(No Model.)

5 Sheets—Sheet 1.

J. H. MATTHEWS.

TRANSPORTABLE CIRCULAR SAWMILL.

No. 496,886. Patented May 9, 1893.

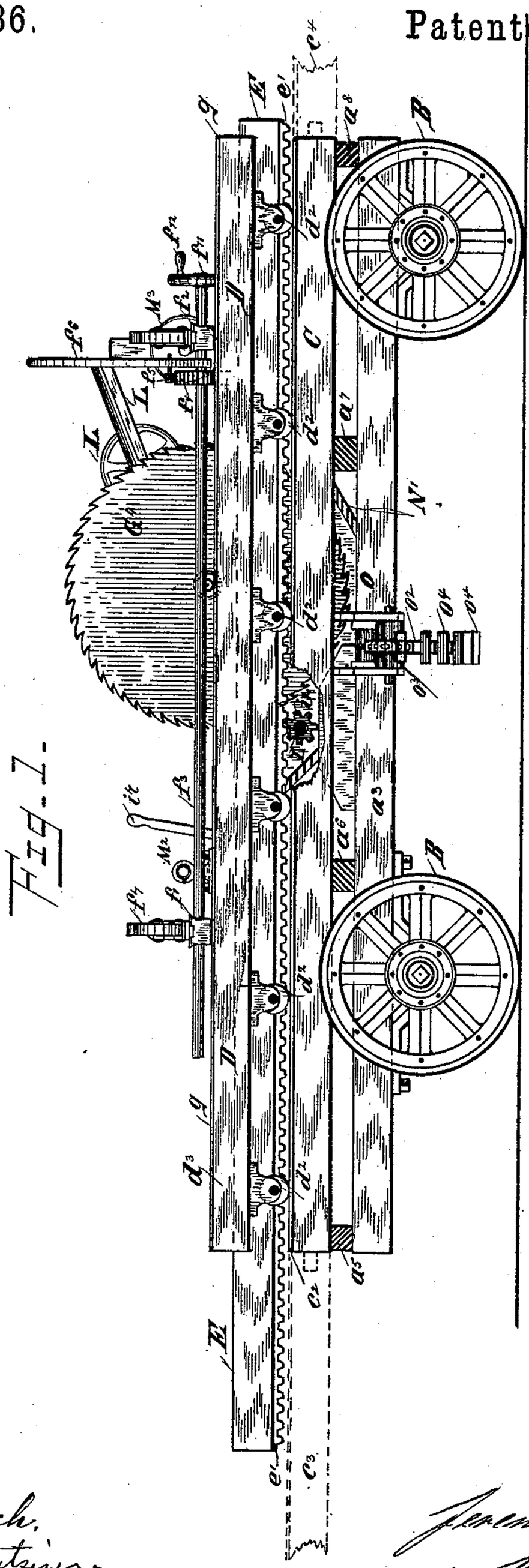

Fig. 1.

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James J Hunsinger

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(No Model.)

