

(No Model.)

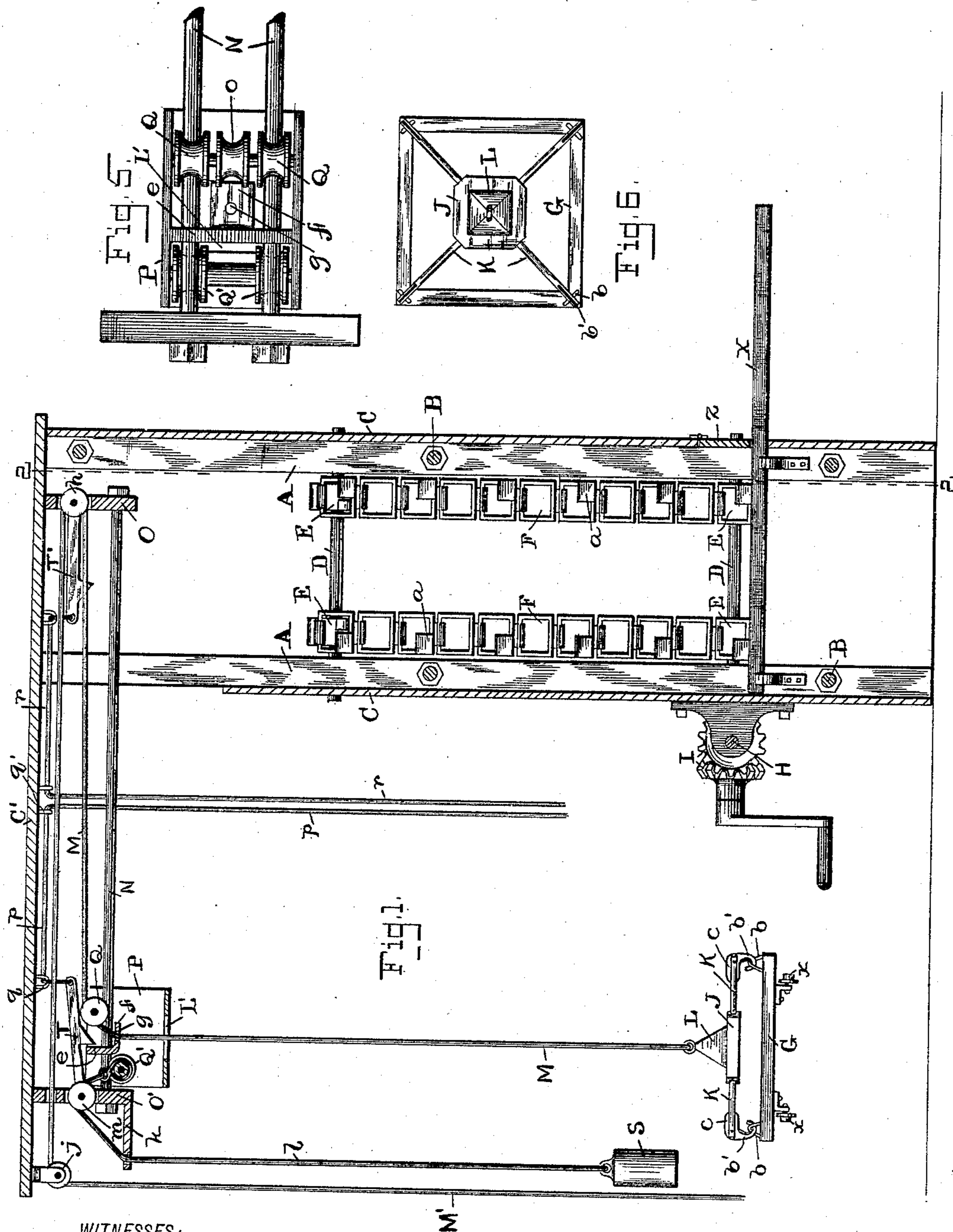
2 Sheets—Sheet 1.

J. MÜLLER.

APPARATUS FOR CONVEYING MEAT THROUGH SMOKE HOUSES.

No. 474,606.

Patented May 10, 1892.



WITNESSES:

Otto H. Ehlers.
J. P. Davis.

INVENTOR

Jean Müller.

BY

Chas B. Mann

ATTORNEY.

