

No. 874,975.

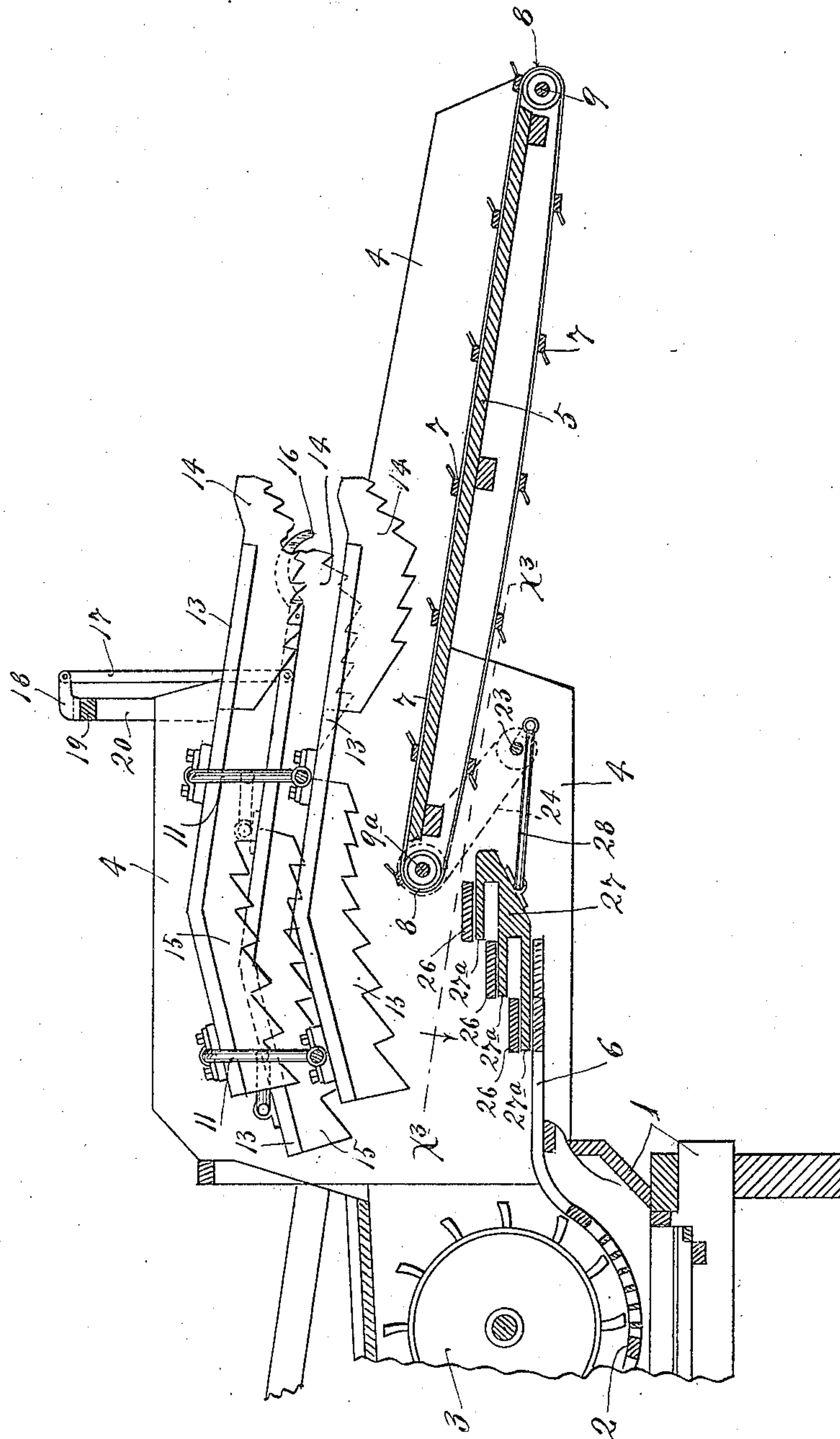
PATENTED DEC. 31, 1907.