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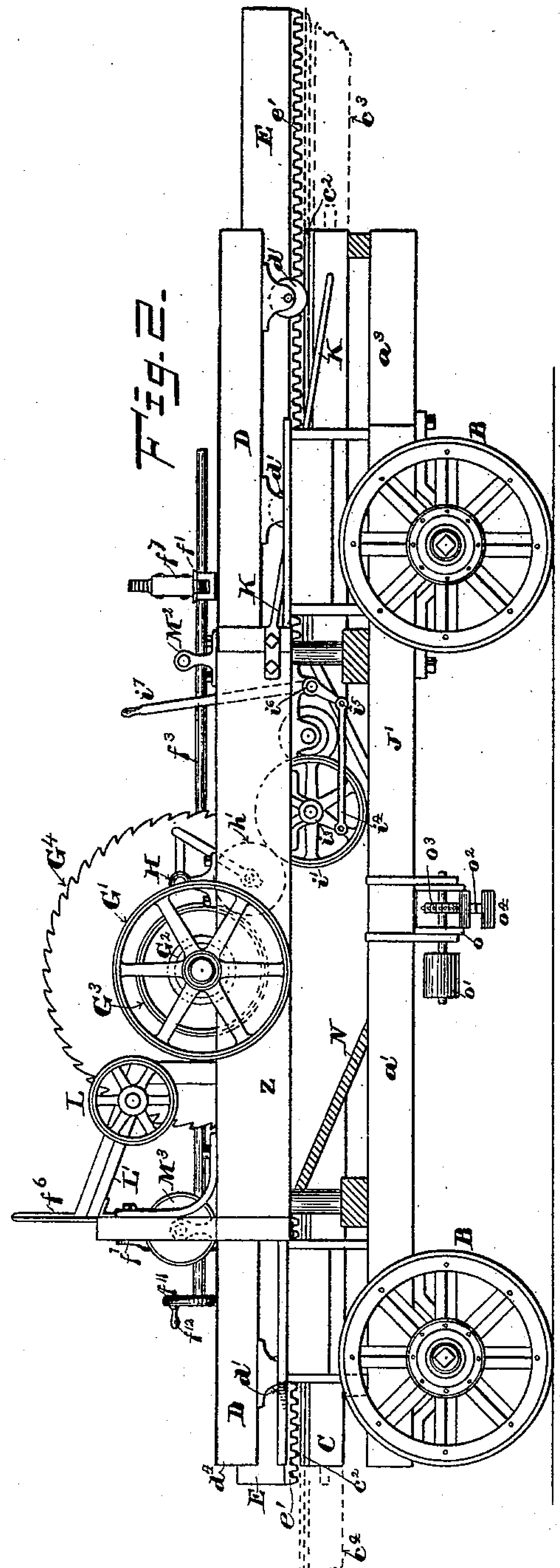
Fig. 2.



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TRANSPORTABLE CIRCULAR SAWMILL.

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Fig. 5.

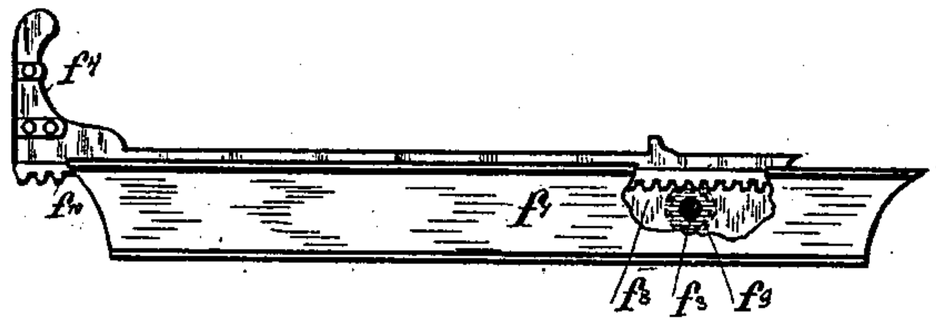


Fig. 3.

