D. D. WESCHLER.

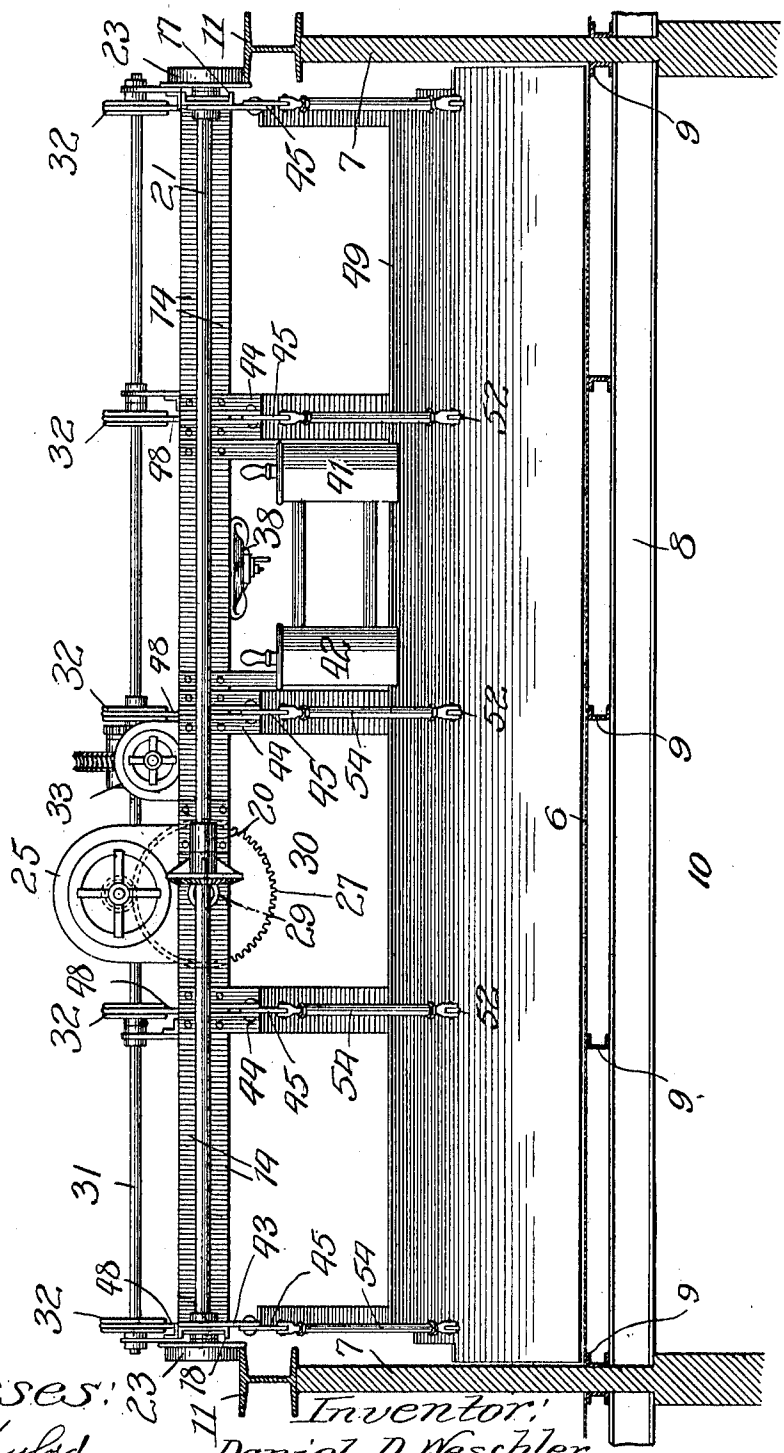
POWER DRIVEN APPARATUS FOR EMPTYING MALT GROWING COMPARTMENTS.

APPLICATION FILED JUNE 29, 1910.

984,249. **Patented Feb. 14, 1911.**

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
Chas. E. Gaylord.
Chas. H. Bull.

