(No Model.)

4 Sheets—Sheet 1.

L. B. McEWEN.

PULL BOAT.

No. 562,644. Patented June 23, 1896.

Fig. 1.

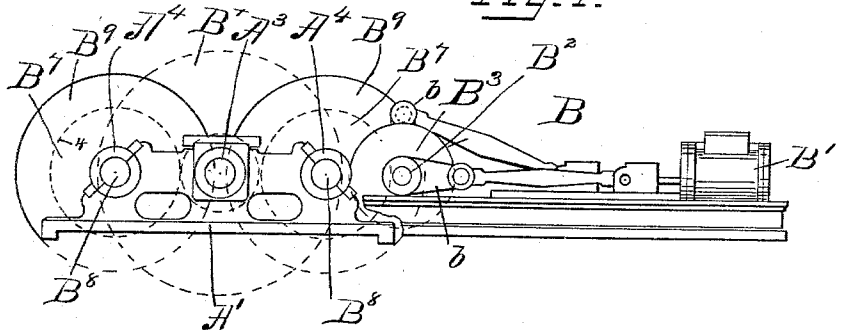

Fig. 2a.

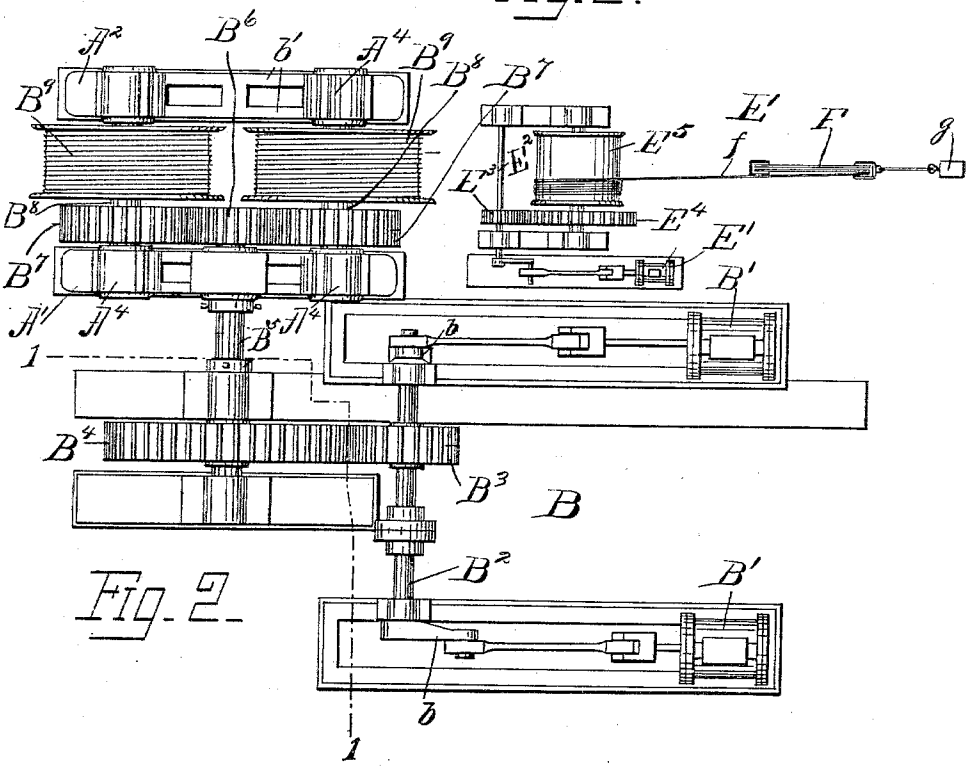

Fig. 2.

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FIG. 5.

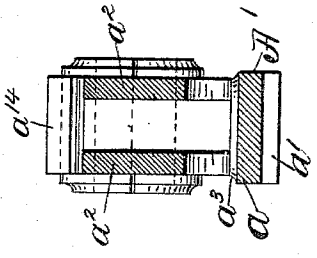

FIG. 4.

