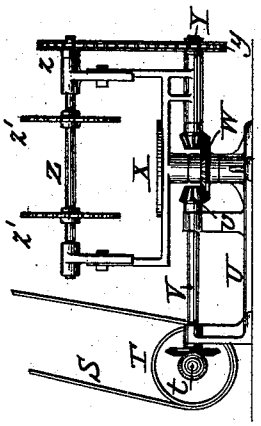

Fig. 4.

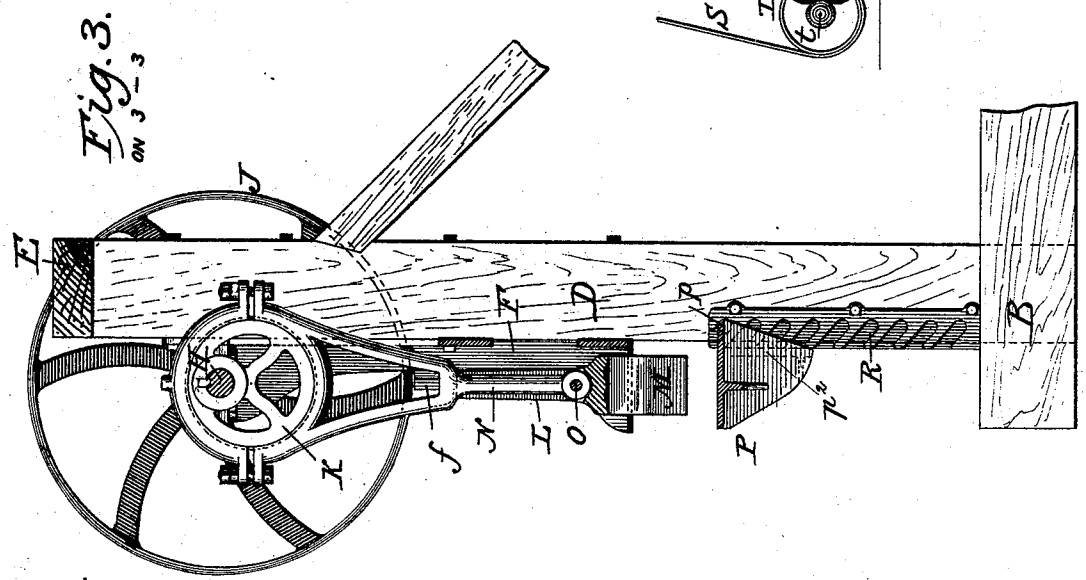

Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES BURNETT IVEY, OF MACON, GEORGIA.

WOOD-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 508,020, dated November 7, 1893.

Application filed June 9, 1892. Serial No. 436,116. (No model.)

To all whom it may concern:

Be it known that I, JAMES BURNETT IVEY, of Macon, county of Bibb, and State of Georgia, have invented a new and useful Improvement in Wood-Splitting Machines, of which the following is a specification.

This invention has reference to wood-splitting machines in which a vertically-reciprocating power driven knife acts upon the blocks of wood seated on an underlying supporting-table, and it relates to various improvements having special reference to cheapness, solidity of construction and ease of adjustment.

In the accompanying drawings,—Figure 1 is an outline perspective view of my improved machine. Fig. 2 is a front view of the same. Fig. 3 is a vertical section from front to rear on the line 3—3 of Fig. 2. Fig. 4 is a diagram of the gearing by which the conveyer is driven from the splitting machine.

In constructing my machine I mount on transverse timbers or sills A, two horizontal overlying timbers or sills B, extending in a transverse direction, bolting them firmly together. On this base-frame, and shouldered and bolted strongly thereto, I erect the two posts or standards D D, connected by a cross-bar E, at the top. To these standards, near their upper ends, I bolt firmly the cast-iron main-frame F, of U-form. This frame is provided at its upper end with half-bearings and caps forming boxes G, to sustain the horizontal main-shaft H, which is provided on one end with a driving-pulley I, at the opposite end with a fly-wheel J, and at the middle with an eccentric K. The lower part of the main-frame is formed along its inner edges with vertical guides *f*, to receive the intermediate sliding-block L, carrying at its lower end the splitting knife M, which may be bolted thereto or cast integral therewith, as preferred. It is also formed with integral laterally projecting flanges *u* which constitute a base by which it is bolted against the posts or standards D. D.