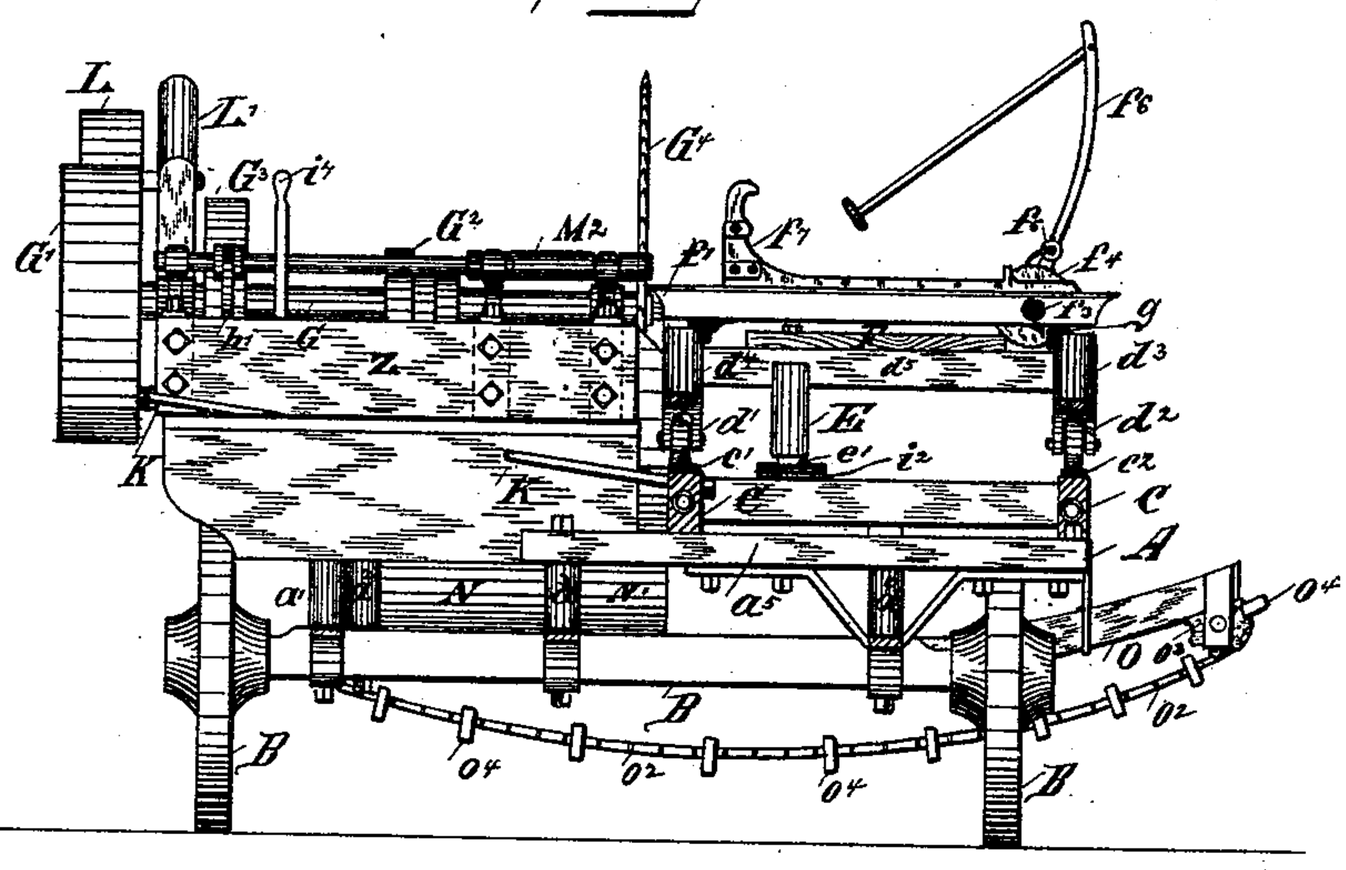
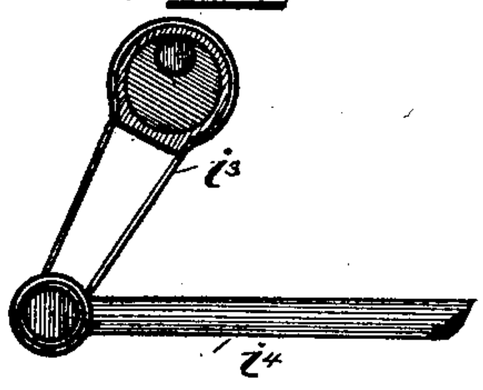


Fig. 6.



