

(No Model.)

2 Sheets—Sheet 1.

W. G. DE BERRY.
FERTILIZER DISTRIBUTER.

No. 448,135.

Patented Mar. 10, 1891.

FIG. 1.

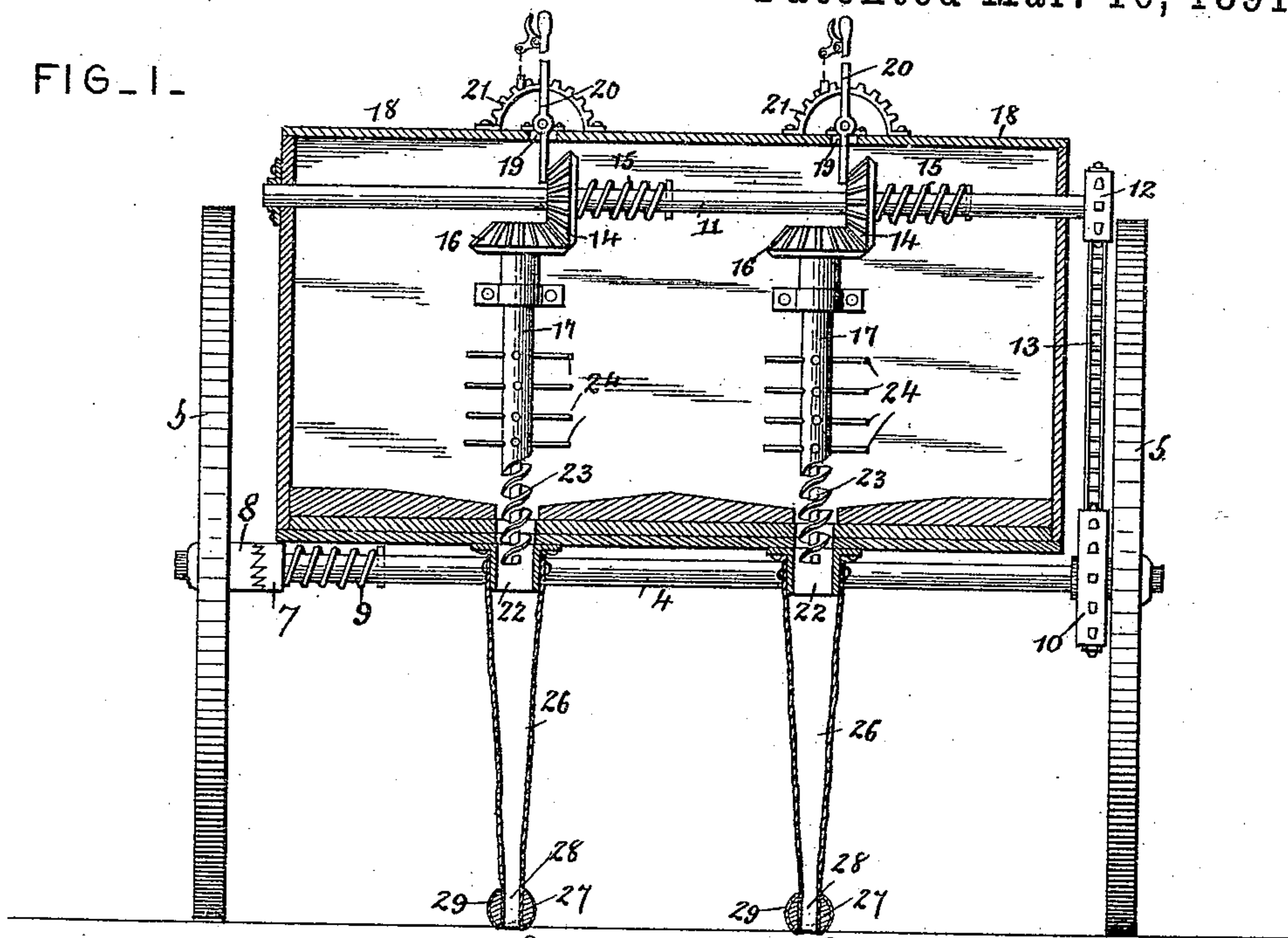
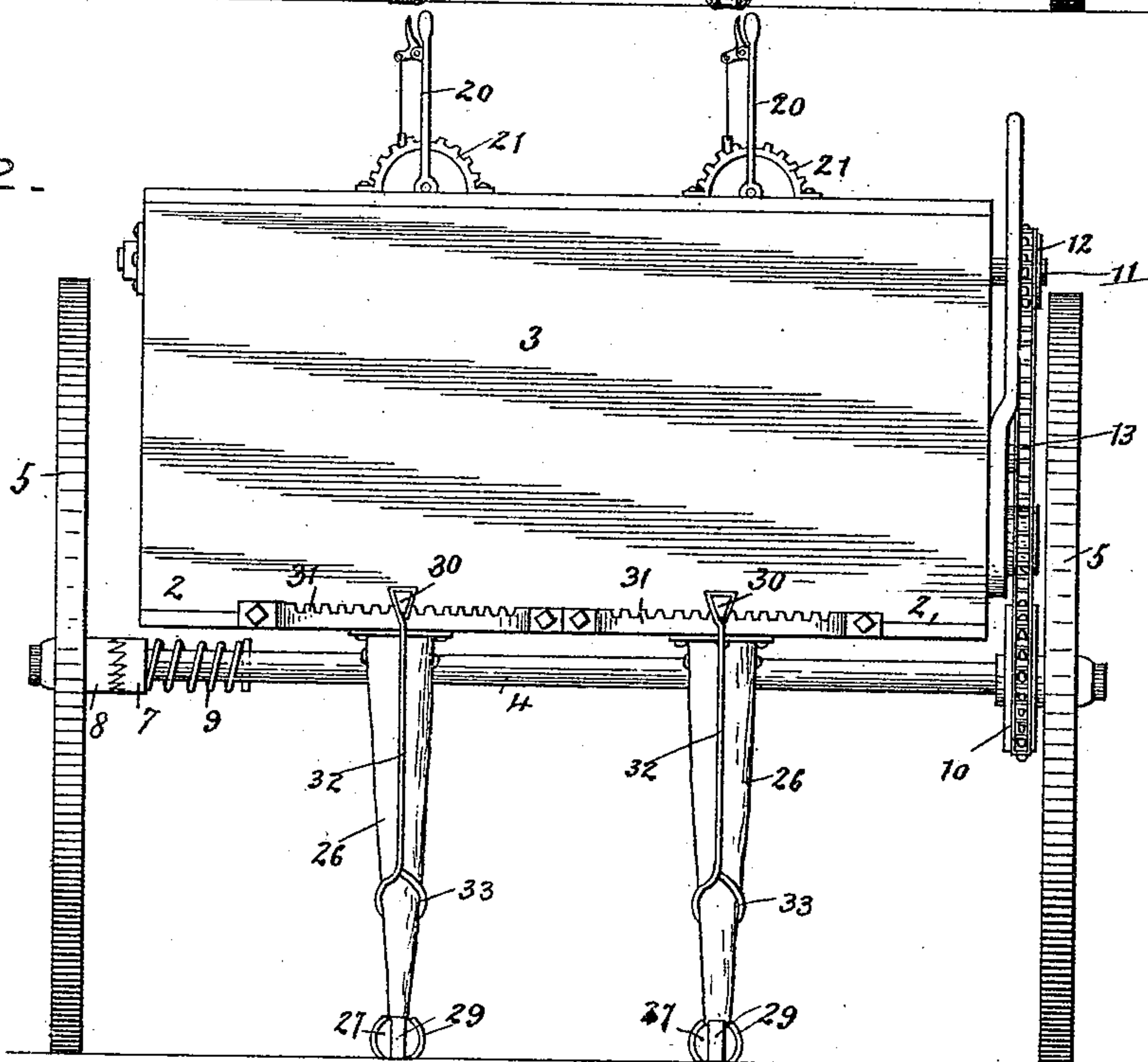


FIG. 2.



