

Dec. 7, 1926.

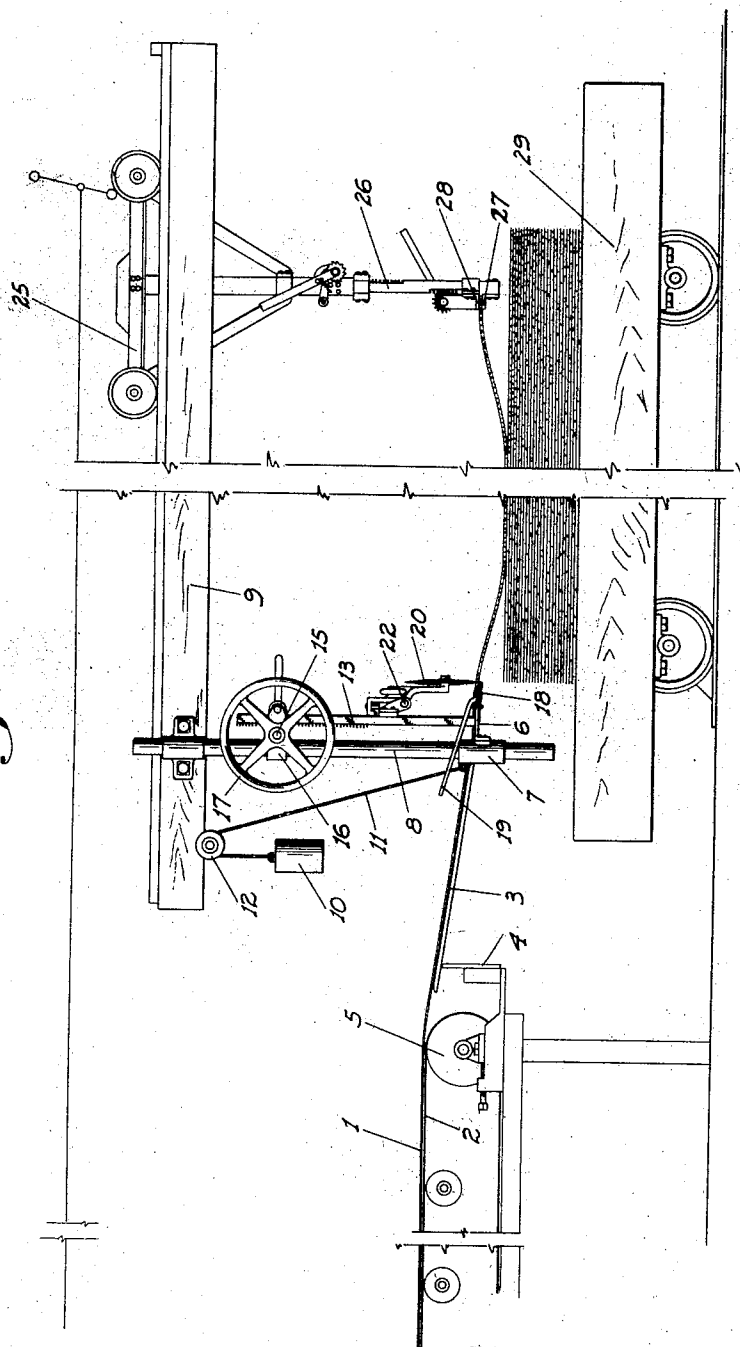
1,609,654

J. F. MAKOWSKI

CUTTING MECHANISM FOR GREEN PLASTER BOARD

Original Filed Dec. 24 1923 3 Sheets-Sheet 1

Fig. 1



INVENTOR

John F. Makowski

BY

Benny J. Webster

ATTORNEY

Dec. 7, 1926

1,609,654

J. F. MAKOWSKI

CUTTING MECHANISM FOR GREEN PLASTER BOARD

Original Filed Dec. 24 1923 3 Sheets-Sheet 2

