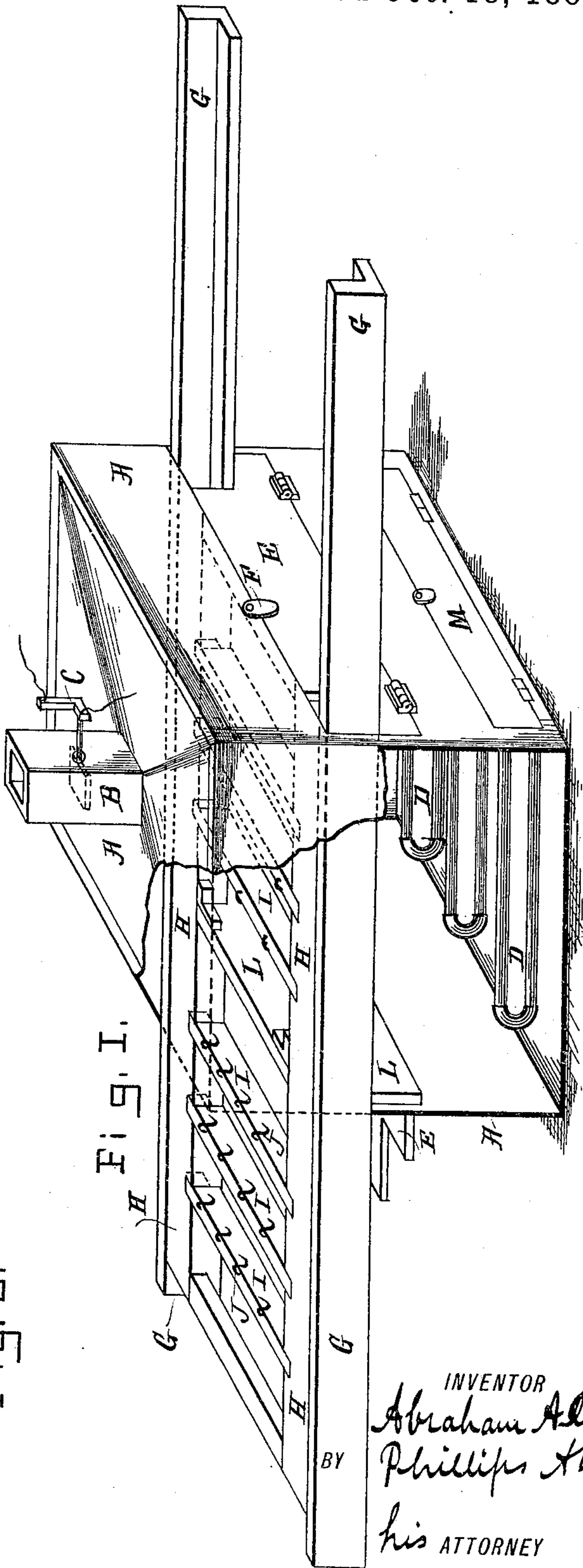
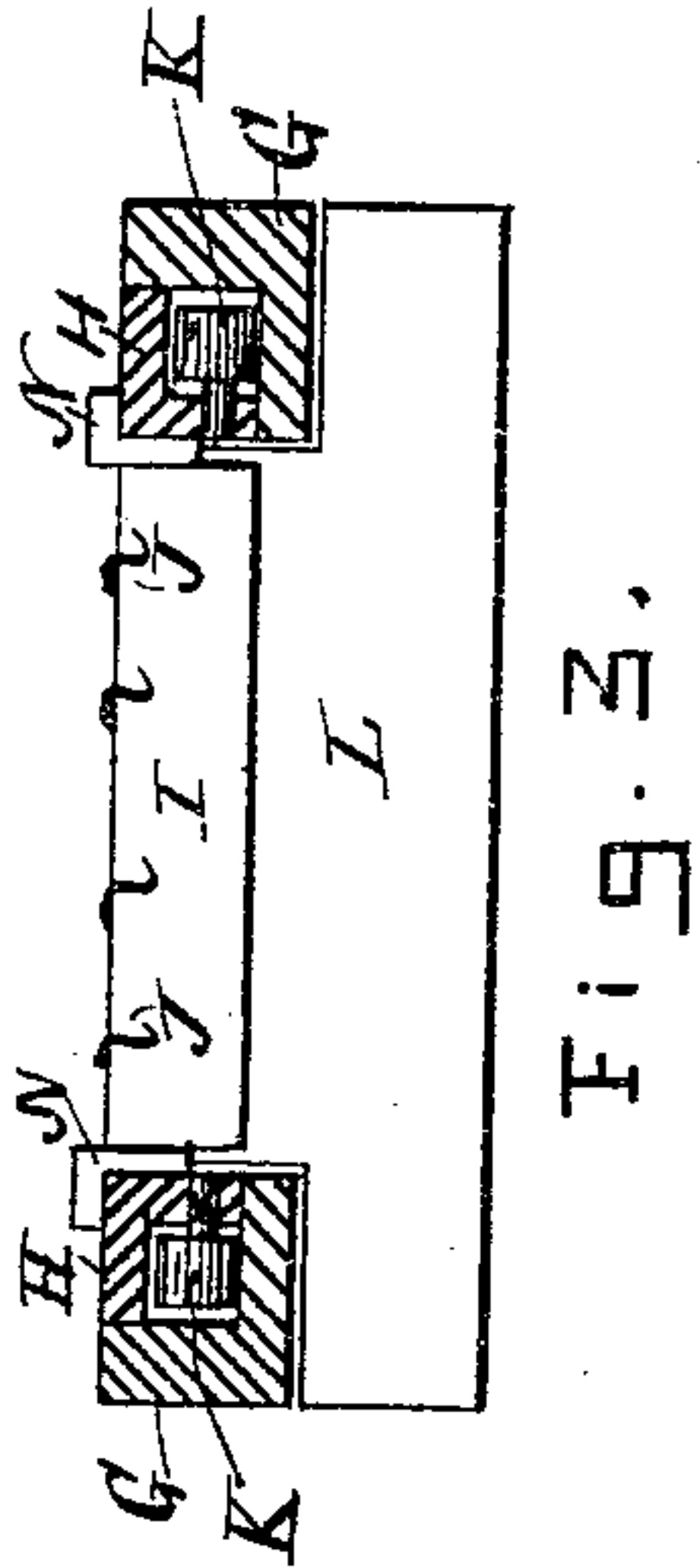
