

(No Model.)

F. C. GAMMONS, G. L. ROLLINS & H. WADSWORTH.
LEVELING BOARD FOR COTTON GIN FEEDERS.

No. 405,405.

Patented June 18, 1889.

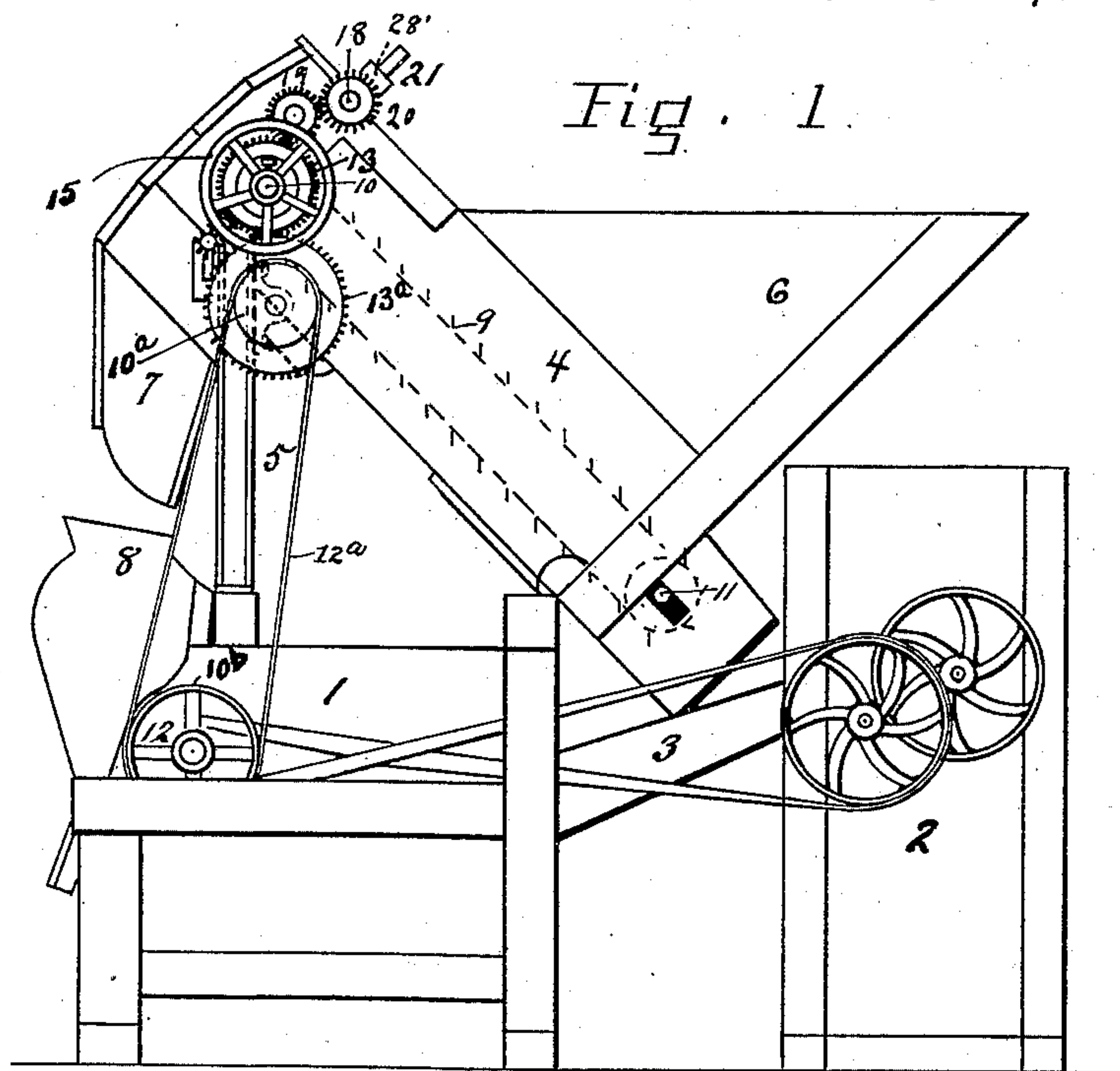


Fig. 1.