Witnesses

Inventor

Jas. L. McCathran
Wm. Bagger

By his Attorneys,

William G. DeBerry

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

W. G. DE BERRY.
FERTILIZER DISTRIBUTER.

No. 448,135.

Patented Mar. 10, 1891.

FIG. 4-

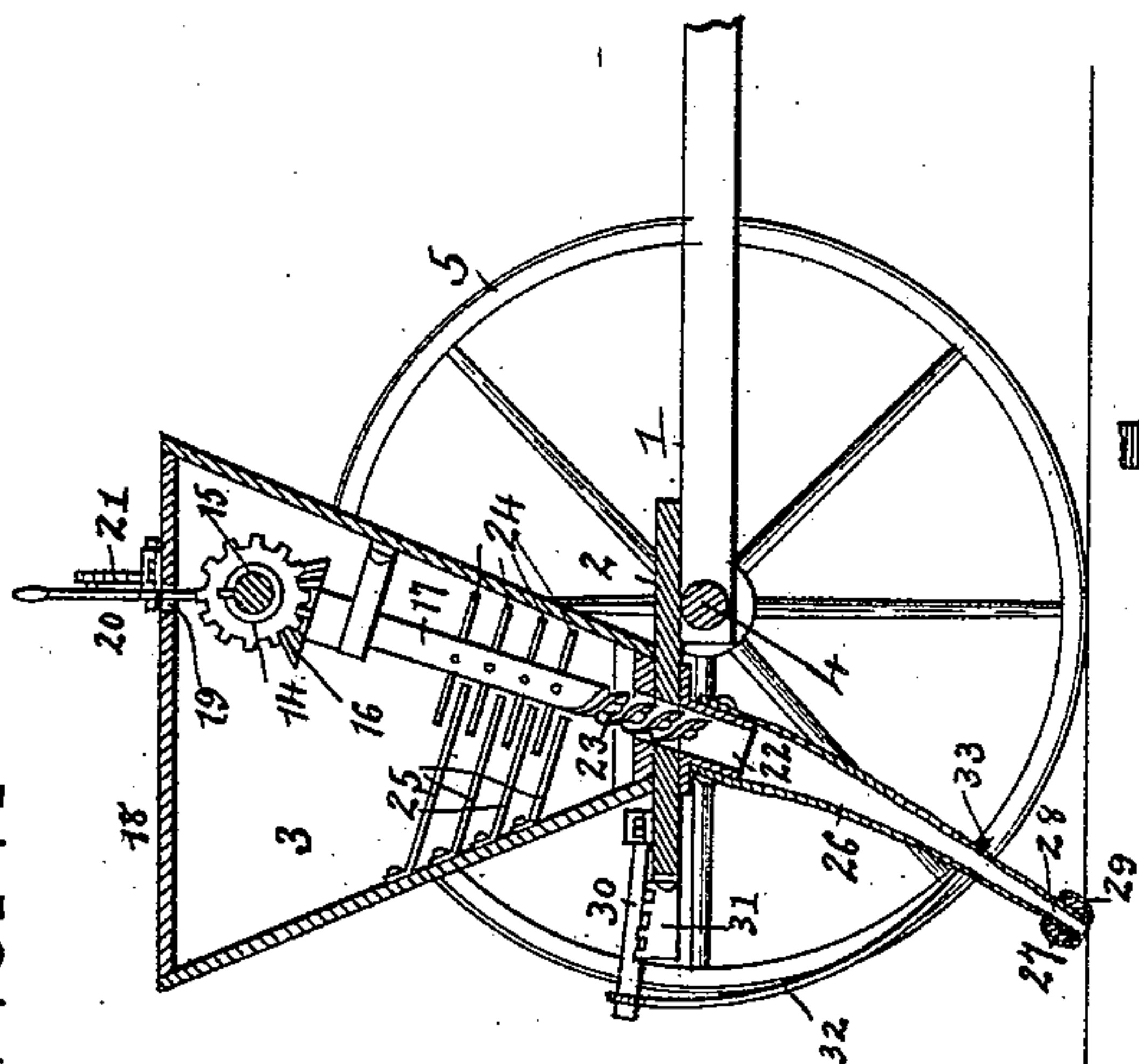


FIG. 3-

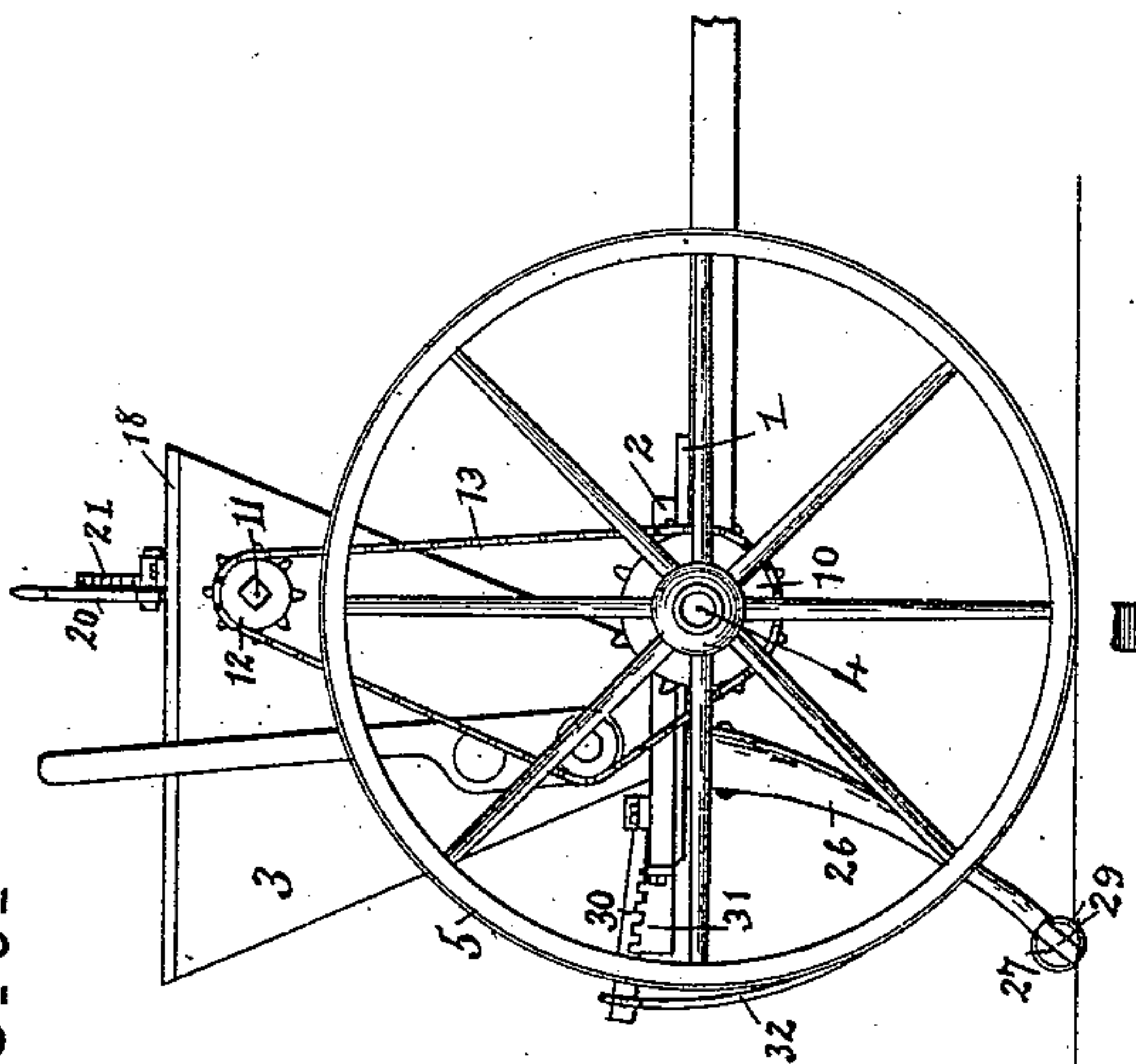
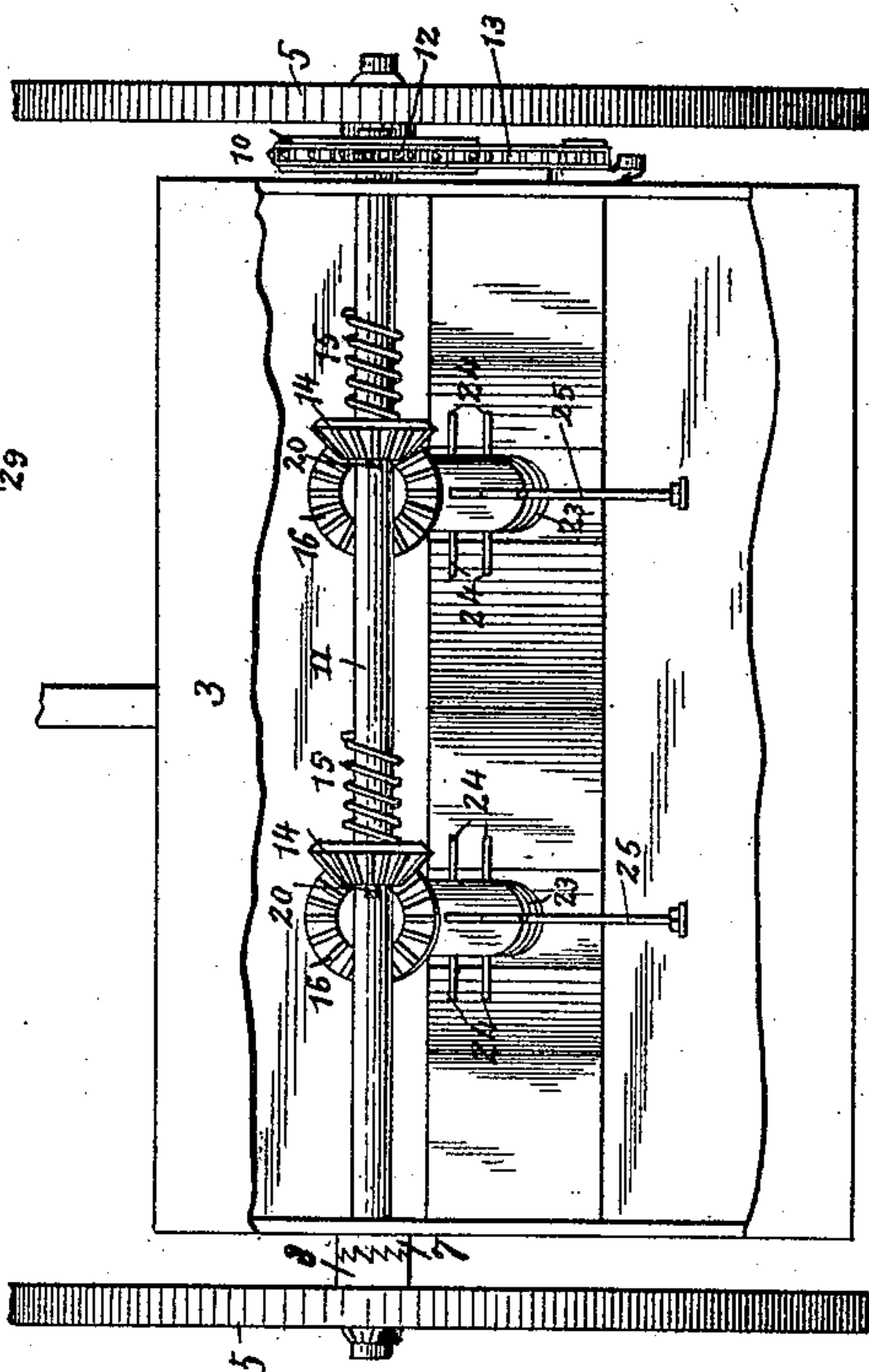


