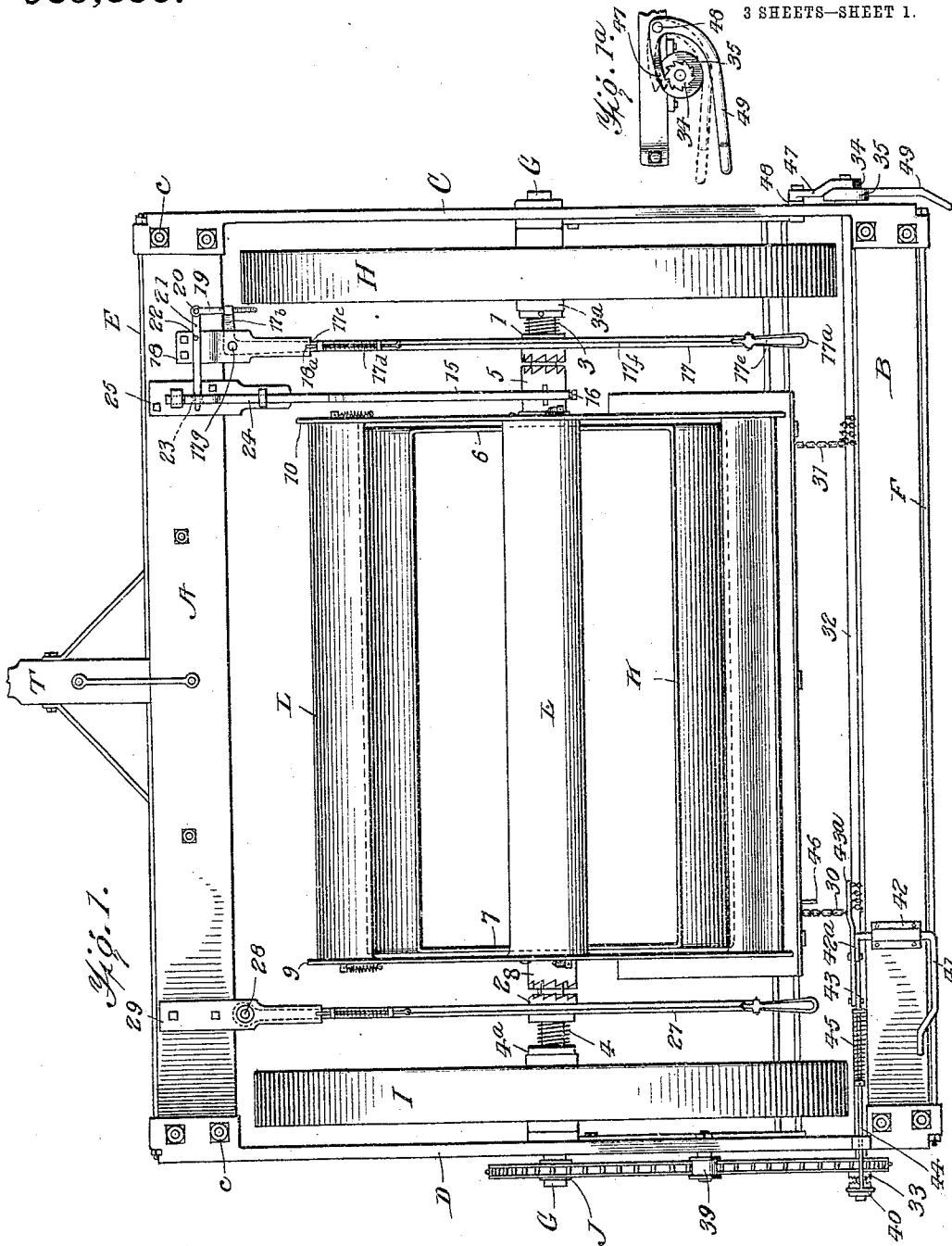


C. E. OLDEN.
CLAY GATHERING MACHINE.
APPLICATION FILED JAN. 14, 1909.

939,855.