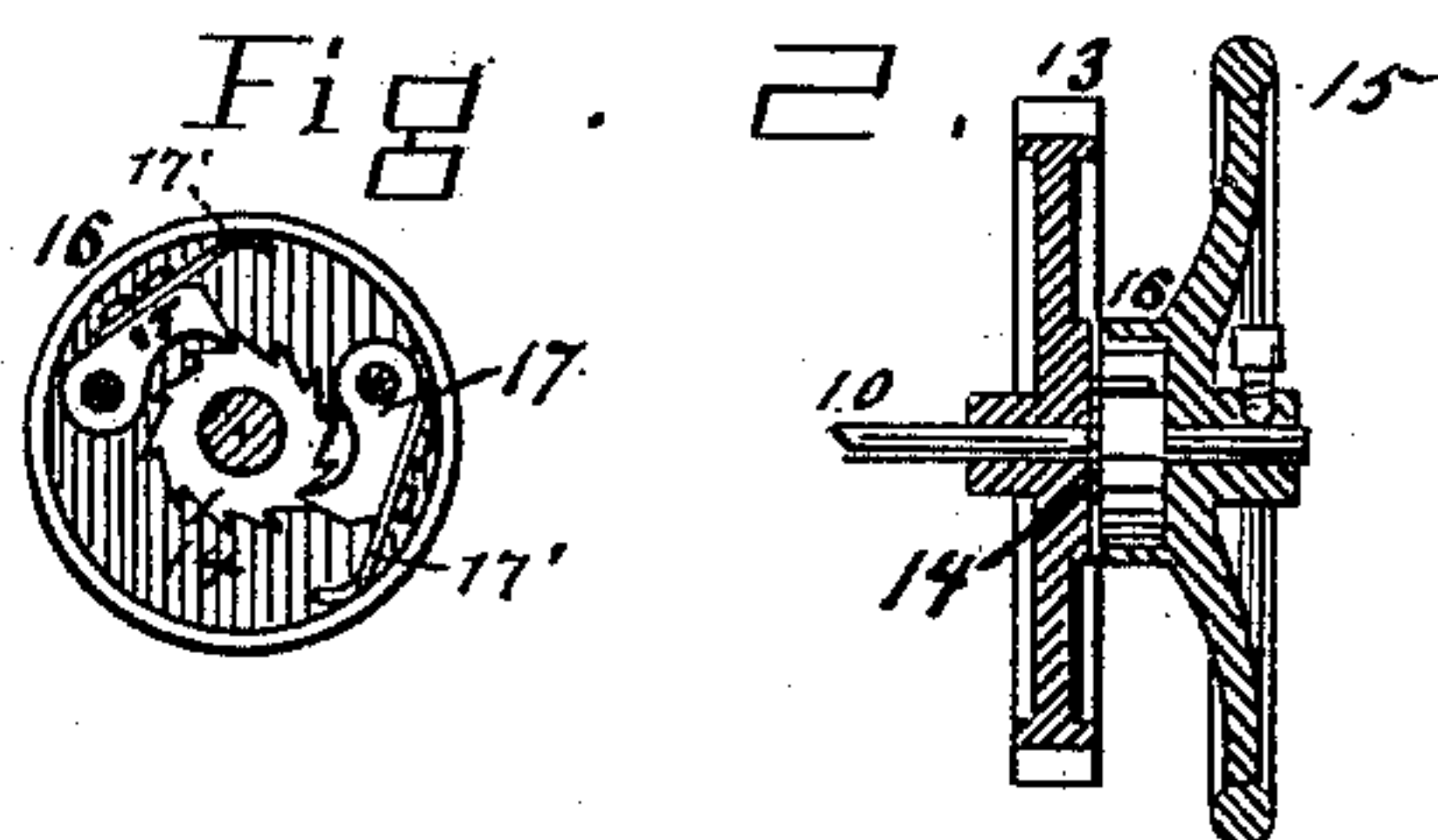
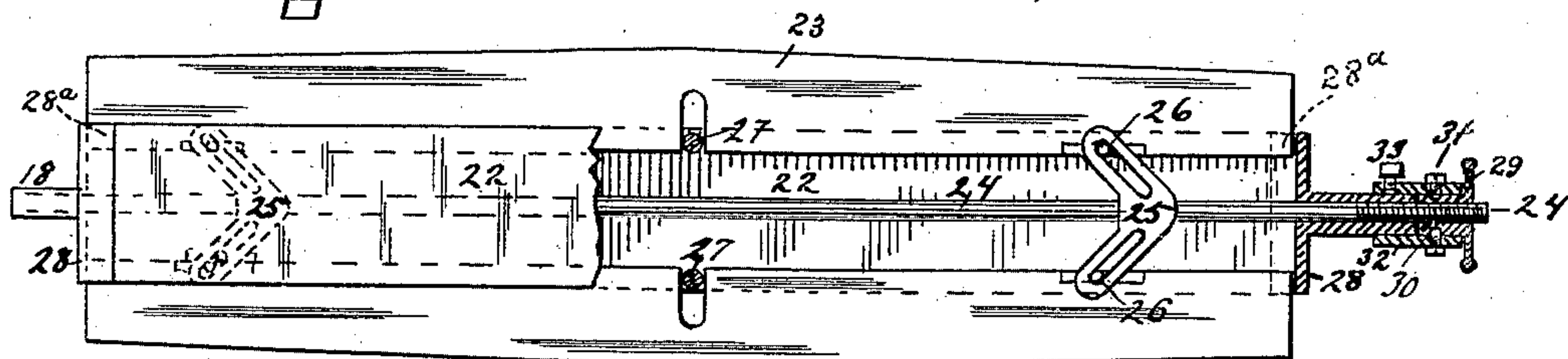


