

(No Model.)

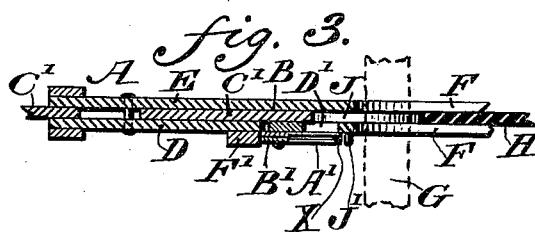
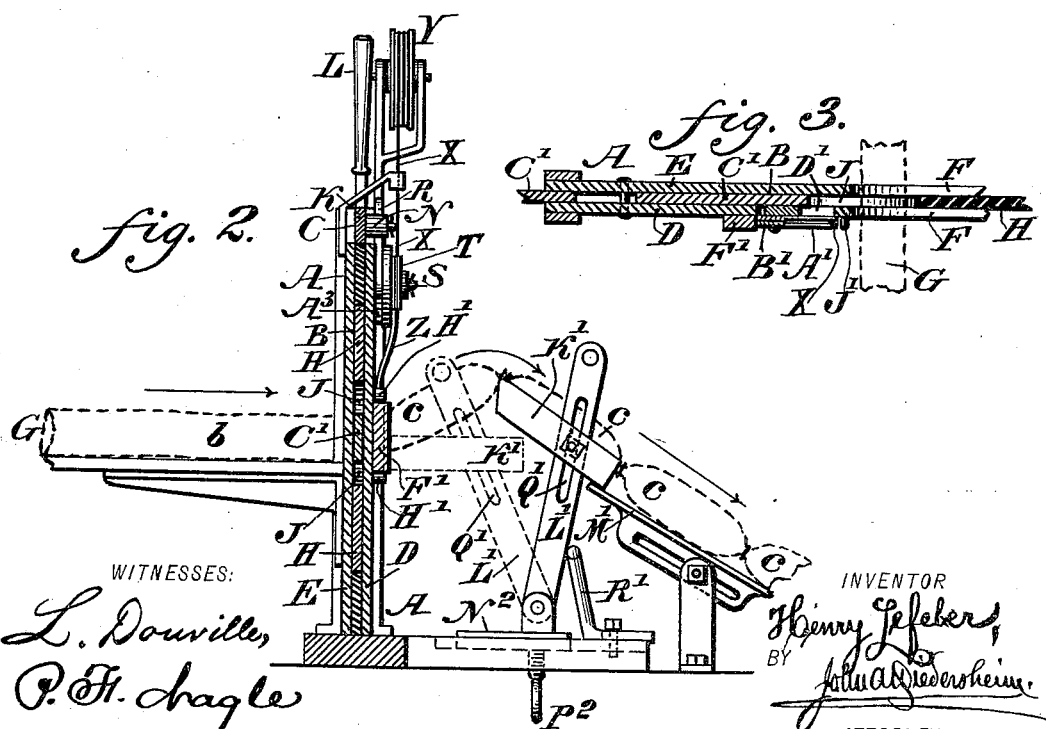
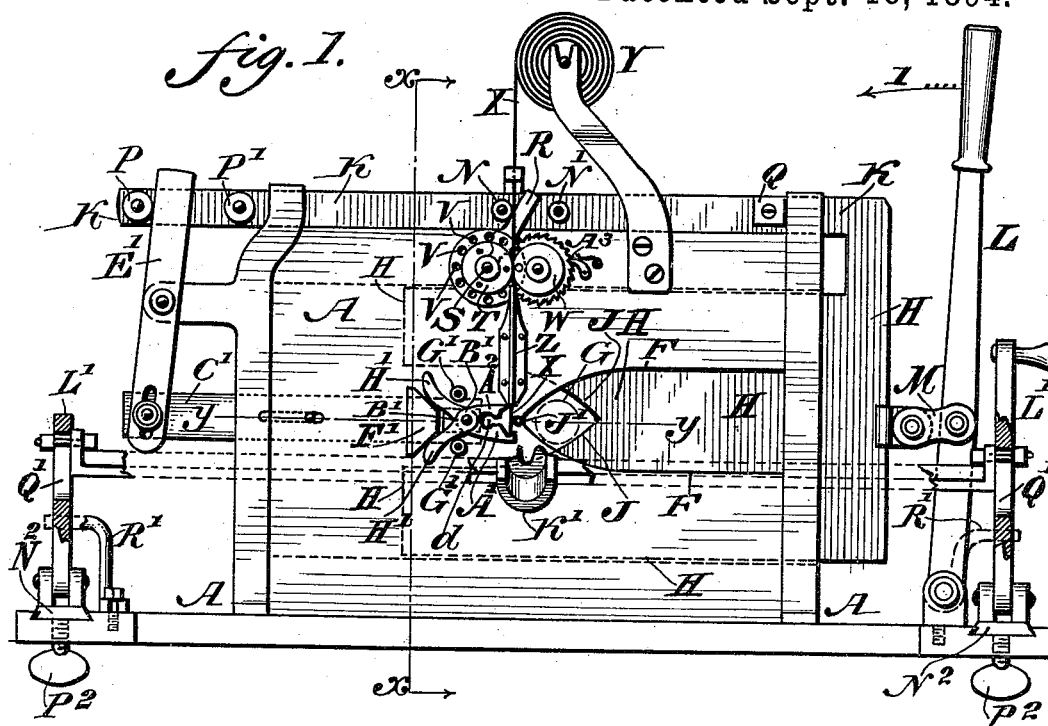
2 Sheets—Sheet 1.

