

W. I. GOODIN.  
Meat-Preserving Apparatus.

No. 221,455.

Patented Nov. 11, 1879.

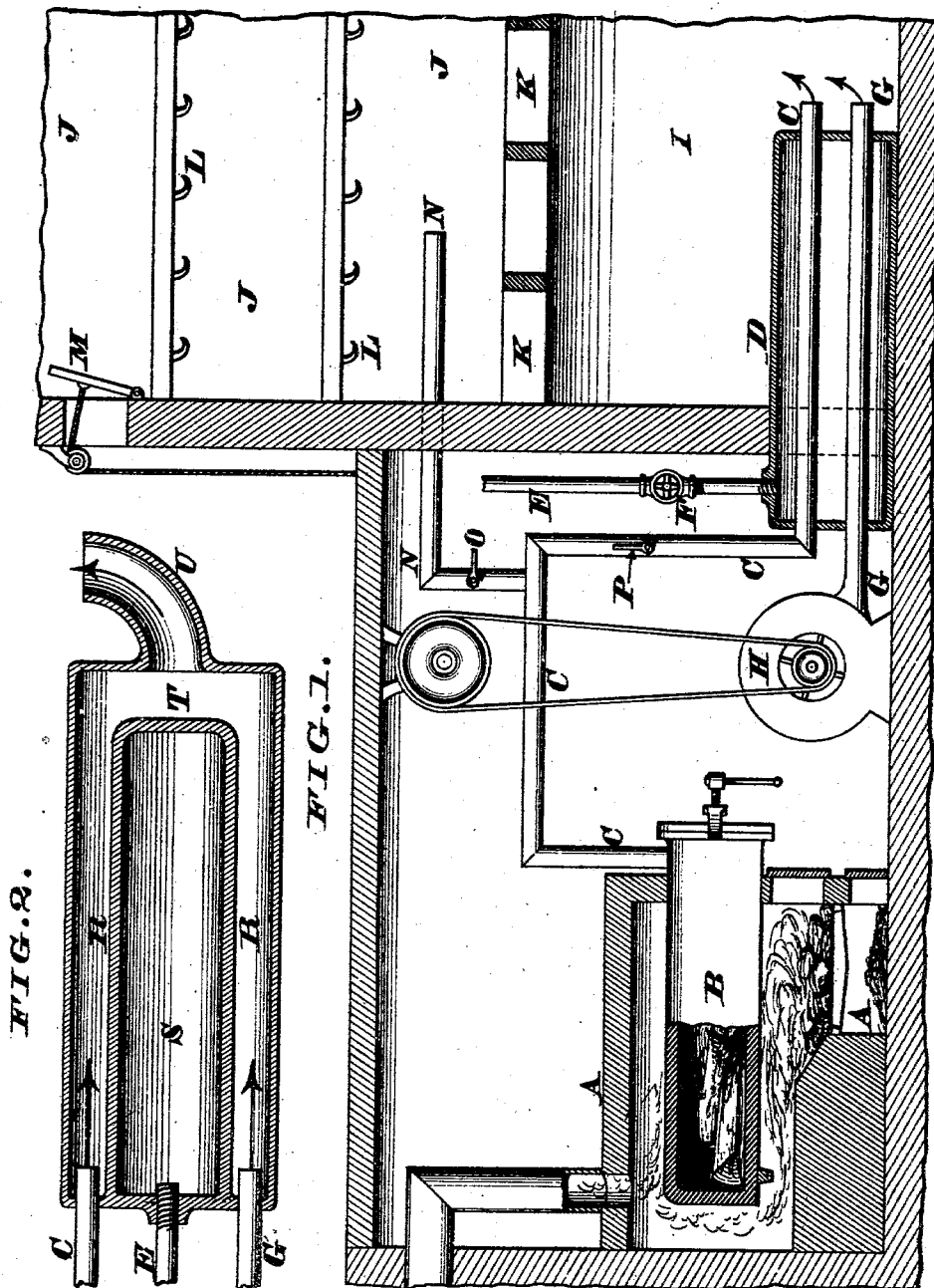


FIG. 2.

FIG. 1.

Attest  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MEAT-PRESERVING APPARATUS.

Specification forming part of Letters Patent No. 221,455, dated November 11, 1879: application filed March 10, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM I. GOODIN, of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Meat-Preserving Apparatus, of which the following is a specification.

