

(No Model.)

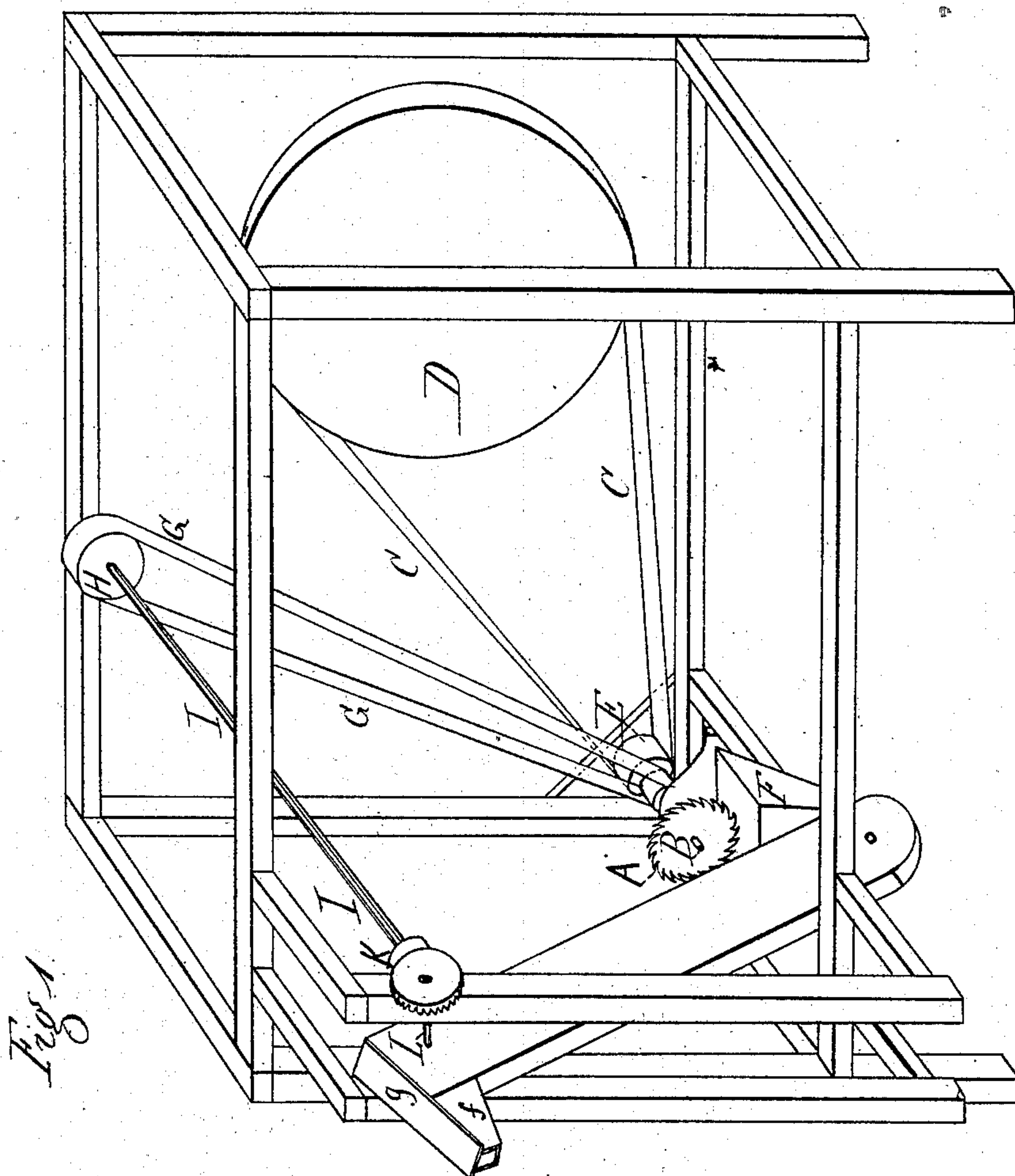
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A. W. MCINTYRE & J. C. PARISH.

SAWDUST ELEVATOR.

No. 249,474.

Patented Nov. 15, 1881.



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John Buckler.  
A. M. Pierce.

