

(No Model.)

3 Sheets—Sheet 1.

R. M. GILL.
MACHINERY FOR HANDLING COTTON.

No. 570,471.

Patented Nov. 3, 1896.

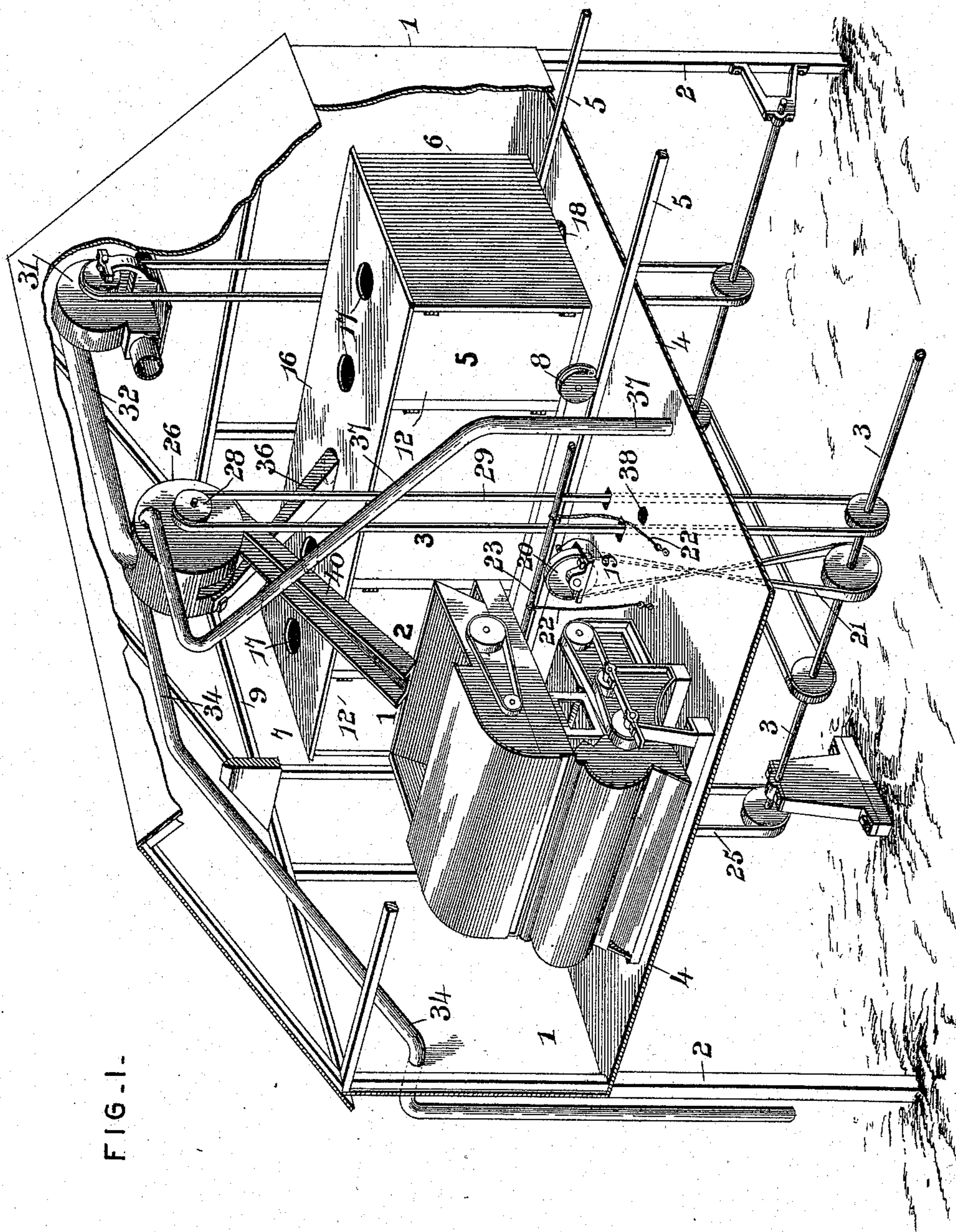


FIG. 1-

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By His Attorneys,

Chas. Snow & Co.

(No Model.)