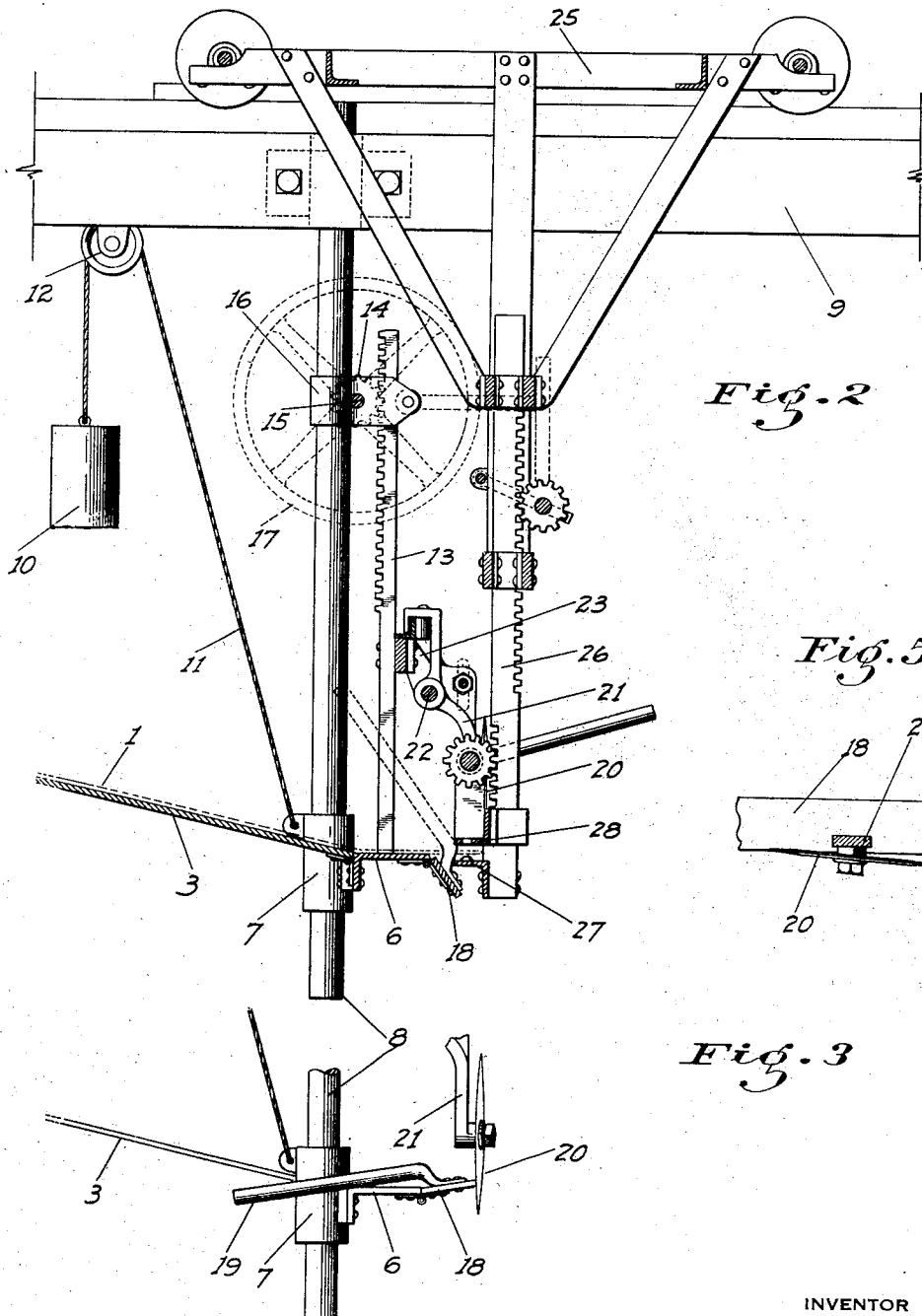


Fig. 2

Fig. 5

Fig. 3

INVENTOR

John F. Makowski

BY

Curry Webster

ATTORNEY

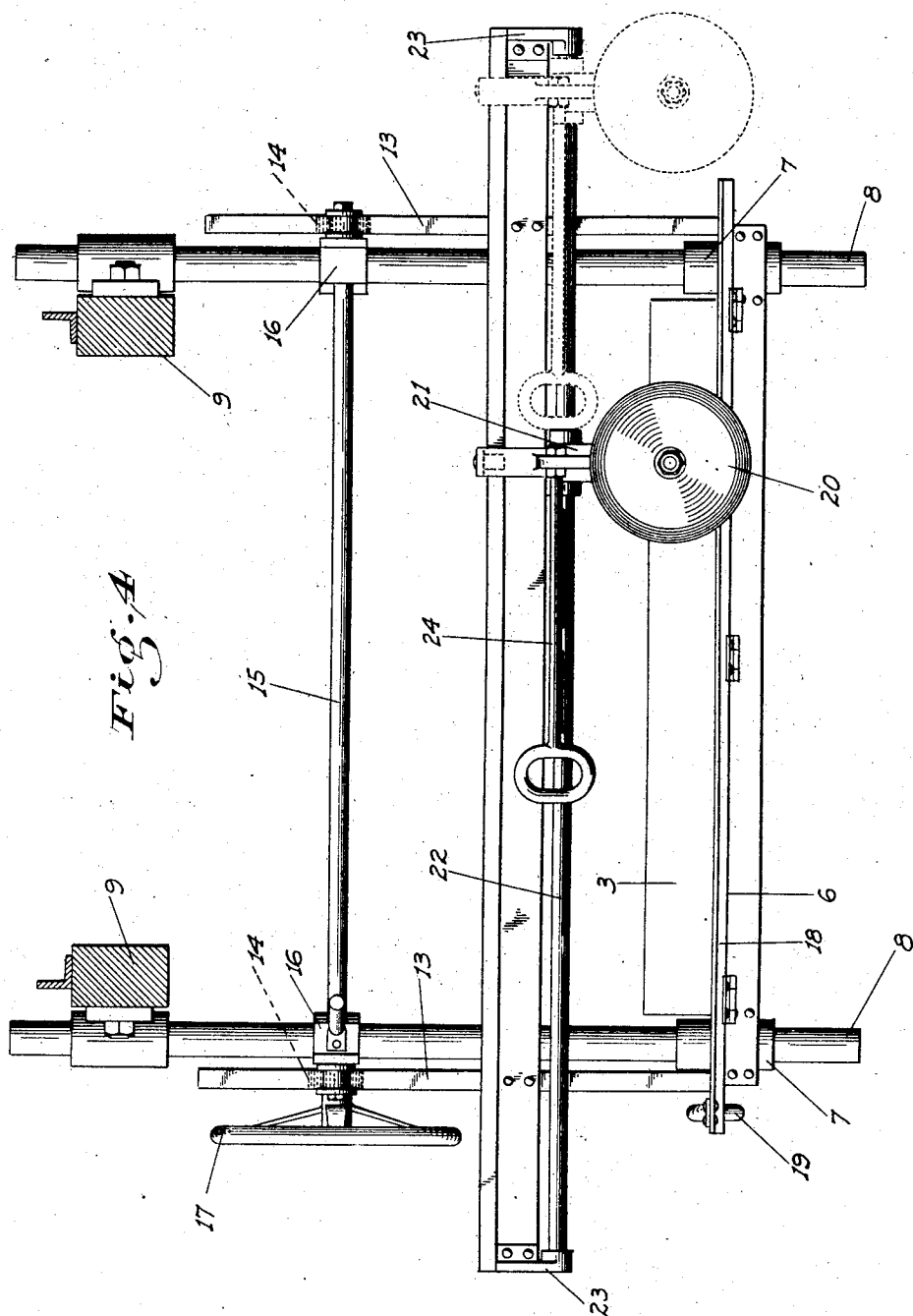
Dec. 7, 1926.

J. F. MAKOWSKI

1,609,654

CUTTING MECHANISM FOR GREEN PLASTER BOARD

Original Filed Dec 24 1923 3 Sheets-Sheet 3



INVENTOR

John F. Makowski

BY

Benny J. Webster

ATTORNEY

Patented Dec. 7, 1926.

1,609,654

UNITED STATES PATENT OFFICE.

JOHN F. MAKOWSKI, OF STOCKTON, CALIFORNIA, ASSIGNOR TO CALIFORNIA CEDAR PRODUCTS COMPANY, OF STOCKTON, CALIFORNIA, A CORPORATION.

CUTTING MECHANISM FOR GREEN PLASTER BOARD.

Original application filed December 24, 1923, Serial No. 682,484. Divided and this application filed April 27, 1925. Serial No. 26,065.