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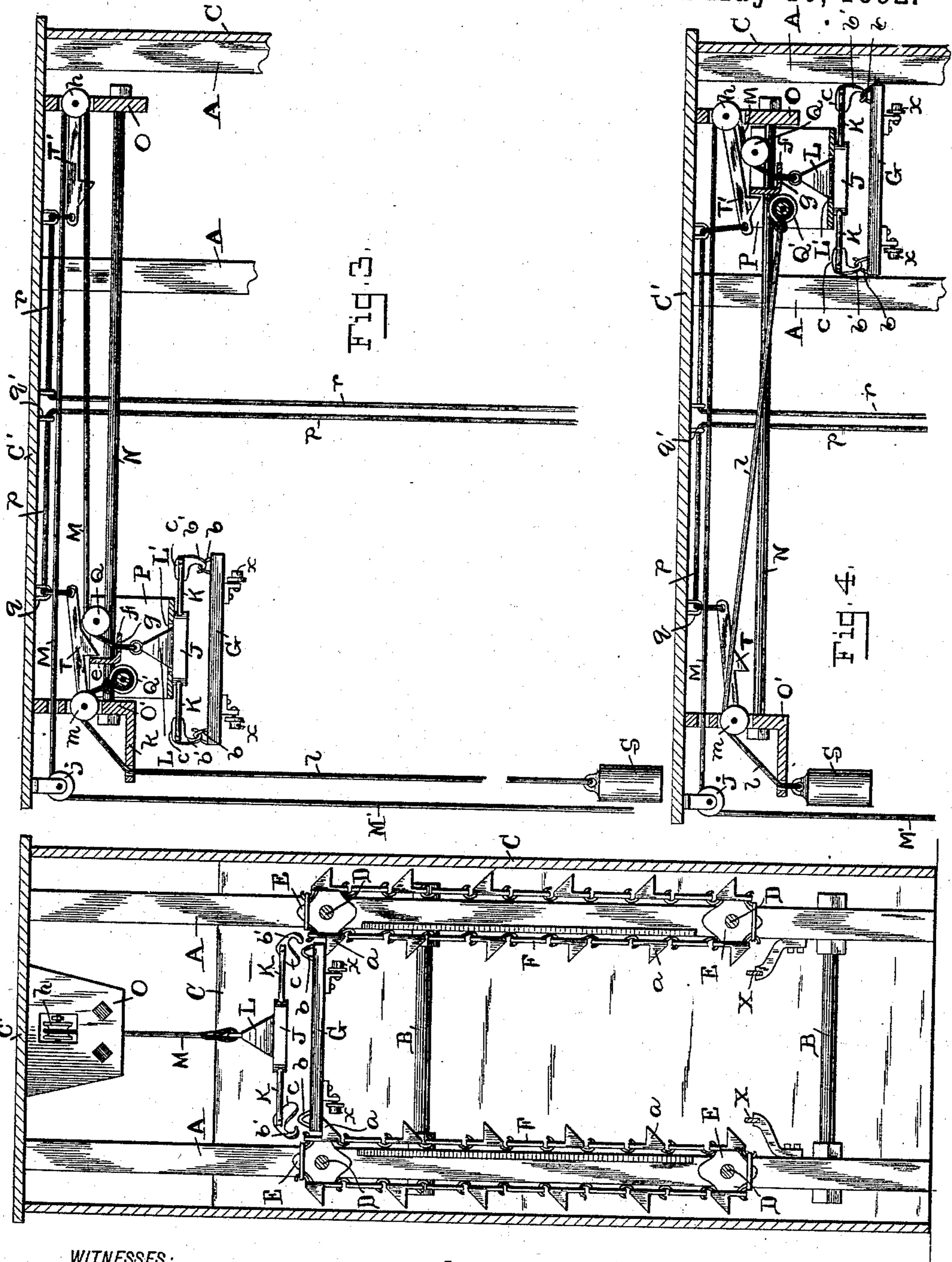
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Fig. 5.

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ATTORNEY.

UNITED STATES PATENT OFFICE.

JEAN MÜLLER, OF BALTIMORE, MARYLAND.

APPARATUS FOR CONVEYING MEAT THROUGH SMOKE-HOUSES.

SPECIFICATION forming part of Letters Patent No. 474,606, dated May 10, 1892.

Application filed September 14, 1891. Serial No. 405,614. (No model.)

To all whom it may concern:

Be it known that I, JEAN MÜLLER, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Smoke-Houses, of which the following is a specification.