Patented Nov. 9, 1909.

3 SHEETS—SHEET 1.



WITNESSES

L. H. Schmidt
L. A. Stanley

INVENTOR
CHARLES E. OLDEN,
BY *Munn & Co.*
ATTORNEYS

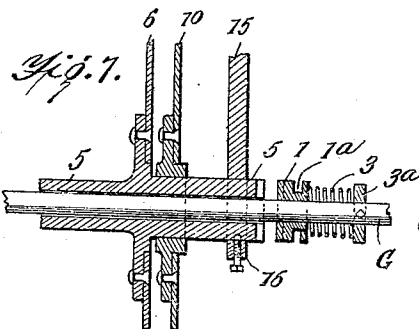
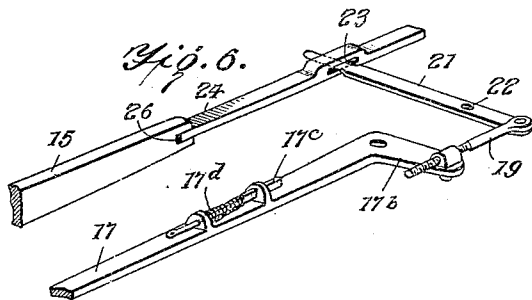
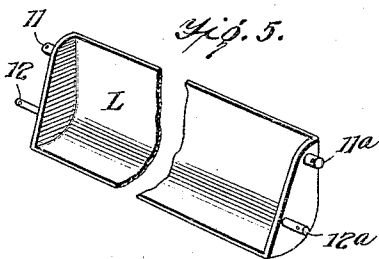
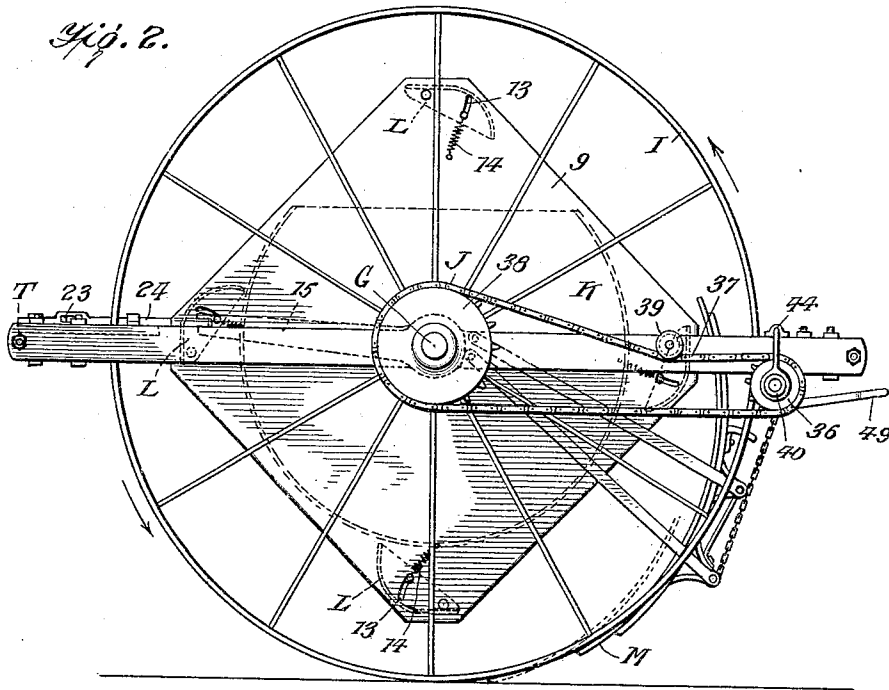
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3 SHEETS—SHEET 2.

Fig. 2.