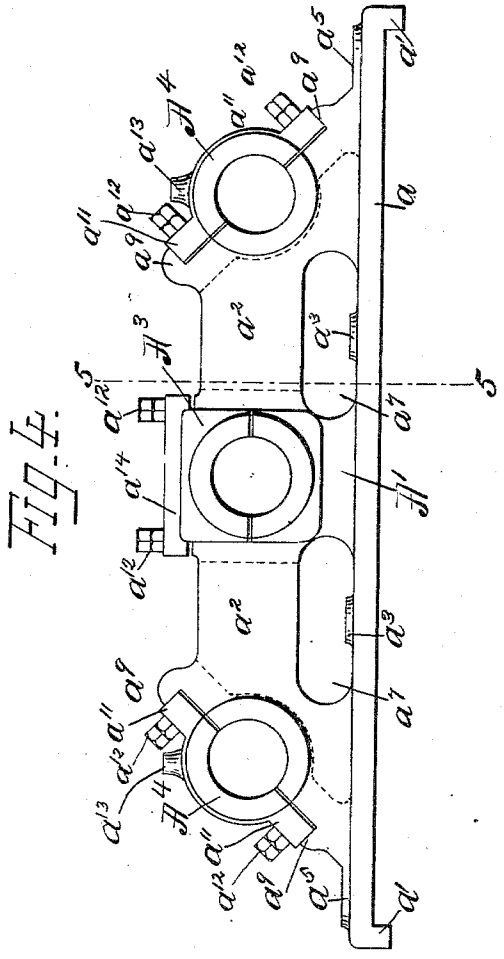

FIG. 3.

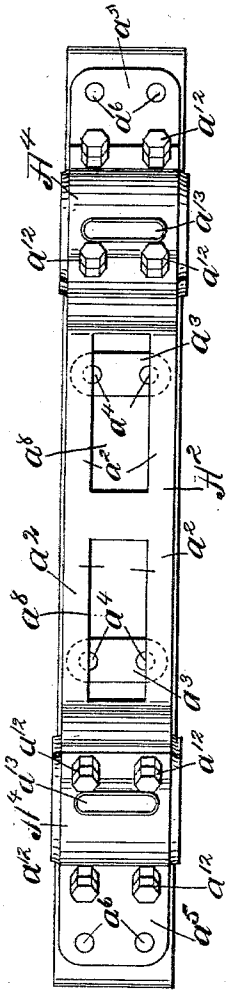

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FIG. 6.

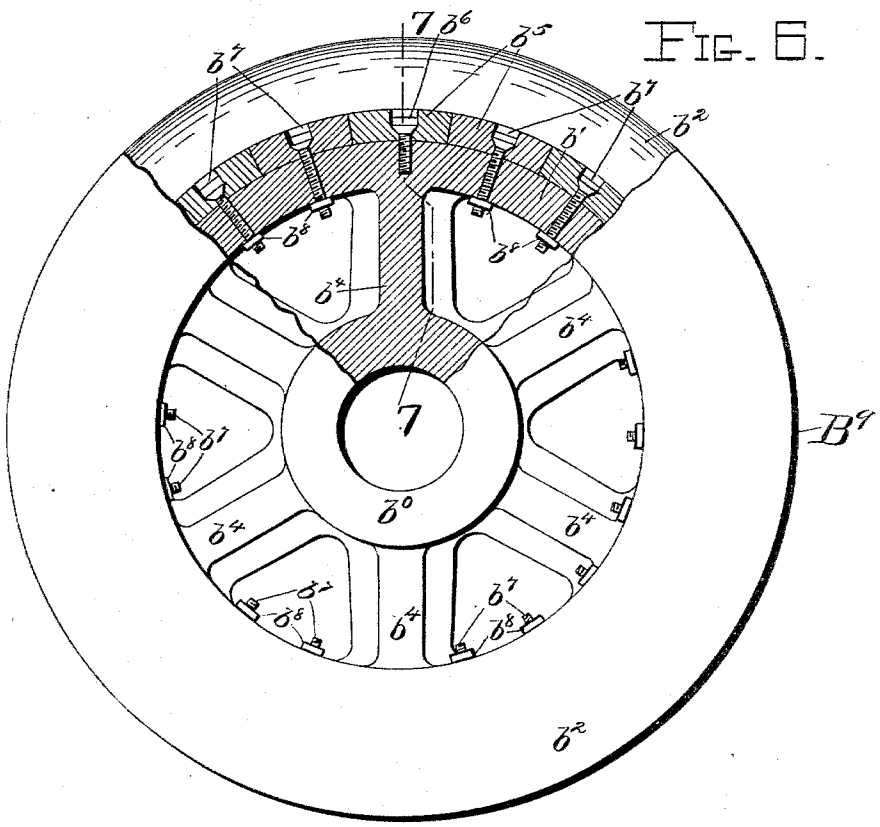
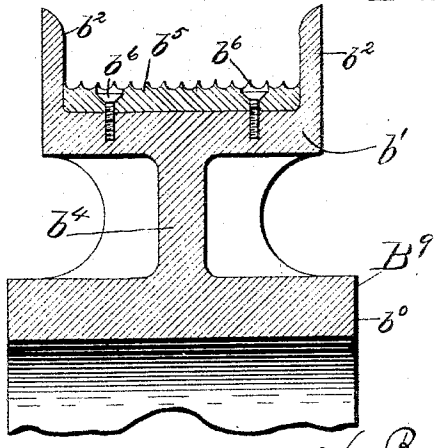