This invention relates to an improvement in smoke-houses for smoking sausages, &c.; and the object in view is to provide mechanical means whereby the sausages may be passed through the smoke-house and thoroughly smoked without the operator having to enter the house at all, all the mechanism being operated from the outside.

To this end the invention may be said to consist in the novel features of construction and combinations of parts hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side view of the complete apparatus with the walls or casing of the smoke-house in section and showing a tray or frame of sausages about to be elevated and conveyed into the smoke-house; Fig. 2, an end view showing the tray or frame deposited in the smoke-house. Figs. 3 and 4 are sectional views of the lifting and carrying devices, illustrating the successive steps in depositing the sausages in the smoke-house. Fig. 5 is a detail top or plan view of the carriage which conveys the matter into the smoke-house, and Fig. 6 a detail top or plan view of the elevator and sausage-frame carried thereby.

The smoke-house is built with four corner-posts A, connected by suitable cross-pieces B, and is closed on all sides by a casing C. The fire is built in the bottom of the house and the smoke passes out of the top part, which is left open, as shown.

Within the smoke-house is a chain-carrier, which is constructed as follows: On two opposite sides of the smoke-house are journaled two shafts D—i. e., two shafts at each side and one above the other. Each shaft carries two sprocket-wheels E, and those on the upper shafts are in vertical line with those on the lower shafts, respectively. Each pair of these sprocket-wheels, comprising an upper and a lower one, carries a chain F, and there are thus four of these chains. Every other link

of each chain is formed with an outwardly-projecting lug *a*, and the chains are so timed that four of these lugs on the four different chains travel in the same horizontal plane and constitute a rest for the frames G, on which the sausages are hung, as will hereinafter appear. The two lower shafts are connected by a cross-shaft H and miter-gear I, and by means of a crank or other suitable device applied to one shaft the chain-carrier is operated.

The sausages are conveyed into the smoke-house and deposited on the carrier by the following-described means: They are first strung on rods in the usual way, which rods are fitted in frames G, the latter being provided with staples *b* at the corners. I provide an elevator, which consists of a center piece J and four radial arms K, each arm having at its extremity a pivoted hook *b'* to engage one of the staples on the sausage-frame, and having a weighted arm *c*, extending inward at right angles to the hook portion, whereby the latter will release from the staple automatically, as hereinafter explained. The center piece J has a quadrilateral projection L on its upper side, which tapers toward its upper end and to which is connected a cord M. This cord runs up to and through a carriage, which travels on horizontal rods or ways N, supported by brackets O O' on the under side of the roof or top C' of the smoke-house, which roof or top projects sufficiently to allow the carriage to travel on the rods or ways from the chain-carrier out to one side. The said carriage consists of a frame P, in one end of which are journaled rollers or wheels Q to travel on the upper side of the rods or ways N and in the opposite end of which are journaled rollers or wheels Q' to travel on the under side of said rods or ways. The frame has in its under side a square hole L' to receive the projection on the upper side of the elevator and guide the latter to its proper position. A cross-bar *e* extends across the frame above the rods or ways N and carries a guide-plate *f*, having an eye *g*. The cord M runs through this eye and thence out of the top of the carriage over a pulley *o* on the same shaft as the upper rollers Q and forward over the smoke-house, where it is carried around a pulley *h* in the bracket O and back along the under side of the roof or top

C' and over a pulley *j* at the outer end of the said roof, and its depending end M' is manipulated by the operator. A weight S is connected with the carriage by a cord *l*, which
 5 extends up through a guide-plate *k*, projecting from the bracket O', over a pulley *m* in said bracket and attaches to the carriage below the rods or ways N. A catch T, hinged to the bracket O', engages the cross-bar *e* of
 10 the carriage-frame and holds the carriage at the outer end of the track or way until released by means of a cord *p*, attached to the free end of said catch, and thence running up through a guide *q* on the under side of the
 15 roof C' and along said roof through another guide *q'*, its end depending within reach of the operator. Another catch T' is hinged to the bracket O at the opposite end of the track or way, and this latter catch is also to engage
 20 the cross-bar *e* and is operated by a cord *r*, which depends in proximity to the other cord *p*.

