

(No Model.)

H. T. KINGSBURY.
TENNIS COURT MARKER.

No. 444,384.

Patented Jan. 6, 1891.

Fig. 1.

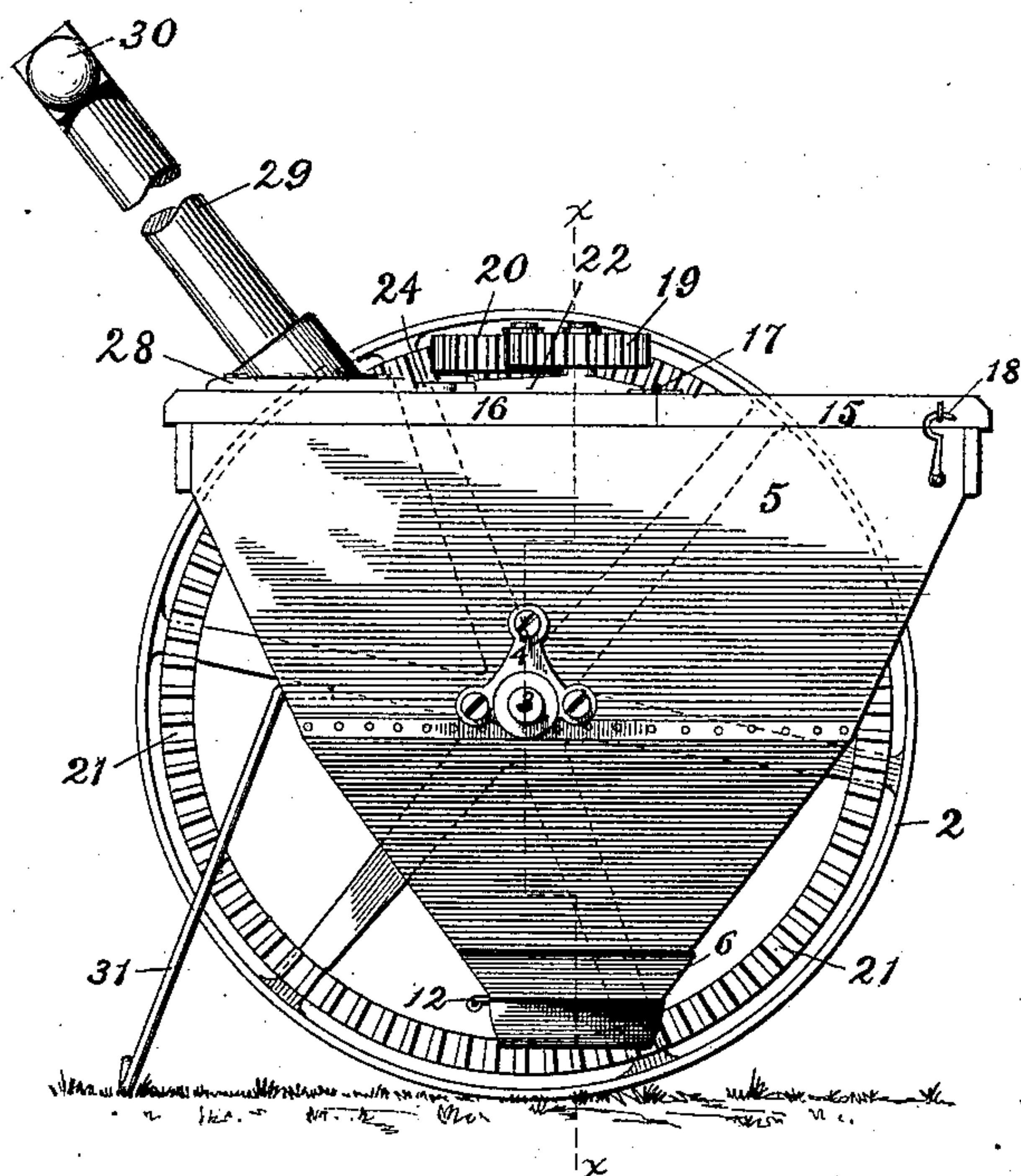


Fig. 2.

