J. BILLS.

Sausage Machine.

No. 27,422.

2 Sheets—Sheet 1.

Patented March 13, 1860.

Fig. 1

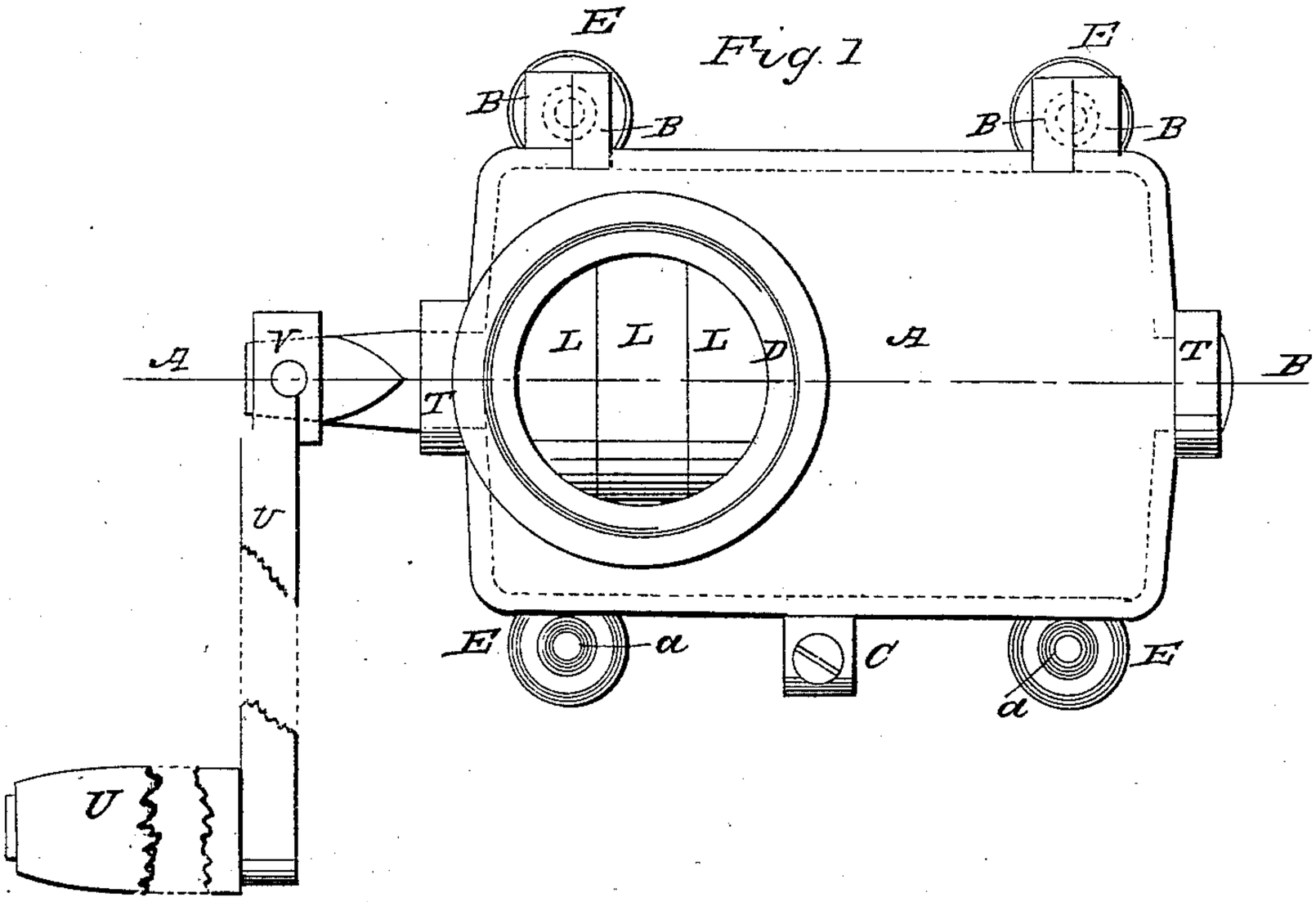
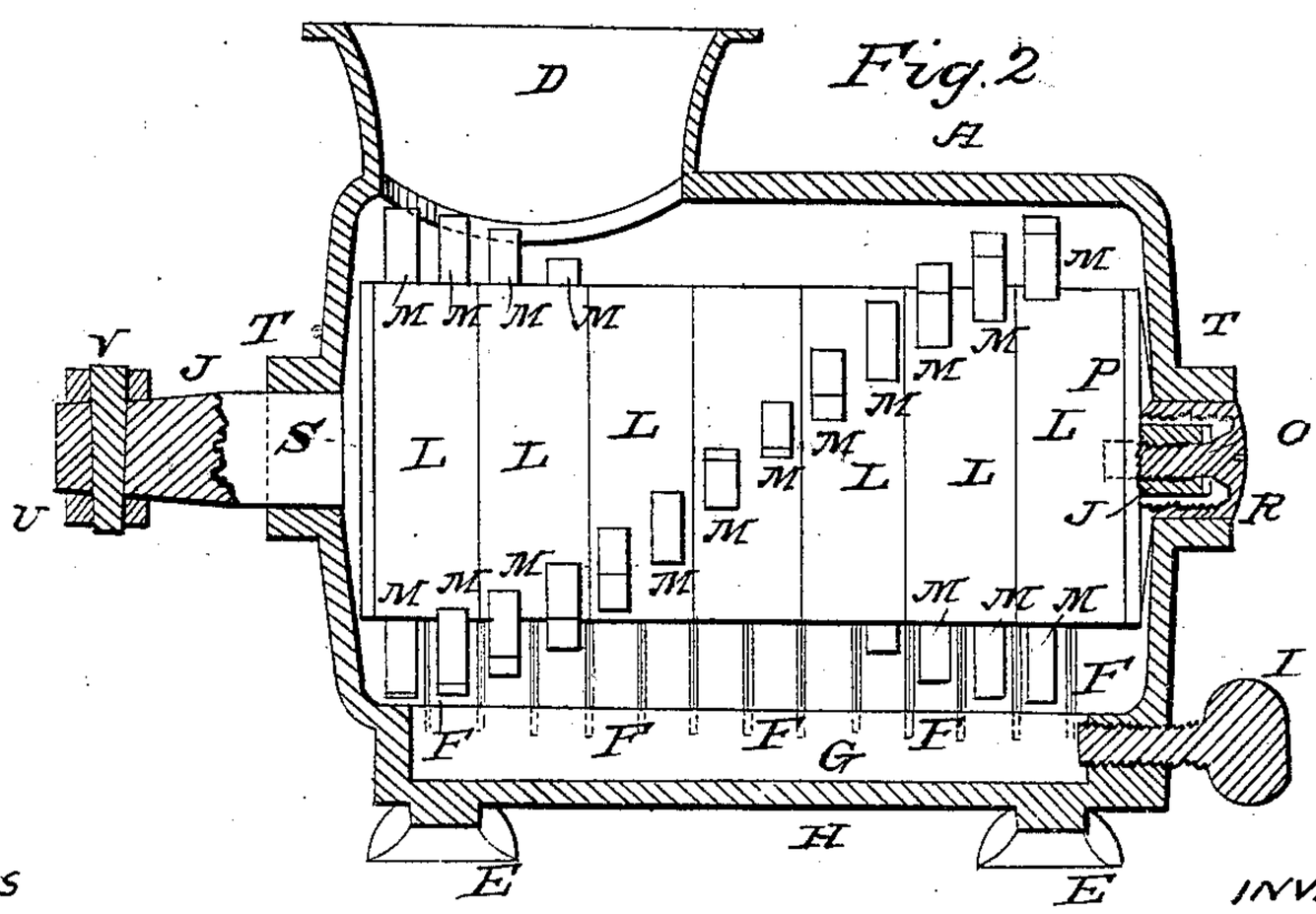


