

No. 791,746.

PATENTED JUNE 6, 1905.

H. M. BARNGROVER.
POWER FRUIT PRESS.

APPLICATION FILED AUG. 26, 1904.

2 SHEETS—SHEET 1.

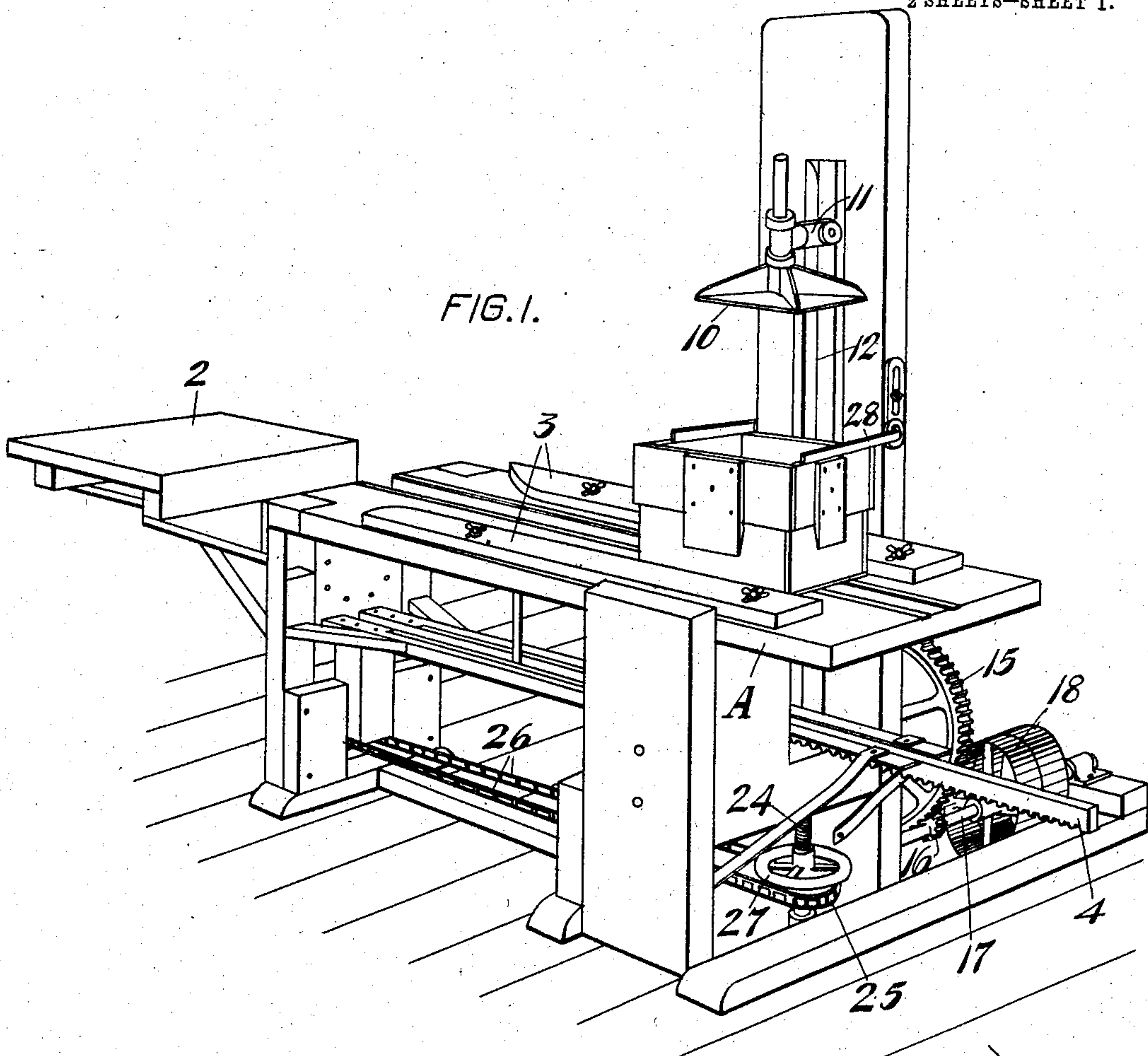


FIG. 2.

