No. 795,671. PATENTED JULY 25, 1905.

W. WHITFIELD.

SAWDUST CONVEYER.

APPLICATION FILED OCT. 26, 1904.

2 SHEETS—SHEET 1.

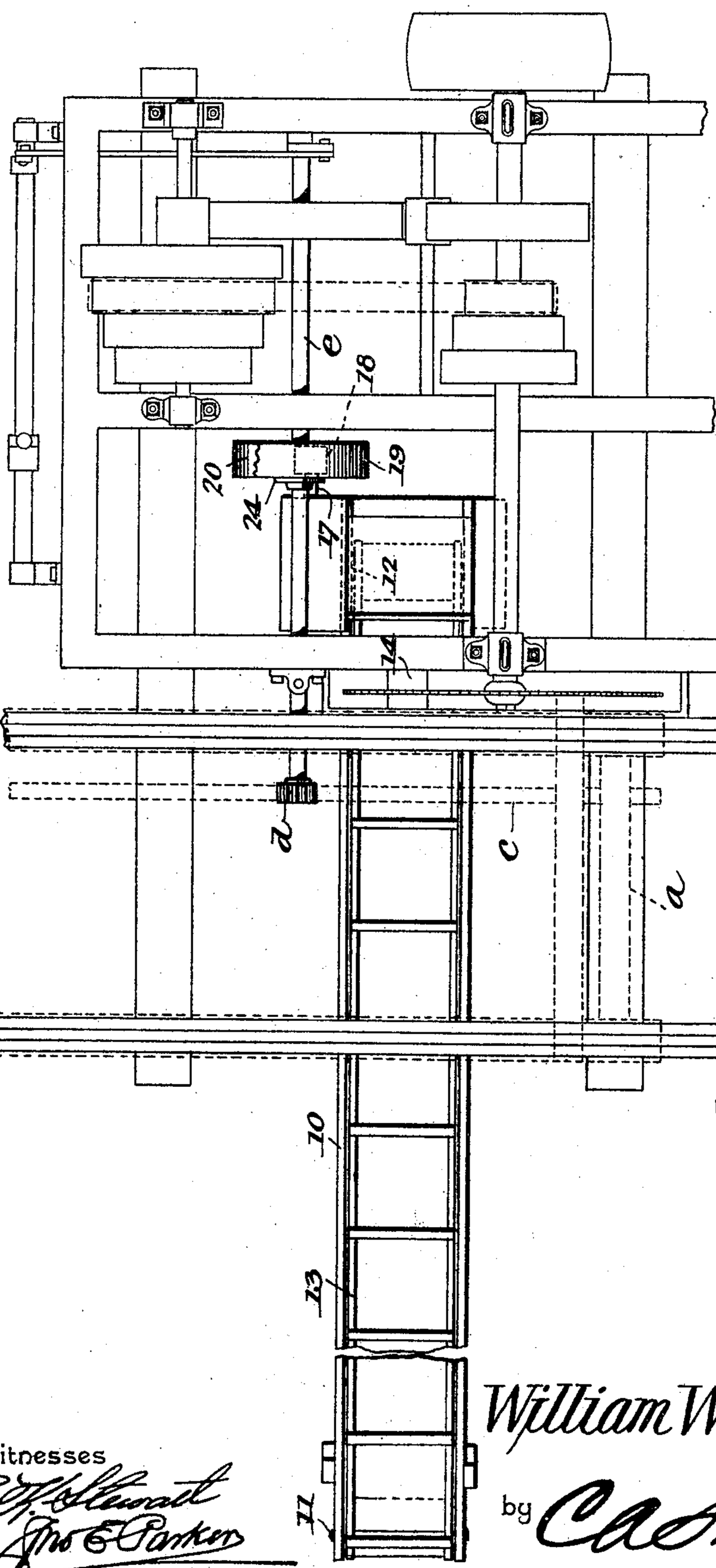