FIG. 7.



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PULL BOAT.

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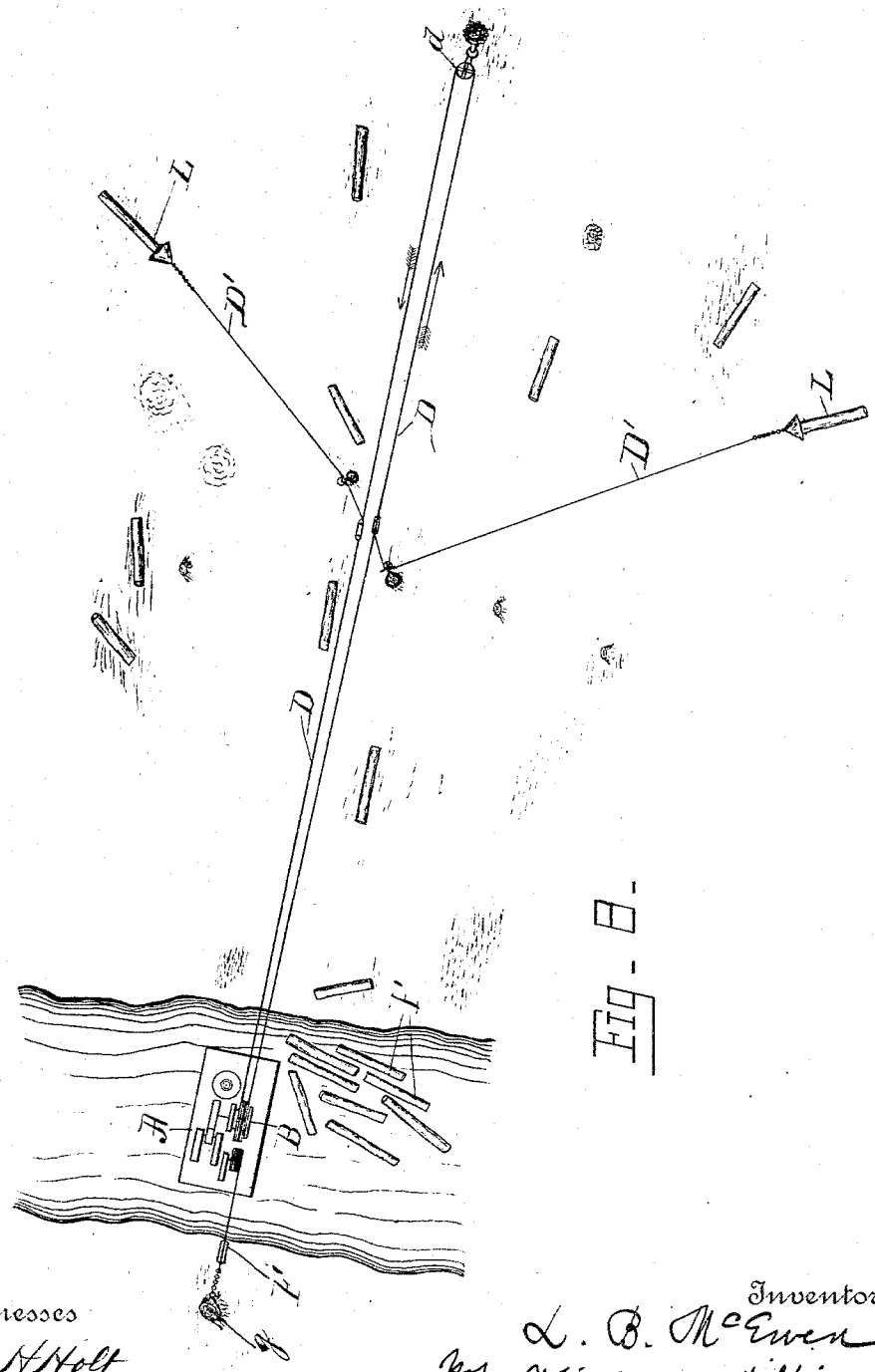