H. LEFEBER.

MACHINE FOR FORMING SAUSAGES INTO LINKS.

No. 526,080.

Patented Sept. 18, 1894.



WITNESSES:

L. Douville,  
P. H. Chagler

INVENTOR

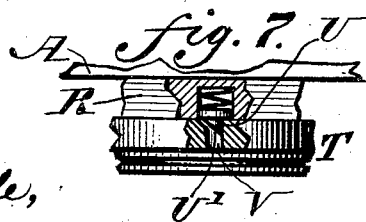
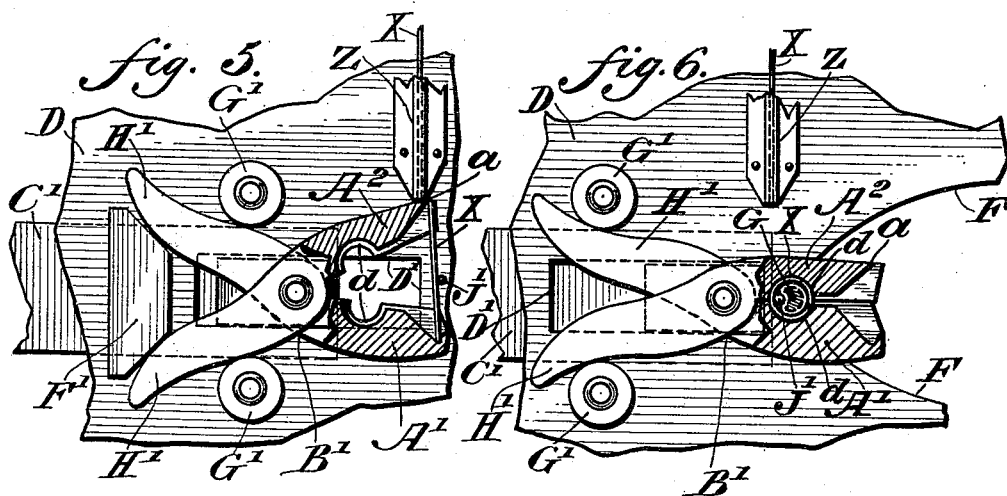
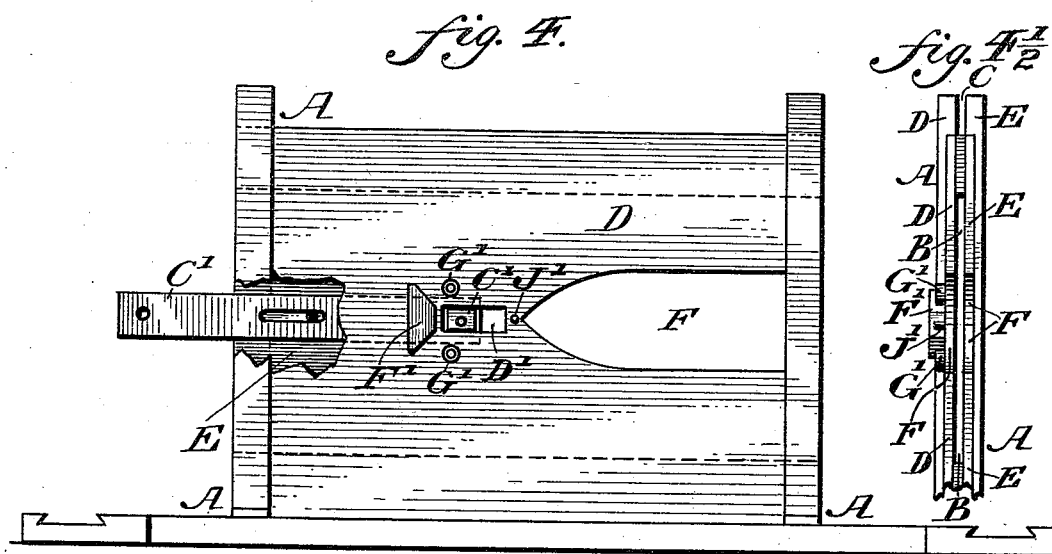
Henry Lefebvre,  
BY John A. Diederichsen.