This invention relates to improvements in devices for handling plaster wall board during its manufacture, and is a division of my application for patent on "plaster board handling apparatus", filed December 24th, 1923, Serial No. 682,484.

The subject matter of the present application deals with the cutting mechanism which is included as a necessary feature of the apparatus.

My principal object is to provide a cutting mechanism for the wet board so arranged that any sag or depression along the line of cut is avoided. At the same time as soon as the cutting operation is completed, a short length of the board beyond the cut edge will be projected into the clear so that said projected portion may be grasped by the gripping means mounted on the apparatus and drawn along.

These and other objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side elevation partly broken away of the plaster-board handling apparatus with which my cutting mechanism is included.

Fig. 2 is an enlarged vertical section of the cutting mechanism in connection with the truck carrying the gripping means, showing the latter in position to engage an overhanging end of the board.

Fig. 3 is a fragmentary side view of the apron structure used in connection with the cutter, showing said apparatus in position to co-act with the movable cutter.

Fig. 4 is a front view of the cutting mechanism and adjacent parts.

Fig. 5 is a fragmentary top plan view showing the setting of the cutter relative to the apron with which it cooperates.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the plaster board just as it is formed, and then resting on a horizontally driven belt 2 of suitable character.

Beyond the belt 2, the board passes onto an apron 3 of suitable length, the adjacent

end of which rests, and may rock and slide on, a transverse supporting piece 4 mounted in a fixed position beyond the adjacent roller 5 of the belt.

The opposite end of the apron is transversely hinged or pivoted to the adjacent edge of a short horizontal platform 6 which is rigidly mounted adjacent its transverse ends on vertical sleeves 7. These sleeves are slidable on vertical posts 8, preferably supported from and rigidly secured to overhead horizontal beams 9, which run lengthwise of the travel of the belt 2 and the board 1 thereon. The posts are spaced far enough apart to allow of unrestricted passage of the board therebetween.

The weight of the apron, sleeves, and other parts connected thereto, is counterbalanced by means of weights 10 to which are connected cables 11 passing over pulleys 12 mounted on the adjacent beams 9 and then extending down to connections with the corresponding sleeves 7.

Vertical movement is imparted to the sleeves, and consequently to the members attached thereto, by means of vertical rack-bars 13 secured to the platform 6 and engaged by pinions 14 mounted on a shaft 15 journaled in bearing members 16 fixed on the posts 8.

The handwheel 17 is mounted on the shaft at one end to enable said shaft to be easily turned.

Hinged or pivoted along the transverse edge of the platform 6 opposite to the apron 3 is a short apron or board supporting surface 18, the upper faces of the apron 3, platform 6 and member 18 being arranged to form a continuous supporting surface without steps or offsets.

The member 18 is normally held in a substantially horizontal position by means of a handle 19 rigidly attached thereto, and which normally extends horizontally beyond the hinged edge of the member 18, thereby acting as a counterweight and holding the said member up so that its edge abuts against the adjacent edge of the platform 6, preventing further upward movement of the former.

A movable cutter member is provided to co-act with the free or outer edges of the member 18 when the latter is in its upper

most position, which comprises a vertical cutting disc 20, whose lower edge is below the plane of said outer edge of the member 18 when the latter is in the above named position.

The cutter 20 is turnably mounted on a frame structure 21 which is slidably mounted on a guide-bar 22 extending transversely of the racks 13 and secured thereto by means of brackets 23.

A transversely disposed and horizontal pull-rod 24 is attached to the frame 21, and is of such a length that it may be easily reached by an operator on one side of the machine when the cutter is on the other side. The guide bar 22 is preferably of such a length that the cutter may be moved clear of the member 18 at both ends thereof.

The cutter is disposed at a slight transverse angle relative to the apron 18, as shown in Fig. 5, the leading edge of the cutter engaging the apron toward the direction in which the cutter moves when being manipulated.

This causes the desired rotary action to be imparted to the cutter when being moved lengthwise of the apron, and when the cutter is returned to the opposite end of the apron after a cutting operation, there is no tendency for the same to pick up some of the plaster from the cut edge of the board resting on the apron and throwing such plaster centrifugally about the premises. In order to prevent the leading edge of the cutter from engaging the end of the apron when moved therebeyond, the working edge of the apron is tapered or beveled off somewhat, as shown at A in Fig. 5.

