(No Model.)

E. CHACE.

PROCESS OF DESTROYING INSECTS.

No. 327,861. Patented Oct. 6, 1885

Fig. 1.

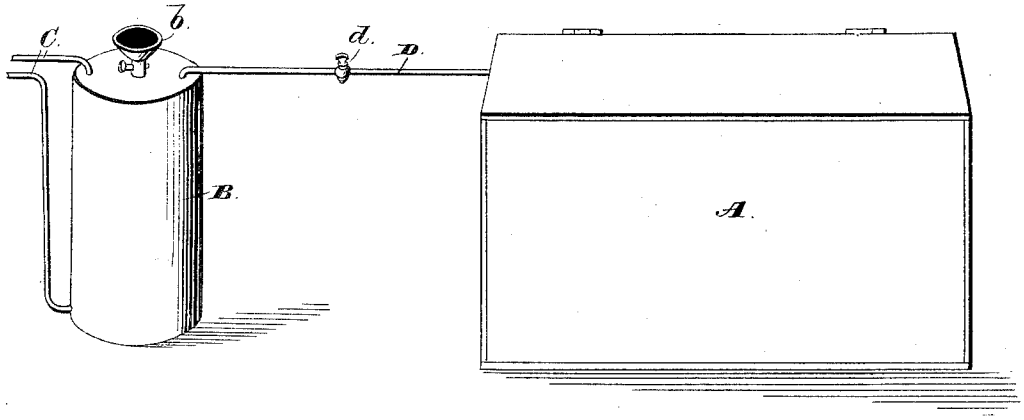
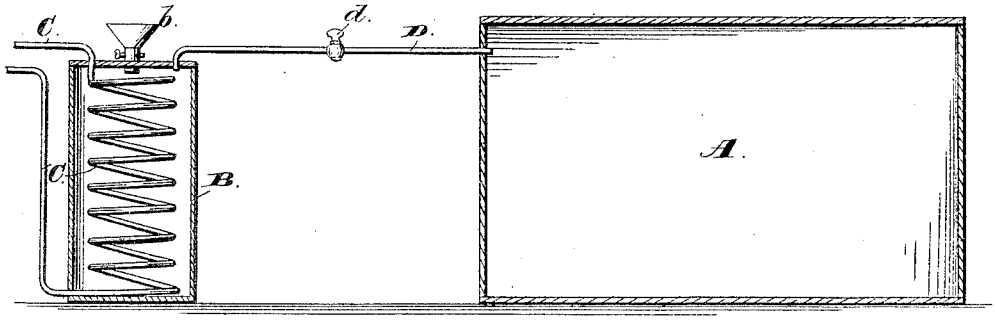


Fig. 2.



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UNITED STATES PATENT OFFICE.

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PROCESS OF DESTROYING INSECTS.

SPECIFICATION forming part of Letters Patent No. 327,861, dated October 6, 1885.

Application filed October 25, 1883. Serial No. 110,016. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CHACE, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Processes of Destroying Insects; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the apparatus preferably employed, and Fig. 2 is a vertical central section of the same.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide an improved process whereby moths and other insects in furniture, clothing, and other articles can be completely and quickly exterminated with little trouble or expense; and to this end it consists in the process as hereinafter described, and more specifically pointed out in the claim.

In the use of my invention I employ certain apparatus, of which one part is a box or tank, A, that has such dimensions as to enable it to receive and contain the largest article of furniture to be operated upon, and is capable of being closed and made sufficiently tight to withstand a considerable internal pressure. Said tank may be constructed from wood or metal, as desired.

Another part of my apparatus is a vaporizer, which preferably consists of a cylindrical casing, B, for containing liquid naphtha, and a coil of pipe, C, which communicates with a steam-supply and furnishes a means for vaporizing said liquid.

A pipe, D, extending between the tank A and vaporizer B, and provided with a valve, *d*, and a funnel, *b*, placed upon the upper portion of said vaporizer and communicating with the interior by means of a valved opening, completes the apparatus, which is used as follows, viz:

A supply of naphtha—from one to four gallons—is placed within the generator B and steam admitted to and caused to pass through the pipe C until said naphtha is vaporized. The article of furniture to be operated upon is next placed within the tank A and the latter then closed and made tight, after which the valve *d* is opened and the vaporized naphtha permitted to enter said tank, where it instantly permeates every portion of the contents of the same. The effect of the vaporized naphtha is to instantly destroy all insect life, whatever the state of development, with which it comes into contact, and as said vapor enters the tank under a considerable pressure—sometimes forty pounds to the square inch—nothing living can withstand its effects.

While thus destructive of insect life, the vaporized naphtha will not injure in the slightest degree the most delicate fabrics or the wooden or metal portions of the furniture, and after a few hours' exposure to the open air not a trace of odor even is left in the article operated upon.

While the apparatus described is preferably employed, any other form may be used which will furnish a close tank or chamber for containing the article to be operated upon, a generator for vaporizing the naphtha, and means whereby such vapor may be conveyed from said generator to said tank.

In place of steam heat any other agent desired may be employed for vaporizing the naphtha.

To effectually kill all the insects in a piece of furniture it is not sufficient to simply place the article in a chamber and submit it to the vapors of naphtha or benzole not under pressure. The vapor does not then permeate the article so thoroughly and completely as it does when under pressure. In my apparatus and with my process not only does the pressure of the vapor in the strong closed chamber cause it to permeate every part of the article being treated, but the pressure itself aids mechanically in destroying the lives of the insects. The vapor as forced into the chamber is, moreover, quite hot, which fact makes the destruction of the insects even more rapid and certain.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The process of destroying insects in furniture and other articles, which consists in placing the article within a closed chamber strong

enough to stand pressure, heating naphtha in a separate vessel shut off from the chamber until it is vaporized and the vapor is made quite hot and put under great pressure, and then admitting such vapor suddenly into the chamber, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of October, A. D. 1883.

EDWARD CHACE.

Witnesses:

HENRY C. HAZARD,

PHILIP F. LARNER.