No. 647,074. Patented Apr. 10, 1900.

S. W. BUTTERFIELD.

SLAB BARKING MACHINE.

(Application filed Sept. 11, 1899.)

(No Model.) 3 Sheets—Sheet 1.

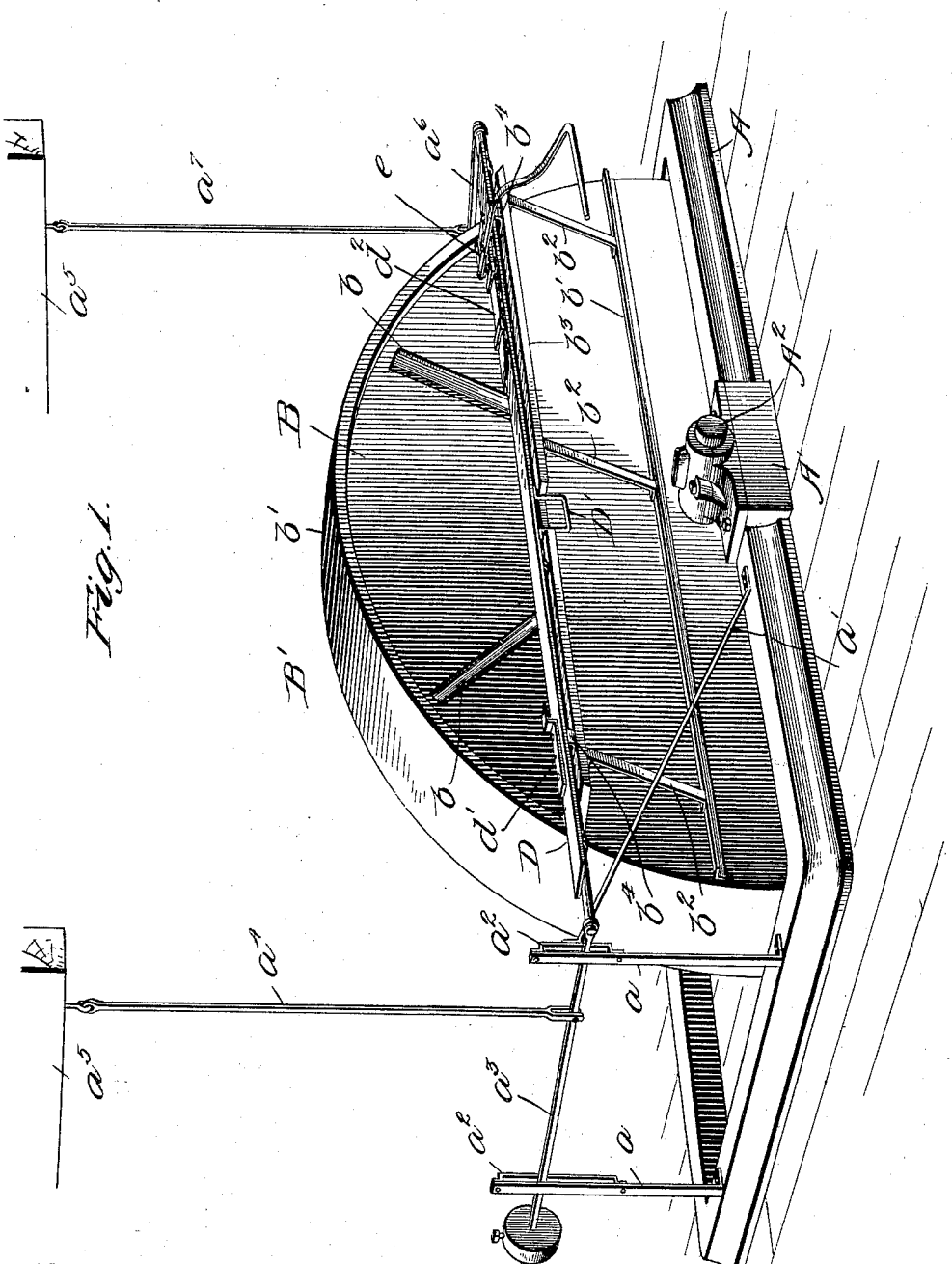

Fig. 1.