Fig. 8.

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UNITED STATES PATENT OFFICE.

LUCIUS BACON McEWEN, OF BONNET CARRÉ, LOUISIANA.

PULL-BOAT.

SPECIFICATION forming part of Letters Patent No. 562,644, dated June 23, 1896.

Application filed October 14, 1895. Serial No. 565,648. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS BACON McEWEN, a citizen of the United States, residing at Bonnet Carré, in the parish of St. John the Baptist and State of Louisiana, have invented certain new and useful Improvements in Pull-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in pull boats or cars for use in logging; and it consists in providing a compact and powerful gear for hauling the logs, in providing drums having the wearing parts replaceable, and in certain other novel details of construction and combinations and arrangements of parts that will be hereinafter more fully described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a side elevation of the drums and the means for driving the same, the device being partly shown in section along the broken line 1 1 of Fig. 2. Fig. 2 represents a plan view of the drums and the means for driving the same. Fig. 2^a represents a plan view of the engine and attachments whereby the pull-boat is anchored and the cable hauled taut. Fig. 3 represents a plan view of one of the pillow-blocks in which the drums are journaled. Fig. 4 represents a side elevation of the opposite pillow-block from that shown in Fig. 3, in which the opposite ends of the shafts carrying the drums are journaled. Fig. 5 represents a section along the line 5 5 of Fig. 4 and looking to the left. Fig. 6 represents a side elevation, partly in section, of one of the drums. Fig. 7 represents a section along the line 7 7 of Fig. 6; and Fig. 8 represents a plan view of the pull-boat, showing the cable led out therefrom and the device in the operation of pulling home the logs.

A represents the pull-boat, which is represented as moored in the stream, being held in position by the hauling-cable D, extending out in one direction, and the fall F, led out in the other direction.

Instead of a boat A the apparatus hereinafter described may be operated from a railway-car, if desired.