A. MAHLEN.  
BAND CUTTER AND FEEDER.

APPLICATION FILED OCT. 4, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses  
A. H. Opsahl.  
R. W. Otto

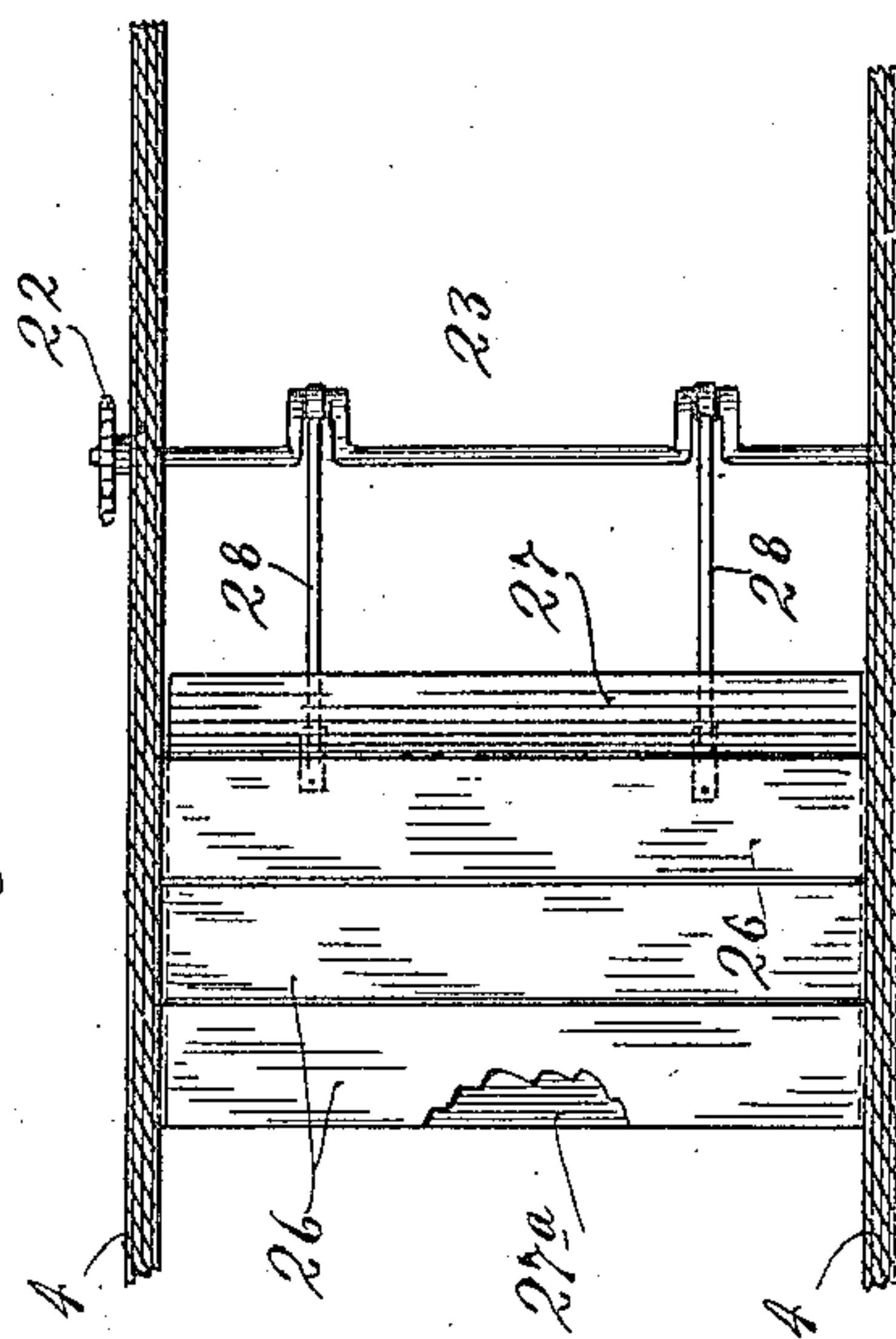
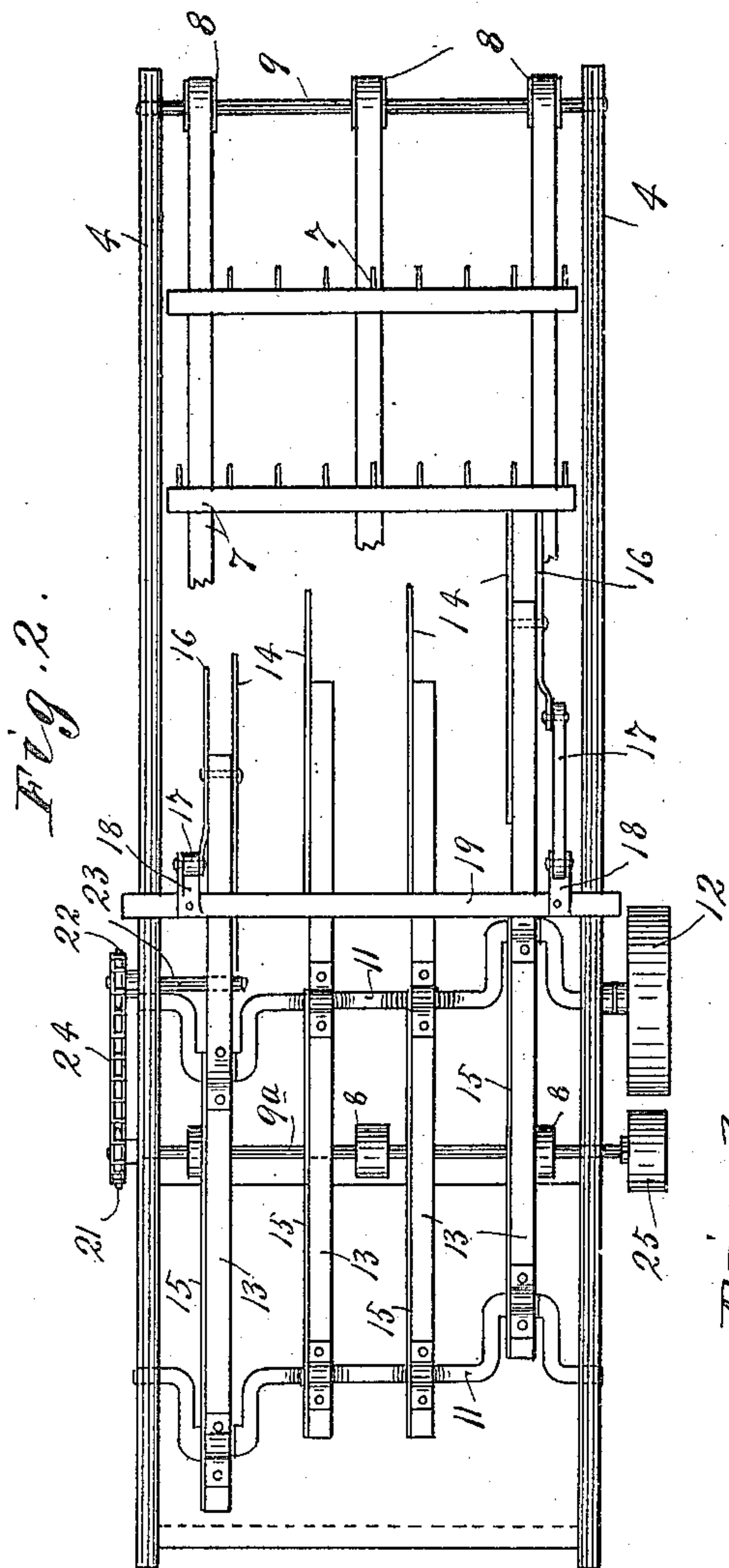
Inventor.  
Anton Mahlen.  
By his Attorneys.  
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