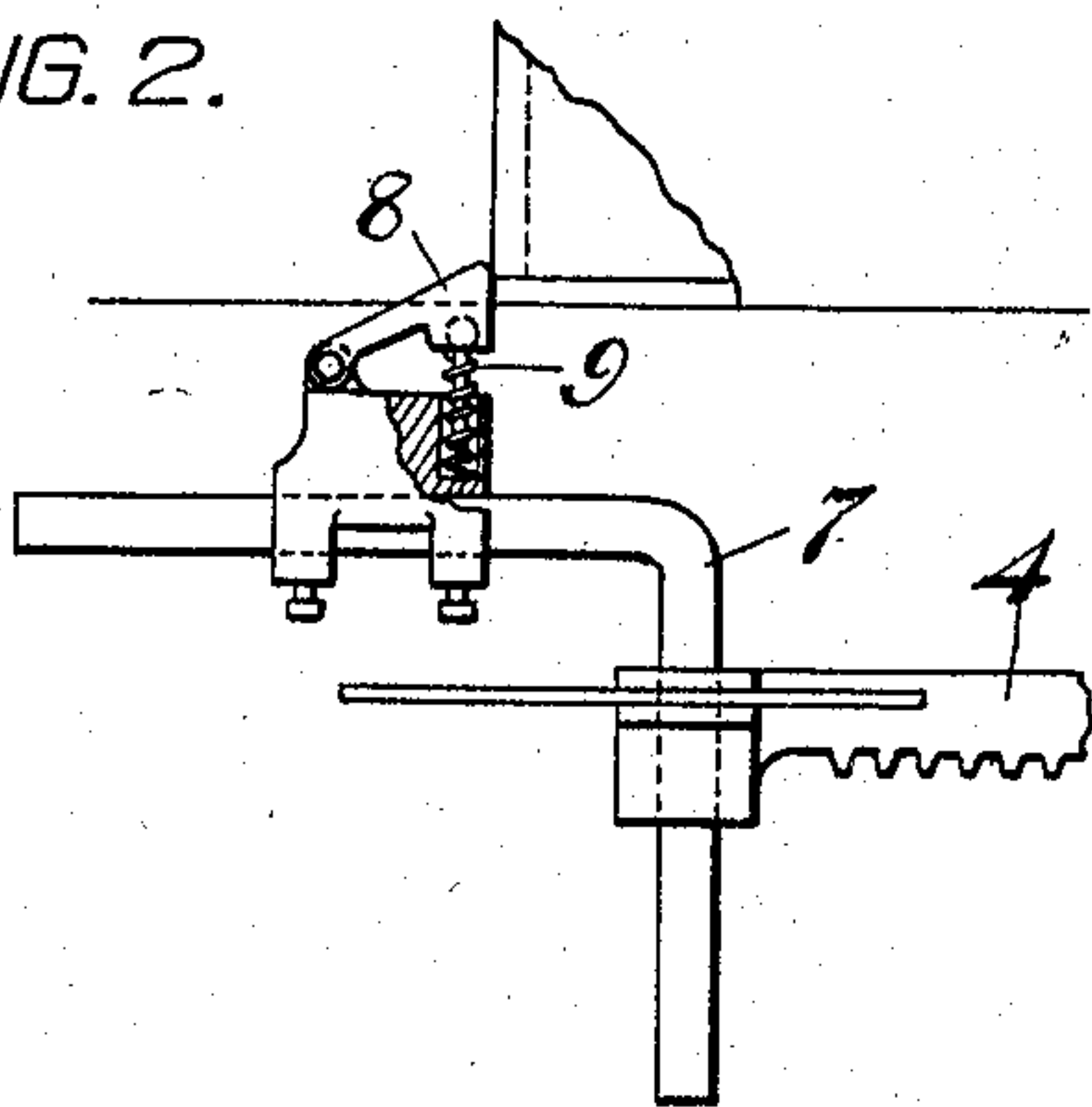