B represents the hauling-engine, provided, preferably, with two cylinders B', having their piston-rods connected to the cranks b, set at approximately ninety degrees apart, which cranks drive the crank-shaft B^2, carrying the pinion B^3, which meshes in the gear-wheel B^4 on the shaft B^5, which shaft also carries the pinion B^6, meshing in the gear-wheels B^7, mounted on the drum-shafts B^8, carrying the drums B^9. These drum-shafts are journaled in the pillow-blocks A' and A^2, which are each made of a single casting, and are provided with a flanged bed-plate a, integral therewith, having downwardly-projecting ribs a' and vertical ribs a^2, with bolt-holes a^4, and reinforced portions a^5, having bolt-holes a^6, by means of which the said pillow-block is secured to the boat or car. The bolt-holes a^4 are preferably surrounded by reinforces a^3, so as to get greater thickness of metal around the bolt-holes. The pillow-blocks are hollowed out at a^7 and a^8, so as to form, substantially, two vertical webs or beams of metal connected together at their centers and ends, all as shown most clearly in Figs. 3 to 5. The two ends of the pillow-blocks are shouldered, as at a^9, to receive the cap-squares A^4, whose flanged ends a^{11} are held in place by the lock-nuts a^{12}. Oil-cups a^{13} are preferably cast in the said cap-squares for the purpose of lubricating the bearings of the drum-shaft. The outer pillow-block A^2 has only two bearings, one for each of the drum-shafts, while the inner pillow-block A' is provided with three shaft-bearings, the central bearing being for the shaft B^5, carrying the driving-pinion B^6. This central bearing is provided with the sleeve A^3, held down by the bar a^{14} and the lock-nuts a^{12}, as shown in Fig. 4. By having these pillow-blocks cast each in one piece and constructed as shown great strength is secured, whereby the excessive strains due to the tension of the cable on the drums are safely resisted.

The drums B^9 are provided with a hub b^9, connected by the spokes b^4 to the rims b', having the side flanges b^2. These rims b' are covered with a plurality of detachable corrugated staves b^5, extending axially between the side flanges b^2, the corrugations in which are so arranged spirally that the cable will wind

continuously on one drum, and passing from one drum to the other will wind continuously thereon. These staves are made of chilled cast iron or steel, and are secured to the rims b' either by means of bolts b^7 and nuts b^8, or by tap-bolts b^6, or in any other convenient way. The heads of these bolts are countersunk below the bottom of the corrugations in the staves, so that they will be out of the way of the cable. The purpose of having these staves detachably secured on the drums is to render it possible to conveniently renew the corrugated surface of the drum without at the same time providing an entirely new drum. The drums ordinarily in use are made of cast iron or steel, and the corrugated rims are cast integral with the drum. The corrugations wear out, or wear unevenly, and in course of time the drum becomes unfit for further use, due to this wear. By forming the corrugated wearing-surface in a part of the drum that may be readily detached and replaced when desired, I obviate the great expense incident to replacing an old drum with one that is new throughout.

The cable D is wound on the two drums and is led down into the woods for a distance of three-quarters of a mile or less, and is there passed over a sheave d, as shown in Fig. 8. Hauling-ropes D' are connected to the said cable and are led over suitable sheaves to drag the logs L in toward the main cable, but these details are well known in the art and will not be further described in this application.

In order to anchor the boat in the stream or lake, I provide a smaller engine E, driven by the cylinder E', which drives the crank-shaft E^2, carrying the pinion E^3, meshing in the gear-wheel E^4, on the shaft of the drum E^5, on which drum is wound the end of the fall f of the tackle F, whose inner end is hooked to the pull-boat, and whose outer end is hooked to a rope or strap connected to the stake or stump g. When the cable D is led out and this tackle F is hooked, by winding up on the drum E^5 the boat is pulled away from the sheave d, tautening the said cable and steadying the boat in the proper position. In this manner the proper tension on the cable D may be rapidly attained and readily adjusted, and thus a great saving in time over the methods now in use is obtained.

The various advantages of the herein-described construction will readily suggest themselves to any practical lumberman.

It will be obvious that various modifications of the herein-described device might be made which could be used without departing from the spirit of my invention.

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

1. In an apparatus for hauling logs, the combination with an endless cable passing over a sheave at the outer bight, of two drums provided with detachable spirally-corrugated plates on which the inner bight of said cable is wound, and means for rotating said drums, substantially as described.

2. In an apparatus for hauling logs, the combination with a drum, of a spirally-corrugated periphery composed of a plurality of axial staves detachably connected to said drum, substantially as described.

3. A drum for use in apparatus of the character described, comprising a hub, a rim with side flanges, connections between said hub and said rim, and a plurality of spirally-corrugated metal staves, detachably secured to said rim, substantially as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

LUCIUS BACON McEWEN.

Witnesses:
L. R. SASSINOT,
J. D. O'KEEFE.