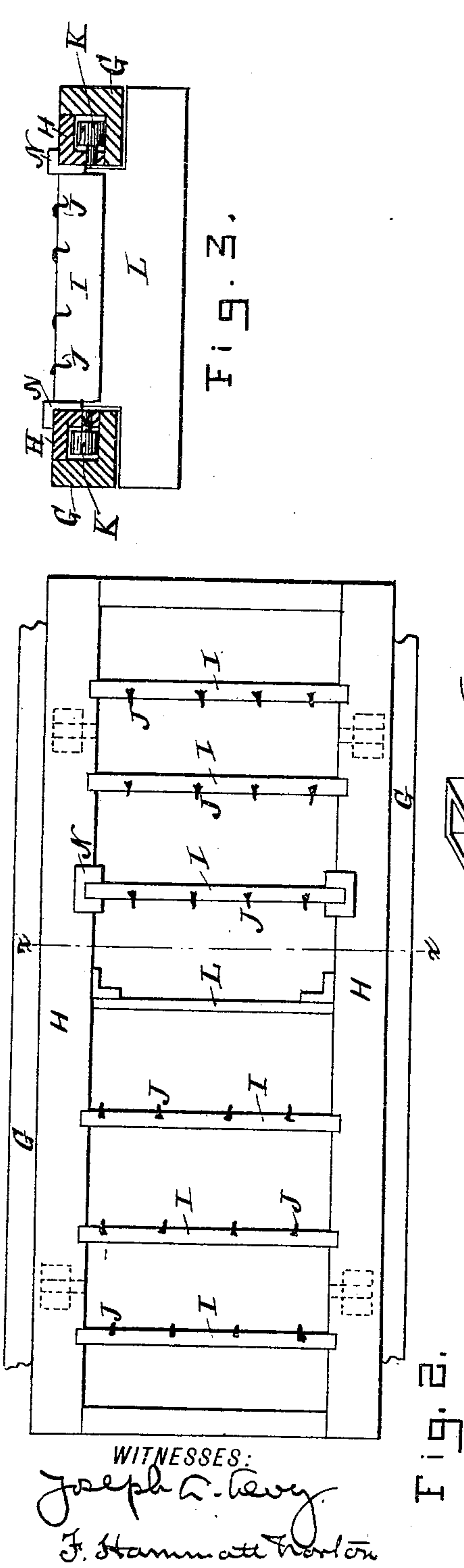