Fig. 2.

Fig. 3.



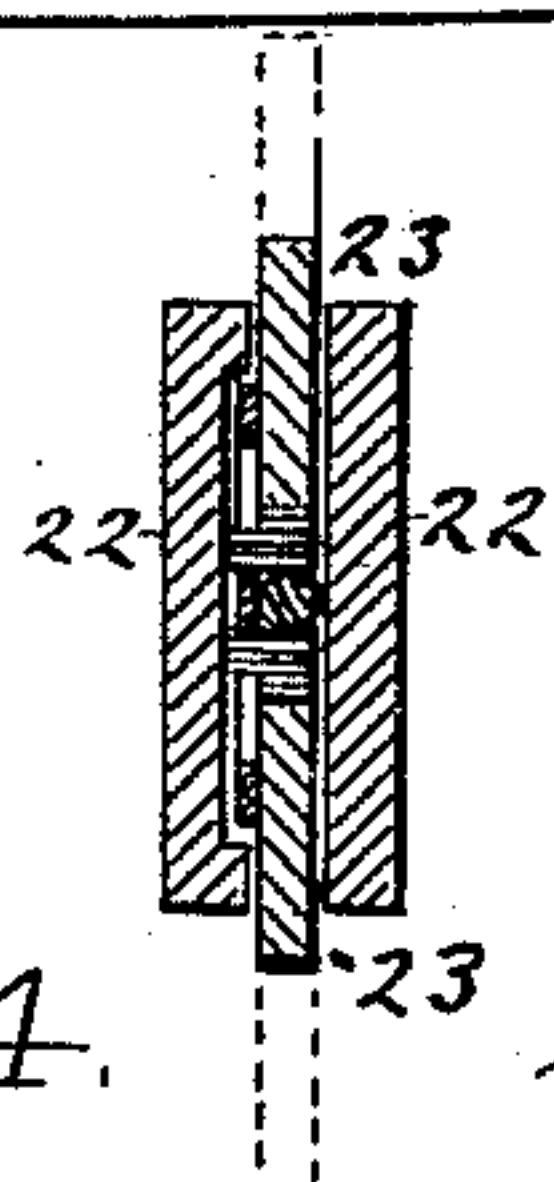
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Fig. 4.



UNITED STATES PATENT OFFICE.

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OF BRIDGEWATER, MASSACHUSETTS, ASSIGNORS TO THE EAGLE COTTON
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LEVELING-BOARD FOR COTTON-GIN FEEDERS.

SPECIFICATION forming part of Letters Patent No. 405,405, dated June 18, 1889.

Application filed May 1, 1888. Serial No. 272,496. (No model.)

To all whom it may concern:

Be it known that we, FERDINAND C. GAMMONS, GEORGE L. ROLLINS, and HERBERT WADSWORTH, all of Bridgewater, Plymouth
5 county, Massachusetts, have invented certain new and useful Improvements in Leveling-Boards for Cotton-Gin Feeders, of which the following is a specification.

The invention relates to the leveling-board
10 or beater which keeps back any surplus of cotton taken up by the feeding-apron, and the improvement also relates to means for adjusting the blades thereof outwardly from the shaft, so as to vary the amount of cotton
15 fed through into the gin.

In the accompanying drawings, Figure 1 is a side view of a cotton-gin, feeder, and condenser combined according to our invention. Fig. 2 shows details of the hand-wheel. Figs.
20 3 and 4 are sectional views of the leveling-board and shaft.