Inventor:
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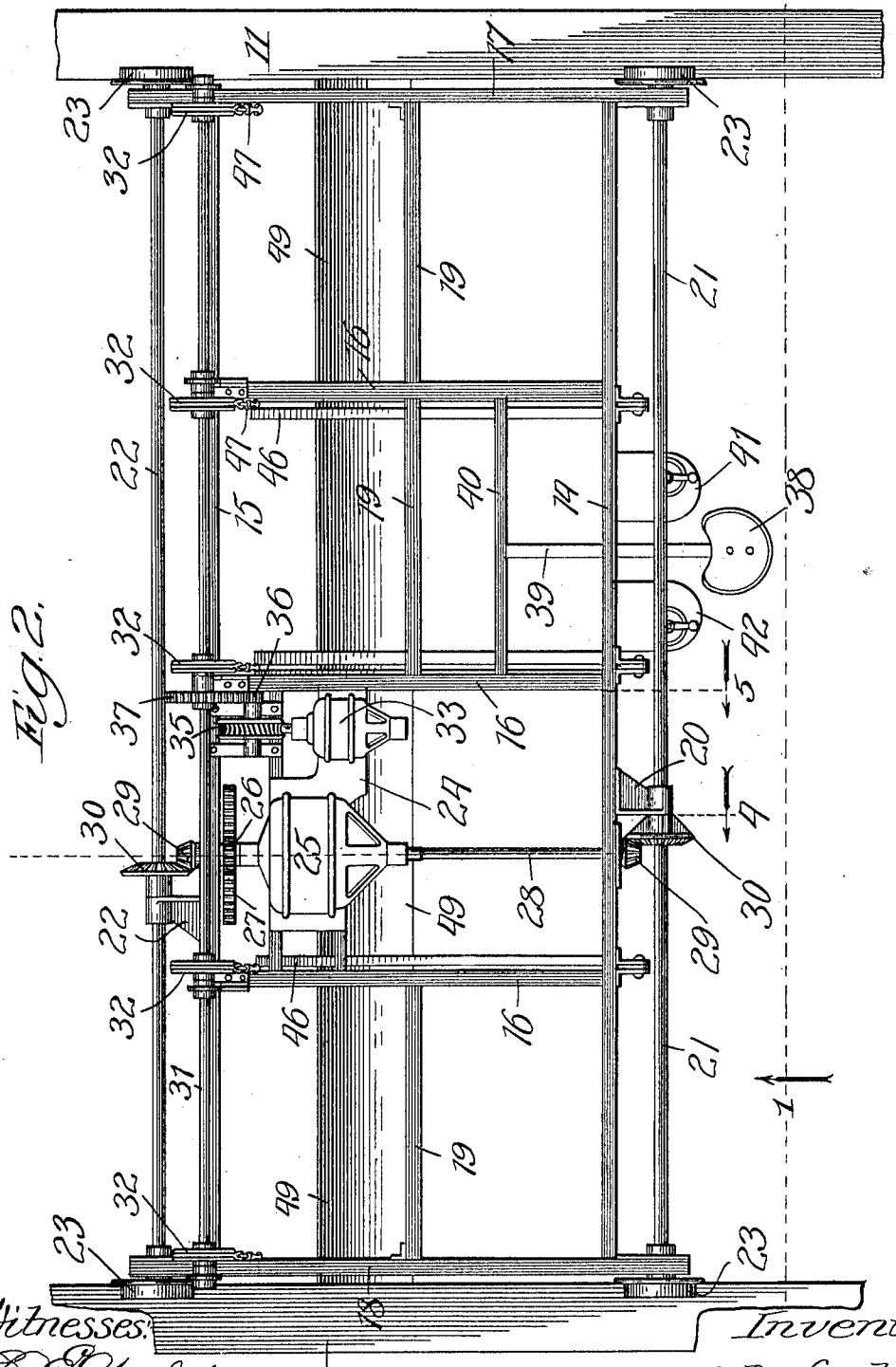
4 SHEETS—SHEET 2.

Fig. 2.



Witnesses:
Geo. E. Gaylord,
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4 SHEETS—SHEET 3.

