A. LONSKY.

Apparatus and Process for Revivifying Bone-Black.

No. 134,686. Patented Jan. 7, 1873.

Fig: 1.

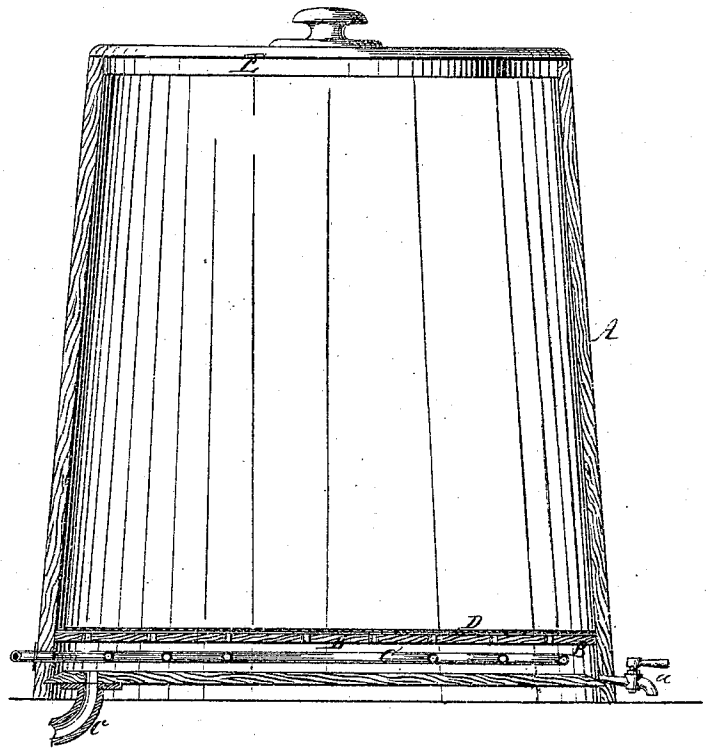
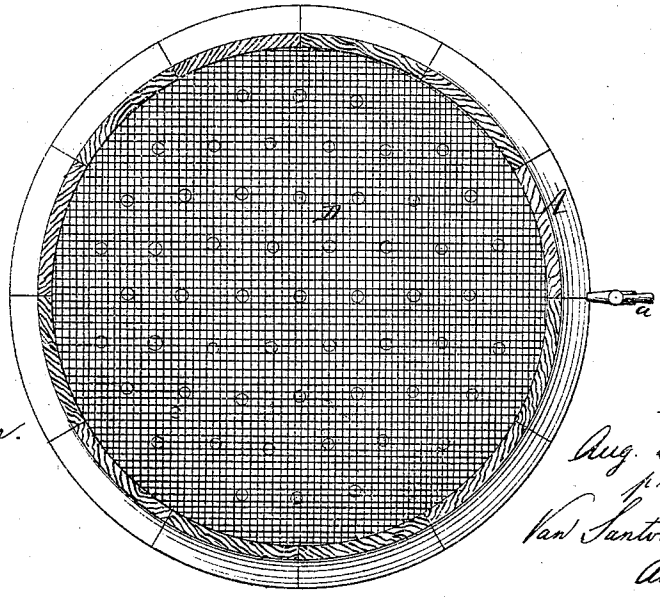


Fig: 2.



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AUGUST LONSKY, OF HOBOKEN, NEW JERSEY.

IMPROVEMENT IN APPARATUS AND PROCESSES FOR REVIVIFYING BONE-BLACK.

Specification forming part of Letters Patent No. **134,686**, dated January 7, 1873.

To all whom it may concern:

Be it known that I, AUGUST LONSKY, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Process and Apparatus for Revivifying Bone-Black; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which drawing—

Figure 1 represents a vertical central section of this invention; and Fig. 2 is a horizontal section of the same.

Similar letters indicate corresponding parts.

This invention consists in placing bone-black, after the same has been removed from the filters, into a tub provided with a perforated false bottom which is protected by wire-cloth, and beneath which is situated a steam-pipe perforated with a large number of small holes in such a manner that after the bone-black has been treated with chemicals, such as alkalies, and then washed, it can be exposed to the action of steam, whereby all the noxious gases are driven off. After having been exposed to the action of steam for several hours the bone-black is slightly dried, and then it can be returned to the filters.

In carrying out my invention I use a tub, A, (see drawing,) which is, by preference, made of wood, and large enough to receive from twelve thousand to sixteen thousand pounds of humid bone-black. Said tub is provided with a false bottom, B, which is perforated with holes, from twelve to fifteen of which occupy a square foot. This false bottom is, by preference, made of pine wood, and beneath the same is situated a steam-coil, C, which is provided with a large number of small holes. Above the perforated false bottom is placed a piece of wire-cloth, D, containing about eighteen meshes to the square inch. In one side of the tub, close down to its bottom, is inserted a wooden faucet, *a*, for the purpose of ascertaining the complete removal of all liquid parts from the tub. The liquid passes off through a pipe, *c*, emanating from the bottom of the tub, and in order to remove all liquid it is desirable to place the tub at an inclination, producing a head of one or one and a half inch for the liquid. On the top of the tub is fitted a cover, E, by preference made of wood, and so constructed that it is capable of producing a tight joint when secured on the tub.

After the tub has been charged with bone-black suitable chemicals, such, for instance, as alkalies, are introduced, and then the cover is put on to allow the chemicals to act. The bone-black is then washed with cold water, and after the liquid has been drawn off steam is admitted through the coil C, and allowed to act on the wet bone-black for the space of from four to five hours while the cover is still on. By the action of the steam the bone-black is partially dried, and, what is more, all the noxious gases contained in the bone-black are driven off. After this object is accomplished the bone-black is slightly dried, and it is then fit to be introduced again into the filters.

In revivifying bone-black an iron filter or vessel is impracticable if the iron is not protected with paint, as much iron would be mixed with the bone-black; and if the iron is protected by paint no alkalies can be used, since they destroy the paint, and without alkalies most of the impurities contained in the bone-black cannot be reached.

The bone-black contains carbonate of lime, caustic lime, vegetable matters, coloring matters, sulphur combinations, iron, &c.; hence, by adding an acid solution such as muriatic acid, chloride of calcium is formed, and carbonic acid is evolved, while the sulphur combinations, iron, &c., can only be removed by alkalies; hence it is evident that alkalies cannot be used in the filter, and it is therefore essential to transfer the bone-black to a wooden tank, where it is not affected by the alkalies.

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

1. The within-described process of treating bone-black, after removal from the filter, by first exposing the same to the action of

chemicals, such, for instance, as alkalies, and then to the action of steam, while the bone-black is inclosed in a suitable tub or reservoir, substantially as set forth.

2. The within-described apparatus for revivifying bone-black, consisting of a tub, A, provided with a closely-fitting cover, E, a perforated false bottom, B, covered with wire-cloth D, and furnished with a steam-coil, C, with a liquid discharge-pipe, *c*, and with a faucet, *a*, the whole constructed and operating substantially as set forth.

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