ATTORNEY.

2 Sheets—Sheet 2.

No. 526,080.

Patented Sept. 18, 1894.



WITNESSES:

L. Douville,  
P. H. Hagle

INVENTOR  
Henry Lefebvre,  
BY John A. Dedersheim  
ATTORNEY.

# UNITED STATES PATENT OFFICE.

HENRY LEFEBER, OF PHILADELPHIA, PENNSYLVANIA.

## MACHINE FOR FORMING SAUSAGES INTO LINKS.

SPECIFICATION forming part of Letters Patent No. 526,080, dated September 18, 1894.

Application filed October 21, 1893. Serial No. 488,772. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY LEFEBER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Machines for Forming Sausages into Links, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a machine for forming sausages into links, embodying means for feeding a length of wire, severing the same into pieces of proper length, forming necks in the sausages, and bending the same around said necks, as will be hereinafter set forth.

Figure 1 represents a partial side elevation and partial vertical section of a machine for forming sausages into links, embodying my invention. Fig. 2 represents a vertical section on line *x, x*, Fig. 1. Fig. 3 represents a horizontal section on line *y, y*, Fig. 1. Fig. 4 represents a side elevation of a portion of the machine. Fig. 4½ represents an end elevation of a portion of the machine. Figs. 5 and 6 represent side elevations of a portion of the machine, the same being shown in different positions in the two figures. Fig. 7 represents a partial plan view and partial horizontal section of a detached portion of the machine.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates the frame of the machine, the same having spaces B and C between its upright sides D and E, as most clearly shown in Fig. 4½. The sides D and E are each formed with an opening F, having one of its ends of reduced width to receive the forward end of a sausage G, before the same is formed into links.

Guided in the space B is a sliding plate H, formed with an opening J, similar in shape to the openings F, but turned in an opposite direction to the latter, so that when said plate H is moved in one direction, the space existing between the openings F and J will be enlarged to permit the sausage to be freely drawn through said space by a pocket hereinafter described, and when said plate H is moved in an opposite direction, the space between said openings F and J will become re-

