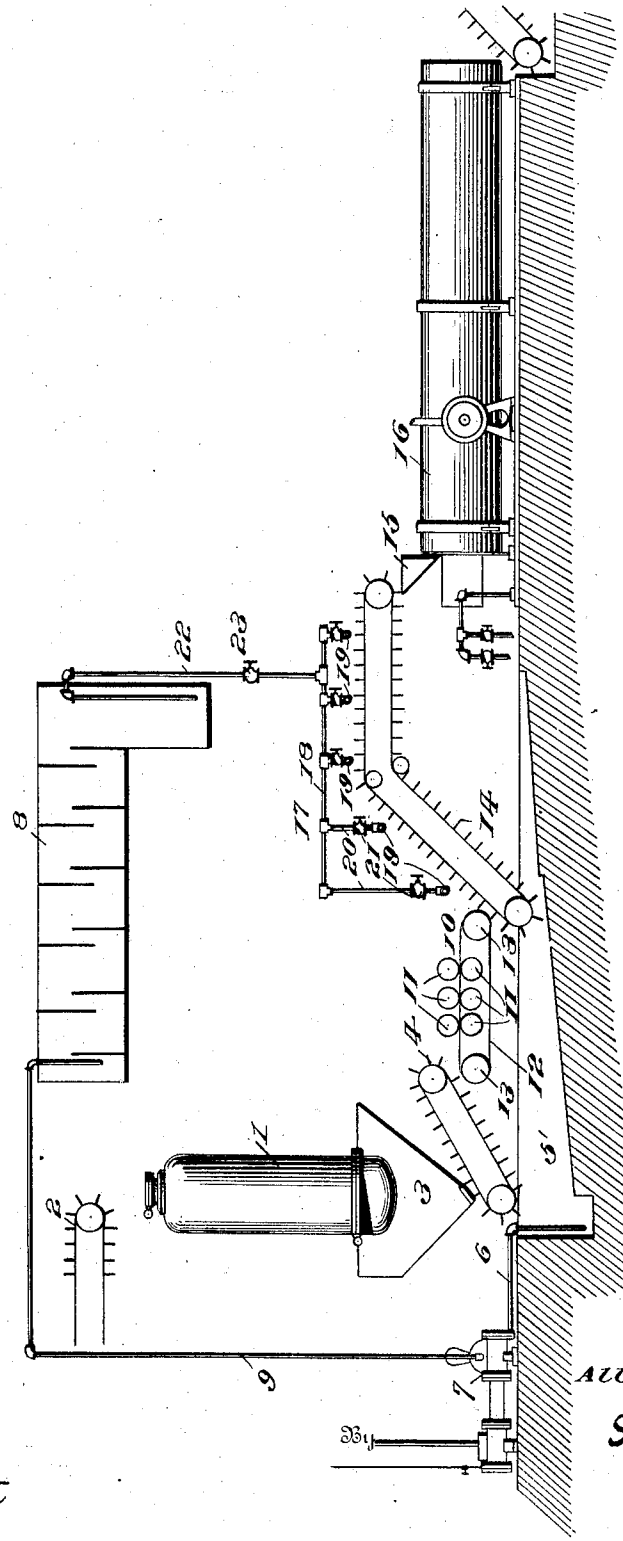
No. 769,104. PATENTED AUG. 30, 1904.

A. J. MORSE.

PROCESS OF TREATING GARBAGE.

APPLICATION FILED OCT. 29, 1903.

NO MODEL.




Witnesses

E. L. Henry

H. A. Hopkins

Inventor

Albro J. Morse.

By Stewart & Stuart

Attorneys

No. 769,104. Patented August 30, 1904.

# UNITED STATES PATENT OFFICE.

ALBRO J. MORSE, OF BALTIMORE, MARYLAND.

## PROCESS OF TREATING GARBAGE.

SPECIFICATION forming part of Letters Patent No. 769,104, dated August 30, 1904.

Application filed October 29, 1903. Serial No. 178,962. (No specimens.)

*To all whom it may concern:*

Be it known that I, ALBRO J. MORSE, a citizen of the United States of America, and a resident of Baltimore city, Maryland, (my post-office address being 3008 W. North avenue,) have invented certain new and useful Improvements in Processes of Treating Garbage and the Like, of which the following is a specification.

