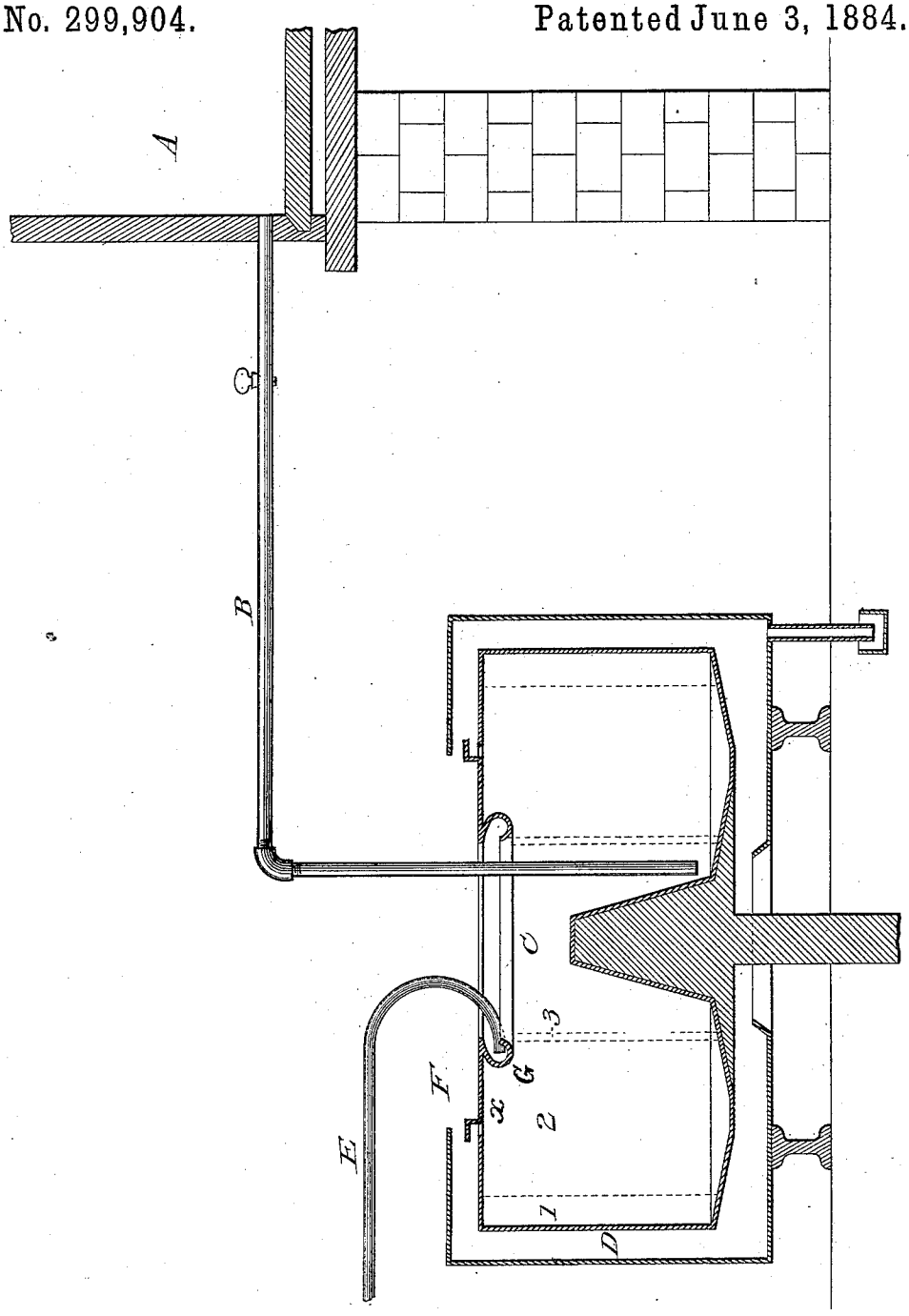
(No Model.)

J. A. W. BORCHERS.

SEPARATING AND PURIFYING CERTAIN COMPOUNDS OF THE SCOURINGS OF WOOL.

No. 299,904. Patented June 3, 1884.



Witnesses:
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N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN ALBERT WILLIAM BORCHERS, OF WEST MEDFORD, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WOOL SCOURINGS PROCESS COMPANY, OF PORTLAND, MAINE.

SEPARATING AND PURIFYING CERTAIN COMPOUNDS OF THE SCOURINGS OF WOOL.

SPECIFICATION forming part of Letters Patent No. 299,904, dated June 3, 1884.

Application filed October 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN ALBERT WILLIAM BORCHERS, a citizen of Prussia, in the Empire of Germany, having applied in due form for citizenship of the United States, residing at West Medford, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful improvements in separating, purifying, and recovering certain components of the washings or scourings of wool, commonly known as "wool scourings;" and I do hereby declare the following to be a full, clear, and exact description of my said invention, which will enable others skilled in the art to practice it.