A. W. McIntyre and  
J. C. Parish,  
Inventors.  
By Worth Asgoot,  
Attorney.

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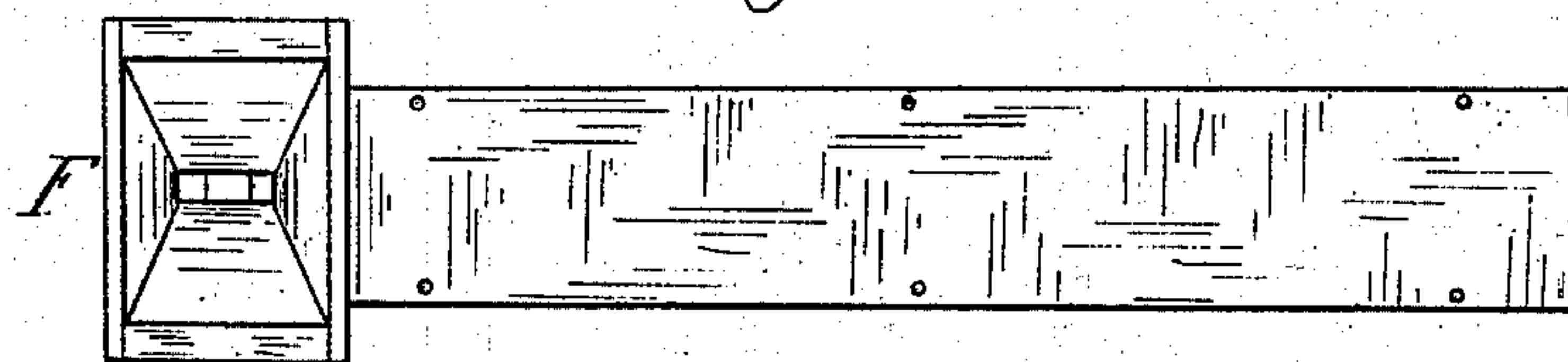
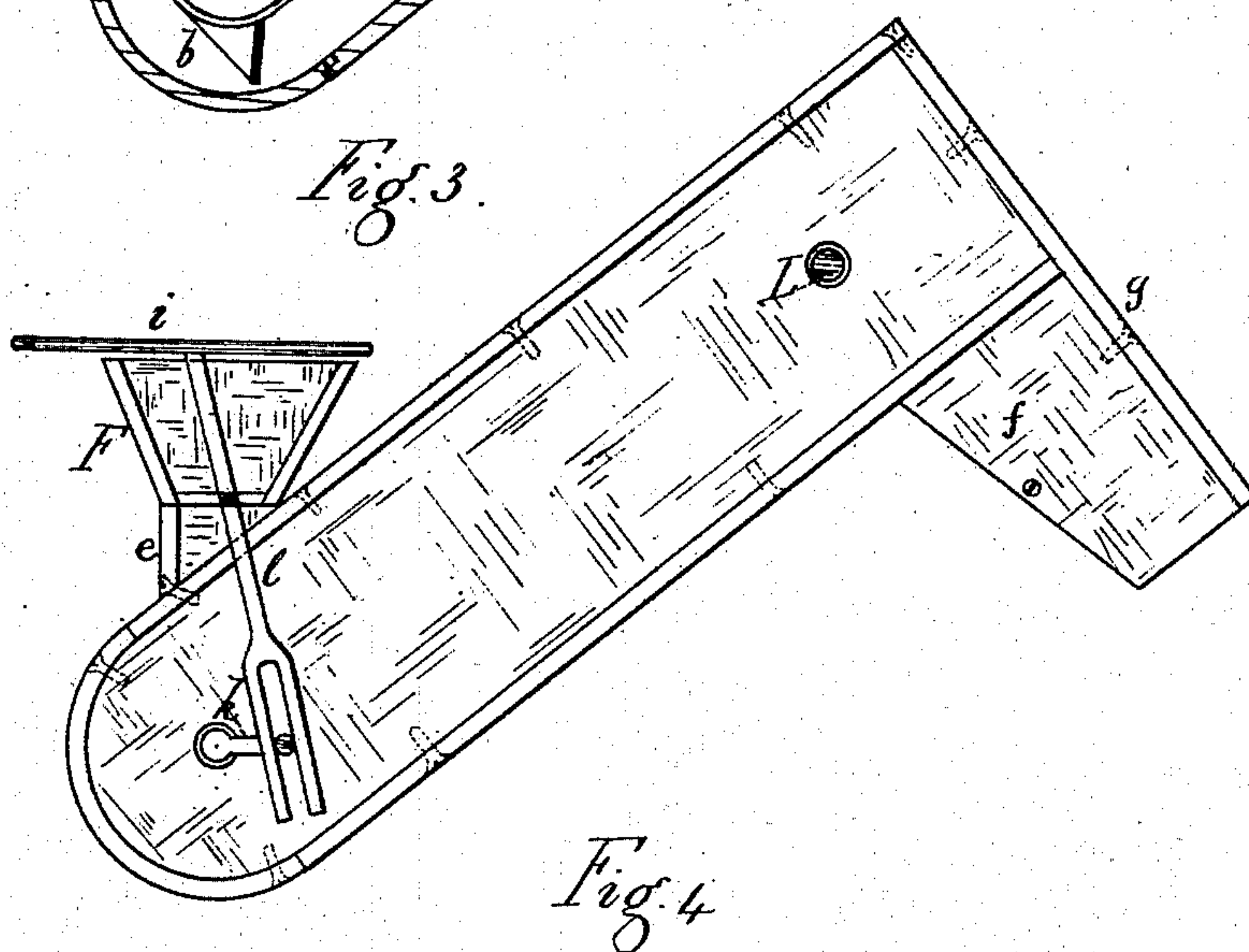