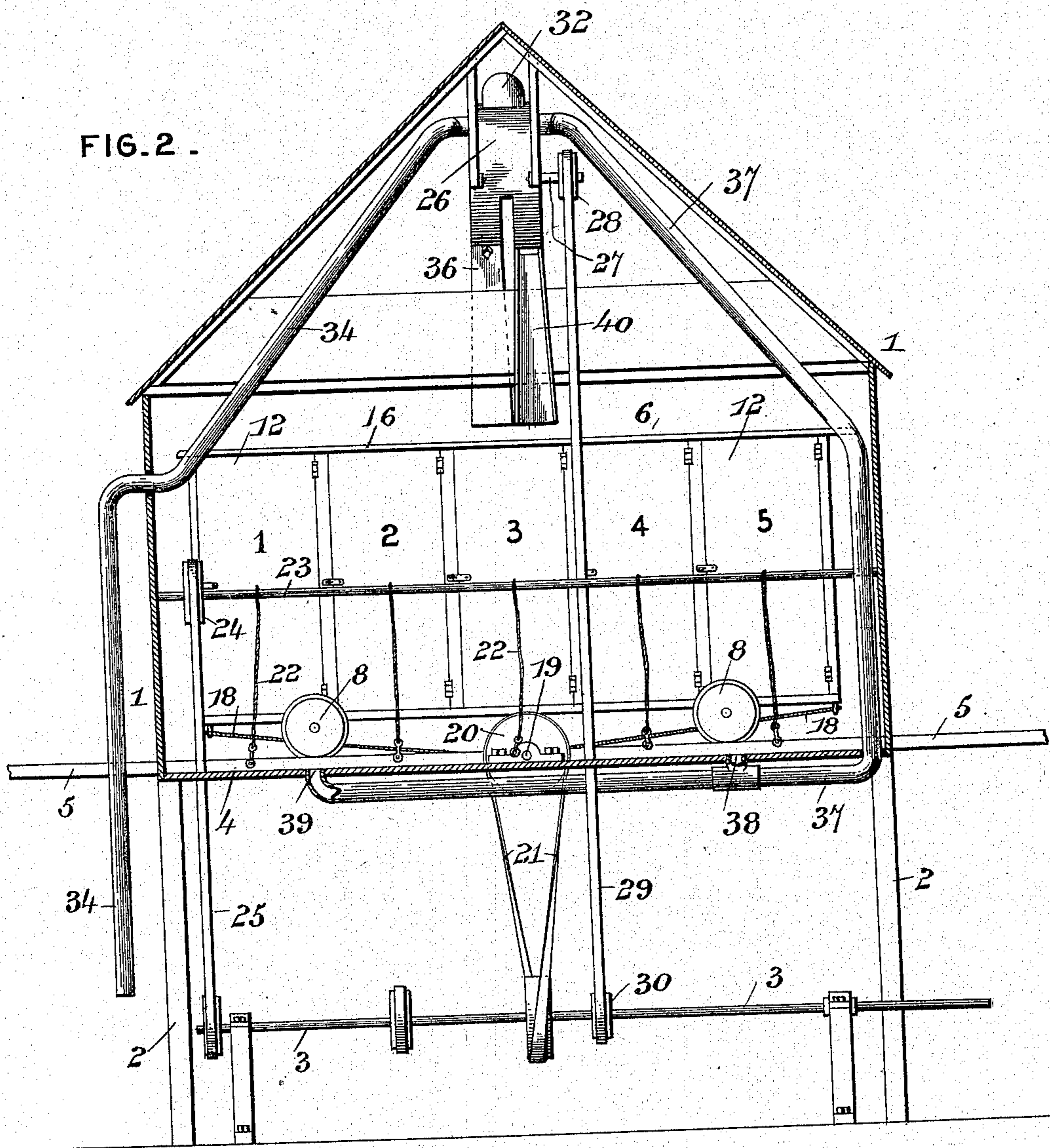
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FIG. 2.