duced in size, and compress the sausage at this point. The plate H is provided at the top with a bar K which is guided in the space C, and moves forward and backward with said plate H. Reciprocating motion is imparted to the plate H by a lever L, pivoted to the base of the frame A, and connected by a link M, or any suitable means with said plate. The bar K is provided with rollers N, N', and P, P', and a stop Q. When the lever L is moved in the direction indicated by the arrow *l*, the bar K is moved from right to left, and the roller N' is brought in contact with a lever R pivoted on a shaft S, on which is mounted the feed roller T, and causes said lever to oscillate from right to left, said lever R being provided with a spring-actuated dog U, see Fig. 7, adapted to enter any one of the circularly-arranged openings V in said feed roller T, which may be in line with said dog, when the lever R has been moved by the roller N' its full extent to the left, it being noticed that the dog U has its outer end beveled as at U' to permit said dog to freely move out of an opening V without affecting the feed roller T, when the lever R is moving from right to left.

When the lever L is moved from left to right, the bar K and consequently the roller N thereon, will also move in the same direction, and the lever R will accordingly be moved from left to right, and as the point of the dog U is within an opening V and bears against the wall of the same, it is evident that the dog cannot leave said opening and must consequently cause the feed roller T to rotate, thus imparting motion to a feed roller W, which is in frictional contact therewith. Between these two rollers is passed a wire X running from a reel Y mounted on the frame A, and passing through a guide Z and directed to the lower jaw A' of the pliers B', which latter are pivoted to a sliding bar C' guided in a portion of the space B. It will be noticed, that as the side D of the frame A occupies a position between the sliding bar C' and pliers B', it is necessary that said side D be formed with a slot D', through which is passed a portion of the sliding bar C' in order that the pliers B' may be pivoted thereto from the outside of the frame A.

The slot D' is longer than the portion of

the sliding bar within the same, so as to permit said bar to move from right to left, and vice-versa, in order to operate the pliers B', as will be hereinafter explained. A reciprocating motion is imparted to the bar C' by the bar K, rollers P and P', and a lever E', the latter being pivoted to the frame A. The side D of the frame A is provided with a block F' and rollers G' for opening and closing the pliers B'. When the lower end of the wire X reaches the jaw A' of the pliers B', the stop Q comes in contact with a portion of the frame A, and prevents the lever L, and consequently the plate H, and the several parts connected therewith from being moved farther than necessary. The roller P causes the lower end of the lever E', and consequently the bar C' connected therewith, to move from right to left, and the wings H' of the pliers B' are brought in contact by said bar with the block F', which causes said wings, and consequently the jaws A' and A<sup>2</sup> of the pliers B' to open, as shown in Fig. 5. The feeding of the wire X and the opening of the jaws A' and A<sup>2</sup> occur at the same time.

When the lever L is moved in the direction indicated by the arrow *l* the bar C', and consequently the pliers B' are caused to travel from left to right, and the wings H' of the latter coming in contact with the rollers G' are brought toward each other by the same, thus causing the jaws A' and A<sup>2</sup> to close. The point of the jaw A<sup>2</sup> is sharpened as at *a*, see Figs. 5 and 6, so as to cut the wire X in its path, when said jaw is advanced.

Projecting from the side D of the frame A, and below the guide Z, is a stud J' against which the wire is adapted to rest while the same is being cut by the jaw A<sup>2</sup>, and also while being bent or wrapped around the sausage G by the closing of the jaws A' and A<sup>2</sup> of the pliers B', it being noticed that when said pliers have been advanced to their full extent the wire X between the jaws of the same occupies the recessed portions *d* of the jaws A' and A<sup>2</sup>, see Figs. 1, 5 and 6.

After the plate H has been moved to its full extent from right to left, and the sausage within the space between the openings F and J has been compressed by said plate, and the wire X wrapped around the compressed portion of the sausage, the pocket K', which has been hereinbefore referred to, and is secured to the levers L', is brought under the sausage, as shown in dotted lines in Fig. 2. The lever L is then moved from left to right, and the space between the openings F and J, which is accordingly enlarged, permits the sausage to pass through the same in order to be conveyed by said pocket K' to an inclined plane or chute M', which directs the same to wherever desired. It will be noticed that the sausage, before reaching the frame A, is in one length, as shown in dotted lines at *b* in Fig. 2, and that after the same has been operated upon by the machine, it is formed into links, as at *c* in Fig. 2. The levers L' are

pivoted to sliding plates N<sup>2</sup> guided in the base of the frame A, and said plates are held in position by thumb screws P<sup>2</sup>, by which means the pocket K' may be adjusted horizontally.