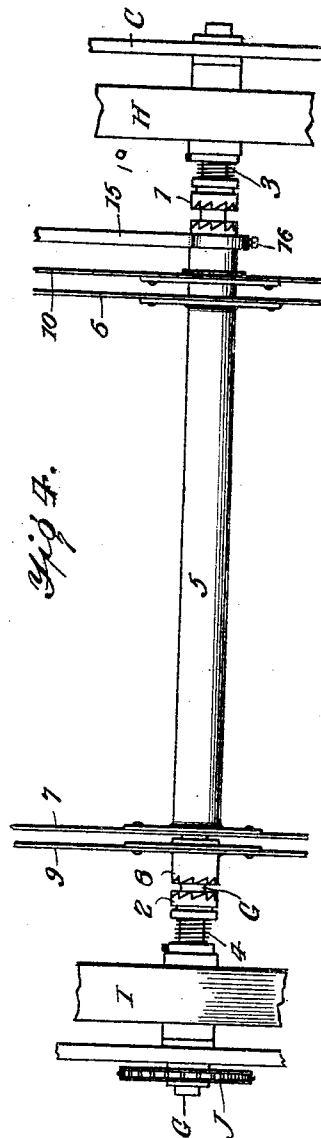
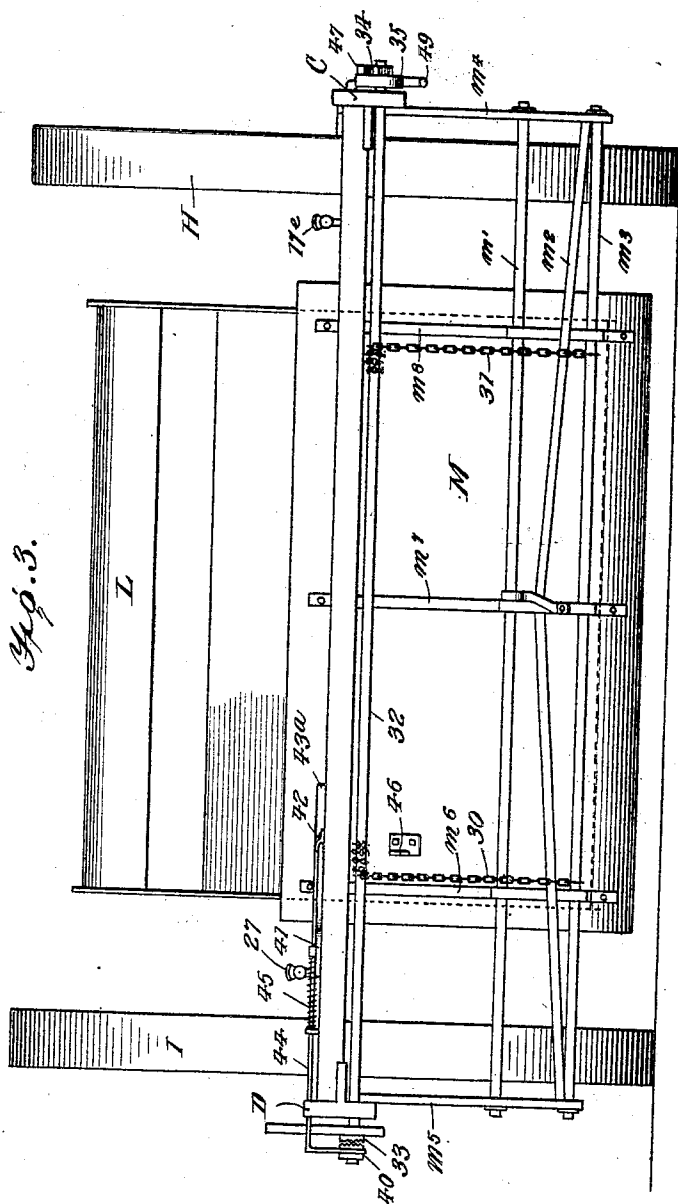
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INVENTOR
CHARLES E. OLDEN
BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES E. OLDEN, OF MASON CITY, IOWA.

CLAY-GATHERING MACHINE.

939,855.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed January 14, 1909. Serial No. 472,197.