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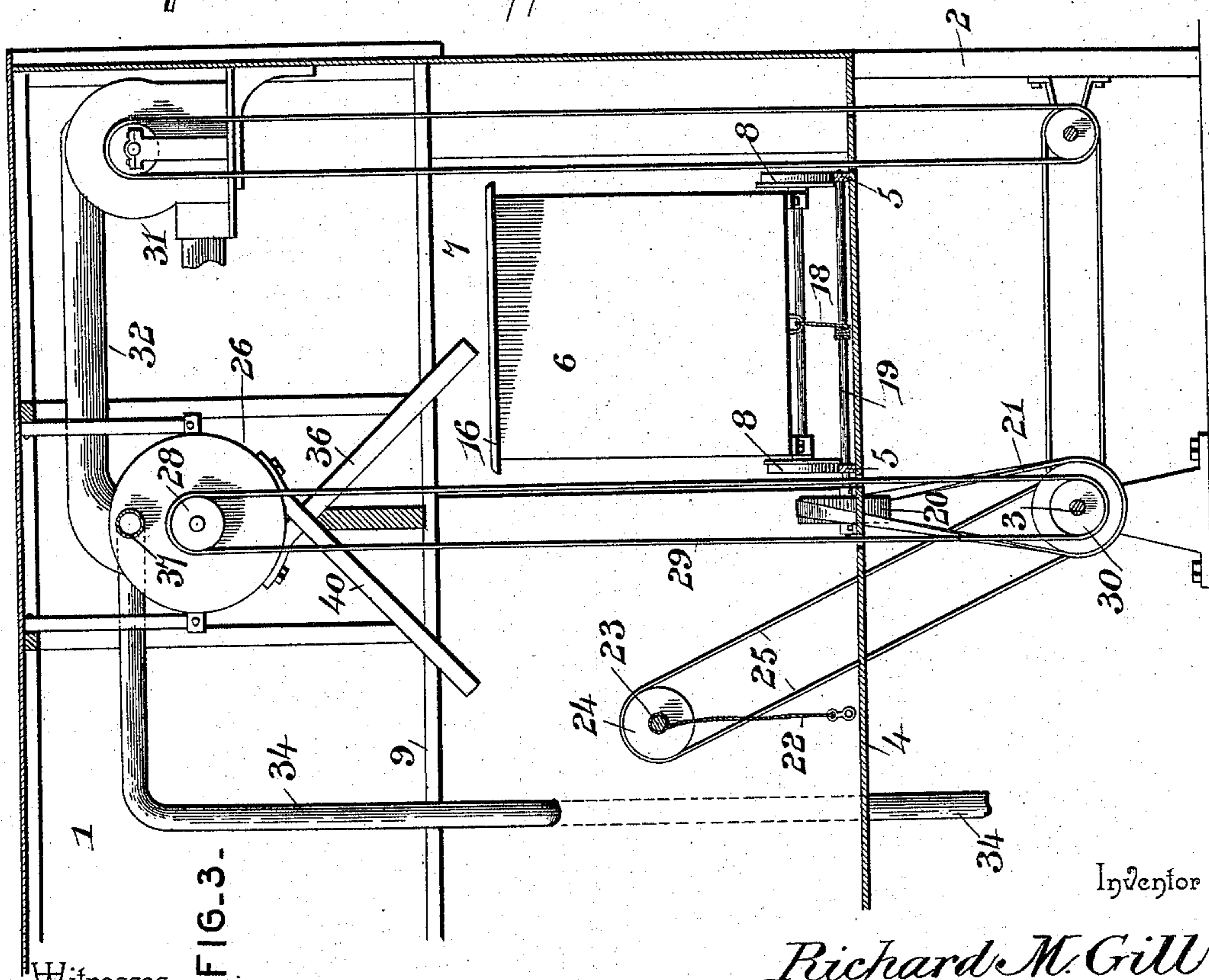
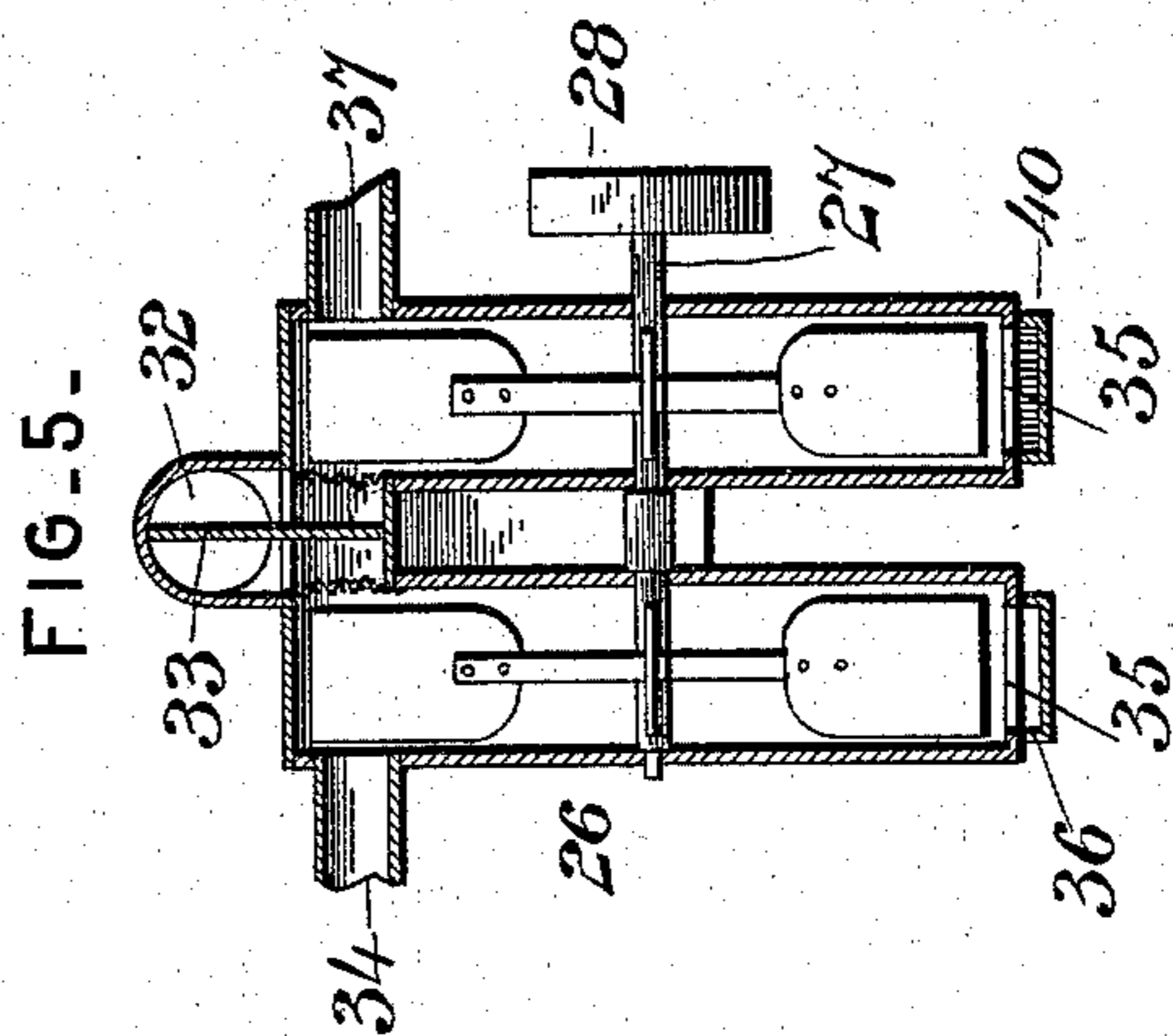