Witnesses:
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Attorneys

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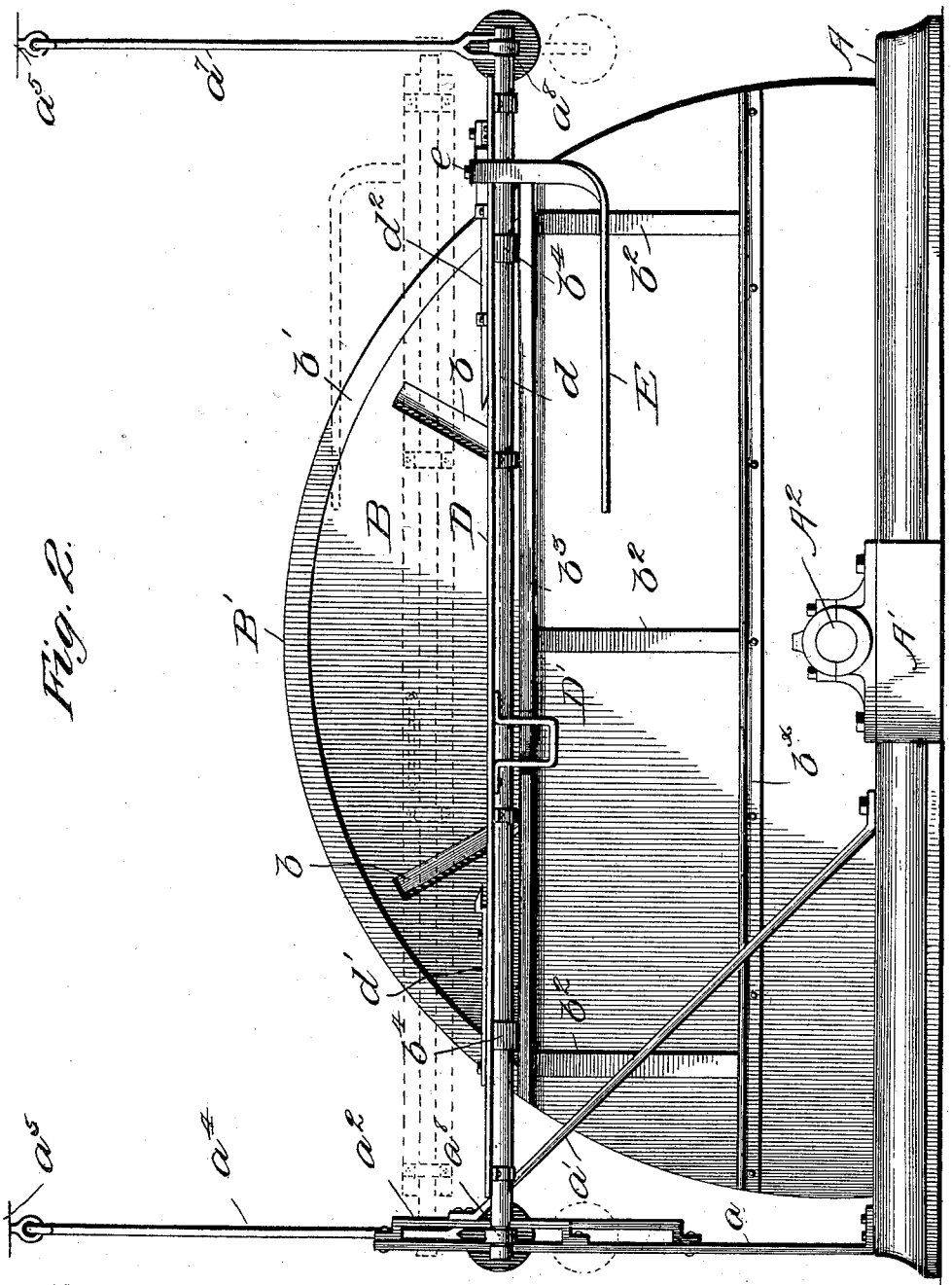

Fig. 2.