The beams 9 extend for a considerable distance beyond the cutting mechanism and run parallel to the ground. These beams are arranged to support a carriage or truck 25 from which depends transversely spaced supports 26, on the lower end of which and extending therebetween, is secured a transverse and horizontal jaw member 27.

Slidable on said supports above the jaw 27 is a movable jaw 28.

The supports are arranged to be moved vertically to conform to the level of setting of the platform 6, and the jaws themselves are arranged to be opened and closed at the necessary times by suitable means. The particular mechanism used to accomplish this end, however, is fully shown and claimed in the co-pending application, of which this is a divisional part, and hence I do not need to go into the same in detail here.

The operation of the apparatus is as follows:

The board 1, formed prior to its passage on to the belt 2, in the manner particularly set forth in the afore-mentioned co-pending application is then in a very wet and green condition and is moved toward and on to the

apron 3 by the constantly moving belt 2 on which the board rests.

As soon as the end of the board reaches the plane of the cutter 20 (assuming that this is the first board made from a fresh supply of stock), the belt is halted, the apron 18 is depressed by raising up on the handle 19, and the truck 25 is then moved toward said apron, so that the jaws carried thereby may be engaged with the end of the board which then projects clear of the depressed apron. The latter is preferably not lowered until the jaws are adjacent thereto, in order to avoid a sagging down of the wet board, which might happen even though only a very short length of the same is unsupported. The jaws are then clamped together so as to firmly grip the board.

The jaws being thus engaged with the board, power is again applied to the belt 2 and the truck 25 is then moved along and away from the belt by hand or otherwise until a stretch of board of the desired length has been drawn away from the platform 6. These stretches are then laid one by one and in separate superimposed order on a truck 29 positioned thereunder. The further driving of the board is then halted and the cutter 20 is then pulled crosswise of the machine by the operator, the apron 18 being first raised so as to make a firm support for the board thereabove, and also a fixed cutting edge with which the movable cutter co-acts.

The cutter being drawn across the board and clear of the same, may be left where it is halted, or returned to its starting point, depending on the desire and convenience of the operator.

The cut end of the board will now drop onto the truck 29. The jaws 27 and 28 of the other truck 25 are then released from their grip with the board, and said truck 25 is then returned to a point adjacent the cutter 20 in position to again engage the severed end of the board resting on the platform 6, when the apron 18 is again lowered, as previously described.

The parts now being back in the same positions as stated at the outset of the above description of operations, another and duplicate cycle of movement, as that above outlined is about to start, and hence further description is unnecessary.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what

I claim as new and useful and desire to secure by Letters Patent is:

1. In a plaster-board handling apparatus, a board supporting surface, a cutter movable to co-act with one edge of said surface, and means for enabling said edge to be moved out of co-acting relationship with the cutter.

2. In a plaster-board handling apparatus, a board supporting surface, means for cutting the board along one edge of said surface, and means for then withdrawing the supporting surface from under the board, whereby to leave a certain length of the same suspended in the clear.

3. In a plaster-board handling apparatus, a board supporting surface, an apron hinged to said surface at one end thereof and turnable about its hinges, and a cutting element mounted in a fixed plane and arranged to co-act with the outer edge of the apron such co-action being had only when the latter is in a predetermined position.

4. In a plaster-board handling apparatus, a vertically adjustable board supporting surface, a cutter arranged to coact with one end edge of said surface, and means for enabling said cutter to co-act to the same de-

gree with said edge regardless of the vertical level of the latter.

5. In a plaster-board handling apparatus, a vertically adjustable board supporting surface, and a horizontally movable cutter arranged to co-act with one end edge of said surface and movable vertically in common therewith.

6. In a plaster-board handling apparatus, a vertically adjustable board supporting surface, a member mounted in connection with said surface at one end thereof and parallel thereto, and a cutting structure slidably mounted on said member for engagement with said end and horizontal movement therealong.

7. In a plaster board handling apparatus, a board supporting surface, means for cutting the board along one edge of said surface, means for then moving said surface clear of the board, whereby to leave a certain length of the latter projecting in the clear, and gripping means for gripping said projecting portion.

In testimony whereof I affix my signature.

JOHN F. MAKOWSKI.