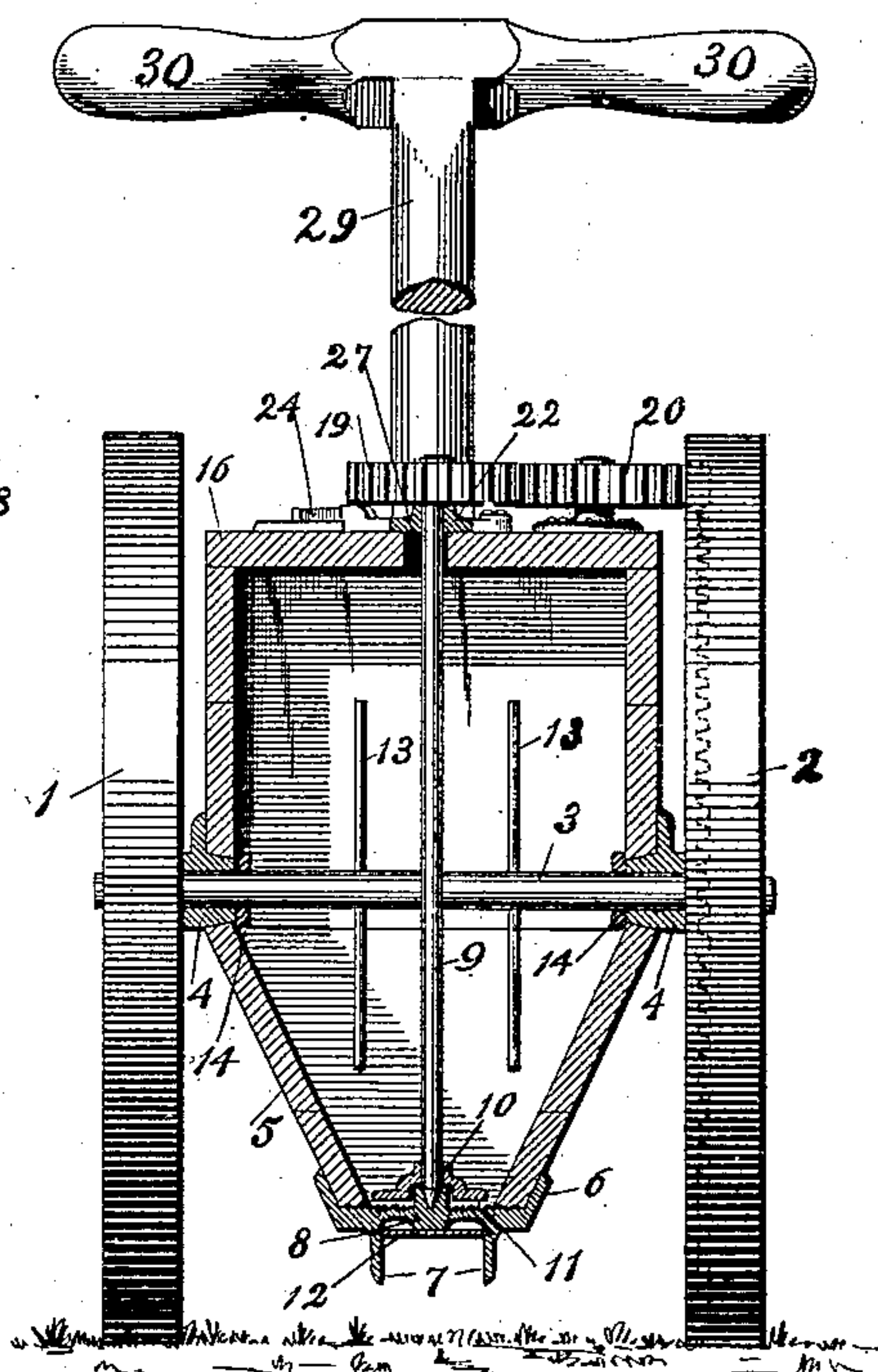


Fig. 3.