My invention relates to certain new and useful improvements in the process of treating garbage and similar refuse; and the object of my invention is to so treat the garbage or the like that the product resulting from the process will be of greater commercial value than heretofore and also to carry out the treatment of garbage or the like more cheaply than heretofore possible.

With these objects in view my invention consists in first placing the garbage in a digester, in which the garbage or other refuse is cooked. None of the water which is in the garbage or which may be added to the garbage during this cooking operation is allowed to escape. After the operation in the digester is complete the "tank-water," as it is called, is drawn off, and the solid matter is then pressed to further remove the tank-water. The tank-water is now treated in suitable manner to remove all the grease therefrom. This tank-water contains, however, in solution and in suspension a great deal of solid matter which is valuable, and in order to save this matter the tank-water is returned to the pressed tankage and mixed therewith. The mixture is then passed into a suitable drier and dried.

By this process all the solid matter is removed, and from the garbage under treatment a fertilizer is produced which is of greater commercial value than has heretofore been possible.

I am aware that it has heretofore been attempted to reclaim the solid matter held in solution and suspension in the tank-water by separately evaporating this tank-water. It has been found, however, that this is impractical because of the nature of the product of evaporation.

Referring to the drawing, wherein I show diagrammatically a mechanism which is capable of carrying out my process and wherein the same reference numeral is used to designate the same part wherever it occurs, the figure is a diagrammatic view showing the different parts of the mechanism and how they are connected up to carry out the steps of my process.

1 designates a digester of any suitable form, in which the garbage is dumped in any suitable way, as by means of a carrier 2. In this digester the garbage or the like is cooked in any suitable way. After the cooking operation is complete the garbage, which is now called "tankage," together with the tank-water, is allowed to escape from the bottom of the digester and fall onto an endless traveling belt 4, which is driven in any suitable way. Below the traveling belt is a tank 5, into which the tank-water runs as the digester is emptied.

6 is a pipe leading from a suitable pump 7 into the tank for the purpose of pumping the tank-water into the grease-separating box 8. This grease-separator is of any suitable or desired form. The tank-water is conveyed from the pump to the separator by means of the pipe 9.

10 is a pressing device, which is shown as composed of the sets of rollers 11, between which passes an endless belt 12, running on suitable drums 13. The pressing device is so located in respect to the endless carrier 4 that the solid matter taken up by the carrier will be delivered onto the belt 12. The tank 5 extends under this pressing device, so that it will catch the tank-water squeezed out from the solid matter. From the pressing device 10 the solid matter is delivered onto an endless carrier or belt 14, by which it is carried and delivered into a hopper 15 of a suitable drier 16. Mounted over this belt is a sprinkling device 17. As shown, this sprinkling device consists of a horizontal pipe 18, to which are connected sprinklers 19, extending across the belt, the sprinklers 19 being connected to

the pipe 18 by the pipes 20. Located in each of the pipes 20 there is preferably a valve 21, so that the amount of liquid falling through each of the sprinklers may be regulated.

22 is a pipe running from the grease-separator 8 to the pipe 18, and preferably this pipe is provided with a valve 23 to control the flow of liquid onto the belt.

The operation of the device has previously been described. By this process the formation of "stick," which is produced when the tank-water is separately treated, is obviated and a fertilizer is produced which has a higher percentage of ammonia and which contains all the solid matter of the refuse, and it is therefore possible to obtain a greater quantity of fertilizer from a given amount of refuse than has heretofore been possible, and the fertilizer itself is more valuable.

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

The process of treating garbage or the like which consists in first cooking the garbage in a suitable digester in its own liquor, removing the cooked garbage from the digester and separating the same into tankage and tank-water, removing the grease from the tank-water, reuniting the tankage and tank-water and vaporizing the last mixture to dryness, thereby a fertilizer is produced.

Signed by me at Washington, District of Columbia, this 28th day of October, 1903.

ALBRO J. MORSE.

Witnesses:
I. M. GOTWALD,
FRANCIS M. PHELPS.