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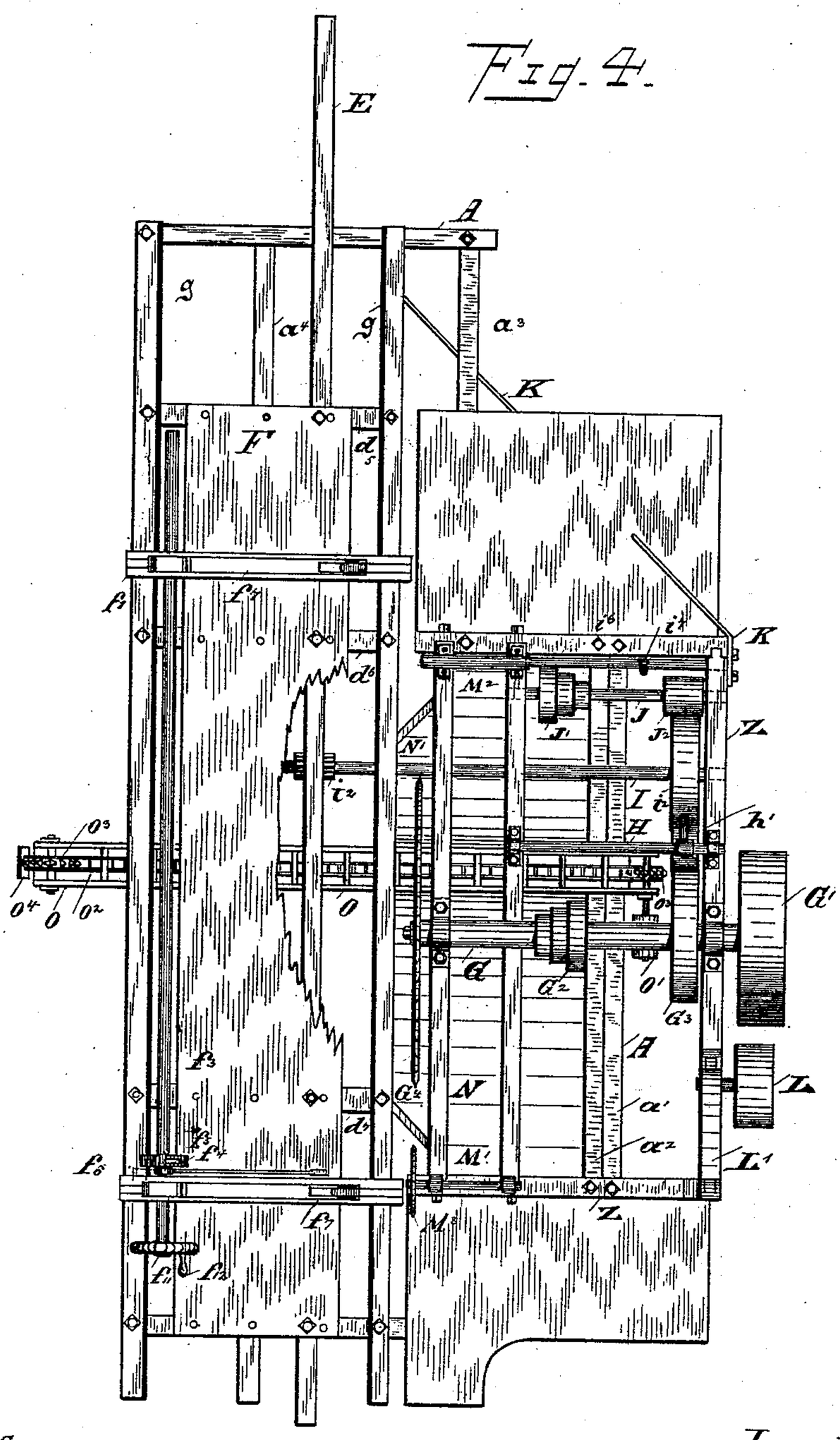
TRANSPORTABLE CIRCULAR SAWMILL.

No. 496,886. Patented May 9, 1893.

Fig. 4.



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(No Model.) 5 Sheets—Sheet 5.

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TRANSPORTABLE CIRCULAR SAWMILL.

No. 496,886. Patented May 9, 1893.

Fig. 7.