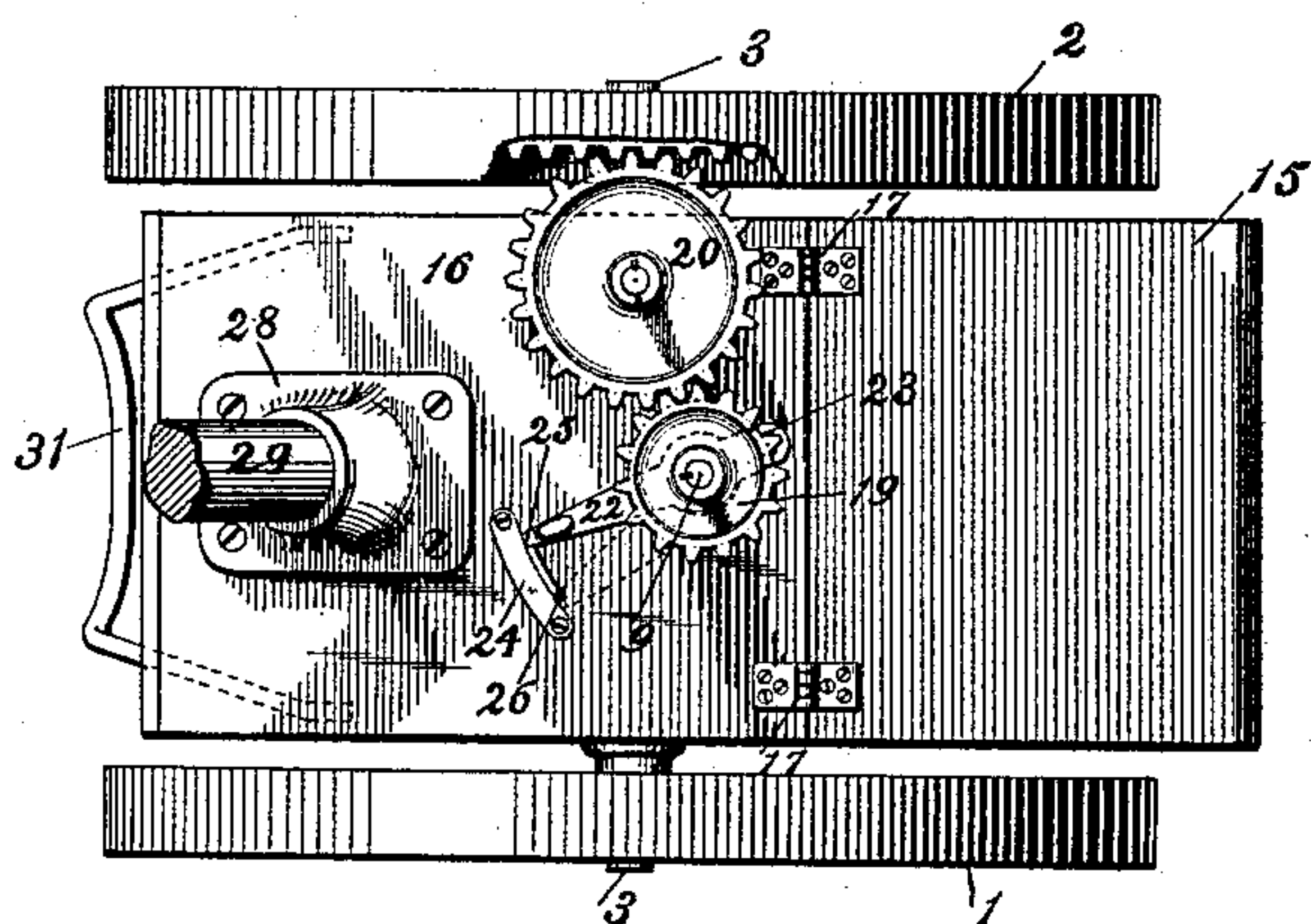