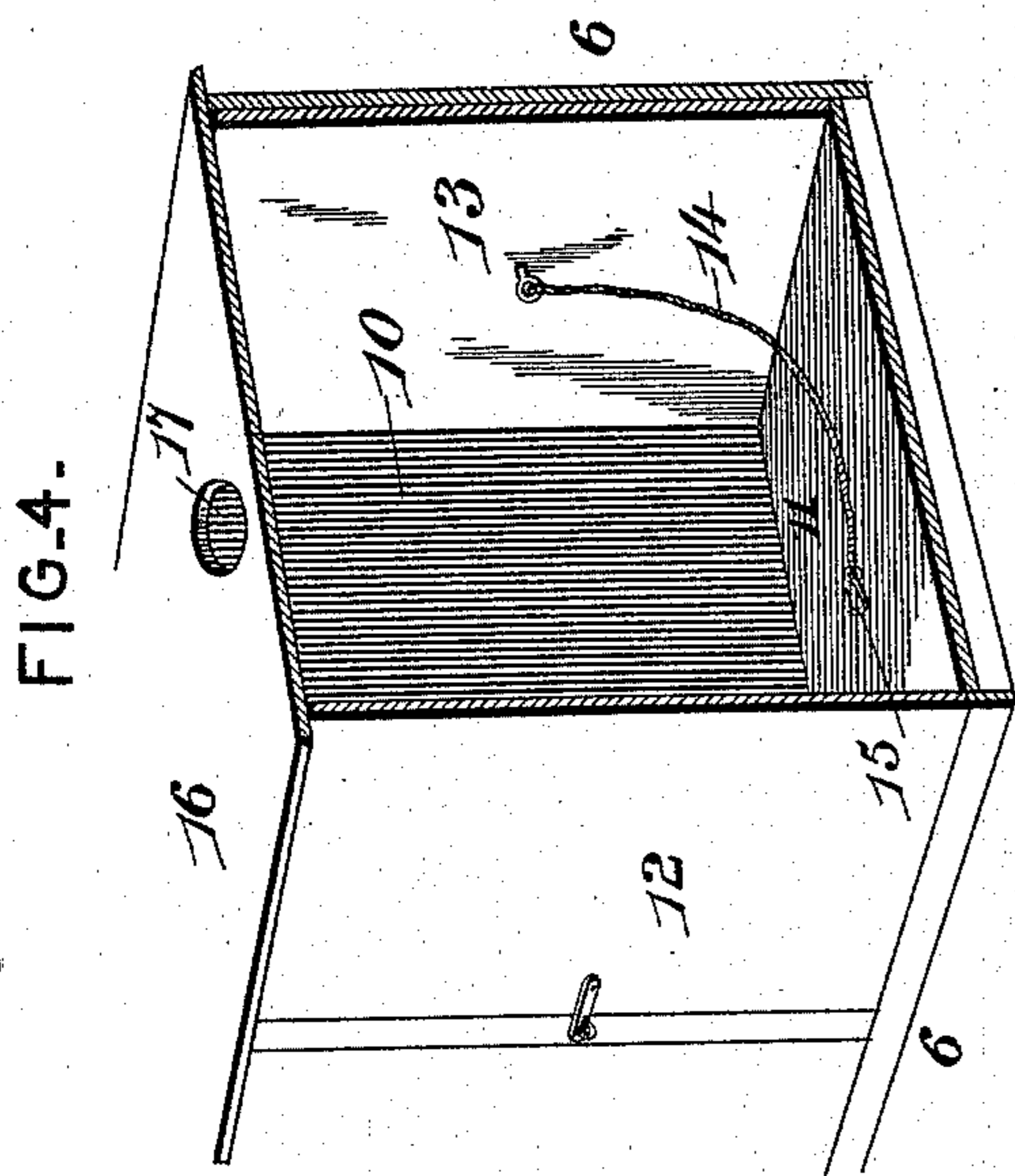
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3 Sheets—Sheet 3.

