Oct. 13, 1931. J. GILETTI 1,827,358

MACHINE FOR TURNING MANURE PILES

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Fig. 1.

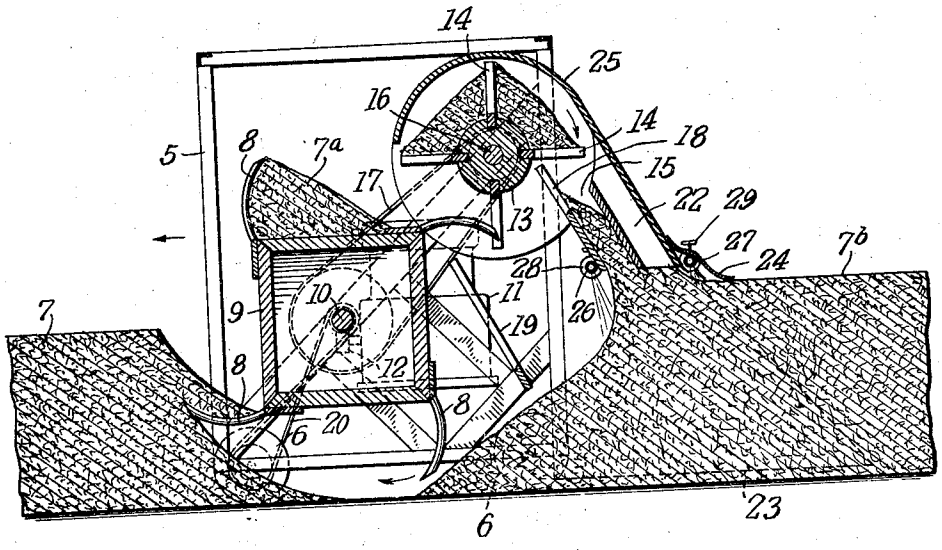
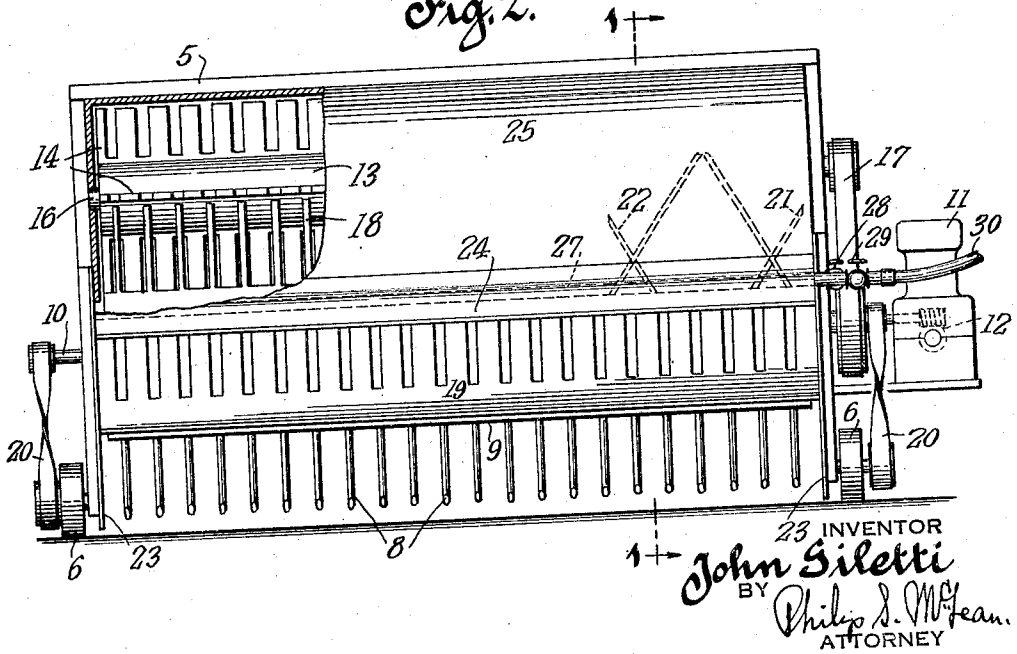



Fig. 2.




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## MACHINE FOR TURNING MANURE PILES

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The objects of this invention are to provide a machine for turning piles of manure or the like, which will automatically advance its way through the pile of material, reversing and re-piling the material as it goes, and which machine will be entirely practical and efficient for the purposes intended.

These and other desirable objects are attained in the construction herein disclosed and embodying a simple commercial form of the invention.