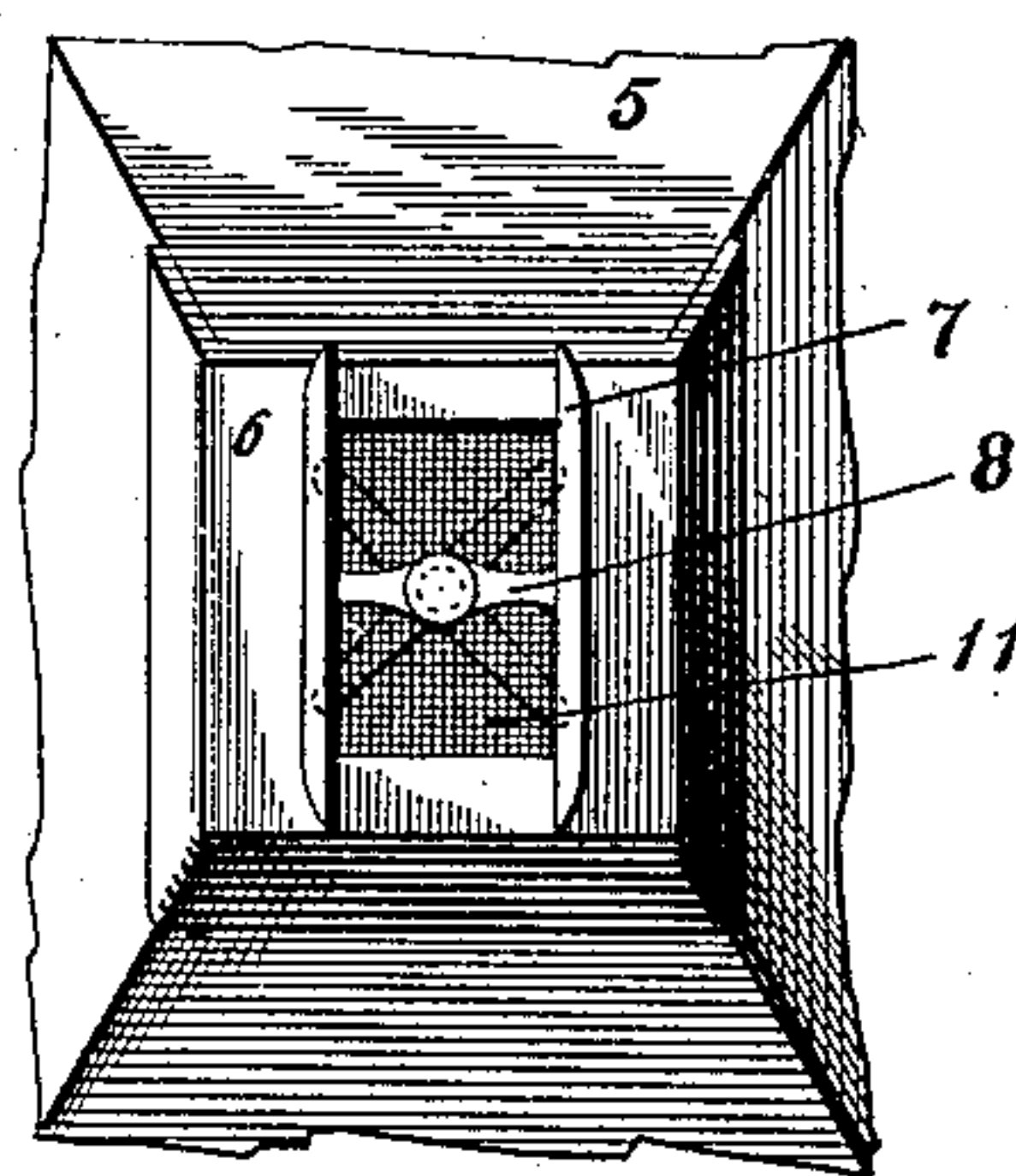


