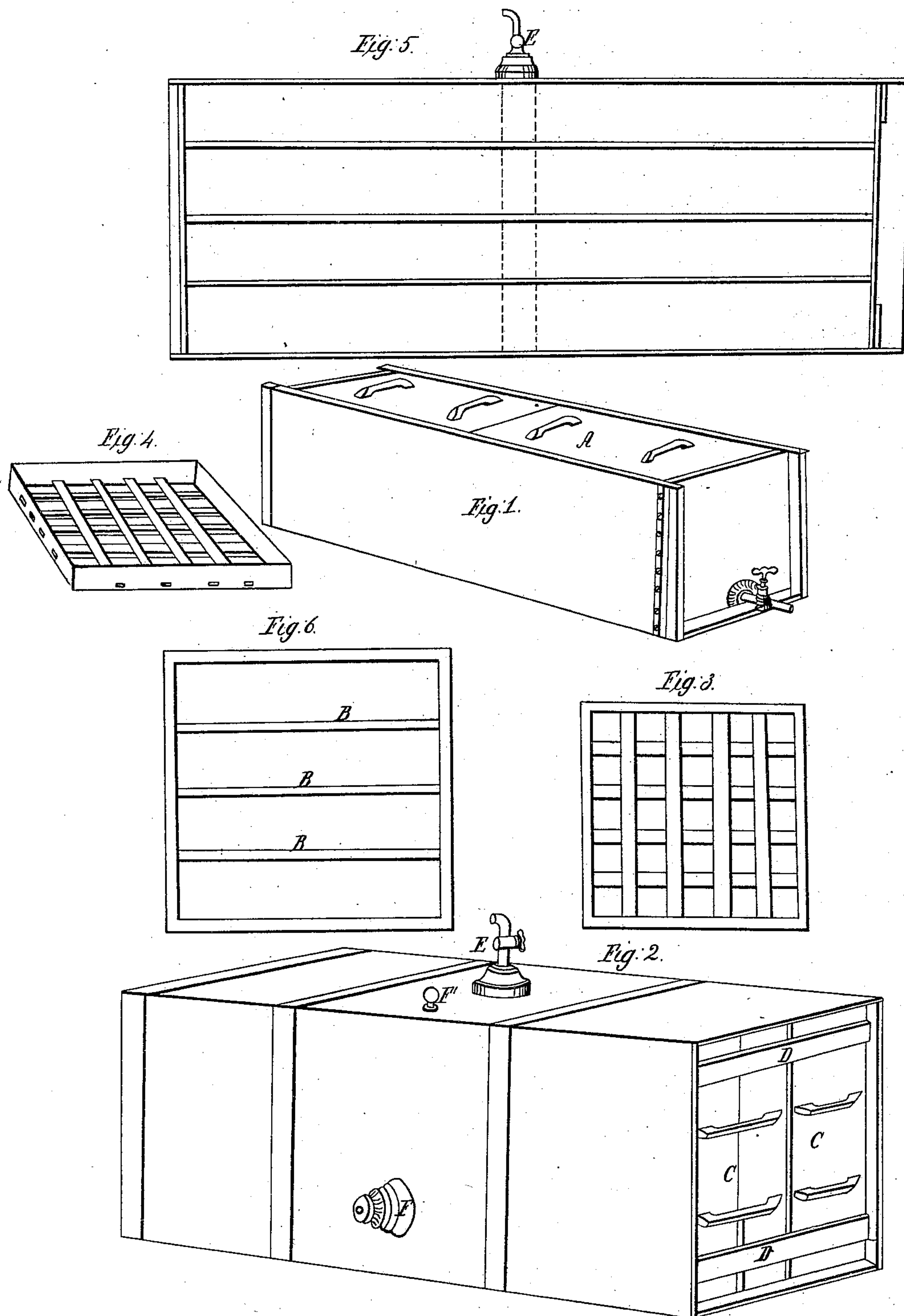


W. WISDOM.
Feather Renovator.

No. 10,347.

Patented Dec. 20, 1853.



UNITED STATES PATENT OFFICE.

WILLIAM WISDOM, OF CLEVELAND, OHIO.

CLEANSING HAIR AND FEATHERS FROM INSECTS, &c.

Specification of Letters Patent No. 10,347, dated December 20, 1853.

To all whom it may concern:

Be it known that I, WILLIAM WISDOM, of the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Mode of Cleansing Hair Preparatory to Curling for Upholstery Purposes, which process may also be applied to feathers, infected clothing, &c.; and I hereby declare that the following is a full and complete description of the process and operation of the same, reference being had to the accompanying drawings, making part of this specification, the different parts of the apparatus being referred to, as they occur in the description.

The principal object in this invention being the preparation of hair for curling, and the purifying of old hair in mattresses, my description will be confined chiefly to this article; but little variation being needed, in its application to other purposes, these slight alterations will be readily comprehended and applied by the operator.