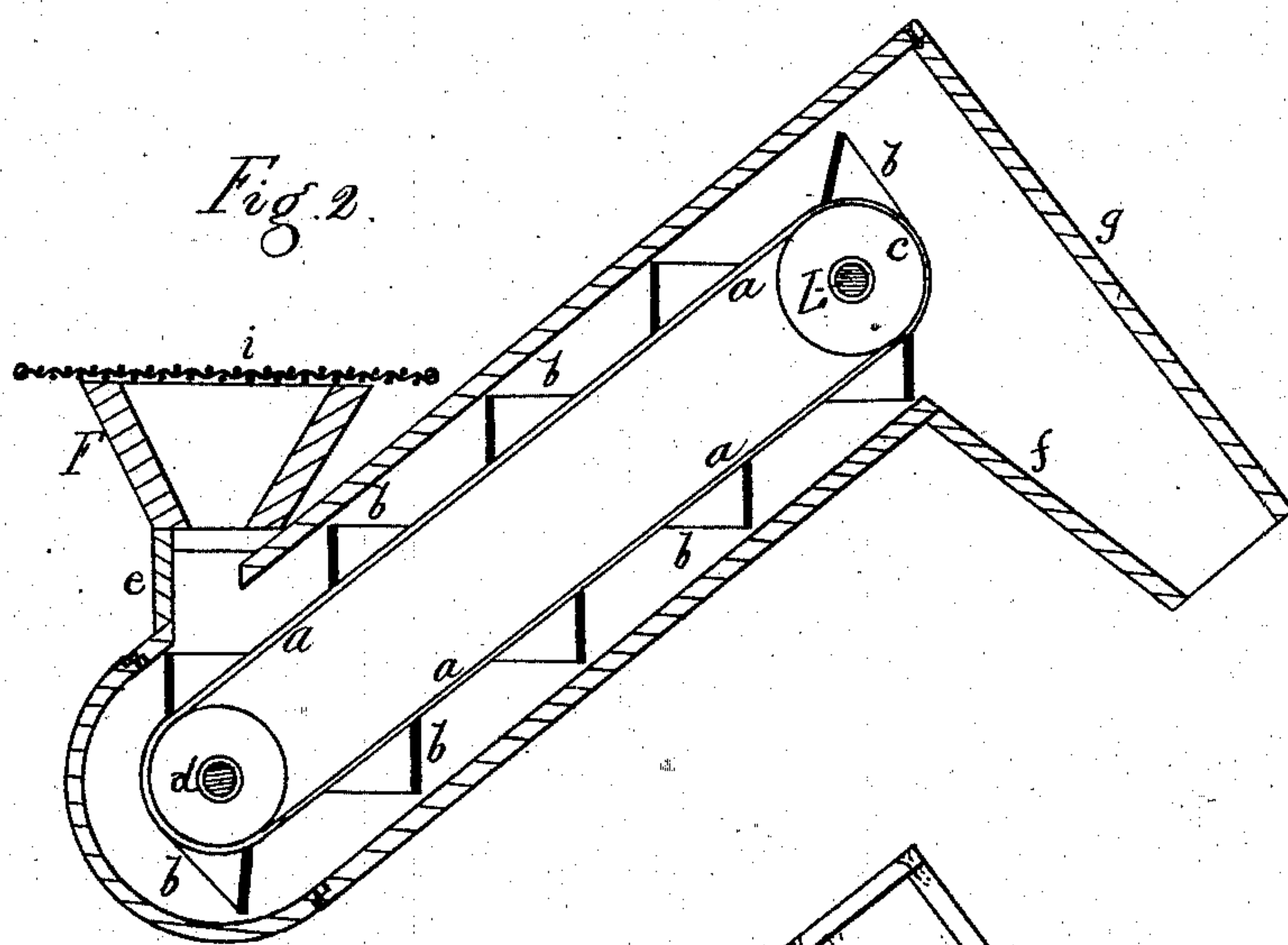
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*A. W. McIntyre and*  
*J. C. Parish,*  
*Inventors.*  
*By Worth Ogden,*  
*Attorney.*