The pitman N, lying in the center of the frame has its upper end provided with or fashioned into a strap to encircle the eccentric, while its lower end is made of cylindrical form, seated in a bearing in the top of the slide and secured by a transverse pivot-bolt O. Under this arrangement the rotation of the eccentric serves to carry the slide and its knife up and down with a positive motion. As the slide and the driving-shaft are mounted in the frame cast in one piece, the parts are held firmly in alignment and prevented from working out of their proper relations under any circumstances.

P represents a supporting-bed or table having on its sides supporting studs *p*, which are seated in inclined grooves in plates R, strongly bolted to the standards. The bed has laterally-projecting ribs or flanges p^2 which bear against the front faces of the supporting plates to keep it from tipping forward. The bed may be changed in elevation at will by shifting its studs *p*, from one pair of grooves to another. When released its studs slide downward and backward in the grooves so that the bed is seated firmly against the sustaining plates.

In connection with my machine I propose to use an endless conveyer or elevator, and for this purpose I mount on the main-shaft a small pulley Q, on which a belt S, is extended downward to a pulley T, on one end of a horizontal shaft *t*, the opposite end of which is sustained by a standard on one end of a cast-metal bed-plate U, seated on planking applied to the main sills A. The shaft *t*, is connected by miter gears with the second horizontal shaft V, lying at right angles thereto and sustained by two standards on the base-plate. The shaft V carries a beveled pinion *v*, engaging a horizontal pinion W, revolving around a post on the base of the bed-plate. On this post there is mounted a yoke or frame X, which may be revolved horizontally, and carries on its under side a second horizontal shaft Y, receiving motion from the central pinion W. On the top of the yoke there is mounted a horizontal shaft Z, carrying at the inner end a sprocket-wheel *z*, driven by a chain from a sprocket-wheel *y*, on the lower shaft.

Under the above arrangement motion is communicated constantly through a central pinion to the top-shaft Z, while at the same time the yoke containing the shaft Z, is permitted to turn freely in its horizontal path.

The shaft Z, carries, in addition to the driving pulley, two sprocket wheels *z'*, intended to drive two endless conveyer chains, which

being thus driven may be turned at any desired direction; or, in other words, extended in any desired direction from the machine while the driving devices continue their motion.

As regards this part of the invention the essential feature lies in imparting motion through a central pinion to the elevator driving shaft mounted in the turning yoke or frame so that the turning motion will not interfere with the communication of power thereto.

Having thus described my invention, what I claim is—

1. In a wood-splitting machine, the main-frame cast complete in one piece with the shaft-bearing, the inner side guides for the knife carrying block, and the flanges to fit the sustaining standards.

2. The combination in a wood-splitting machine of the two standards, the U-shaped metal frame having the shaft-bearing and side guides integral therewith, the shaft and its eccentric, the knife-head, the pitman and the vertically adjustable bed or anvil.

3. In a wood splitting machine the combination with the parallel frame posts or standards, of the metal plates rigidly attached to the respective posts and having at their forward edges backwardly and downwardly inclined grooves or slots forming upwardly inclined hook-shaped teeth, and the anvil having laterally projecting studs adapted to the grooves in the plates, and flanges below said studs to form bearings against the edges of the plates whereby the anvil is adapted to be adjusted vertically and to be supported without other fastenings.

In testimony whereof I hereunto set my hand, this 18th day of February, 1892, in the presence of two attesting witnesses.

JAMES BURNETT IVEY.

Witnesses:
T. A. CHEATHAM,
W. B. BIRCH.