The first process in my invention or discovery is to take the hair to be curled and wash it thoroughly in clear water, and place it in a situation where it will be well drained. I then prepare a bath for its reception, for which purpose I prefer a vessel constructed after the form shown at Figure 1 in the drawing, of greater or less size, according to the amount of business carried on. A vat constructed after this form, and holding about twelve barrels, is of very suitable dimensions. This vat is open at the top through its whole extent, and closed at pleasure by tight doors or covers, as shown at A Fig. 1. The vat should be filled with water, and about ten pounds of sal soda dissolved in twelve barrels of water. I put the hair, which has been previously washed in water, into this bath, and let it remain for one hour. It is then taken out to drain. The next process is, to subject it to the antiseptic influence of a vapor bath of chlorin gas. For this purpose I construct the bath chamber Fig. 2, which should be twelve feet long and six feet wide and strongly bound and air tight, or nearly so, on account of the noxious quality of the gas to be used in the process. The interior of this chamber is filled with slide racks, having slat bottoms upon which the hair is placed, constructed as shown at Figs. 3 and 4, to admit of a free circulation of the gas between the racks. These racks occupy each end of

the chamber, Fig. 2, as shown in section Fig. 5, leaving a small space in the center for the purpose of enabling the gas to circulate more freely among the racks. The racks are arranged one above another as seen in transverse section Fig. 6. After the racks are properly filled with hair, they are slid into their places upon the ledges formed for their reception, and shown at B B, &c., Fig. 6. The chamber is then to be closed with doors which fit tight into the end of the bath chamber, as shown at C C, Fig. 2, where they are secured by the bars D D, which enter a slot prepared for their reception. The joints around the doors are then to be luted with clay mortar to prevent the escape of the gas. A stop cock is inserted into the center of the chamber at the top, as shown at E, Fig. 2, for the purpose of conveying the gas out of the building when the process of purification is completed. This is accomplished by connecting a pipe with the stop cock, sufficiently long to convey the gas to the place of exit. After the atmospheric air is all driven out of the chamber by the introduction of the gas, the stop cock should be closed, to prevent the further escape of the gas during the process of purification, and when this process is completed, the whole of the gas may be suffered to escape. Upon the side of the chamber, and near its bottom, as seen at F, Fig. 2, is inserted a nozzle for the purpose of introducing the gas. For the purpose of producing the chlorin gas, a common glass or earthen retort is used, the pipe of which is introduced into the nozzle F, and later with moist clay. In this retort is then placed the black oxid of manganese $\frac{1}{3}$ and muriatic acid $\frac{2}{3}$, then by the application of the heat of a spirit lamp, the chlorin gas is evolved; or chlorid of sodium (common salt) and sulfuric acid, may be used, or any other material from which chlorin gas can be evolved. The length of time the hair should remain in the gas chamber, exposed to the action of the gas, should be from three to four hours. The retort may then be removed, and the stop cock E, opened, which allows the gas to escape out of the building; let it so remain half an hour, then pass down the pipe F' into the lead reservoir below, strong spirits of ammonia, in sufficient quantity to cover the bottom. This will extract what remains of the gas from the material. The

doors C C, Fig. 2, may then be removed, and the racks withdrawn and emptied of their contents.

D D are bars to keep the doors in place.

5 What distinguishes my improvement from all other means now known or in use for purifying hair, feathers, &c., is the application of chlorin gas (in combination with the sal soda bath) which effectually destroys
10 all animal matter which otherwise would engender moths, maggots, &c., and entirely exterminates any insects or their eggs that may be already engendered. It also destroys the albumen in feathers and thereby
15 prevents the breeding of noxious insects at the same time that it annihilates any that may be present in the material submitted to its action. The sal soda is used merely as an auxiliary, the materials being first
20 washed in a solution of it to cleanse it and the vapor bath of chlorin gas which follows, destroys all animal matter and life, at the same time it is applied in such proportions that the fabric is entirely uninjured while
25 lime (the agent at present employed) deteriorates the material by burning or scorching the fiber and partially destroying its elasticity.

Chlorin in a gaseous form has never been

applied in manner and by means set forth, 30 for purifying hair and feathers, although in a crude state it was and is at the present time used for bleaching textile fabrics. It is also applicable to furs, soiled clothing, &c., but little variation being needed in its ap- 35 plication; the principal object however is the purifying and cleansing hair and feathers to prepare them for unholstery purposes and to renovate those which have already been so employed by destroying all 40 animal life contained in them or matter which would if not so destroyed produce life.

I disclaim to be the originator of sal soda as a purifying agent, but 45

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

Purifying hair and feathers by destroying all noxious insects or infectious matter contained therein by subjecting the same to a 50 vapor bath of chlorin gas after the material has been cleansed by a bath of sal soda, in the manner and for the purpose specified.

WILLIAM WISDOM.

Witnesses:

W. H. BURRIDGE,
JOHN N. BARR.