# UNITED STATES PATENT OFFICE.

ARCHIBALD W. MCINTYRE AND JOHN C. PARISH, OF LAURINBURG, N. C.

## SAWDUST-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 249,474, dated November 15, 1881.

Application filed June 23, 1881. (No model.)

*To all whom it may concern:*

Be it known that we, ARCHIBALD W. MCINTYRE and JOHN C. PARISH, of Laurinburg, county of Richmond, and State of North Carolina, have invented certain new and useful Improvements in Sawdust-Elevators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Our invention has relation to that class of devices employed in connection with saw-mills or saw-tables, for the purpose of elevating or carrying away the sawdust as it is produced; and the invention involves certain new and useful arrangements or combinations of parts and details of construction, the object of all of which is to produce a simple, cheap, and convenient arrangement for carrying away the dust and lodging it at any desired point, which arrangement will not interfere with the proper working of the saw or be in the way of the ordinary use of the saw-table, and which may be easily and quickly located and adapted for use. The several features of the invention will be herein first fully described, and then pointed out in the claims.

To illustrate our invention we have shown it as applied in connection with an ordinary circular saw; but manifestly it may be applied in connection with any other ordinary form of saw or sawing-table, and also in connection with two or more saws, constituting a gang, as well as with only the single saw.

In the drawings, Figure 1 is a perspective view, showing the general arrangement of the elevator with respect to the saw, the saw-table being omitted for convenience of illustration. Fig. 2 is a sectional view of the elevator or carrier detached. Fig. 3 is an elevation or side view, and Fig. 4 is a plan, of the same.

In all these figures like letters of reference, wherever they occur, indicate corresponding parts.

A is the saw, mounted upon and driven by its shaft B, which latter is turned by the band or equivalent means C.

D represents the fly-wheel of an engine or other motive power, and the band C connects this wheel with the shaft B, running upon the belt-wheel E in the usual manner of running the

circular saws. Below the saw, or below the gang of saws, if more than one be employed, we locate the hopper F of the elevator-casing, the construction of which will be explained hereinafter. We find it most convenient and advantageous to drive the elevator-buckets from the driven shaft of the saw; and in order to do this without interfering with the room or space required about the saw-table, and without exposing the gearing or belting to be clogged up with dust, which would interfere with the working of the elevator, and consequently with the working of the saw, we place the belt or band G upon a pulley in close proximity to that at E, (secured to and turning with the saw-shaft,) and carry this belt G to the belt-wheel H, above and out of the way of the saw-table. The shaft I, upon which wheel H is mounted, is so situated as to extend toward the delivery end of the elevator-casing, and bears at its outer end the bevel-wheel K, which meshes into a corresponding bevel-wheel upon the shaft L, which controls the movement of the elevator-buckets. The gearing being so located and arranged, it is plain that the shaft L will turn as the saw turns, and therefore the elevating-buckets will be kept in motion while the saw is cutting, and the rapidity of motion in the elevator-buckets may be gaged to correspond with the cutting by suitable proportions being maintained between the band wheels or gears, in a manner well understood. By this arrangement the elevator-buckets are driven or compelled to move through the medium of power applied at or near the point where they deliver their load—a point readily accessible for repairs or alterations without the necessity of discontinuing the use of the saw, and most advantageous in the matter of consumption of power and in regulating the speed of the elevator-buckets. The space above the saw-table affords ample room for enlarging the wheels, so as to produce a slow motion in the carriers. This cannot well be accomplished by gearing below the saw-table, and consequently the elevators are usually made to run at an unnecessary high speed and at the expense of power required for driving the saw. A further prominent advantage of the arrangement shown is that our improved elevator may be easily applied to the saw-ta-