Fig. 1 is a broken cross-sectional view of the machine as in action advancing its way through a pile of material, this view being taken as on substantially the plane of line 1—1 of Fig. 2; Fig. 2 is a broken part sectional rear view of the machine.

The body of the machine consists of a suitable frame 5 for supporting the various parts and suitably mounted on the wheels 6, so that it may traverse its way through the pile of manure or other material, such as indicated at 7.

The material is lifted and turned over by sets of tines or forks 8 carried on a travelling carrier shown in the form of a roll or box 9, substantially square in cross-section and mounted on a shaft 10 suitably journalled in the frame and operated by suitable power, for example, an internal combustion engine, such as indicated at 11 and connected by suitable gearing 12 at one end of the shaft. The forking members 8 are shown as disposed at the corners of the box-like support, so that each set will bite into the forward edge of the pile and pick up a load, which in the upward rotation of the forks will drop back against the face of the roll, substantially as indicated at 7*a* in Fig. 1. These tines however, may be disposed spirally or otherwise arranged.

To break up the material lifted by the tines, a breaker roll is provided, such as shown at 13, the same having blades or fingers 14 passing between the lifting tines and rotating in the same direction, so as to pick up the load, break it up and deposit it rearwardly into a downwardly and rearwardly inclined discharge chute 15. In order that this breaker roll will lift the material high enough to properly stack it at the rear, this roll is shown carried by a shaft 16 journalled at a higher level than the tine roll. The breaker roll is indicated as driven by belt and pulley connections 17 from the tine roll shaft and said gearing may be arranged as indicated to rotate the breaker roll at a higher rate of speed than the tine roll, so as to strip the material from the tines.

A comb such as indicated at 18 may be provided in the throat of the discharge chute for stripping the material from the lifting roll and another comb is indicated at 19 at the rear of the forking roll for stripping any remaining material from the tines, both these combs being inclined downwardly and rearwardly to direct the material back to the turned portion 7*b* of the stack.

The machine is propelled in suitable fashion, in the present disclosure by belt drives 20 from the main shaft 10 to the forward mounting wheels 6. Suitable clutches may be interposed in the drive gearing to the various portions of the apparatus, so that the same may be individually controlled, for example, to propel the machine or to run various portions of the apparatus without operating other parts.

To reverse the dry parts at the edges of the stack and the wetter portions toward the center of the stack, special means are provided, taking the form in this illustration of deflecting webs or ribs 21 within the stack laying chute 15 arranged on inwardly and downwardly extending angles for directing the edge material toward the center of the machine and reverse inclined webs or ribs 22 for directing the wet material toward the ends of the machine. To confine the material at the ends of the machine, stack gaging plates 23 may be provided and a scraper or leveling device 24 may be carried by the chute for evening off the top of the turned stack. The various parts may be suitably encased by means of suitable cowling, such as that indicated at 25 extending over the top of the lifting roll.

To keep down dust and aid in laying the material, suitable spray devices may be provided, such as the spray pipes indicated at 26 and 27, located forwardly and to the rear

of the discharge chute and independently controlled as by means of separate valves 28, 29. This spray system may be connected by flexible hose 30 with any available water supply.

In operation, the machine picks up the fork loads of material, breaks these up and redeposits them in a turned stack, automatically as it digs its way along through the stack. In this operation, the drier edge portions and the wetter central portions of the material are inter-changed in the re-formed stack, and if desired, the newly formed stack is wetted as much as required to properly condition the same.

What is claimed is:

1. A machine for turning manure or the like, comprising forking devices for lifting the material, means for advancing said forking devices to the pile of material, means for re-depositing the material lifted by the forking devices in back of said forking devices as the machine advances through the pile of material and controllable means for variously wetting the re-deposited stack material.

2. A machine for turning manure or the like, comprising forking devices for lifting the material, means for advancing said forking devices to the pile of material, means for re-depositing the material lifted by the forking devices in back of said forking devices as the machine advances through the pile of material, a stacking chute and a breaker roll and means on said breaker roll for lifting the material from the forking means to the top of said stacking chute.

3. A machine for turning and re-stacking a pile of material comprising a portable carriage, power mechanism for advancing the same the length of a pile of material, forking devices exposed at the front of the machine for entering and lifting the material as the machine is advanced into the pile, restacking guides positioned to take the material elevated by the forking devices and to return the same back into stacked formation in rear of the forking device as the machine advances through the pile of material and a breaker provided with means for lifting the material from the forking devices to the top of the restacking guides.

In testimony whereof I affix my signature.

JOHN GILETTI.