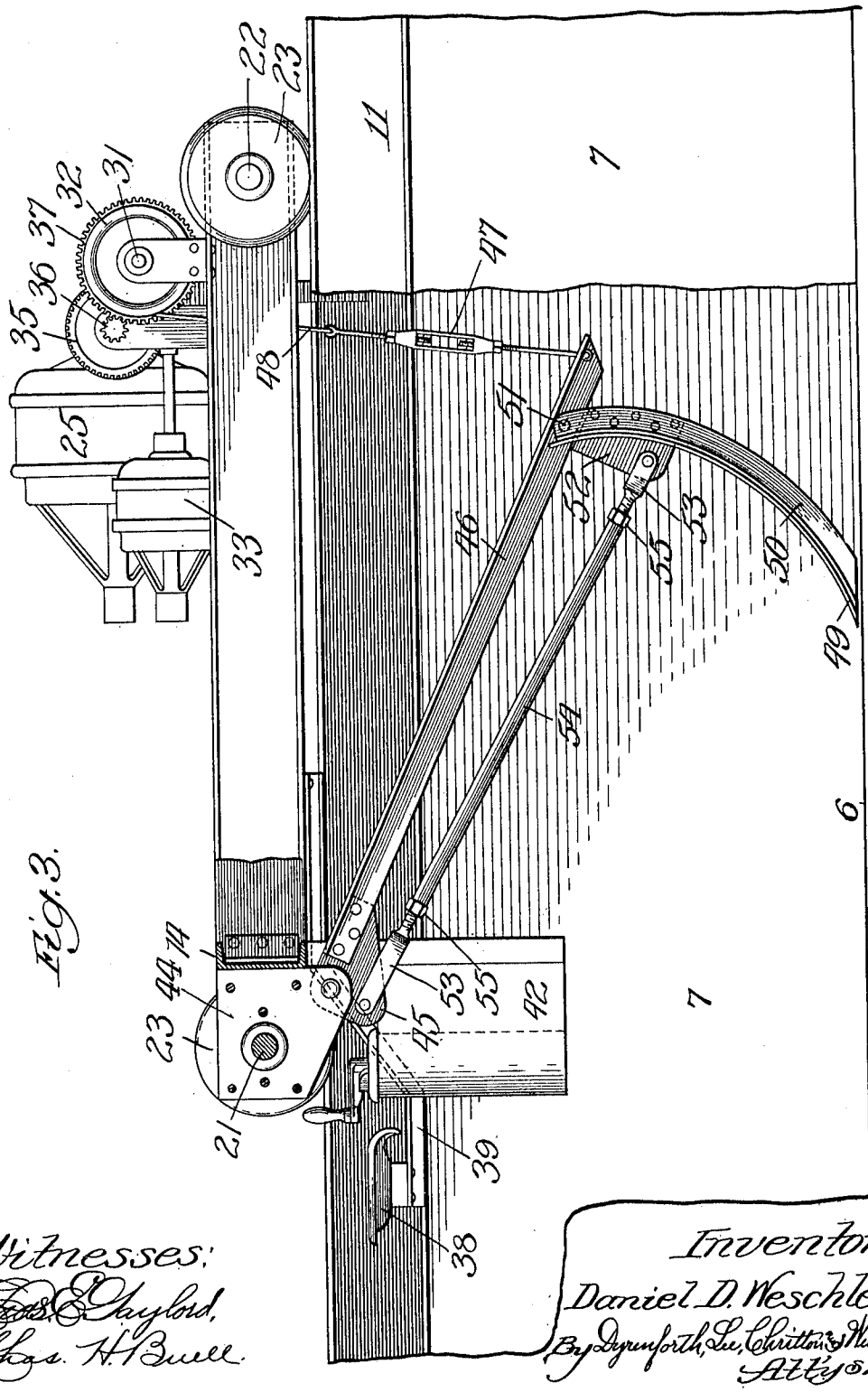

Fig. 3.

Witnesses:
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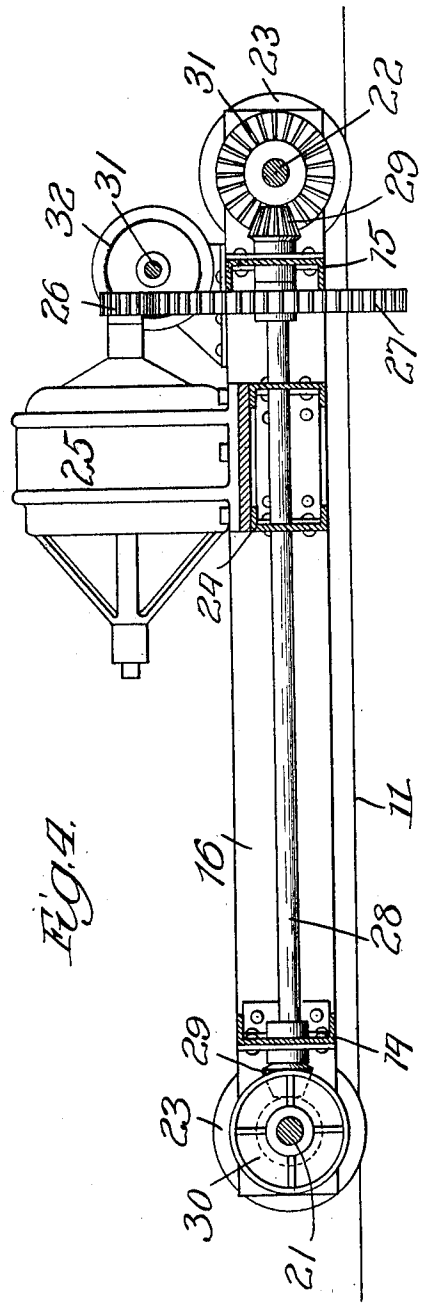

Fig. 4.