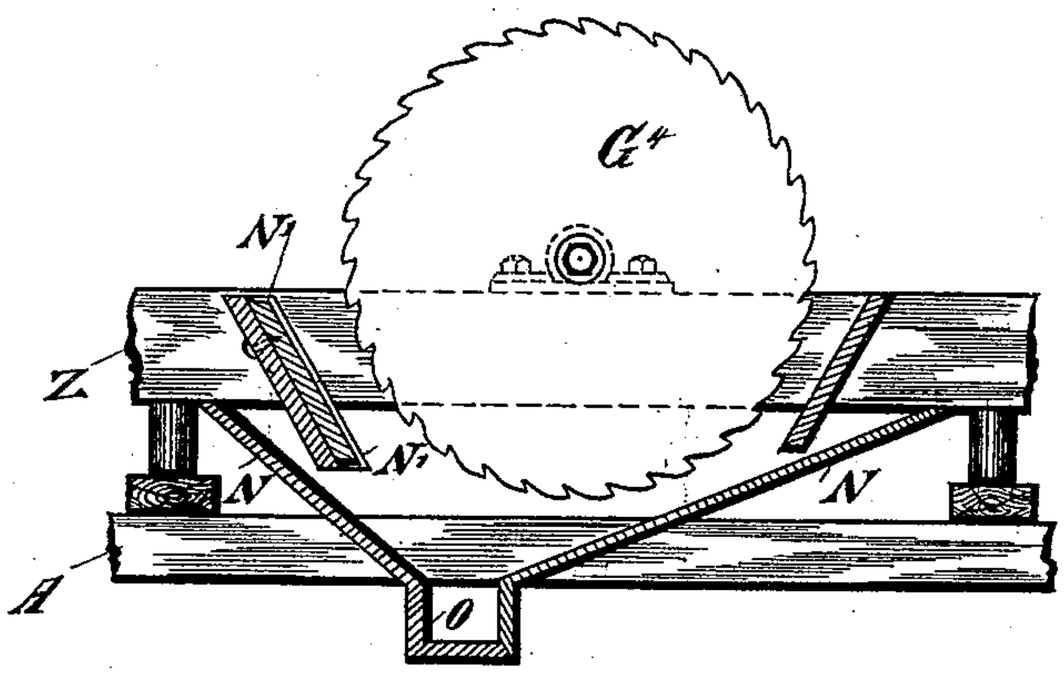
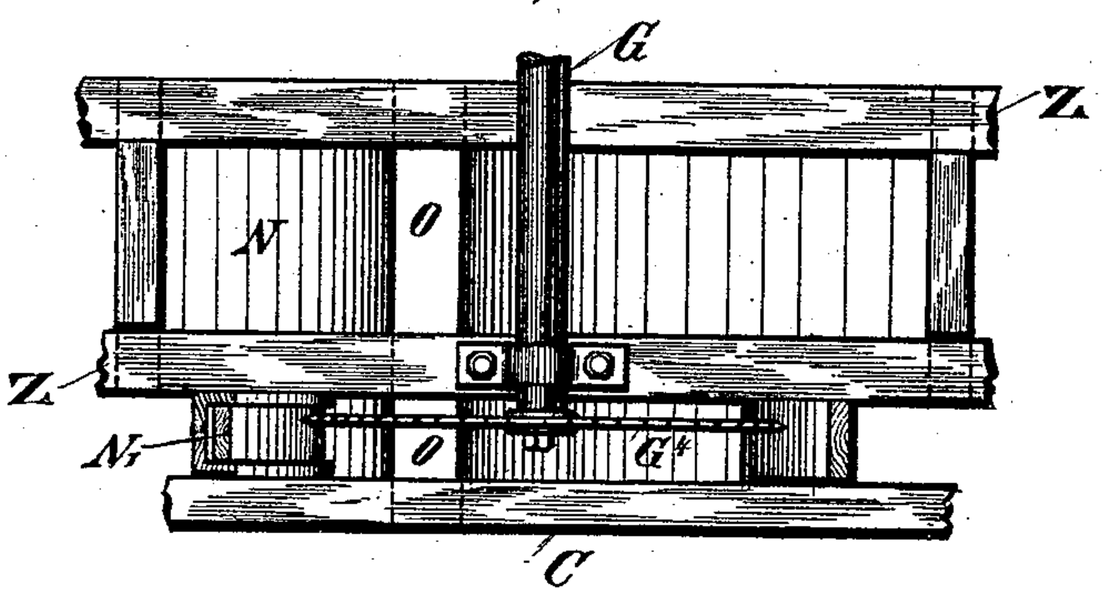


Fig. 8.