The object of this invention is to render more efficient the form of meat-preserving apparatus seen in Letters Patent No. 207,268, issued to me August 20, 1878; and my present apparatus is constructed as follows: I make use of the closed retort for generating suitable smoke from wood or other substances, as seen in said patent; but instead of passing this fumigating smoke through a cooler I reverse the operation and compel the smoke to traverse a heater before being utilized. This heater consists, preferably, of a drum or jacket, through which passes the discharge-pipe of the closed retort, and said drum is adapted to be filled with steam of any suitable temperature—say, from 200° to 500°. Furthermore, this heater is traversed with a pipe proceeding from a blower of any approved construction, the object of this blower being to force a current of warm air into the smoke-house, and cause said air to mingle with the smoke discharged from the closed retort.

The advantage of this arrangement is that the smoke becomes highly rarefied, and therefore it ascends more freely within the house and smokes the meat without condensing on the same.

In the annexed drawings, Figure 1 is a vertical section of my improved meat-preserving apparatus, and Fig. 2 is an axial-section of a modified form of the heater.

The furnace A, closed retort B, and discharge-pipe C, being the same as seen in the patent previously alluded to, need no further description.

The last section of pipe C traverses a jacket or drum, D, which drum is filled with steam by means of pipe E, having a valve, F; it being designed to maintain the steam in this drum at a temperature of about 300°. Furthermore, this drum is traversed with a pipe, G, proceeding from any approved form of blower, H, which blower may be driven with any convenient power.

The outlets of pipes C G are located in the cellar I of smoke-house J, suitable openings K

being made to permit the ascent of the fumigating-vapors.

L are hooks or other devices upon which to hang the meat, and M is a door or vent to regulate the escape of air from the smoke-house.

The above is a description of my apparatus as arranged for use in winter, when the walls of the house are cold; but for use in summer, when the walls are comparatively warm, the construction is modified as follows: A branch pipe, N, is connected to pipe C, so as to discharge the wood smoke directly into house J; dampers O P being provided wherewith to regulate the direction in which this current shall flow.

The operation of my apparatus is as follows: House J having been properly filled with meat, steam is admitted into the drum D, and blower H is then set in motion, so as to force a current of air through pipe G, which air is thereby heated before escaping into the cellar I. As soon as this hot air has warmed up the meat and taken the chill off of the walls of house J furnace A is fired up, and the smoke produced by the destructive distillation of wood in closed retort B is discharged through pipe C into house J, considerable warmth being imparted to said smoke as it traverses the heater D. Now, as the currents of smoke and warm air are discharged in close proximity with each other, it is evident they at once mingle in the most intimate manner, and the smoke, being thereby thoroughly rarefied by the air, ascends freely and soon fills the entire house. As a result of this rarefaction of the wood smoke, the meat in the upper part of the house is cured in as thorough a manner as is the meat in the lower tiers, which is a great advantage over the process described in my old patent.

With the old apparatus the smoke produced was very rich and dense, and ascended quite slowly within the house; consequently the lower tiers of meat were thoroughly smoked before the meat in the upper stories had become warm.

Another objection to the old process was the discoloration of the meat by the cooled smoke condensing on the same, which serious difficulty is entirely obviated by using my new apparatus.

When the weather is quite warm steam may be shut off from drum D and the use of blower H discontinued, the dampers O P being then set to discharge the smoke from retort B directly through pipes C N into house J.

It is evident the invention may be modified by coiling the pipes C and G within the drum D, so as to impart a greater degree of heat both to the wood smoke and air. Finally, these pipes C and G may discharge into an annular drum, R, surrounding a steam-chamber, S, a passage, T, being formed at one end of said drum to allow the smoke and hot air to escape through a common discharge-pipe, U, which pipe may be bent upwardly to give the proper direction to the currents of vapor; or the pipe C may enter at one side of the house, while the heater D and pipe G may be located at the opposite side of the same, or at

any other part of said house, as the feature of my invention will be attained by any arrangement of devices that will cause a current of warm air to enter the receptacle I and mingle with the fumigating-vapors discharged from a closed retort.

I claim as my invention—

An improved meat-preserving apparatus, consisting of a closed retort, B, and discharge-pipe C, combined with heater D, pipe G, and blower H, substantially as herein described, and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

WILLIAM I. GOODIN.

Witnesses:

JAMES H. LAYMAN,  
RANKIN D. JONES.