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARRY THAYER KINGSBURY, OF KEENE, NEW HAMPSHIRE.

TENNIS-COURT MARKER.

SPECIFICATION forming part of Letters Patent No. 444,384, dated January 6, 1891.

Application filed May 9, 1890. Serial No. 351,129. (No model.)

To all whom it may concern:

Be it known that I, HARRY THAYER KINGSBURY, residing at Keene, in the county of Cheshire and State of New Hampshire, have
5 invented certain new and useful Improvements in Tennis-Court Markers, of which the following is a specification.

My invention relates to that class of devices designed to be used in the application
10 of air-slaked lime, plaster, and similar pulverulent materials to the boundaries and dividing lines of tennis-courts and other surfaces to be used for analogous purposes, or to any surface which it may be desired to in-
15 close or divide by lines of demarcation.

The object of my invention is to provide an inexpensive and durable machine that will deposit the marking material in a straight
20 ribbon-like line of uniform width and thickness throughout its length, that may be used without danger of soiling the hands or clothing of the operator, and in which the danger of clogging is reduced to a minimum.

To these ends my invention consists in the
25 features of construction and combinations of parts, hereinafter described, and clearly pointed out in the claims at the end of the specification.

In the drawings, Figure 1 is a side elevation of the machine embodying my invention, one of the supporting-wheels being removed and a portion of the handle-supporting bar broken out. Fig. 2 is a vertical section of the
30 same on line *x x* of Fig. 1, the supporting-wheels, their axle, the stirrer-shaft, and co-acting gear-wheels being shown in elevation. Fig. 3 is a plan view of the same, a portion of the rim of one of the supporting-wheels being broken out to show the gear-teeth for actuat-
35 ing the stirrer-shaft. Fig. 4 is a detail view, on an enlarged scale, of the bottom of the receptacle, the greater portion of the inclined sides being broken away.

1 and 2 are a pair of receptacle-supporting
45 wheels rigidly attached to the respective ends of an axle 3. Loosely mounted on the axle 3 by means of metal bearing-boxes 4 4 is a receptacle 5, designed to hold the marking material. The bearing-boxes 4 4 are attached
50 to the sides of the receptacle a short distance to the rear of the center thereof by means of

screws, as shown. The sides and ends of the receptacle extending below the axle converge, as shown, for the purpose of guiding the marking material to the outlet at the bottom. 55 Attached to the bottom of the receptacle by any suitable means is a casting 6, provided with upwardly-inclined flanges to conform to the contour of the receptacle sides and with longitudinal downwardly-projecting flanges 60 7, which serve both to strengthen the casting and to guide the marking material after it leaves the receptacle. The casting 6 is also provided with a rectangular opening of a width equal to that of the desired line. 65 Transversely across the middle of the said opening extends a bar 8, which is enlarged midway between its ends and recessed to form a step-bearing for a vertical shaft 9, on the lower end of which is fixed a stirrer or
70 scraper 10, formed of a central head and any desired number of radiating arms, four being shown. Directly beneath the stirrer 10, and clamped between the casting 6 and the bottom edges of the receptacle sides, is a
75 screen 11.

12 is a cut-off plate or slide, supported and guided in grooves in casting 6 below the bar 8.

13 13 are mixing or agitating rods fixed in 80 axle 3 at right angles thereto, they being of such length and in such position relative to the walls of the receptacle as may be necessary to effect a proper agitation and feeding of the material toward the outlet. The num- 85 ber of these rods or arms may be varied as desired, or they may be omitted altogether if the marking material employed is of such a character that it will gravitate freely toward the outlet. 90

14 14 are washers of leather or other material, designed to exclude the marking material from the axle-bearings.

The front portion 15 of the receptacle-cover is hinged to the rear portion 16 by 95 hinges 17, as shown, to permit of the introduction of the marking material, and is secured to the sides of the receptacle by hasps 18 when the machine is in use.

A toothed wheel 19 is splined to the upper 100 end of the shaft 9 and meshes with a larger toothed wheel 20, mounted to turn freely on

a short vertical shaft supported on the cover near the left-hand side thereof and directly over the axle 3.

The supporting-wheel 2 is provided with an annular rack 21, concentric with but of less circumference than the wheel, the teeth of which are so spaced and arranged as to mesh with the teeth of wheel 20.

The upper end of shaft 9 is journaled in a lever 22, pivoted at its front end to the top of the receptacle, as shown at 23. A guide 24 for the rear end of the pivoted lever 22 is provided with shoulders 25 and 26 for locking said lever in its full-line and broken-line positions, respectively, as shown in Fig. 3, the cover being slotted at 27, as shown in Fig. 2, to permit of the necessary lateral movement of the upper end of shaft 9 when it is desired to move the gear-wheel 19 into or out of engagement with the wheel 20.

Screwed or bolted to the rear portion 16 of the receptacle-cover is a casting 28, provided with an inclined socket for the reception of the lower end of a propelling-bar 29, the upper end of said bar being provided with handles 30 30.

Attached to the rear end of the receptacle is a support or rest 31, designed to maintain said receptacle in a substantially upright position when the machine is not in use.