No. 570,471.

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UNITED STATES PATENT OFFICE.

RICHARD MONROE GILL, OF RUSTON, LOUISIANA.

MACHINERY FOR HANDLING COTTON.

SPECIFICATION forming part of Letters Patent No. 570,471, dated November 3, 1896.

Application filed September 24, 1895. Serial No. 563,547. (No model.)

To all whom it may concern:

Be it known that I, RICHARD MONROE GILL, a citizen of the United States, residing at Ruston, in the parish of Lincoln and State of Louisiana, have invented a new and useful Apparatus for Handling Cotton, of which the following is a specification.

This invention relates to an improvement in apparatus for handling seed-cotton; and the object in view is to provide convenient means for receiving such cotton directly from the wagons in which it is hauled to a public gin and to convey the same either directly to the feeder or distributor of the gin-stand, or, in case the latter is in operation, then to any one of a series of compartments or stalls, where it may be stored while waiting to be passed through the gin.

Cotton is usually received at the gins and conveyed to the gin-stands by means of pneumatic tubes or conveyers, the seed-cotton being drawn upward directly from the customer's wagon and conveyed immediately to the gin-stand, on which it is deposited and fed into the saws. It sometimes happens, however, that the customers are so numerous that their cotton cannot all be accommodated by the gins, thus causing considerable delay and requiring such customers to await their turn or else to carry their cotton to separate storehouses at a distance from the gin-house. These storehouses are usually placed at such distance from the gin as to prevent the liability of the same catching on fire in the event of a conflagration occurring at the gin-house itself. From this separate depository for the surplus cotton the latter is drawn by suction through pipes connecting with the gin-house; but this requires the use of fans of great capacity and results in the necessity for increased power and the additional expense of a hand to feed the cotton into the suction-pipes, said hand being required to remain in the cotton depository during the entire time that the seed-cotton is being drawn to the gin-stands.