Witnesses:
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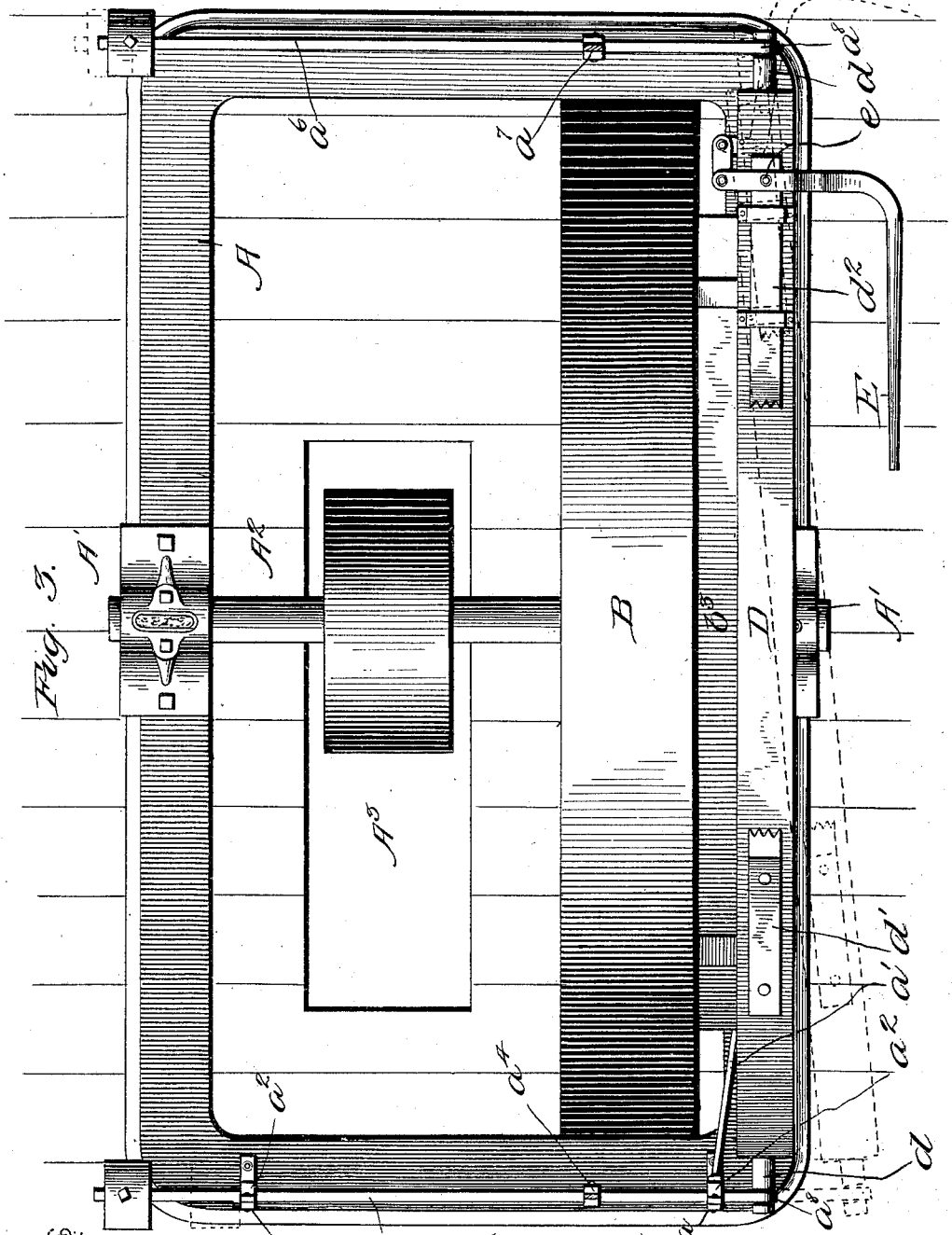

Fig. 3.

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UNITED STATES PATENT OFFICE.

SAMUEL WESLEY BUTTERFIELD, OF THREE RIVERS, CANADA.

SLAB-BARKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 647,074, dated April 10, 1900.

Application September 11, 1899. Serial No. 730,123. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL WESLEY BUTTERFIELD, a citizen of the United States of America, residing at Three Rivers, county of St. Maurice, Province of Quebec, Canada, have invented certain new and useful Improvements in Machines for Removing the Bark from Slabs of Wood; and I do hereby declare that the following is 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.

This invention relates to machines for removing the bark from slabs of wood; and one object is to provide a machine of this character by means of which the bark can be easily and quickly removed from slabs of wood.

A further object is to provide a machine which will readily remove the bark from slabs of wood of unequal thickness.