ANTON MAHLEN, OF SUPERIOR, WISCONSIN.

## BAND-CUTTER AND FEEDER.

No. 874,975.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed October 4, 1906. Serial No. 337,413.

*To all whom it may concern:*

Be it known that I, ANTON MAHLEN, a citizen of the United States, residing at Superior, in the county of Douglas and State of Wisconsin, have invented certain new and useful Improvements in Band-Cutters and Feeders; and I do hereby declare the following to be 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.

My invention relates to band cutters and feeders, and has for its object to improve the same in the several particulars hereinafter noted.

To the above ends, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a vertical section taken centrally and longitudinally through a portion of a threshing machine and through a band cutter and feeder, designed in accordance with my invention. Fig. 2 is a plan view of the band cutter and feeder removed from working position, and Fig. 3 is a horizontal section taken on the line  $x^3 x^3$  of Fig. 1.

Of the parts of the threshing machine or separator proper, which is shown in the drawings, the numeral 1 indicates the separator frame, the numeral 2 the concave, and the numeral 3 the toothed threshing cylinder, which parts are of ordinary or any suitable construction.

As shown, the band cutter and feeder is supported by side board extensions 4 of the frame 1, between which side boards are rigidly supported a conveyer table 5 and a feed deck 6, which latter is slightly spaced apart from the former, and directly delivers to the concave 2. An endless slat and belt conveyer 7 runs over the table 5 and over guide pulleys 8, suitably mounted on the side boards 4.

A pair of crank shafts 11, each having a plurality of cranks, set one in advance of the other, are suitably mounted in the side boards 4, one of the said cranks having, at one end, a pulley 12, over which will run a power-driven belt (not shown). As shown, each crank shaft has four crank portions, located at different points transversely of the ma-

chine. To the corresponding cranks of the two crank shafts 11 are pivotally connected vertically gyrating bars 13, there being four such bars. Each bar 13 carries a serrated knife and a serrated feed blade 15, the former being located outward of the latter. The knives 14 work over the endless conveyer 7, while the feed blades 15 work principally over the feed deck 6.

To the projecting ends of the two outer bars 13 are pivoted hook-like tedders 16. The inner ends of these tedders 16 are pivotally connected to links 17, the upper ends of which, as shown, are pivotally attached to brackets 18 on a transverse bar 19, shown as supported by posts 20 on the side boards 4. In the drawings, all of the bars 13 are shown as provided with knives 14, but in some cases it might be sufficient to provide only the intermediate bar with such a knife.

The shaft 9<sup>a</sup>, which carries the upper or inner pulleys 8, is provided at one end with a sprocket 21 that alines with a sprocket 22 of a crank shaft 23, which is journaled in the side boards 4 and extends below the conveyer 7. A sprocket chain 24 runs over the sprockets 21 and 22. On the opposite end of the shaft 9<sup>a</sup> is a pulley 25, over which runs a power-driven belt (not shown), to impart motion to the endless conveyer 7 and to the crank shaft 23.

Located between the receiving end of the deck 6 and the delivery portion of the conveyer 7, are several vertically spaced shelves 26 that are stepped with respect to each other and the ends of which are secured to the side boards 4. Supported (as shown), by the extended portion of the feed deck 6, is a reciprocating feed head 27 provided with stepped feed blades 27<sup>a</sup>, arranged to work one immediately below each of the shelves 26. This feed head 27 is connected by a pair of links 28 to cranks of the crank shaft 23, so that the said feed head will be reciprocated when the said crank shaft is rotated.

The operation of the device will be substantially as follows: The four gyrating bars 13, by their respective cranks, will be given parallel movements, and will be thrown into action in succession, so that one or the other thereof will be in action practically all the time. When the said bars make their downward strokes onto the bundles which are being delivered or carried toward the feed deck 6 by the endless conveyer 7, their knives 14 are brought into action and caused to cut the



band of the bundle; then as the said bar moves rearward or toward the threshing cylinder, the serrated feed blades 15 act to feed the cut bundles rearward over the feed deck 5 6 and to the said threshing cylinder. Furthermore, as the said bars make their downward and rearward movement, the tedders or hooks 16 of the outside bars are caused to reach out and catch the bundles and drag 10 them within reach of the knives 14. The action of the knives and serrated feed blades being practically continuous, and the said parts receiving parallel movements in their actions on the bundles, both before and after 15 the bands are cut, a continuous sweeping feed is afforded. The tedder acting hooks 16 add greatly to the efficiency of the device. Under the vibratory movement of the feed head 27, all stock delivered onto the stepped 20 shelves 26 will positively be forced towards the threshing cylinder 3, so that clogging between the conveyer and the cylinder is prevented. It will, of course, be understood that when the said feed head is moved forward, or toward the cylinder, its blades 27<sup>a</sup> 25 project beyond the overlying shelves 26.

The mechanism described, while extremely simple, is sufficient for the purposes had in view, and it will, of course, be understood that I do not limit myself to the exact details of construction shown in the drawings. 30

What I claim is:

In a band cutter and feeder, the combination with a pair of crank shafts, each having a plurality of cranks, set one in advance of 35 the other, of gyrating bars carried by the corresponding cranks of said two shafts, serrated knives and serrated toothed blades carried by said bars, tedder acting hooks pivoted to the outer ends of the outer members 40 of said bars and forming extensions thereof, links connecting said tedder acting hooks to relatively fixed supports, and a conveyer working below said knives, substantially as described. 45

In testimony whereof I affix my signature in presence of two witnesses:

ANTON MAHLEN

Witnesses:

J. B. FINCH,

MARTIN FOLLING.