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UNITED STATES PATENT OFFICE.

JEREMIAH H. MATTHEWS, OF SOUTH BEND, INDIANA.

TRANSPORTABLE CIRCULAR-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 496,886, dated May 9, 1893.

Application filed March 21, 1892. Serial No. 425,870. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH H. MATTHEWS, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented a certain new and useful Improvement in Transportable Circular-Saw Mills, of which the following is a specification.

My invention relates to an improved transportable circular saw mill, for the manufacture of lumber in places inaccessible to stationary or larger mills.

My mill as constructed by me on a truck made especially for the purpose upon which the bed or frame is fastened, and on which the necessary machinery is placed, is always ready for work on short notice; all that is necessary to be done, is to set it the same as a thrashing machine, and it is ready for use. It can be supplied with power from a stationary or traction engine, or horse power, and can be removed from place to place with the same power.

In the accompanying drawings, Figure 1, represents a right side view of my invention upon a truck. Fig. 2, represents a left side view of my invention. Fig. 3, represents a rear end view of my invention. Fig. 4, represents a top view of my invention, with parts of top platform broken away to show how the machine is constructed underneath the same. Fig. 5, shows a transverse vertical section of the head block and stand. Fig. 6, shows a transverse vertical section of the eccentric on left side. Figs. 7 and 8, are details of the hopper N, and chute or trough N, I.

A, in the drawings, represents my frame, which is fastened to the trucks B, and upon which the husk frame, carriage and all of the necessary pulleys, shafts and gearing are fastened, necessary to make a complete transportable circular saw mill. The frame A, is built of timbers running lengthwise, as a, I, a^2, a^3, and a^4, and the cross timbers as a^5, a^6, a^7, and a^8; all of which are bolted and braced together as shown.

C, are the track timbers which are fastened upon the top of frame A, and upon which the iron tracks, c', and c^2, are fastened.

c^3, and c^4, are extensions of main tracks and make the whole track C, upon which the carriage D, runs back and forth; and on the under side of the carriage timbers d^3, and d^4, the rollers d', and d^2, are fastened. The cross timbers, d^5, d^6, d^7, and d^8 of the carriage D, are tenoned into the sides of d^3, and d^4, of the same.

E, is the rack bar fastened to the under side of cross timbers, d^5, d^6, d^7, and d^8, of the carriage; and under the rack bar E, is bolted the cast rack e', containing cogs in which similar cogs work to propel the carriage back and forth.

F, is a platform made of plank upon which the operator stands.

Upon the upper inside corners of d^3 and d^4, is fastened a wrought iron track g, which is for the purpose of protecting corners of timbers. (See Fig. 3.)

Head blocks, f' and f^2, are adjustable to suit any length of log; the knees which are upon the head blocks are operated by cog wheels placed upon shaft, f^3.

On the entire length of shaft f^3, there is a slot, with a corresponding key inserted on the inside of cog wheels, by which the cog wheels are fastened to shaft; and can be moved and fastened to any part of shaft as may be desired.

f^4, is a ratchet wheel fastened to shaft f^3, in which the dogs, f^5, work, which are fastened to side of arm, f^6, and are for the purpose of moving the log toward the saw, to cut off the required thickness of lumber.

f^7, are the stands against which the log is held and moved toward the saw, and which work in the slots of head blocks.

f^9, are cog wheels, which work on shaft f^3, inside of head blocks f', and f^2, and work in similar cogs, f^{10}, on under side of stands f^7.

f^{11}, is a hand wheel fastened to end of shaft f^3, and on which handle f^{12}, is fastened, and which is for the purpose of backing up the stands ready for another log.

G, is the saw mandrel and main shaft, which is journaled in bearings secured to top of husk frame Z, upon which the drive pulley G', the feed pulley G^2, the friction wheel G^3, and the saw G^4, are fastened, and are for the purpose set forth.

H, is a shaft, journaled in bearings upon brackets secured to husk frame Z.

h', is a friction wheel, journaled in a swinging frame, supported by shaft H, and is only used when the carriage is backing up.

