

UNITED STATES PATENT OFFICE.

WILLIAM MACDONALD, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF TREATING GARBAGE.

SPECIFICATION forming part of Letters Patent No. 528,002, dated October 23, 1894.

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To all whom it may concern:

Be it known that I, WILLIAM MACDONALD, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented a certain Process of Treating Garbage, of which the following is a specification.

The main object of my invention is to so treat garbage and equivalent material that the smoke arising from the burning garbage will be inoffensive, and a further object of my invention is to so prepare the solid material that it can be used as a fuel. These objects I attain in the following manner:

The wet garbage, as it is collected, is discharged into a suitable receptacle and, in order to deodorize the said garbage, it is there sprinkled with an acid which will neutralize any of the offensive odors that would otherwise arise from the mass. The acid which I prefer to use is termed "sludge" this name being applied to the waste sulphuric acid which has been used in clarifying petroleum. After the garbage has been treated with the acid it is fed to a press, preferably a cylindrical press, the cylinder having escape openings for the liquid matter at the bottom and overflow openings near the top, which openings are connected to a suitable conduit for carrying away the liquid as it escapes from the solid matter of the garbage. After as much liquid as possible has been expressed from the solid matter of the garbage the pulp remaining in the press is removed and is mixed with a combustible material. I preferably use for this purpose a waste petroleum product known as "still wax" which is the refuse from the petroleum stills, although other tarry matter or other inflammable material may be used without departing from my invention. The garbage and still wax are preferably mixed together in a pug mill, the mixture being then conveyed to a press, or to a pair of rollers, which shapes the mass into any form desired.

I preferably press the material in a continuous strip and as it leaves the press cut

it into any desired lengths, the still wax being of an adhesive nature so as to insure a firmly cohering block or mass which can be handled without risk of disintegration.

The material can be burned either as refuse material or it can be used as fuel, the still wax which is incorporated with the garbage being highly inflammable and no offensive odor will arise from the burning mass.

In either case by my invention I not only make it possible to burn garbage in the ordinary manner without creating a nuisance in cities, but I also am enabled to utilize the solid portions of the garbage as a fuel.

I am aware that garbage or vegetable refuse has been charred in order to disinfect it and to put it in a condition to burn without obnoxious gases, but the article produced by my process differs from this in that the garbage is first deodorized by treatment with an acid and it is then combined, in an uncharred state, with an adhesive combustible material.

I claim as my invention—

1. The process herein described of treating garbage, said process consisting in first treating the garbage with an acid, second, expressing the liquid from the solid matter, and third, mixing the solid matter with a combustible material, substantially as described.

2. The process herein described of treating garbage, said process consisting in first, sprinkling the garbage with an acid, second, subjecting the acid treated garbage to pressure so as to remove the liquid from the solid mass, third, mixing the solid matter with an inflammable material, and fourth, forming the mass into shape suitable for use as a fuel, substantially as described.

3. The process herein described of treating garbage, said process consisting in saturating the garbage as it is received with "sludge" acid, subjecting the mass to pressure to separate the liquid from the solid mass, adding to the mass of solid matter an inflammable

material and compressing the inflammable material and solid material into shape, substantially as described.

4. The process herein described of treating
5 garbage, said process consisting in sprinkling the garbage with waste sulphuric acid, separating the liquid from the solid matter, adding still wax to the solid matter and shaping the mass, substantially as described.
10 5. As a new article of manufacture, a fuel

composed of uncharred pulp of acid deodorized garbage, combined with an adhesive combustible material, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

WILLIAM MACDONALD.

Witnesses:

WILL. A. BARR,

JOSEPH H. KLEIN.