To all whom it may concern:

Be it known that I, CHARLES E. OLDEN, a citizen of the United States, and a resident of Mason City, in the county of Cerro Gordo and State of Iowa, have made certain new and useful Improvements in Clay-Gathering Machines, of which the following is a specification.

My invention relates to devices for gathering dry clay and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of my invention is to provide a device in which the dry clay may be collected without the necessity of digging the same and throwing the clay into wagons by hand.

A further object of my invention is to provide a device in which the clay may be scooped up into a proper receptacle and the latter can be emptied by means of levers and an appropriate clutch mechanism, thereby facilitating the unloading process.

Further objects and advantages will appear in the following specification and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing one embodiment of my invention. Fig. 1^a is an enlarged detail view of the retaining dog and brake. Fig. 2 is an end view of the device. Fig. 3 is a rear view. Fig. 4 is a detail view showing the clutch mechanism. Fig. 5 is a perspective view of one of the buckets or elevators. Fig. 6 is an enlarged detail view of the starting mechanism, and Fig. 7 is a sectional detail of the clutch mechanism.

Referring now to the drawings I have shown therein a main frame consisting of the forward and rear beams A and B respectively connected by the iron end castings C and D through the medium of the bolts c. In order to further strengthen this frame I also provide the rods E and F, which also extend between the large castings C and D as shown in Fig. 1.

Journalled in the end castings C and D is the axle G, to which are secured the wheels H and I. One end of the axle G is provided with a sprocket wheel J.

Keyed to the shaft G are the sliding collars 1 and 2, which are acted on by the springs 3 and 4, respectively, which bear against the stops 3^a and 4^a secured to the

shaft. The collars are provided with teeth on one side and constitute part of a clutch mechanism. Referring now to Fig. 7 it will be seen that the collar 1 is arranged to engage the teeth on the end of a hollow shaft 5, which surrounds the shaft G, and to which the ends 6 and 7 of the inner cylinder K are secured. On the opposite end of the clutch member 2 is adapted to engage the teeth of the sleeve 8 which is loosely carried on the shaft G and to which is secured the end 9 of the elevator frame, the opposite end 10 being loosely mounted on the exterior of the sleeve 5, as shown in Fig. 7.

The ends 9 and 10 of the elevator frame consist of substantially rectangular members, see Fig. 2, between which are pivotally secured the buckets or elevators L. One of these members is shown in Fig. 5. It is provided with pivot pins 11 and 11^a arranged to enter openings in the sides of the frame for pivotally suspending the buckets therein. The pins 12 and 12^a are arranged to project through arc-shaped slots 13 in the sides of the frame to limit the movement of the elevators L. The buckets are normally drawn into the frame by means of the springs 14, which are secured to the outside of the frame members 9 and 10 as shown in Fig. 2. The inner receptacle K consists of a cylinder with an open top. The cylinder is mounted on the hollow shaft 5 as before described, which is provided with a stop member 15 secured by means of the set screw 16. The purpose of this stop member is to keep the cylinder K from revolving due to any frictional movement occasioned by the shaft G. In order to operate the cylinder K at the proper time I have arranged the system of levers shown in Fig. 1 in connection with the clutch mechanism.

It will be seen that I have provided for the clutch 1 a lever 17 which has an enlarged portion arranged to engage in the annular groove 1^a of the clutch member 1. One end of the lever is provided with a handle 17^a and the other has a laterally extending arm 17^b. The lever 17 is pivotally connected with a supporting member 18 attached to the beam A. At its inner end the supporting member 18 is provided with a notch 18^a for the reception of the end of a locking bar 17^c carried by the rod 17. The locking bar 17^c is normally held within the notch 18^a by means of the spring 17^d, but may be withdrawn from the slot by manipulating the