The components of wool scourings to which my invention relates are, first, the "heavy insoluble component," consisting, chiefly, in phosphates of lime, carbonate of lime, nitrogen products, heavy soaps, and dirt deposits, and is valuable as a fertililizer; second, the products in solution or "soluble component," which consists of the cleansing solution used to wash the wool and the soaps and soluble salts contained in wool, and is valuable to be used again for scouring wool, &c.; third, the "lighter insoluble component," being mainly emulsive grease held in suspension, which is valuable, when refined, for lubricating wool.

Heretofore the lighter insoluble component of wool scourings has been separated but imperfectly from the bulk of the scourings by the application of chemicals, and the slow action of the process employed has tended to make the product expensive.

The object of my invention is to separate and purify the said components of wool scourings, and thus obtain useful, valuable, and cheap articles of commerce.

To carry my invention into effect I conduct the liquid scourings of wool into a basin having a tight bottom and a tight circular peripheral wall, the top of which is partially covered with a flange tightly joined to and extending inwardly from the peripheral wall, the remaining part of the top being open. In this flange are openings, through which the soluble component passes out of the basin. These openings are at such a distance from the peripheral wall as to enable the soluble component to pass off through the same without passing through the heavy insoluble component. The basin is suitably balanced and connected so that it may be revolved upon its vertical axis at a high speed. When the basin is revolved rapidly upon its vertical axis, the said components will separate and be purified, taking positions with reference to the inner side of the peripheral wall in the order I have hereinbefore specified them. The greater the speed at which the basin is revolved the more perfectly will the said components separate and the purer will the said separated components be. The division of said components will be distinct and similar to what is indicated in the drawing, which I have appended hereto to more graphically describe my invention.

In this drawing, A is a reservoir for the wool-scouring liquor, from which, by the pipe B, the liquor is conducted to the basin C, constructed as I have described. When the liquor is subjected to the said process, its components will separate and form with reference to the peripheral wall D in the order set forth, and similarly to what is indicated in the drawing, where 1 represents the heavy insoluble component. 2 represents the soluble component. 3 represents the lighter insoluble component.

By the introduction through the open space in the top of the basin of a trumpet-shaped skimming-pipe, E, the mouth of which is near a circular rim, G, with which the flange F of the basin is provided, the lighter insoluble component is removed in a continuous stream while the basin is in motion. The soluble component will at the same time continually pass off through the suitable openings in the flange F, as shown at X, into properly-constructed passages. These openings X are, as shown, at such a distance from the peripheral wall D as to enable the soluble component to pass off through the same without passing through the heavy insoluble component. The combined area of these openings (or the area of one opening, which could be used in place of more than one) must be smaller than the area of the conducting-pipe B. The heavy

insoluble component, being very small when compared with the other components in a given quantity of liquor, will accumulate very slowly on the peripheral wall between the openings X and said wall. When the same is formed upon the peripheral wall to a depth extending to or near said openings X, the supply to the basin should be cut off, and the greasy component and the soluble component entirely removed from the basin. The heavy insoluble component can then be scraped out of the basin.

By the method above described the said three components are recovered and separated from wool-scouring liquor by a continuous process, excepting when slight interruptions are necessary in order that the deposit upon the peripheral wall may be removed; and by the said method the said three, or either thereof, valuable articles of commerce may be recovered from wool scourings in such perfection that there will be little or no waste, and they will be in commercial condition.

The soluble component thus produced is a new product, having, among other distinguishing characteristics, the presence of soluble salts contained in wool. It can be used in the ordinary way for scouring wool with better results than those obtained by the wool-scouring baths in common use, and can after each use be recovered by the method described above and used again repeatedly for this purpose. Each time, however, it is so used, after being recovered, it becomes stronger, principally by taking up the soluble salts contained in the wool. If too strong, it should be diluted with water until the required strength is obtained.

I do not hereby limit myself to the precise form of mechanism shown and described, as it may be varied and still be capable of carrying out my invention.

I claim as new—

1. The method herein described of separating and purifying the heavy insoluble component, the soluble component, and the lighter insoluble component of wool scourings by conducting the latter into a revolving basin having a tight bottom, a tight peripheral wall, and a flange tightly joined to and extending from said wall and partially covering said basin, said flange having an opening or openings, the soluble component passing out of the basin through said opening or openings without passing through the heavy insoluble component, and the lighter insoluble component passing out of the basin, each while the basin is revolving, substantially as described.

2. The herein-described soluble component for scouring wool, obtained by the method substantially as described.

3. The construction and arrangement of a revolving basin for separating and purifying the three herein-described components of wool scourings into which the latter are conducted, said basin having a tight bottom, a tight peripheral wall, and a flange tightly joined to and extending from said wall and partially covering said basin, said flange having an opening or openings at such a distance from said wall that the soluble component may pass out from said basin through the opening or openings while the basin is revolving without passing through the heavy insoluble component, substantially as described.

JOHN ALBERT WILLIAM BORCHERS.

Witnesses:
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