FIG. 5-



Witnesses

Jas. S. McEachran
Wm. Bagger

By his Attorneys,

Inventor
William G. DeBerry
C. Snow & Co.

UNITED STATES PATENT OFFICE.

WILLIAM GASTON DE BERRY, OF MOUNT GILEAD, ASSIGNOR OF ONE-HALF TO
C. C. WADE AND W. T. WADE, BOTH OF WADEVILLE, NORTH CAROLINA.

FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 448,135, dated March 10, 1891.

Application filed September 24, 1890. Serial No. 365,998. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GASTON DE BERRY, a citizen of the United States, residing at Mount Gilead, in the county of Montgomery and State of North Carolina, have invented a new and useful Fertilizer-Distributor, of which the following is a specification.

This invention relates to machines for distributing fertilizing material, lime, salt, plaster, and the like; and it has for its object to construct a machine of this class which possesses superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a vertical transverse sectional view of a fertilizer-distributor embodying my improvements. Fig. 2 is a rear elevation of the same. Fig. 3 is a side elevation. Fig. 4 is a vertical longitudinal sectional view taken transversely through and at right angles to the axle. Fig. 5 is a bottom plan.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a thill-frame or hound-frame supporting a platform 2, upon which the hopper 3 is mounted. The frame 1 is provided with bearings for the shaft or axle 4, having the transporting-wheels 5 5. A clutch-collar 7, mounted slidingly upon the said shaft or axle and revolving therewith, is adapted to engage a clutch member 8, formed upon the hub of the adjacent transporting-wheel, with which it is held in engagement by the action of the coiled spring 9. When the machine advances, the clutch member of the transporting-wheel, which latter is loose upon the spindle of the axle, will engage the clutch member 7 and cause the axle to revolve. When the machine is backed, the teeth of the clutch member 8 will slide over those of the clutch member 7, forcing the latter against the tension of the spring 9 and causing the axle to remain stationary. The axle 4 carries a sprocket-wheel 10, from which motion is transmitted to the

operating parts of the machine, as will be presently described.

Suitably mounted in the hopper 3 is a shaft 11, one end of which projects through one of the end walls of the hopper and carries a sprocket-wheel 12, which is connected by a chain 13 with the sprocket-wheel 10, from which motion is thus transmitted to the shaft 11. The latter carries a series of bevel-gears 14, which are mounted slidingly thereon and which are held by the action of springs 15, coiled upon the shaft 11, in mesh with pinions 16 at the upper ends of the vertical shafts 17, which are journaled in suitable bearings within the hopper. The latter has a cover 18, provided with slots 19, in which are pivoted levers 20, the lower ends of which are adapted to bear against the sides of the bevel-gears 14, which latter may thus be moved against the tension of the springs 15 and thrown out of gear with the pinions 16. In this position they may be retained by placing the upper end of the levers 20 in engagement with the segmental ratchet-bars 21, mounted upon the cover 18 of the hopper.