thumb lever 17^e, which draws back the wire 17ⁱ, which is attached to the rear end of the locking bar, thus permitting the swinging of the bar 17 on its pivot and the movement of the clutch member 1 along the shaft G. The movement of the bar 17 about its pivot 17^s causes the arm 17^b to pull down on the link 19, which is pivotally attached at 20 to a lever 21 pivoted at 22 to the support 18. The free end of the lever 21 is arranged to play in a slot 23 in a rod 24, carried by a supporting member 25, secured to the frame A and arranged to reciprocate therealong. The end of the rod 24 is arranged to enter a slot 26 in the end of the stop 15. It will be seen that with this arrangement the clutch member 1 may be moved into engagement with the shaft 5 and the same movement will unlock the stop member 15 and permit rotation of the cylinder K. On the opposite side of the machine there is a similar lever 27 for manipulating the clutch mechanism, this lever being pivoted at 28 to the support 29 and being locked in a similar manner. The movement of the clutch member 2 as has been before explained causes the revolution of the elevator frame when the lever is shifted inwardly.

Referring now to Figs. 2 and 3 I have shown the scoop M. This is secured to a frame having the longitudinal members m' , m^2 and m^3 connecting the end rods m^4 and m^5 . m^6 , m^7 and m^8 are strips which are fastened to the scoop M and act as bracing or strengthening members for the latter. The frame thus described, which bears the scoop, is pivotally suspended from the side members C and D. This frame may be swung up and down on its pivots so as to raise the scoop from the ground or to bring it into contact therewith when the machine is to be used. The means by which this is done consists of a pair of chains 30 and 31, which are attached to the lower member m^3 of the frame and are wound around a longitudinal rod or shaft 32, which is mounted for rotation in the side members C and D and which bears at one end a clutch member 33 and at the other a ratchet wheel 34 and a cylindrical brake block 35. The clutch member 33 is connected with a sprocket wheel 36, see Fig. 2. The latter is driven by means of the chain 37, which passes over a larger sprocket wheel 38 on the main shaft G, the roller 39 serving as a means for adjusting the tension on the chain. The rod 32 may be caused to rotate by the engagement of a slidable clutch member 40 adapted to engage the clutch member 33 when the handle 41 is manipulated. This handle it will be observed is mounted in bearings 42 upon the frame member B. It has an inner bent end 42^a which is pivotally attached to a link 43 secured to the end of the rod 44, which carries the clutch member 40. When the han-

dle 41 is thrown over, the rod 44 is drawn inwardly, thereby causing the clutch member 40 to engage the member 43, the spring 45 being compressed. Since the arm 42^a of the handle in its shifted position lies in a line with the center of rotation of the handle, the clutch is locked in its shifted position. This imparts motion to the rod 32 which will continue to wind up the chain and thereby swing the scoop end upwardly until the strip 46 engages the extended end 43^a of the link 43 when the latter will be raised out of the line through the center of rotation of the handle 41 when the clutch member 40 will be disengaged from the member 33 as the handle flies back into position. As the rod 32 rotates the dog 47, which is pivoted at 48 to the frame member C, prevents the rod from reversing its motion by the engagement of the teeth with the ratchet 34. The dog may be released by raising the lever handle 49 upwardly into the position shown in dotted lines in Fig. 1^a.

From the foregoing description of the various parts of the device the operation thereof may be readily understood. The machine is drawn by horses or mules, the tongue of the device being shown at T. Normally the stop member 15 is held by the rod 24 so that the inner receptacle is stationary. On reaching the ground where the clay is to be gathered the handle 49 is lifted. This releases the rod 32 which begins to revolve owing to the weight of the scoop. The descent of the scoop may be checked by the same handle 49, which acts as a band brake upon the brake block 35, as clearly shown in Fig. 1^a. The scoop is allowed to descend to the proper distance and the machine is started along the ground. The rotation of the wheels H and I causes the shaft G to revolve, while the clay is being scooped or plowed up by the scoop M. The lever 27 is now shifted inwardly, thereby bringing the clutch members 4 and 2 into engagement and causing the rotation of the elevator frame. The buckets or elevators L engage the clay which has been scooped up from the surface and convey it upwardly over the open receptacle K. The weight of the clay tends to tilt these buckets outwardly so as to bring their outer edges into close contact with the scoop M, thereby clearing the latter of its accumulated charge. As the buckets are brought over the open top of the receptacle the load is dumped therein and the springs 14 bring the buckets back into normal position. When now the receptacle is full, the lever 27 is disengaged and brought to its normal position where it is locked to the supporting member 28 in the manner already described. As the machine passes over the place where the load is to be dumped, the lever 17 is unlocked and moved inwardly. At the same time the stop member 24 is disengaged from the member 15,