The object of this invention is to provide means by which the necessity for storehouses for the seed-cotton and the expense incident to the extra labor required will be obviated. Also to economize the expenditure of power, to secure immunity from fire, to place the

entire handling of the seed-cotton under one supervision, and at the same time to increase the capacity of the gin-house and occasion no delay by reason of each customer having to await his turn.

Other objects and advantages of the invention will appear in the course of the subjoined description.

In order to accomplish the objects above enumerated, the invention consists in certain novel features and details of construction and arrangement, as hereinafter fully described, illustrated in the drawings, and finally embodied in the claims hereto appended.

In the accompanying drawings, Figure 1 is a broken perspective view of a gin-house, illustrating the various features of the present invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is also a vertical sectional view taken at right angles to Fig. 2. Fig. 4 is a perspective view of the compartment-car partially broken away to show the interior arrangement. Fig. 5 is an enlarged detail sectional view of the double separator.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a gin-house, which for the sake of convenience and the better carrying out of the present invention is provided with a double-pitched roof and mounted upon suitable pillars or posts 2, which will bring the main floor at the desired elevation to the ground for enabling a suitable engine to be located thereunder and to impart motion to the main driving-shaft 3, the latter being provided with pulleys from which belts extend upwardly through the main floor 4 and drive the shafts of the separator, fan, gin, &c.

In the rear portion of the house 1 are arranged rails 5, which form a track upon which a box-car, indicated at 6, is adapted to travel. These rails extend through oppositely-disposed door-openings 7 in the sides of the house, and may be extended to any desired distance from the house 1 and supported upon trestle-work, or in any desired manner. The car 6 may be constructed of any light wood or material and is supported upon any desired number of carrying-wheels 8. The body of the car 6 is of a height somewhat less than the

height of the ceiling rafters or stringers 9 of the house construction, and is divided by means of transverse vertical partitions 10 into a series of compartments or stalls 11 of any desired capacity, said compartments or stalls being closed at the back and provided in front with doors 12, which may be opened for giving access thereto when necessary. Each of said compartments is also provided with a false back 13, which is in the form of a stout board or plate which corresponds in outline to the cross-sectional shape of its respective compartment, being perhaps slightly less in height and width, so as to be capable of sliding freely within the same. To each of said sliding backs or followers 13 is attached a cable 14, the same being secured in proximal relation to the center of said back or follower and of sufficient length to reach beyond the door-opening of its respective compartment, where it is provided with an eye or hook 15, the purpose of which will hereinafter appear. The top of the car is covered by means of a roof 16, extending over and covering the several compartments, and provided immediately above each compartment with an opening 17, through which the seed-cotton may be fed into the compartment. After the seed-cotton has been conducted into the several compartments of the car, the openings 17 may be closed and the car then moved out of the building by means of a traveling cable 18, which passes around and receives its motion from a horizontal shaft 19, arranged between the rails 5 and provided with a pulley 20, actuated from the main driving-shaft 3 by means of a belt 21, or in any other suitable manner. The car 6 may be provided with any convenient means for gripping the cable.

When it is desired to remove the seed-cotton from any one of the compartments of the car, the latter is hauled into the building until the particular compartment is brought opposite to the space where it is desired to deposit the cotton. The door of such compartment is now opened, and the cable which is attached to the false back or follower of such compartment is secured by means of the hook or eye 15 to the end of a cable 22, which connects with a revoluble shaft 23, extending horizontally across the gin-house and arranged in parallel relation to the rails 5. This shaft is driven by means of a pulley 24 and belt 25 from the main driving-shaft 3, above described. The shaft 23 is now set in motion and the cable wound thereon. As the cable becomes taut it draws on the false back or follower 13, moving the same toward the door of its respective compartment and ejecting the entire mass of seed-cotton therefrom, dumping the same upon the floor at the predetermined point.