(No Model.)

A. ALSTADT.
FUR OR SKIN DRYING OVEN.

No. 371,535.

Patented Oct. 18, 1887.



UNITED STATES PATENT OFFICE.

ABRAM ALSTADT, OF DANBURY, CONNECTICUT, ASSIGNOR TO JOSEPH J. ASCH, OF NEW YORK, N. Y.

FUR OR SKIN DRYING OVEN.

SPECIFICATION forming part of Letters Patent No. 371,535, dated October 18, 1887.

Application filed March 17, 1887. Serial No. 231,327. (No model.)

To all whom it may concern:

Be it known that I, ABRAM ALSTADT, a citizen of the United States, and a resident of Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Fur or Skin Drying Ovens, of which the following is a specification.

My invention relates to improvements in fur-drying ovens for hatters' furs, applicable also to other uses; and it consists in the construction and arrangement of parts, which will be hereinafter more fully described, and set forth in the claim.

In the drawings the same reference-letters indicate the same parts in all the figures.

Figure 1 illustrates an elevation of the invention, a part of the walls of the oven being removed to disclose the interior thereof. Fig. 2 illustrates a top view of the carriage. Fig. 3 illustrates a vertical cross-section of the carriage on the line *xx* of Fig. 2.

A is the oven. It may be made of plank or metal, but preferably of brick-work, and it may be of any desired shape, but preferably square, oblong, or otherwise, as desired. The top may be flat, as shown, or dome shaped, or of other conformation.

B is an opening in the top of the oven to allow the fumes of the substance used in the treatment of the skins or fur, and also the moisture, to escape.

C is a damper or valve in the opening B to regulate the escape of the fumes and moisture and to adjust the temperature of the oven. It may be operated by a cord, as shown, or otherwise.

D D are steam heating-pipes arranged at or near the bottom of the oven. They are provided with cocks and an exhaust, as usual in such cases. Other means of heating may be used; but I prefer the steam-pipes where obtainable, because the temperature is more uniform when they are employed.

E E are two shutters, preferably arranged to open downwardly, and provided with fastening devices F. These shutters are only just large enough to allow the carriage H and its load of skins to pass through, so that there shall be as little escape of the fumes and heat as possible when the carriage is reversed, as

hereinafter stated. A vapor-collecting space, T, is provided in the oven-casing above the narrow door in the opposite sides thereof. The vapors collect in this space during the drying operation, and when either of the narrow doors is opened and the valve in the chimney is also opened an upward draft will be created to cause the vapors to escape into the chimney and not pass out through the open door. This upward draft is due to the fact that the narrow door-opening is at the base of the vapor-collecting space, and consequently the external air entering through said space will cause said vapors to go out through the chimney. If any vapors escape into the work-room where the furnace is located, it will only be in small quantities, not liable to injuriously affect the workmen.

G G are two rails, which are fastened to the walls of the oven, preferably near the upper part of the doors E. Their ends project beyond the sides of the oven a distance substantially equal to their length within the oven. They may be supported and braced in any desired manner. If stiff enough, they will require no bracing, being as shown in the drawings. These rails may be made of iron, timber, or other material, as desired.

H is the carriage. It consists of a frame provided with cross beams or stringers I, the ends of which fit in shouldered recesses in the frame H in order that they may be readily removed, if desired. They may likewise be made of metal, wood, or such other material as desired. They are provided with hooks J, upon which the skins are hung to be dried.

K are rollers placed on the under side of the frame H, upon which it rolls over the tracks. If the frame be small, it may simply slide on the rails, not requiring the rollers.

L is a vertically-arranged diaphragm rigidly attached to the carriage midway thereof lengthwise. Its dimensions are such as just to close the opening formed by letting down the shutters E.