The operation of my apparatus as above described is as follows: The sausage-frame G, carrying the sausages, is connected with
 25 the elevator by inserting the hooks *b'* into the staples *b*. The weight of the frame and sausages holds these hooks vertical, so that they remain in engagement with the staples. Now the cord M' is drawn down, which
 30 raises the elevator and frame, and when the former reaches the carriage the projection L on its upper side enters the hole L' in the under side of the carriage-frame and is thereby guided to its proper position and there
 35 held and prevented from turning, so that it will enter the smoke-house without its arms encountering the corner-posts of the latter. The cord *p* is now worked to release the catch T from engagement with the carriage, and
 40 upon further operating the cord M' the carriage is drawn forward on the rods or ways N and carries the sausages into the top of the smoke-house, where the catch T' engages the carriage and holds it in this latter position.
 45 The cord M' is now relaxed, and the elevator lowers the sausage-frame and deposits it upon the lugs *a* of the chain-carrier. The weight being now removed from the hooks *b'*, their weighted arms *c* drop and release them
 50 from the staples of the frame. The cord M' is now again pulled down, which raises the elevator from the sausage-frame up to the carriage again, and the cord *r* is worked to release the catch T', when the weight S returns the carriage along the rods or ways N
 55 to its first position, and the elevator drops to take another frame of sausages. After the frame has been deposited on the chain-carrier, as above explained, the said carrier is
 60 operated by revolving the shafts which carry the sprocket-wheels, and the frame is lowered into the smoke-house until another set of rest-lugs are brought around into position to receive the next frame of sausages. Then the car-
 65 rier remains stationary until it receives this next frame.

The chain-carrier is constructed to accom-

modate a number of frames, and by the time the first frame reaches the bottom of the smoke-house it will be seen that the sausages
 70 carried by it have had time to become thoroughly smoked.

The frames are removed from the smoke-house when they reach the bottom through a door Z in the side of the said house, and they
 75 are run out over a track X, each frame being provided with small rollers *x* on its under side to facilitate their removal.

It will be seen that by use of my apparatus the sausages are passed through the smoke-
 80 house and thoroughly smoked without the operator having to enter at all.

It is evident that numerous changes may be made in the construction here shown and described, and I am not, therefore, limited to
 85 such construction, but consider myself entitled to all such changes therefrom as come within the spirit and scope of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters
 90 Patent, is—

1. In a smoke-house, the combination of a rectangular frame for holding the matter to be smoked, an elevator having four radial arms provided at their extremities with means
 95 of separable attachment to the four corners of the said frame, respectively, horizontal ways, a carriage thereon, a cord suspending the elevator and running through the said carriage and over a pulley at one end of said horizon-
 100 tal ways and thence to the opposite end of the latter, and a chain-carrier below one end of the horizontal ways and on which the rectangular frame is deposited to be conveyed through the smoke-house.

2. In a smoke-house, the combination of a rectangular frame for holding the matter to be smoked and having staples at the corners, an elevator having four radial arms provided at their extremities with pivoted overbal-
 110 anced hooks for engaging in the staples of the rectangular frame, respectively, horizontal ways, a carriage thereon, a cord suspending the elevator and running through the said carriage and over a pulley at one end of said
 115 horizontal ways and thence to the opposite end of the latter, and a chain-carrier below one end of the horizontal ways and on which the rectangular frame is deposited to be conveyed through the smoke-house.

3. In a smoke-house, the combination of a frame for holding the matter to be smoked, an elevator having means of separable attachment to said frame, horizontal ways, a carriage thereon, a cord suspending the elevator
 125 and running through the said carriage and over a pulley at one end of said horizontal ways and thence to the opposite end of the latter, catches pivoted at opposite ends of the horizontal ways and arranged to automati-
 130 cally engage and hold the carriage from movement on said ways during the raising and lowering of the elevator, cords attached to said catches, and a chain-carrier below one end of

the horizontal ways and on which the frame holding the matter to be smoked is deposited to be conveyed through the smoke-house.

4. In combination with a smoke-house having a chain-carrier, a carriage traveling on horizontal ways above said carrier and having a square opening in its under side, an elevator to take the frames which carry the matter to be smoked, said elevator having a projection on its upper side to engage the square hole in the under side of the carriage, a cord

connected to said elevator and passing up through the said carriage and thence above the chain-carrier, and a suitable catch to engage and hold the carriage, as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JEAN MÜLLER.

Witnesses:

F. P. DAVIS,
JNO. T. MADDOX.