The levers L' are formed with slots Q' to receive the bolts of the pocket K', to permit the latter to be adjusted vertically. These two adjustments are required in order to regulate the throw of the lever L', relatively to the length of a link of sausage, and to cause the pocket K' to reach the same place on the frame A, whether the links be long or short.

R' designates an adjustable stop for the lever L' to prevent the same from being thrown back farther than necessary on its return motion.

The feed rollers T and W, owing to a check pawl and ratchet mechanism A<sup>3</sup>, are prevented from rotating in a reverse direction to that hereinbefore described, and thus the wire X cannot be withdrawn from the roller by the back action of the reel Y.

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

1. In a machine for the purpose named, a frame having the openings F therein, a plate movable in said frame and provided with the opening J, a wire feed on said frame, a wire-holding device on a sliding bar movable on said frame, and a cutter on said holding device, said parts being combined substantially as described.

2. In a machine for the purpose set forth, a frame with an opening therein, a plate movable thereon and having an opening therein, a wire feeding device on said frame operated by the contact with mechanism connected with said plate, a sliding bar guided on said frame and carrying pliers having wire-holding jaws, mechanism on the frame for opening and closing said jaws, and a cutter for said wire, said parts being combined substantially as described.

3. A frame having an opening therein, a movable plate guided on said frame and having an opening therein adjacent to said opening in the frame, a wire feeding device on said frame operated by contact with mechanism substantially as described on said plate, a sliding bar guided on the frame and connected with a lever pivoted to the frame, mechanism on said plate contacting with said lever for operating said bar, pliers carried by said bar for holding said wire, mechanism on the frame for opening and closing said pliers, and a cutting device for said wire, said parts being combined substantially as described.

4. In a machine for the purpose set forth, a frame with the opening F therein, a sliding frame guided on said frame and having the opening J therein, the rollers N and N' on said plate, a shaft on said frame having a feed roller thereon with openings therein, a lever pivoted on said shaft having a spring-

actuated dog with a beveled end connected therewith, said lever being adapted to be engaged by either of said rollers, a feeding wheel with ratchet and pawl on said frame adjacent to said feed roller, a wire guide on said frame, and a wire-holding device on said frame adjacent to said opening F, said parts being combined substantially as described.

5. In a machine for the purpose set forth, a frame with the openings F therein, a sliding plate guided on said frame and having the opening J therein, a wire feeding device on said frame operated by contact with and the movement of said plate, a sliding bar guided on said frame and operated by a lever connected with the frame and adapted to engage with rollers on the said plate, pliers with wire-holding jaws carried by said bar, a block and rollers on said frame for opening and closing said jaws, and a wire cutting edge on the upper one of said jaws, said parts being combined substantially as described.

6. The frame, and the block F' on said frame, in combination with the pliers B', the sliding bar C' carrying said pliers, and the rollers G' on the frame, whereby said pliers

may be opened and closed, substantially as described.

7. In combination with the bending pliers and cutter, the receiving pocket K', the oscillating lever carrying the same, and the inclined chute M' at the discharge end of said pocket, substantially as described.

8. The receiving pocket K', the oscillating lever L' carrying the same, the sliding plate N<sup>2</sup> to which said lever is pivoted, and the tightening screw P<sup>2</sup>, substantially as described.

9. The combination of the receiving pocket K', the lever L', carrying the same, and the chute M', said lever being slotted and adjustably receiving the bolt of said pocket substantially as described.

10. The receiving pocket K' and the lever L' carrying the same, the adjusting stop R' on the frame with which said lever contacts on its return motion, and the chute M' substantially as described.

HENRY LEFEBER.

Witnesses:

JOHN A. WIEDERSHEIM,  
W. C. WIEDERSHEIM.