A further object is to provide a machine of this character which is simple in construction, effective in operation, and which can be manufactured at a moderate cost.

To these ends the invention consists in a slab-barking machine constructed substantially as hereinafter described, and defined in the appended claims.

Referring to the drawings, in which similar letters of reference indicate similar parts, Figure 1 is a view in perspective of a slab-barking machine constructed in accordance with this invention. Fig. 2 is a front elevation thereof, showing in dotted lines the position assumed by the slab-holder during the operation of barking a slab. Fig. 3 is a top or plan view showing in dotted lines another position assumed by the slab-holder.

In the drawings, A represents a frame of any suitable construction and material, which is preferably mounted upon the floor of a sawmill and which is provided with suitable bearing A′ for the shaft A^2, which supports the cutting-disk B and its casing B′. The said disk and casing being of large size are preferably sunk for a part of their dimensions into an opening or pit in the floor. Upon the shaft A^2 is fixed a suitable drive-pulley A^3, having a belt leading to the source of power. The cutting-disk B is constructed of a circular plate of metal fixed upon the shaft A^2, upon the front face of which is secured a series of cutting-knives b, arranged near the periphery of said disk. The casing B′ is constructed in the form of a circular frame closed at the rear portion and having an annular flange b' encircling the disk B, the edge of said flange being practically flush with the face of the disk. By means of this construction the entrance of dirt, &c., between the disk and the casing is prevented. The front face of the casing B′ is also closed to a point above its center, thus leaving only the upper portion of the cutting-disk exposed.

A supporting angle-iron b' is secured transversely across the front face of the casing B′ at a point preferably above the center thereof, and secured to said angle-iron are the supporting-rods b^2, to the upper ends of which is secured a supporting platform or table b^3, the upper surface of which is preferably downwardly inclined or slanting and which projects outwardly from the casing B′ to provide a suitable support for the slab-holder D. The outer edge of the supporting-table b^3 is provided with a series of brackets b^4, which prevents the slab-holder from falling off the said table.

Upon one end of the frame A are secured the vertical rods a, suitably supported by brace-rods a', and to the upper portion of the rods a are secured suitable brackets a^2, forming slots for the reception of the weighted bar a^3, in which slots said weighted bar has a free vertical and longitudinal movement, but is prevented from moving sidewise, and thus is enabled to withstand the shocks sustained by the operation of the slab-holder D. The weighted bar a^3 is pivotally connected to a supporting-link a^4, which is loosely pivoted at its upper end to an overhead support a^5. A similar weighted bar a^6 is loosely supported by the link a^7 at the other end of the frame A, as is clearly shown in Fig. 2.

The slab-holder D is constructed of a flat metal plate of sufficient width to accommodate the slabs to be barked and is firmly fixed upon a rod or shaft d, the ends of which rod project beyond the ends of said holder and are journaled in suitable bearings a^8, formed on the ends of the weighted bars a^3 and a^6, whereby the said shaft d, and with it the slab-holder D, are adapted to rotate therein. The slab-holder D is provided upon its upper side

with a fixed slab-dog d' at one end and at the other end with an adjustable slab-dog d^2, between which the slabs are adapted to be clamped and securely held while being barked. A suitable handle D' is fixed to the slab-holder, by means of which it may be adjusted and held against the face of the cutting-disk B.

At one end of the slab-holder, adjacent to the weighted bar a^6, is pivotally secured by means of suitable links a lever E, having an outwardly and inwardly extending handle arranged in a suitable position to be conveniently grasped and operated by the operator. Near the pivotal point of the lever E is a pivotal connection e with the adjustable slab-dog d^2 for permitting the adjustment of the said dog.

It will be seen from the construction above described that the slab-holder D is suspended in a swinging support, permitting the slab-holder to be advanced toward and withdrawn from the face of the cutting-disk B and also to be raised and lowered upon the supporting-table b^3.

The dimensions of the slab-holder and the cutting-disk B are such as to permit the barking of slabs of lumber of the usual length, which is usually about four feet, thus obviating the necessity of cutting the slabs into small lengths, as is required by the ordinary barking-machine.

In operation the slab is dogged upon the slab-holder, and the operator then grasps the handle D' with one hand and the handle of the lever E with the other hand. The slab-holder is now pressed against the knives of the revolving cutting-disk and turned upward on its journals, thus presenting every portion of the slab to the cutting-knives. The slab-holder is then turned back upon the supporting-table in readiness to receive another slab.

