W. ADAMSON.

Treating Fiber.

No. 43,466. Patented July 12, 1864.

Fig. 2.

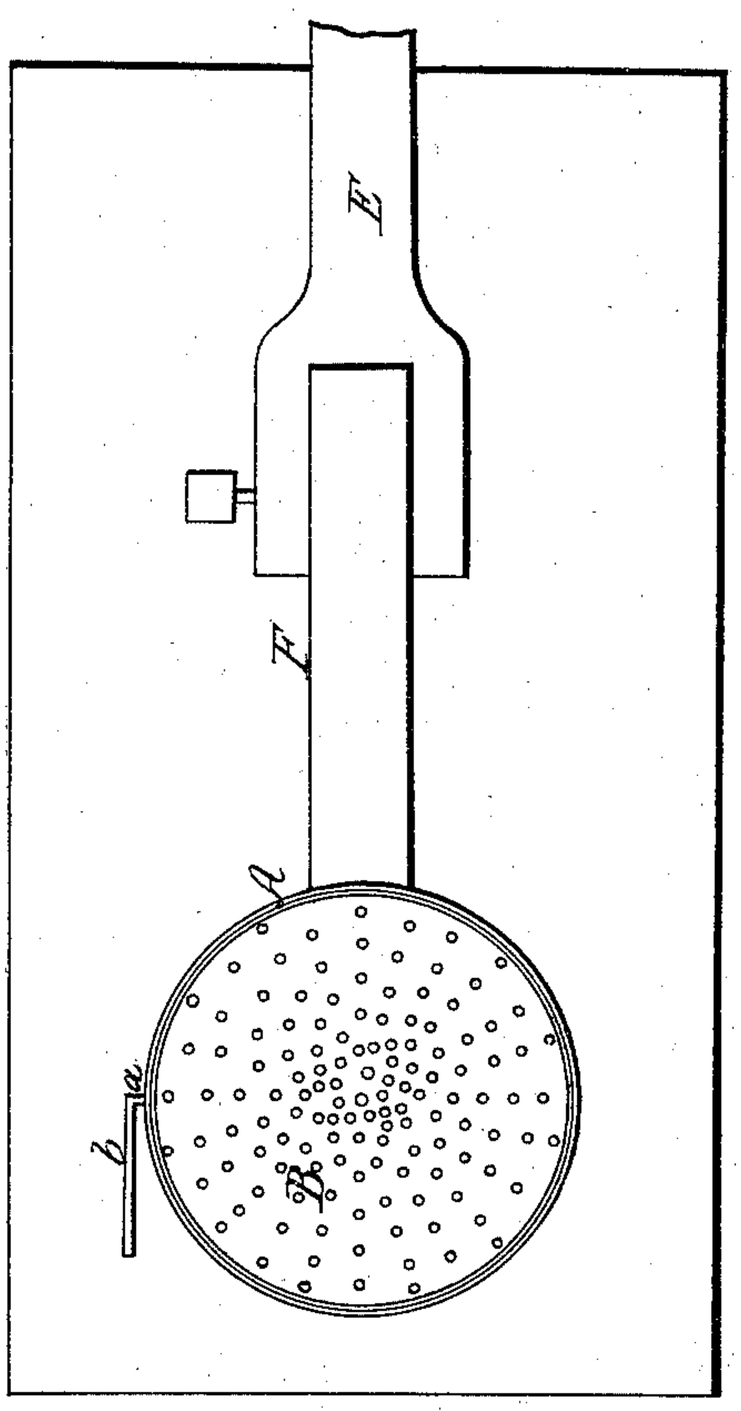
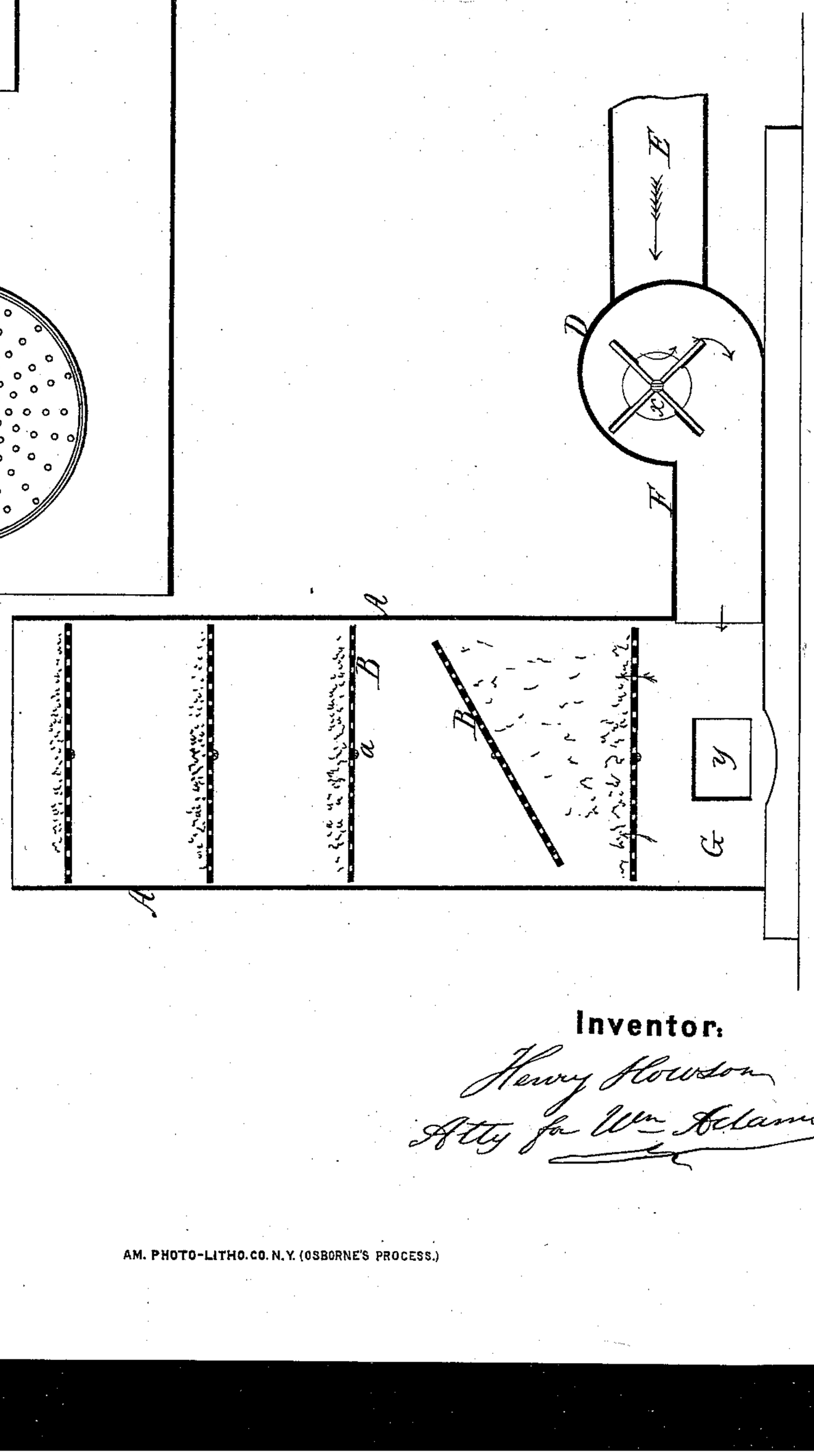