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

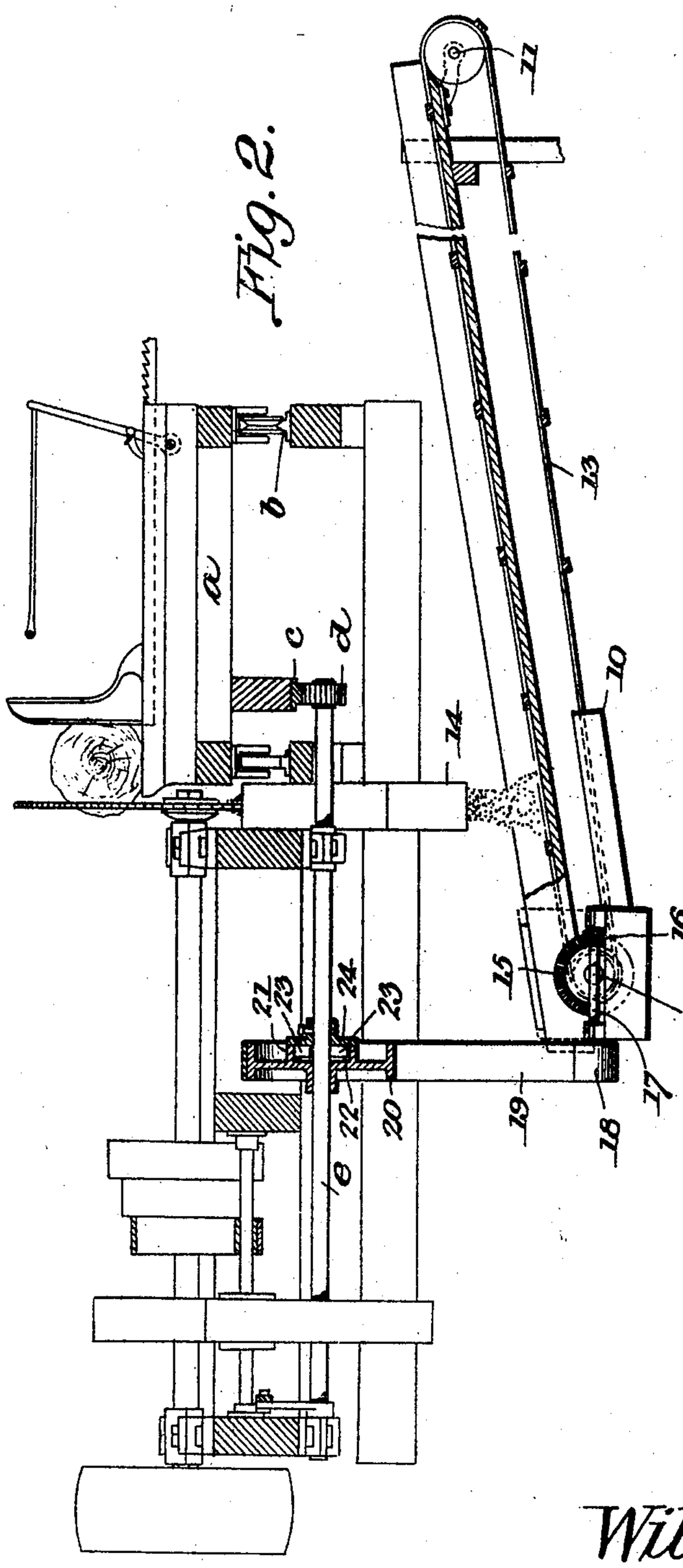
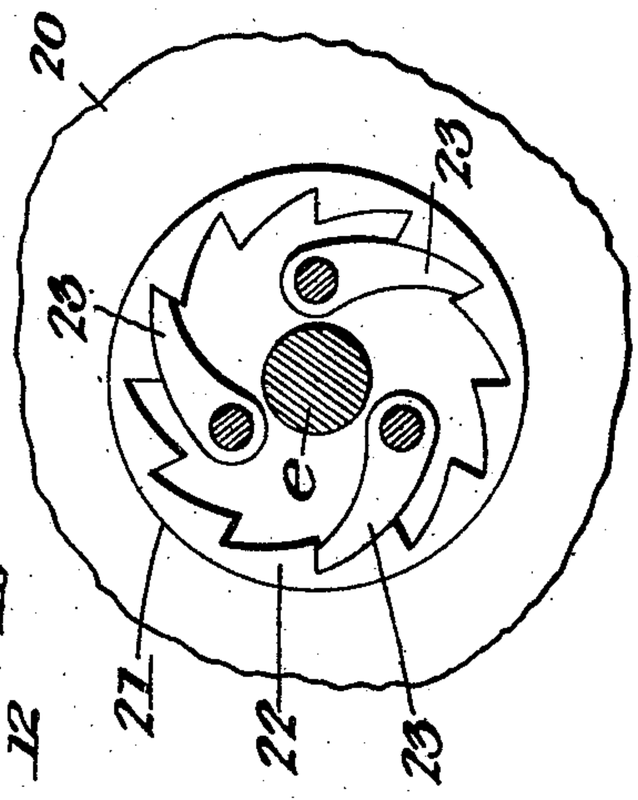


Fig. 3.