The lower ends of the shafts 17 are extended into tubes 22, which extend through the bottom of the hopper and through the platform 2, upon which the latter is mounted. The lower ends of the shafts 17 are provided with spiral flanges or screw-feeds 23, serving to force the contents of the hopper out through the tubes 22. Above said spiral flanges the shafts 17 are provided with radial fingers or agitators 24, and to the walls of the hopper are secured the arms 25, the points of which are extended between the said radial fingers, these parts coacting during the operation of the machine to pulverize the contents of the hopper and to crush any lumps and clods that may be encountered. The bottom of the hopper is made sloping down to the several tubes 22, and it is obvious that of the latter, as well as of the shafts 17 and adjacent parts, any desired number may be employed, according to the desired capacity of the machine.

Suitably attached to the lower ends of the tubes 22 are the flexible tubes 26, at the lower

ends of which are mounted the tubular weights 27. Said weights are oval in shape and are provided with longitudinal perforations 28, through which the ends of the flexible tubes 26 are extended. The ends of said flexible tubes are then slitted to form the tongues 29, which are bent back over the weights and secured in any suitable manner. Other methods of attachment may be used; but the one just described is believed to be simple and efficient. These weights are adapted to trail in the furrows which have been previously formed by suitable furrow-opening devices of well-known construction, into which the fertilizing material is to be dropped, and they will keep in said furrows irrespective of whether or not said furrows be entirely straight, and likewise irrespective of any ordinary deviation of the machine from a perfectly straight course.

Upon the platform 2, in rear of the hopper, are mounted the levers 30, which are adapted to engage the segmental rack-bars 31, whereby they may be held at any desired adjustment. Said levers are provided with downwardly-extending arms 32, terminating at their lower ends in rings or guides 33, through which the flexible tubes 26 are extended. By means of the levers 30 the said flexible tubes may thus be adjusted so as to cause the weights at their lower ends to travel accurately in the furrows. In other words, the said flexible tubes may be adjusted more or less closely together to correspond with the distance between the furrows.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood. The material to be distributed is placed in the hopper, and the machine is then drawn over the field, one or more horses being employed, according to the capacity and size of the machine. Motion is transmitted from the transporting-wheel to the shaft 11, which in turn transmits motion to the vertical shafts 17, carrying the spiral feed-flanges, whereby the contents of the hopper is forced out through the tubes 22 and 26 and deposited in the furrows. Any one or more of the shafts 17 may be temporarily thrown out of operation by manipulating the levers 20 to throw the bevel-gears 14 out of engagement with the pinions 16.

The general construction of my improved

fertilizer-distributor is simple and inexpensive, and it is very durable and efficient in operation.

Having thus described my invention, what I claim is—

1. The combination of the hopper, the tubes extending through the bottom of the same, the feed-shafts mounted vertically in the hopper and having spiral flanges extending into said tubes, the flexible tubes mounted upon the latter, and the tubular weights at the lower ends of said flexible tubes, substantially as set forth.

2. In a fertilizer-distributor, the combination of the flexible dropping-tubes, the oval tubular weights mounted upon the lower ends of the latter, and the tongues formed by slitting the projecting ends of the flexible tubes, said tongues being bent back over the weights and made fast, substantially as and for the purpose set forth.

3. The combination of the frame, the hopper, the tubes extending through the bottom of the latter, the feed-shafts mounted in the hopper and having spiral flanges extending into the said tubes, the levers mounted upon the frame in rear of the hopper and having downwardly-extending arms provided with eyes or rings at their lower ends, and the flexible dropping-tubes attached to the lower ends of the rigid tubes, extending through the rings or eyes at the lower ends of the arms and the tubular weights at the lower ends of said flexible tubes, substantially as and for the purpose set forth.

4. In a fertilizer-distributor, the combination, with the hopper and the dropping mechanism, of the flexible tubes, the tubular trailing weights mounted upon the lower ends of the said flexible tubes and secured by tongues formed by slitting the lower ends of said tubes and bent back over the weights and made fast, and mechanism, substantially as described, for adjusting said tubes more or less closely together and for retaining them at any desired adjustment, substantially as set forth.

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

WILLIAM GASTON DE BERRY.

Witnesses:

C. C. WADE,
J. T. WADE.