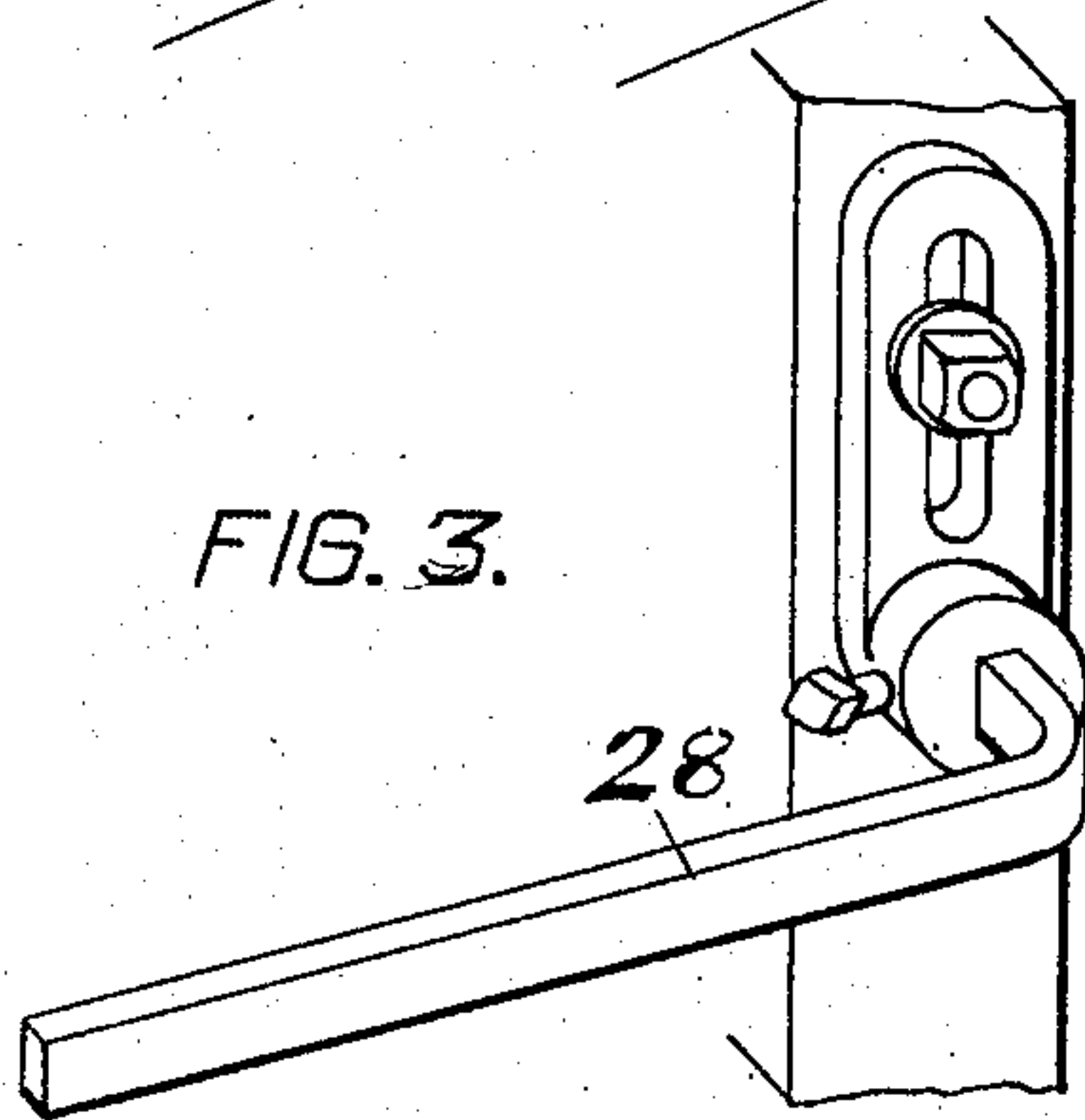