From the foregoing description it will be seen that when the receptacle is filled with pulverulent material and the cut-off plate 12 withdrawn the machine is moved along the line to be marked by means of the handles 30 30, and the engagement of the teeth of the annular rack 21 with those of the wheel 20 and the teeth of the latter wheel with those of wheel 19 will rotate shaft 9 and with it the stirrer 10. This stirrer serves to break up any lumps that may be contained in the marking material and causes said material to pass continuously through the meshes of the screen 11. It is to be understood that the lever 22 is in the position shown in full lines in Fig. 3, and consequently the teeth of wheel 19 in mesh with those of wheel 20, during the operation described above.

As hereinbefore stated, the rods 13 13 turn with the axle 3 and tend to feed the material toward the outlet of the receptacle, though they are not in all cases necessary.

When the receptacle is wholly or partially filled, and it is desired to move the machine from place to place without the escape of the marking material, the cut-off plate 12 may be pushed into place under the screen and the shaft 9 thrown out of gear with its operating mechanism by moving the lever 22 to the position shown in broken lines in Fig. 3, the shoulder 26 serving to retain said lever in that position until it is desired to again rotate the shaft.

While I have described in detail specific devices as constituting my invention, I do not desire to limit myself to such exact construction, it being obvious that many of the details

may be varied without departing from the spirit and scope of my invention.

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

1. The combination of a pair of wheels and a receptacle pivotally supported between the same and extending nearly to the bottom thereof, said receptacle having an opening in its bottom and a screen in said opening, with a stirrer above and adjacent to said screen, and means between said stirrer and one of the supporting-wheels, whereby the stirrer is moved over the screen when the wheels are in motion, substantially as described.

2. The combination of a pair of wheels and a receptacle pivotally supported between the same and extending nearly to the bottom thereof, said receptacle having an opening in its bottom and a screen in said opening, with a shaft in the receptacle, having a stirrer or scraper adjacent to said screen, and gearing between the shaft and one of the supporting-wheels, whereby the shaft and its stirrer are rotated when the supporting-wheels are in motion, substantially as set forth.

3. In a tennis-court marker, the combination of a pair of wheels, one of which has an annular rack, and a receptacle pivotally supported between said wheels, its sides converging toward its bottom, the latter having a screen-covered opening, with a shaft having a stirrer or scraper on its lower end adjacent to said screen and a gear-wheel on its upper end, and a second gear-wheel meshing with the annular rack on one of the supporting-wheels and with the gear-wheel on the shaft, substantially as described.

4. The combination of a pair of supporting-wheels and an axle connecting the same, with a receptacle mounted to turn freely on said axle and extending a considerable distance below the same, said receptacle having a screen-covered opening in its bottom, a stirrer in the receptacle adjacent to its screen-covered opening, a cut-off plate below said opening, and gearing between the stirrer and one of the supporting-wheels, whereby the former is rotated when the wheels are in motion, substantially as set forth.

5. A tennis-court marker consisting of a pair of supporting-wheels, an axle connecting the same, a receptacle mounted to turn freely on the axle and extending a considerable distance below the same, said receptacle having a screen-covered opening in its bottom, a stirrer adjacent to said opening, and a supporting and actuating shaft therefor, gearing between one of the supporting-wheels and said shaft for rotating the latter, and a propelling and guiding device attached to the receptacle, whereby the latter may be tilted and moved as desired, substantially as set forth.

6. The combination of a pair of supporting-wheels and an axle connecting the same, with a receptacle mounted to turn freely thereon and extending a considerable distance below

the same, said downwardly-extending portion having converging sides and a screen-covered opening in its bottom, a guiding and propelling device, means operated by one of the supporting-wheels for forcing material through the screen-covered opening, and a device attached to the receptacle for maintaining it in a substantially upright position when not in use, substantially as described.

10 7. The combination of a receptacle having an opening in its bottom and a screen in said opening, with a shaft in said receptacle, having a stirrer at its lower end, means for rotating said shaft, a pivoted lever in engagement
15 with its upper end for moving it laterally, and

means for locking the lever in position, substantially as described.

8. The combination of a pair of supporting-wheels, an axle rigidly connecting the same, and a receptacle mounted thereon having an opening in its bottom and a screen in said opening, with agitating-rods attached to said axle, a stirrer adjacent to said screen, and gearing between the stirrer and one of the supporting-wheels, whereby said stirrer is rotated, substantially as set forth.

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Witnesses:

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