The gin 1 and condenser 2 are of the usual construction, the condenser being placed behind the gin and connected thereto by a flue
25 3. The inclined feeder 4 is placed over the gin, as shown, it being supported on the front of the gin by posts 5, and its rear end resting on the back of the gin, with its extreme lower part extending down in the space between
30 the gin and the condenser. The hopper 6 of the feeder is made to extend up over the condenser, so as to gain room. The discharging-chute 7 of the feeder is immediately over the mouth 8 of the gin, so as to cause the cotton
35 to drop into the same without any manipulation. With the inclined feeder, gin, and condenser combined in this way several important advantages accrue. The combined machines are in the most compact space. The
40 hopper of the feeder can be made very large, and yet, because of its being placed in between the condenser and gin, it can be brought down within convenient distance of the floor.

The inclined feeder consists, essentially, of
45 an endless apron of spiked slats 9, passing around an upper and a lower drum, the said drums being mounted on shafts 10 and 11, and the upper shaft 10 being driven by any suitable power-connection with the gin-shaft

12—such, for instance, as the belt 12^a, the pulleys 10^a 10^b, over which said belt passes, and the gear-wheel 13^a, keyed to the pulley and meshing with the gear 13, the pulley 10^a and its gear being journaled in a suitable bracket on the post 5. Upon the shaft 10 is a loose
55 gear-wheel 13, driven by said connection with shaft 12, and this gear-wheel has cast upon or otherwise secured to it a ratchet-wheel 14.

15 is a hand-wheel fixed to the shaft 10, and having a hollow hub or casing 16, within
60 which are pivoted two pawls 17, having springs 17' secured to them and bearing upon the inside of the hub and causing the pawls to engage with the teeth of the ratchet-wheel 14, and thereby enable the gear-wheel
65 13 to drive the said shaft 10. At the same time the pawl and ratchet render it possible to run the feeder faster than the machinery would drive it by giving a quick whirl to the
70 hand-wheel 15. This enables the operator to feed the cotton faster when he finds that the gin is not being supplied quick enough.

The shaft 18, driven by gear-wheels 19 20 from the wheel 13, carries the leveling-board 21, which is driven in the opposite direction
75 from the feeding-apron, and serves to level or even up the layer of cotton, so that the full width of the gin may be supplied with just the proper amount.

The leveling-board, which is shown in detail in Figs. 3 and 4, consists of two side
80 boards 22, fixed to the driving-shaft 18, and two outwardly-adjustable wings 23, sliding between the side boards and adjustable radially by the mechanism shown. The boards
85 22 are secured to the shaft 18 by means of the end plate 28', which is secured to or made integral with the shaft 18, and has two flanges 28^a, which embrace the ends of such boards
90 on both sides. A central spindle 24 is inserted axially through the shaft 18, and has journaled thereon at its other end a similar end plate 28, which also has flanges 28^a also embracing the ends of the boards on both
95 sides.

The central spindle 24 has secured to it two slotted V-shaped arms 25, in the slots of which play the round pins or studs 26, which

are fastened to the wings 23, such slotted arms acting as cams upon the studs 26, forcing the wings outward or drawing them inward, according to the direction in which the spindle 24 is moved. Rollers or studs 27 and the end plates 28 28' prevent the wings from moving endwise, so that the said wings will be moved outward and inward with endwise movements of the spindle 24. The said spindle is adjustable endwise by hand-nut 29, working on a screw-threaded portion of the spindle, the said nut having an annular groove 30, in which play the studs 31 on the sleeve 32, the said sleeve being secured by set-screw 33 to the end plate 28. By means of this apparatus we can adjust the wings in and out, even while the machine is running, by simply turning the hand-nut 29.

The wings 23 are made wider in the middle than at the ends, as we find that this shape feeds the cotton in a better way to the gin, keeping the cotton from crowding the gin too much in the middle.

Having thus described our invention, what we claim as new is—

1. The leveling-board having fixed sides and adjustable wings, cams for adjusting said wings, and a spindle for adjusting said cams, as set forth.

2. The leveling-board having adjustable wings, cams for adjusting said wings, a screw-threaded spindle for adjusting said cams, and a nut for adjusting said spindle, substantially as set forth.

3. The leveling-board having adjustable wings, a longitudinally-movable spindle, arms carried by said spindle having cam-slots, and studs carried by said wings engaging in said slots, as set forth.

4. The rotary leveling-board having radially-adjustable wings, a screw-threaded central spindle, a fixed revoluble nut engaging said spindle, studs on said wings, and cams engaging said studs and attached to the spindle, as set forth.

5. The rotating leveling-board having radially-adjustable wings, a central spindle capable of longitudinal movement, inclined arms on the spindle engaging with studs on the wings, and studs for preventing end motion of the wings, substantially as and for the purpose set forth.

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Witnesses:

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