FIG. 3.



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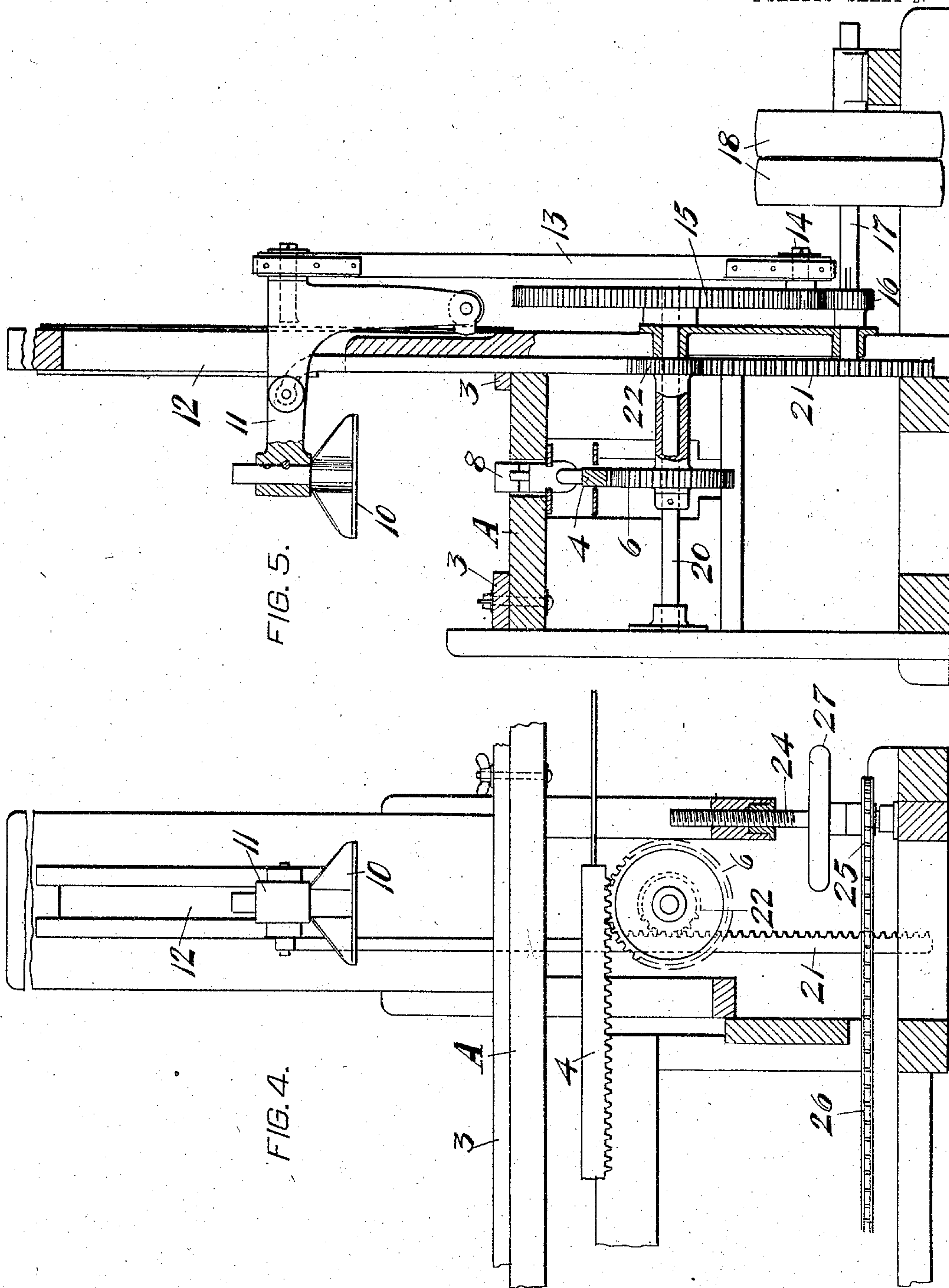
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WITNESSES,

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UNITED STATES PATENT OFFICE.