bles as they are now ordinarily constructed, and it does not require alteration or special construction of the table to enable the elevator to be employed.

5 For use in mills and similar locations we find it most desirable to inclose the elevator-band (carrying the buckets) in such manner that the sawdust will be confined until it is discharged at the proper point.

10 The endless band *a* has a number of buckets, *b*, applied thereon, and this band is made to run over the driving-wheel *c*, located upon shaft *L*, and over the loose guiding-wheel *d* at the lower end of the casing. For economy of space

15 we make the lower end of the elevator curved, substantially as shown, so as to accommodate the required movements of the buckets around wheel *d*, and so as to direct any sawdust which may pass the endless belt at the region of the

20 hopper into the upcoming buckets, and thereby keep the casing free and clear. The casing between the ends is intended to be made of any light stuff, and the top and bottom pieces may be set upon the sides with screws in such man-

25 ner that they may be quickly removed if for any purpose it be desired to reach the interior. The elevator-casing is inclined upwardly from the saw-table, and the hopper *F* is secured upon the casing over an opening therein in such man-

30 ner as to best catch the dust from the saw. The supporting-frame *e* sustains the hopper *F*, and it, as well as the hopper, may be readily removed, if desired. The sides of the hopper are inclined, so as to properly direct the sawdust

35 down through the opening in the casing. The discharging-mouth of the casing is located upon the under side, and is so arranged that as the dust leaves the buckets it will fall through this mouth. The mouth is guarded

40 by the extension *f*, one side of which, as *g*, extends up to the top of the casing and closes the extreme end thereof. This piece *g* is made removable, so as to afford access to this part of the casing, if desired. If necessary, the ex-

45 tension *f* may be lengthened at pleasure, either by employment of boards like those of the casing, or by the application of a canvas or cloth tube, in the usual manner.

50 Over the mouth of the hopper we locate a sifter, *i*, which may be made of any suitable

material, and which is agitated by means of cranks, as *k*, applied to the lower elevator-wheel axle and working into pivoted arms, as *l*, (shown at Fig. 3.) The sifter prevents the accumulation of sawdust in the hopper and in- 55  
sures a free delivery to the elevator-buckets. The sifter also operates to prevent admission of sticks and cuttings to the elevator, which might clog it up or interfere with its smooth and easy working. Any sticks, &c., which fall 60  
upon the sifter will be gradually carried to the edge and dropped over outside of the hopper.

It will be apparent that the elevator may be made of any desired size and length, and any required number, size, and form of buckets may 65  
be employed.

The simplicity, durability, and convenience of the improved device and arrangements above explained will commend them for adoption in 70  
situations where required.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus for elevating sawdust from beneath a saw, the combination, with an 75  
elevator provided with a hopper, of the sieve *i*, fulcrum-lever *l*, slotted at its lower end, and the crank *k*, attached to the axis of the pulley or wheel at the lower end of the elevator, sub-

80 stantially as and for the purposes set forth.

2. In an elevator of the character herein set forth for conducting sawdust, the combination, with the endless chain of buckets mounted in a casing and driven by the wheel in the end of said casing most remote from the saw, of a 85  
hopper adapted to deliver the sawdust to the buckets, and a sifter mounted over said hopper and agitated by the crank *k*, attached to the wheel in the lower end of the casing, the latter wheel being driven by the chain of buck-

90 ets, substantially as shown and described.

In testimony that we claim the foregoing we have hereunto set our hands in the presence of two witnesses.

A. W. MCINTYRE.  
JOHN C. PARISH.

Witnesses:

J. T. JOHN, Jr.,  
MAXCY L. JOHN.