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SAWDUST-CONVEYER.

No. 795,671. Specification of Letters Patent. Patented July 25, 1905.

Application filed October 26, 1904. Serial No. 230,133.

To all whom it may concern:

Be it known that I, WILLIAM WHITFIELD, a citizen of the United States, residing at Scenery Hill, in the county of Washington and State of Pennsylvania, have invented a new and useful Sawdust-Conveyer, of which the following is a specification.

This invention relates to sawdust-conveyers for sawmills, and particularly to mills of the portable type, although it may be used to advantage in connection with stationary mills.

The principal object of the invention is to provide a sawdust-conveyer operable from the carriage feed-shaft in such manner as to secure a regular uniform feed of the conveyer, while permitting a rapid return movement of the carriage.

A further object of the invention is to provide a conveyer-operating mechanism of the most simple construction that will transmit movement to the conveyer during the operative movement of the carriage—that is to say, during the sawing operation—the conveyer remaining idle during the return stroke of such carriage.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a plan view of sufficient of a portable sawmill and conveyer to illustrate the application of the invention thereto. Fig. 2 is a transverse sectional elevation of the same. Fig. 3 is a detail view, on an enlarged scale, of the pawl-and-ratchet mechanism for connecting the conveyer-operating pulley to the carriage feed-shaft.

Similar numerals and letters of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The mill illustrated in the accompanying drawings is one of a well-known class, in which the carriage *a* runs on tracks *b* and is provided with a rack *c*. The rack is engaged by a pinion *d*, that is secured to a feed-shaft *e*, receiving motion first in one direction and then in the other in order to reciprocate the carriage. This movement is comparatively slow during the sawing operation, but the return stroke is usually very rapid—much too rapid to successfully operate a sawdust-conveyer without danger of scattering the sawdust.

The framework 10 of the conveyer is of any ordinary construction and is provided with bearings for the support of two shafts 11 and 12, carrying rollers or drums for the support of an endless conveyer 13, that may be provided with the usual slats or cross-bars for insuring the feed of the sawdust. The conveyer is arranged immediately under a chute 14, that is disposed immediately below the saw and receives all or nearly all of the sawdust and guides the same to the upper run of the conveyer, the latter being operated to deliver the sawdust at any required point. The lower shaft 12 of the conveyer is provided with a bevel-gear 15, that intermeshes with a pinion 16, mounted on a shaft 17, these parts being properly housed in order to prevent clogging by the sawdust. On one end of the shaft 17 is a pulley 18, that is connected by a belt 19 to a pulley 20, mounted on the carriage feed-shaft *e*. The head 21 of the pulley is provided with an internal rack 22, that may engage pawls 23, that are pivoted to a disk 24, rigidly secured to the shaft *e*, while the pulley is mounted loosely on said shaft.

In operation the rotative movement of the feed-shaft *e* during the sawing operation will be transmitted through the pawls 23 to the rack 22 and pulley 20. This movement serves to operate the conveyer, and the sawdust delivered by the chute 14 of said conveyer will be gradually conveyed away. When the saw-carriage has reached the end of its operative stroke, the movement of the conveyer ceases, and during the rapid return movement of said carriage the conveyer-shaft *e* travels in a direction reverse to the first movement and the pawls 23 simply click over the teeth of the internal rack without operating the pulley, the conveyer remaining idle when there is no necessity for its movement, no sawdust being formed during this portion of the operation.

With a device of this character expenditure of power occurs only when necessary, the conveyer remaining idle during the period when the saw is inactive.

Having thus described the invention, what is claimed is—

1. The combination with a sawmill includ-

ing a carriage feed-shaft, of an endless conveyer arranged to receive the sawdust, a wheel mounted loosely on the shaft and operatively connected to the conveyer, and means for clutching said wheel to the shaft in one direction of movement of the latter.

2. The combination with a sawmill including a carriage feed-shaft revoluble alternately in opposite directions, of a wheel mounted loosely on the shaft and provided with an internal rack, a disk rigidly secured to the shaft and provided with pawls for engaging said rack in one direction only of movement of the shaft, a conveyer arranged to receive the sawdust, a chute for directing the sawdust to the conveyer, and means operatively connecting the conveyer to said wheel.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WM. WHITFIELD.

Witnesses:
A. J. MARTIN,
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