HARVEY M. BARNGROVER, OF SAN JOSE, CALIFORNIA, ASSIGNOR TO
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A CORPORATION OF CALIFORNIA.

POWER FRUIT-PRESS.

SPECIFICATION forming part of Letters Patent No. 791,746, dated June 6, 1905.

Application filed August 26, 1904. Serial No. 222,271.

To all whom it may concern:

Be it known that I, HARVEY M. BARNGROVER, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented new and useful Improvements in Power Fruit-Presses, of which the following is a specification.

My invention relates to an apparatus which is designed for the compressing of dried fruits into boxes or packages.

It consists in the combination of mechanism whereby the boxes containing a given weight of fruit are advanced, placed beneath the press, and the mechanism automatically returned after the pressing of each box is complete.

It also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a view showing end of rack and latch. Fig. 3 is a perspective view of arms for holding box. Fig. 4 is a part side elevation of my invention, showing means for raising and lowering table. Fig. 5 is a transverse vertical section.

The apparatus comprises any suitable or convenient frame or table, as at A, and at one end of this table is located a weighing device 2, upon which the boxes of fruit are first placed, and a given weight of the material to be pressed is placed in each of the boxes. The boxes are then automatically advanced beneath the pressing device, which is operated as follows: Upon each side of the table A are guides 3, which are adjustable and are separated to receive a box between them. The ends of these guides may be diverged so that if the boxes are not delivered squarely upon the table the movement between the guides will place them in proper position before they reach the presser.

4 is a rack-bar having teeth on the lower side which engage with the teeth of a revoluble gear-wheel 6, so that by the movements of this gear-wheel the rack-bar may be reciprocated. At the rear or receiving end this

bar has fixed to it an arm 7, upon which is carried a spring-pressed latch 8. This latch is here shown as being hinged and having a spring 9 beneath its free end, which normally lifts this end up above the level of the table. When the rack-bar is retracted, this latch will be depressed on passing beneath the bottom of a box which is in position to be advanced and will rise after passing the box, so as to engage its rear end, and when the rack-bar is again advanced this latch engaging the rear of the box will move it forward through the guides until it reaches a position vertically beneath the presser-plate 10. This plate is carried by a suitable arm 11, which is slidable in upright guides, as at 12. This arm 11 projects between the guides to the outside of the table and has connected with it a rod or pitman 13, the lower end of which is connected with a crank-pin 14 upon a wheel 15. This wheel is revolved by means of a pinion 16, fixed upon the shaft 17, and this shaft carries the tight and loose pulleys, as at 18, through which power may be transmitted to revolve the shaft and connecting parts.

It will be understood that the driving-pulleys 18 represent any suitable or well-known form of motor which can be applied to this apparatus.

Upon the shaft 20 of the gear-wheel 15 is keyed the pinion 6, the teeth of which engage the rack-bar 4, as previously described. It will be seen that by the revolution of this gear in one direction the rack-bar and its latch will be retracted to engage a box, and by its revolution in the opposite direction the rack-bar and latch will be advanced and the box stopped beneath the presser-plate.

21 is a rack-bar the upper end of which is connected with the vertically-movable slide 11, which carries the presser-plate. This rack-bar is engaged by a pinion 22 upon the same hub or sleeve which carries the pinion 6, this hub or sleeve being mounted upon the shaft 20, as shown. Thus it will be seen that when by the revolution of the wheel 15 its crank acts, through the connecting-rod 13, to reciprocate the slide carrying the presser-

plate the movement in one direction will act, through the gears, to retract the rack 4 and the movement in the opposite direction will advance the rack.

5 The box containing the fruit being placed beneath the presser-plate, the latter will be depressed by the action of the crank and pitman, and the fruit will be compressed to any desired degree within the box. The advance
10 of the following box will push this one out of the way and it can be removed and the cover nailed on.