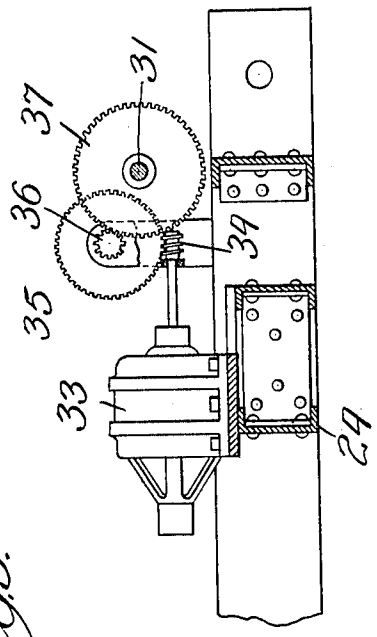

Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

DANIEL D. WESCHLER, OF MILWAUKEE, WISCONSIN.

POWER-DRIVEN APPARATUS FOR EMPTYING MALT-GROWING COMPARTMENTS.

984,249. Specification of Letters Patent. Patented Feb. 14, 1911.

Application filed June 29, 1910. Serial No. 569,536.

To all whom it may concern:

Be it known that I, DANIEL D. WESCHLER, a citizen of the United States, residing at 180 Thirty-fourth street, Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Power-Driven Apparatus for Emptying Malt-Growing Compartments, of which the following is a specification.

The object of my invention is to provide a novel construction of apparatus in the form of a carriage equipped with power mechanism for propelling it and adapted to be driven back and forth along a track on the walls rising from a malt-growing floor, the carriage having adjustably depending from it a scraper-device for expeditiously scraping the germinated malt off the floor to transfer it to a kiln for the parching treatment.

In the accompanying drawings, Figure 1 shows my improved apparatus by a view in end elevation on a track surmounting the walls forming a malt-growing compartment having a perforated floor and shown by a section on line 1, Fig. 2; Fig. 2 is a plan view of the same; Fig. 3 is an enlarged view showing the machine in side elevation with a corner-portion in section, and Figs. 4 and 5 are enlarged sections taken, respectively, on lines 4 and 5, Fig. 2.

The perforated germinating floor 6 with the side-walls 7 carrying channel-beams 8 upon which the floor is supported through the medium of longitudinally-extending channel-beams 9, the structure forming a compartment over a pit 10 for the admission of attemperated air to pass through steeped barley (not shown) forming a bed on the floor, need involve no features of novelty. On the top of each wall, extending lengthwise thereof, is a rail 11, shown as an I-beam.

The frame of the carriage, as shown, is a strong rectangular structure comprising two parallel cross-beams 14 and 15, of channel form, braced by similar intermediate beams 16 and connecting similar parallel side-beams 17 and 18, with reinforcing strut-beams 19, also of channel form, in the frame. In bearings on corresponding ends of the side-beams of the frame and in a bearing at 20 on the member 14, is journaled an axle 21, and a similar axle 22 is journaled in bearings on the opposite ends of the side-members and in a bearing at 22 on the frame-member 15, these axles carrying on their ends flanged wheels 23 to ride on the track. On a bed-plate 24 supported on the frame is mounted an electric motor 25 having reducing-gear connections with the axles for driving the carriage. The motor-shaft carries on one end a pinion 26 meshing with a gear 27 on a shaft 28 journaled near its ends, to extend below the motor, in suitable bearings on the frame-members 14 and 15 and carrying on its ends similar miter-pinions 29 meshing, respectively, with relatively opposite sides of similar miter-gears 30 on the axles 21 and 22 to rotate them correspondingly.

In alining bearings rising from the frame-members 17 and 18 and at intervals along the frame-member 15 is journaled a shaft 31 carrying a plurality of sheaves 32, of which five are shown at equal intervals apart. This shaft is geared to another electric motor 33 supported on the bed 24 and having a worm 34 on the end of its shaft meshing with a worm-wheel 35 on a shaft journaled in bearings on the carriage-frame and carrying a pinion 36 meshing with a gear-wheel 37 on the shaft 31.