I, is a shaft journaled in bearings on brackets, supported from the bottom of husk frame Z, on which the friction wheel i', is fastened and which runs in an eccentric. (See Fig. 6.) i^2, is a cog wheel fastened on end of shaft I, which meshes with the cogs in rack e', which is fastened on the bottom of timber E, the operating of which propels the carriage back and forth; by the use of the eccentric.

i^3, i^4, i^5, i^6, i^7 is the operating arm or handle, and its attachments by which the eccentric is operated for the purpose above set forth.

J, is a shaft journaled in bearings on brackets supported from the bottom of husk frame Z, on which is fastened a cone or feed pulley j'; and the friction wheel j^2; the cone pulley j', on shaft J, and the cone pulley on shaft B, work in unison and regulate the speed of the carriage.

K, is a brace rod which is bolted diagonally from the end of the husk frame Z, to track timber C, (see Figs. 3 and 4,) and is for the the purpose of keeping the track and saw with other machinery in alignment, which is impossible to do with the old stationary mill set on blocking, and depending on the stakes driven in the earth.

L, is a tightener pulley which works in a journaled bearing that is tenoned into the timber L', which is hinged to a post which is secured to husk frame Z; this pulley or tightener works upon the loose side of belt, which gives at least two or three more horse power.

M', is a shaft journaled in bearings on brackets secured to top of husk frame, on which is fastened a kerf spreader which is for the purpose of preventing the saw from binding.

M^2, is a roller journaled in bearings on brackets, secured to husk frame Z, and is for the purpose of carrying off the lumber as it comes from the saw.

N, is a hopper box constructed of boards, which are elevated diagonally at the under side of saw and frame a^3, and is for the purpose of securing the dust from the saw, and removing it to a trough, from which it is carried from under the saw by the endless carrier O, which is composed of a series of transverse scrapers or slides, o^4, which are fastened to the chain o^2, which is connected together at its ends, thereby forming an endless carrier within the trough. The chain o^2, is propelled by means of the sprocket wheel, o^3, on a shaft which is journaled in bearings on brackets secured to the end of the trough or endless carrier O; said shaft being provided on the left hand side of trough, with a small wood pulley o', which is connected with a belt to the shaft G, from which the sawdust conveyer receives its power.

N', is a trough or chute which is secured to the side of the husk frame Z, under and in front of saw, above and independent of the hopper box N, and which is for the purpose of conveying the sawdust, &c., which are thrown into the same, by the action of the saw while in operation, directly into the trough of the endless conveyer. This chute or trough N', is constructed with a double bottom; the upper one made removable and held in place by a single wood screw and can be removed when worn out by the force of the sawdust, bark, &c., that are thrown against the same by the operation of the saw, and replaced with a new one.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A transportable circular saw mill, the frame A, consisting of longitudinal sills or timbers, with cross sills or timbers securely bolted and braced thereon, a trough secured crosswise to and under said frame, said trough forming part of a box similar to a hopper box, the ends of the same being secured to the bottom of husk frame, and the sides to the longitudinal timbers of frame A, for the purpose of bracing the husk frame Z, substantially as shown.

2. A transportable circular saw mill, having a trough secured crosswise to and under the main frame A, through which the transverse bars or scrapers of an endless carrier operate, said trough forming part of a box, similar to a hopper box, the sides and ends of the same being secured to main and husk frames, and slanting gradually from the bottom of husk frame to the trough on both sides of the same, and the entire width of the main and husk frames, in combination with the main frame A, the trucks B, the husk frame Z, the track timbers C, the carriage D, and operating mechanism therefor, the saw and operating mechanism therefor, substantially as described.

3. A transportable circular saw mill, the combination of the main frame A, the trucks B, the track timbers C, the husk frame Z, with a chute N', which is secured to husk frame Z, partly under and in front of saw, and above hopper N, said chute or trough having a double bottom, the upper one made removable, all substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JEREMIAH H. MATTHEWS.

Witnesses:
WM. TURNOCK,
GEORGE OLTSCH.