thereby permitting the cylinder K to revolve. As it revolves the load is dumped and the lever may be again restored to its original position.

5 When the machine is being drawn over an ordinary road as in going to and from the place of operation, the scoop may be raised by merely shifting the handle 41 to throw the clutch members 40 and 43 into engage-
10 ment. This actuates the rod 32 in the manner already described and the winding of the chains 30 and 31 raises the scoop until the latter restores the handle and disengages the clutch members 40 and 43 in the man-
15 ner already described.

I am aware that other forms of the device based upon the same general idea might be made, but I consider as my own and desire to claim all such modifications as fairly fall
20 within the spirit and scope of the invention.

I claim—

1. In a clay gathering machine, a frame, an adjustable scoop carried thereby, a rotatable cylinder for receiving the accumu-
25 lated charge, and a series of pivoted buckets adapted to receive material from the scoop and to deliver it into the cylinder.

2. In a clay gathering machine, a frame, a scoop pivotally attached thereto, a rotatable
30 cylinder for receiving the accumulated charge, and a series of spring-actuated pivoted buckets adapted to receive material from the scoop and to deliver it into the cylinder.

3. In a clay gathering machine, a main frame, a central shaft mounted in said
35 frame, wheels on said shaft, a cylindrical receptacle loosely mounted on said shaft, a frame loosely mounted on said shaft and bearing buckets, a clutch mechanism for
40 transmitting the movement of the shaft to said elevator frame, and a second clutch mechanism for transmitting the movement of the shaft to said cylinder.

4. In a clay gathering machine, a main
45 frame, a central shaft mounted in said frame, wheels on said shaft, an elevator frame loosely mounted on said shaft and bearing buckets, a cylindrical receptacle

loosely mounted on said shaft within said
50 elevator frame, a clutch mechanism for transmitting the movement of the shaft to said elevator frame, means for preventing the rotation of the cylinder, and mechanism
55 for releasing the cylinder and for transmitting the movement of the shaft to said cylinder.

5. In a clay gathering machine, a main frame, a pivoted scoop secured thereto, an axle centrally mounted in said frame, wheels
60 carried by said axle, an elevator frame mounted upon said axle, a cylindrical receiver mounted upon said axle within said elevator frame, means for raising said scoop by power from the axle, and means for au-
65 tomatically throwing the raising means out of gear operated by the upward movement of the scoop.

6. In a clay gathering machine, a main frame, a scoop pivotally mounted therein, a
70 central shaft, wheels carried by said shaft, a rotatable rod carried by said frame, chains secured to said scoop and arranged to be wound around said rod, means for impart-
75 ing motion from said shaft to said rod to wind up said chain, and a trip carried by said scoop and arranged to engage said motion imparting means to disconnect the latter, thereby preventing the further motion
80 of the scoop.

7. In a clay gathering machine, a frame, a scoop pivotally mounted therein, a shaft centrally mounted in said frame, wheels car-
ried by said shaft, a rod rotatably mounted in said frame, sprocket wheels carried by
85 said rod and said shaft, a clutch mechanism for transmitting the movement of one of said sprocket wheels to said rod arranged to be locked in its shifted position, a trip for
90 unlocking said clutch mechanism, means for retaining the rod in its shifted position, and means for releasing the rod and braking its movement.

CHARLES E. OLDEN.

Witnesses:

DAVID A. HANNINGS,
HARRY W. SEEVERS.