By reason of the swinging supports of the weighted bars a^3 and a^6 the slab-holder may be turned at any angle to the face of the cutting-disk by the operator, thus permitting the barking of tapered slabs without unnecessary waste of material. This is a very important feature of the invention, as heretofore it has been impossible to bark tapered slabs (and slabs are mostly all tapered) without cutting away the wood at the larger end of the taper, and thus causing a serious loss of wood.

It will be perhaps well to explain that barking-machines are employed to remove the bark from logs which are thus prepared for use in making wood-pulp for paper-mills. Heretofore it has been impossible to bark slab-wood successfully, owing to the fact above stated that slabs are of tapered form, being cut from the outside of logs. No machine has been devised which is capable of barking tapered slabs without cutting off all the wood at the larger end. Hence, pulp-wood has almost entirely been made from small logs, which have a much greater commercial value than slabs, thus greatly increasing the cost of wood-pulp. By means of the machine constructed in accordance with this invention slab-wood, which heretofore was of little value except for fuel, can be substituted for the expensive log-wood.

While I have herein shown a preferred form of carrying my invention into effect, yet I do not desire to limit myself to such preferred details of construction, but claim the right to use any and all modifications thereof which will serve to carry into effect the objects to be attained by this invention, in so far as such modifications and changes may fall within the spirit and scope of my said invention.

I claim—

1. In a machine for barking slabs, the combination with a suitable frame, of a cutting-disk rotatably mounted therein; and a swinging slab-holder loosely supported adjacent to said cutting-disk and adapted to be swung in a vertical plane, and so mounted that the ends of the axis of said swing are capable of independent motion toward and from the disk, whereby the said slab-holder may be adjusted at an angle to the face of the said cutting-disk, substantially as described.

2. In a machine for barking slabs, the combination with a suitable frame, of a cutting-disk rotatably mounted therein; a supporting-table adjacent to said cutting-disk; and a slab-holder adapted to rest upon said table and loosely supported at each end in a swinging support, whereby the slab-holder may be adjusted at any angle to the face of the said cutting-disk, substantially as described.

3. In a machine for barking slabs, the combination with a suitable frame, of a cutting-disk rotatably mounted therein; a slab-holder; a swinging support arranged at each end of said slab-holder, the said slab-holder being so mounted in said swinging support that the ends of the axis of said swing are capable of independent motion toward and from the disk, substantially as described.

4. In a machine for barking slabs, the combination with a suitable frame, of a cutting-disk rotatably mounted therein; a slab-holder; a swinging support at each end of said slab-holder, in which said slab-holder is rotatably mounted; a clamping-dog mounted upon said slab-holder; an adjustable clamp-dog mounted upon said slab-holder; and a lever pivotally connected with said holder and to said adjustable dog, whereby the said clamping-dog may be held in its adjusted position and the slab-holder operated, substantially as described.

5. In a machine for barking slabs, the combination with a suitable frame, of a cutting-disk rotatably mounted therein; a slab-holder fixed upon a shaft; a weighted bar loosely supported at each side of said cutting-disk and having a bearing in which the shaft of the slab-holder is journaled; and a handle secured to said slab-holder for operating the same, substantially as described.

6. In a machine for barking slabs, the combination with a suitable frame, of a cutting-disk rotatably mounted therein; slotted standards fixed upon one end of the said frame; a weighted bar loosely supported and engaging said slotted standards; a weighted bar loosely supported at the other end of said frame; a shaft journaled in bearings carried by said weighted bar; a slab-holder fixed upon said shaft; an adjustable clamp mounted upon said slab-holder, a lever pivotally connected with said slab-holder and said clamp, whereby the said clamp and slab-holder are adapted to be operated, substantially as described.

7. In a machine for barking slabs, the combination with a suitable frame; of a cutting-disk rotatably mounted therein; a slab-holder; and a swinging support at each end of said slab-holder in which said slab-holder is rotatably mounted adjacent to said cutting-disk, said slab-holder extending across the entire front of said cutting-disk, whereby tapered slabs of the usual length may be barked, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

SAMUEL WESLEY BUTTERFIELD.

Witnesses:
THOMAS RICHARDSON,
A. RENNIE.