The separator, indicated at 26, is of a duplex character, comprising two separate separators, which are driven by a common shaft 27, having upon one end a fixed pulley 28, from which a driving-belt 29 extends down-

wardly to and passes around a pulley 30 on the main driving-shaft 3. This duplex separator communicates with an exhaust-fan 31 by means of a double tube or pipe 32. The exhaust-fan is arranged just beneath the ridge-pole of the house construction and preferably above the track upon which the car 6 travels, while the separator is also arranged just beneath the ridge-pole, but at an approximately central point, so that by means hereinafter described it may deliver the seed-cotton either directly to the gin-stand or into one of the compartments of the car. The connecting pipe or tube 32 between the separator and exhaust-fan is substantially round in cross-section and has a vertically-disposed central partition 33, which divides the same into two separate air-passages. The end of this tube enters between the two members of the duplex separator, one of which communicates with one of the passages in said tube, while the other communicates with the remaining passage. By this arrangement, and with the aid of suitable gates or shut-offs, one or both of said separator members may be thrown into or out of operation.

From one of the separator sections a conveyer-tube 34 extends downwardly and out through the side of the house, where it depends, as shown, and is arranged in convenient position to receive seed-cotton from a wagon. Upon setting the exhaust-fan in motion the seed-cotton is sucked upward from the wagon referred to and carried into that half of the separator with which the pipe or tube 34 is in communication. The cotton is therein separated from the current of air by means of the blades of the separator in a manner well understood in the art, and is carried downward and caused to pass out through an opening 35 in the bottom of the separator. Arranged immediately beneath such discharge-opening is a chute 36, which is capable of being adjusted so as to extend either in the direction of the gin-stand or toward the car 6. If adjusted in the direction of the gin-stand, the seed-cotton will be conducted directly from the wagon in which it was hauled to the gin-house to the gin stand or feeder. If the gin is already engaged upon another lot of cotton, the chute may be adjusted into its reverse position and the additional seed-cotton deposited in one of the compartments of the box-car.

37 designates another tube which communicates with the opposite section of the duplex separator and extends downwardly through the floor 4, and along beneath the same, where it communicates at one point with an opening 38, and also has a branch or extension which is in communication with another opening 39 in said floor. The openings 38 and 39 constitute feed-openings, into which the cotton deposited upon the floor is fed. The fan sucks said cotton upward into the separator, from which the said cotton is ejected through a discharge-opening in the bottom of said separa-

tor and directed by a deflector and flue 40 upon the gin-stand. The fan may be driven in any convenient manner by a suitable belt extending to the main driving-shaft 3, or 5 other driven shaft of the apparatus.

The apparatus above described affords an inexpensive and convenient means for handling cotton and expedites the operation of unloading wagons. The apparatus is also 10 very cheap and easily within the reach of the ordinary ginneries, enabling them to compete with larger establishments. The use of the car, with its compartments or stalls for the reception of seed-cotton, provides for keeping 15 individual lots of cotton separate, and, if desired, the doors of such compartments may have different numbers applied thereto, by which the separate lots of cotton may be designated. If desired, each compartment may 20 be of a size which will contain a single cotton bale. It will be understood that any number of cars may be employed and that each may contain as many compartments as desired, depending upon the amount of power at hand.

25 In the event of fire breaking out in the gin-house, due to sparks or friction from the machinery or other cause, the cars containing the cotton can be pushed along the track and carried to a distance sufficiently remote to 30 afford them immunity from the fire.

The apparatus described is capable of handling the cotton with despatch and will avoid a great deal of annoyance and delay, which is necessarily occasioned by the ordinary de- 35 vices now in common use.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what 40 is claimed as new, and desired to be secured by Letters Patent, is—

1. In an apparatus for handling cotton, the combination with a separator comprising two separating-chambers, of an exhaust-fan, and 45 an exhaust-tube interposed between and communicating with said separator and fan, the said tube being provided with a central web or partition extending longitudinally thereof 50 and dividing the tube into separate and independent air-passages, one of which communicates with one chamber of the separator, and the other with the remaining chamber, substantially as and for the purpose de- 55 scribed.

2. In an apparatus for handling cotton, a box-car provided with a series of compartments, a false back or follower located within each compartment, and a cable attached to each of said backs or followers, substantially 60 as and for the purpose described.

3. In an apparatus for handling cotton, a car provided with a series of compartments, and a false back or follower located in each of said compartments, in combination with a revolu- 65 ble shaft or windlass, and a cable running around said shaft or windlass and adapted to be connected with said back or follower, substantially as and for the purpose specified.

In testimony that I claim the foregoing as 70 my own I have hereto affixed my signature in the presence of two witnesses.

RICHARD MONROE GILL.

Witnesses:

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S. M. LEWIS.