In order to adjust the mechanism to various sizes of boxes, I have shown a feeder and
15 weighing-tables as carried upon vertically-guided screws, as 24, these screws being located near opposite ends, and the shanks of the screws carry sprockets 25, around which an endless chain 26 passes. By means of a
20 hand-wheel or convenient equivalent device, as at 27, the screws are turned in unison to raise and lower the parts which are supported thereby. In this manner adjustment may be made
25 for any size of box, as twenty-five, fifty, or eighty pounds, as desired.

The pressure applied by this apparatus will not burst the boxes, and it presses evenly all over each box and the same upon all the boxes.

30 In order to accurately place boxes of different lengths beneath the presser-plate, the latch 8 is so mounted that it may be moved forward or back by means of its securing bolts and nuts.

35 The box is held in place by arms or stops 28, which prevent its displacement by the lifting of the presser-plate, so that if it is found necessary or desirable to compress the contents of the box by two or more impulses of the
40 presser-plate the proper alinement of the box and plate would be maintained.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

45 1. In an apparatus for pressing fruit, a table, mechanism by which the boxes are advanced upon said table, a vertically-movable presser-plate and mechanism by which the table is simultaneously raised or depressed with
50 relation to said plate.

2. In an apparatus for pressing fruit and the like, a vertically-adjustable feeding-table, guides upon each side of the feeder-table between which the boxes are advanced, a vertically-movable presser-plate and mechanism
55 by which it is reciprocated upon the arrival of each box beneath it.

3. In a compressing apparatus, a substantially horizontal feed-table having a central
60 channel, guides upon each side between which fruit-containing boxes are adapted to advance, a reciprocating slide having a spring-pressed latch projecting through the table-slot adapt-

ed to engage the rear end of the boxes, means by which said latch is reciprocated to alter- 65 nately engage and advance a box, a vertically-reciprocating presser-plate, mechanism acting in unison with the feed mechanism whereby the plate is depressed into each box upon the arrival of said box in line beneath the plate. 70

4. In an apparatus for compressing material into boxes, a substantially horizontal centrally-slotted and vertically-adjustable table, guides upon each side of the table, a spring-pressed latch movable in the slot in the table 75 adapted to engage the rear end of each box when retracted, a horizontally-movable rack-bar, a pinion engaging said bar, mechanism by which the rack-bar is reciprocated and a vertically-movable presser-plate and mechanism by which said plate is reciprocated. 80

5. In an apparatus for compressing a substantially horizontal centrally-slotted table, a vertically-reciprocating presser-plate located near one end of the table, a shaft journaled 85 across the table, a crank carried by said shaft, a pitman engaging the presser-plate, a pinion carried by the shaft, a rack-bar engaging the pinion and connecting with the reciprocating presser-plate, a second pinion turnable in unison with the first-named pinion, a rack-bar engaged by said second pinion, a spring-pressed latch carried by said rack-bar movable in the slot in the table, said latch engaging the rear of each box and advancing it to a point be- 95 neath the presser-plate in unison with the movement of said presser-plate.

6. In an apparatus for compressing material, a horizontal centrally-slotted table with longitudinally-disposed guides upon each side, 100 a vertically-movable presser-plate, and guides therefor at one end of the table, a reciprocating slide and spring-pressed latch movable in the table-slot to engage and advance boxes, and means for adjusting the latch. 105

7. In an apparatus for compressing material in boxes, a horizontal centrally-slotted table, with side guides, a spring-pressed latch slidable in said slot, a vertically-movable presser-plate beneath which boxes are placed 110 by the sliding latch, and guides movable with the presser-plate to engage the box and hold it in alinement with said plate.

8. The combination in a compressing apparatus, of a horizontal support, reciprocating 115 mechanism by which boxes are advanced on said support, a vertically-movable presser-plate beneath which the boxes are deposited, and adjustable retaining-arms for the boxes.

In testimony whereof I have hereunto set 120 my hand in presence of two subscribing witnesses.

HARVEY M. BARNGROVER.

Witnesses:

H. BURRELL,
B. D. HULL.