Fig. 1.



Witnesses:

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Inventor:

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Atty for Wm Adamson

UNITED STATES PATENT OFFICE.

WILLIAM ADAMSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED PROCESS FOR TREATING HAIR.

Specification forming part of Letters Patent No. **43,466**, dated July 12, 1864.

To all whom it may concern:

Be it known that I, WILLIAM ADAMSON, of Philadelphia, Pennsylvania, have invented a Process of Treating Hair, Bones, and other Animal Matter; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in simultaneously drying and deodorizing the hair of hogs and other animals by subjecting it to the action of the products of combustion of coal or other fuel, substantially as described hereinafter.

In order to enable others to practice my invention, I will now proceed to describe a manner of carrying it into effect.

In preparing the hair taken from the hides of animals for use—as stuffing for cushions, &c.—it is necessary to subject it to a thorough cleansing process before it is fit for the market. In order to do this it is generally treated with disinfectants or exposed to the atmosphere for a great length of time and washed and dried—processes demanding considerable delay and tedious manipulation. The hairs or bristles of hogs are especially offensive, as much animal matter adheres to the roots.

It is usual in the neighborhood of towns and cities where hogs are extensively slaughtered to spread the hair on the ground, so as to expose it to the action of the atmosphere, which in time deprives it of much of its offensive properties. There are three great objections to this exposure, one being that it is offensive to those who dwell in the neighborbood; a second, that the exposure superinduces fermentation, which deteriorates the hair by destroying its elasticity; and the third is the length of time required to deodorize the hair by exposure. After repeated trials I have found that all this may be obviated by taking the hair, washing it well in water, and then, instead of drying it by simple heated air, exposing it to the direct action of the products of the combustion of coal or wood, for the twofold effect of drying the hair and at the same time fumigating it, and by this fumigation so changing the character of whatever offensive animal matter may adhere to the hair that the latter is purified, and all tendency to emit unpleasant exhalations neutralized.

Another advantage of my process is that when applied to the hairs of animals it preserves their elasticity and hardness—properties which render hairs most valuable in the market, and which are, in a great measure, lost by long exposure and fermentation.

In carrying out my invention I prefer the apparatus shown in the accompanying drawings, as it affords facilities for practicing my process with rapidity and continuity and with comparatively little labor.

Figure 1 represents a vertical section of the apparatus, and Fig. 2 a plan view.

A represents a tower, which may be made of iron, brick-work, or other material, and which may be round, as shown in the drawings, or square, or of any other form which may be found appropriate. The interior of the tower is separated into several compartments by perforated plates B, each of which is secured to a central rod, *a*, each end of the latter passing through the sides of the tower, and one end being provided with an arm, *b*, by operating which the plate may be made to assume a horizontal position or may be turned upside down, at pleasure. A suitable furnace is built near the tower, and the products of the combustion of the fuel of this furnace pass through the pipe E, through the lateral openings *x* of an ordinary fan-blower, D, which forces the products of combustion through the pipe F into the lowest compartment, G, of the tower, and through the several perforated plates in the same. The hair, &c., while yet wet is hoisted by any suitable apparatus to the top of the tower, and a quantity deposited in a layer on the highest perforated plate of the series, where it is subjected to the action of the products of combustion which pass through this plate. After a short time has elapsed this highest plate is turned upside down by means of the arm *b*, and the layer of hair is suddenly thrown onto the second plate of the series, the first plate being turned to its original horizontal position, so as to receive a new supply of hair or other material. Thus the different layers of hair are discharged from plate to plate, on each of which it is permitted to rest a short time, and is finally deposited in the compartment G, from which it is extracted through a suitable doorway, *y*. In its passage through the tower the hair is repeatedly turned and

agitated, so that every particle is exposed to the volume of the products of combustion, and thereby thoroughly dried and deodorized.

It is not necessary that a special furnace should be constructed, as the furnace for heating any steam-boiler or for other purposes may be at hand for supplying the requisite products of combustion. Neither is the fan-blower D indispensable, as other equivalent apparatus may be used; or the draft in the tower may be sufficiently forcible without the necessity of resorting to artificial blasts.

I claim as my invention and desire to secure by Letters Patent—

Simultaneously drying and deodorizing the hair of hogs and other animals by subjecting it to the direct action of the products of combustion of coal or other fuel, substantially in the manner described.

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

WM. ADAMSON.

Witnesses:
HENRY HOWSON,
CHAS. HOWSON.