M is a shutter at the lower part of the oven, by means of which the bottom thereof may be cleaned.

From the foregoing it will be seen that the shutters E occupy but a small part of the sides of the oven, and that the size of the diaphragm

L is only just sufficient to cover the opening made by letting the shutters down.

The operation is as follows: One of the shutters E is opened and the carriage is pulled out through it to half its length—or, in other words, until the diaphragm L on the inside of the oven rests against the opening made by letting down the shutter E—thus preventing the escape of heat and fumes through the opening. An operative then hangs the skins to be dried on the hooks of the stringers I on that half of the carriage which is accessible to him outside of the oven. When he has it full, he opens the shutter E on the opposite side of the furnace, and then pushes the carriage back again through the furnace and closes the shutter E which was previously open. By this operation the skins are carried within the oven, and the diaphragm L is shifted to the other side thereof and closes the space made by opening the second shutter E, and also the other end of the carriage which has no skins on it is projected beyond the side of the oven and is easily accessible. The operative now, while the first charge of skins is drying, fills up the other exposed half of the carriage with undried skins. The operation is then repeated, the second charge of skins being carried into the oven, and are there dried while the operative is removing the dried ones and replacing them with fresh undried skins. This alternating operation is continuously repeated. It will be seen that during the movement of the carriage from one side of the oven to the other, although a small part of the hot air and fumes within the oven necessarily escape through the open shutters, comparatively very little will do so, because the shutters occupy a small part only of the sides of the oven, and the diaphragm, being only just large enough to close the opening made by letting down the shutters, acts very slightly, if at all, to expel the heat and fumes, because there is so much space above and below the diaphragm that the air within the oven as the diaphragm moves through it passes from the front to the rear side thereof, over and under its upper and lower edges, and the noxious fumes, owing to their being of less specific gravity than the air, gather in the upper part of the oven and are mostly above the line of the shutters. Thus the operatives are not subjected, excepting to a slight degree, to the unhealthful influences of these fumes, as they were by the old methods. This is one of the special features of my invention.

I have ascertained by practical use of my invention that the time required to dry the skins is just about sufficient to allow the operative to carefully remove the dried skins and replace them with undried ones. Thus there is

no loss of time, and also the drying of the skins is more uniform, producing better results than by any other apparatus or process known to me. I prefer to set the ends of the stringers I into removable sockets N, (see Fig. 2,) which may be readily replaced when worn out. They may be made of metal or wood.

A lever or equivalent device (not shown) may, if desired, be connected with each of the shutters E, extending to the opposite sides of the oven, so that the operative can open the opposite shutter from the side of the oven at which he is handling the skins, if desired.

In the drawings I show three stringers I only in each half of the carriage. As a matter of fact, there are as many stringers and as many hooks as can conveniently be used. I show three stringers only, that the drawings may be plain and easily understood.

I am aware that tobacco-steaming chests have been patented provided with a frame substantially twice the width of the steam-chest, the frame having attached to it three vertical partitions, which form the entire ends of the steam chest upon the alternations of the carriage, and I do not claim the same. Such construction would be entirely unsuited to my purpose, because at each reversal of the frame carrying the partitions all the air and noxious fumes contained in the oven would be ejected into the room where the operatives are at work. Thus one of the most essential features of my invention—i. e., protection to the operatives—is wanting. There is also a great loss of heat at each reversal of the frame.

I do not limit myself to the details of construction shown, since many alterations may be made therein without departing from my invention.

Having described my invention, I claim—

In a fur or skin drying oven, the combination of the oven-casing inclosed on all sides and top and bottom and having narrow openings and shutters in opposite sides thereof, the vapor-collecting space provided between the tops of said shutters and the top of the oven-casing, and the vapor-discharge chimney, with the horizontal track arranged inside the oven-casing and extending beyond the sides thereof, which have the narrow shutters and the skin-supporting carriage of substantially twice the width of the oven-casing, having the diaphragm L and devices for supporting the skins or furs, as and for the object set forth.

Signed at Danbury, in the county of Fairfield and State of Connecticut, this 2d day of March, A. D. 1887.

ABRAM ALSTADT.

Witnesses:

CURTIS B. SMITH,
JACOB M. LAYTON.