A sheet 38 for the driver is provided on the end of a bent beam 39 extending, near the center of the carriage, from a cross-beam 40 supported at its ends on frame-members 16. At opposite sides of the beam 39, within convenient access from the seat, are electric controllers 41 and 42 like those in common use for controlling electric motors, each being suitably wired with its respective motor, though no wiring is shown, being too well known in the art to require illustration.

Pivotally supported on bearings 43 provided on the frame-members 17 and 18 adjacent to the ends of the axle 21 and between bearings 44 depending at uniform intervals along the frame-member 14 are similar heads 45, of which five are shown, to which are rigidly fastened at one end angle-bars 46, the free ends of which have fastened to them turn-buckles 47 each having a cable 48 connecting it, to one of the sheaves 32. The intermediate angle-bars are in pairs, and the parallel members of each pair are spaced apart (Fig. 1). A forwardly and downwardly curved scraper-blade 49, of a length to reach nearly to the opposite walls 7, has correspondingly-curved reinforcing angle-bars 50 at intervals along its

back, at which they are pivotally fastened, as at 51, to the bars 46, which, with the blade, from the scraper. Flanges 52 extend from the concave face of the scraper-blade at intervals to register with the heads 45, each of which heads and flanges has pivotally fastended to it a clip 53 shown as a yoke having a threaded stem, with the stems of corresponding clips screwing into the opposite ends of a tubular rod 54 and secured by nuts 55. The stems of the members of each connected pair of the clips are oppositely threaded, whereby turning the rod 54 in one direction or the other will extend or shorten the connection for changing, according to requirement, the angle at which the blade 49 extends relative to the floor 6.

With the apparatus mounted on the track, the scraper is adjusted to cause the blade 49 to penetrate to any desired extent into the bed of growing malt, and at such point thereof toward its advance-end as may be determined by conditions, the adjustment being effected by starting the motor 33 to rotate the shaft 31 for winding or unwinding the cables 48 on the pulleys 32. This adjustment may be repeated from time to time in the progress of the operation of the apparatus. Upon starting the motor 25 to drive the carriage forward, it drags the blade 49 with it to scrape all the malt in its path to the point of delivery, which may be a conveyer leading to the kiln. By operating the motor 25 to reverse the carriage for starting from a point of the malt-bed farther back and then advancing the carriage, another section of the bed may be scraped away; and so on until the apparatus has been started from the rearmost end of the bed, the operation being repeated as many times as may be required by the depth of the bed of material acted upon, upon lowering the shovel to penetrate it.

The use of my improved apparatus, which is of simple construction and readily adjustable to the different requirements and easily operated, enables the malt in a germinating compartment to be handled, for removing it, by one man, expeditiously and uniformly and without danger of damaging it, in which particulars, more especially, it affords great advantages over the usual method of handling malt for the same purpose, requiring arduous labor on the part of a number of men, involving slow and tedious work.

What I claim as new and desire to secure by Letters Patent, is:—

1. An apparatus of the character described, comprising a wheeled carriage adapted to run on a track upon the side-walls of a malt-growing compartment, a motor supported on the carriage-frame geared to the wheels for driving the carriage, a scraper comprising bars hingedly suspended on said frame and a blade secured to the bars to engage a bed of malt on the compartment-floor, said blade having a concave face, a sheave-equipped shaft journaled on the frame, cables suspended from the sheaves and having turn-buckle connections with the scraper, and a motor on said frame for turning said shaft, for the purpose set forth.

2. An apparatus of the character described, comprising a wheeled carriage adapted to run on a track upon the side-walls of a malt-growing compartment, means for driving the carriage, a scraper comprising bars hingedly suspended on the carriage-frame and a blade pivotally supported on the bars to engage a bed of malt on the compartment-floor, tubular rods with clips having threaded stems engaging the opposite ends of said rods and respectively connected pivotally with said frame and said blade, and means on said frame for raising and lowering the scraper relative to said floor, for the purpose set forth.

3. An apparatus of the character described, comprising a wheeled carriage adapted to run on a track upon the side-walls of a malt-growing compartment, an electric motor on the carriage-frame geared to the wheels for driving the carriage, a scraper comprising a series of bars hingedly suspended on said frame and a blade secured to the bars to engage a bed of malt on the compartment-floor, a shaft journaled on the frame, sheaves on the shaft, cables connecting the sheaves with the scraper, an electric motor supported on said frame and geared to said shaft for turning it, electric controllers supported on said frame, one for each motor, and a driver's seat on the frame adjacent to the controllers, for the purpose set forth.

DANIEL D. WESCHLER.

In presence of—
JOHN WILSON,
RALPH SCHAEFER.