Fig. 2



WITNESSES

Temple Tibbetts

M. B. Smith

INVENTOR

Joshua Bills

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Fig. 3

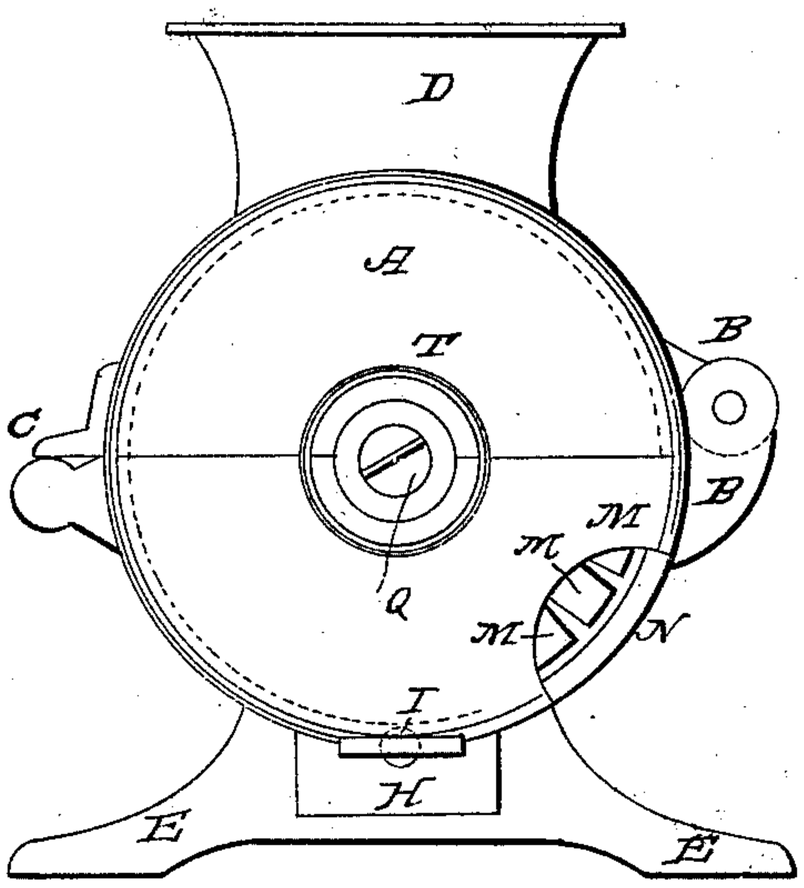


Fig. 5

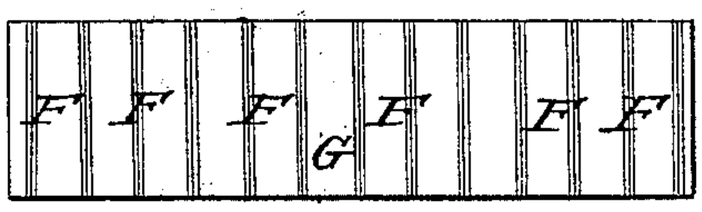


Fig. 6

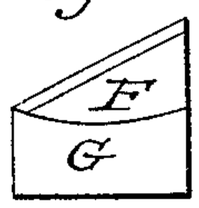


Fig. 7

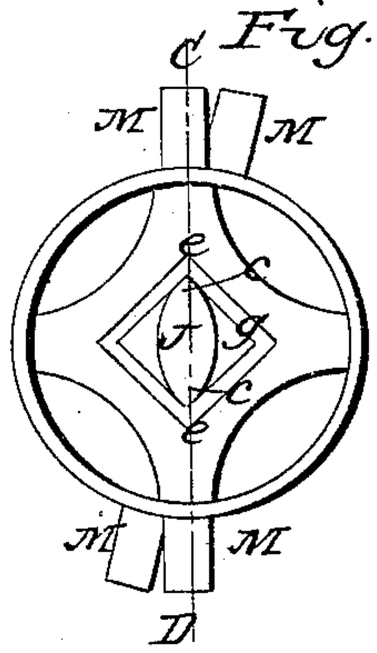


Fig. 8

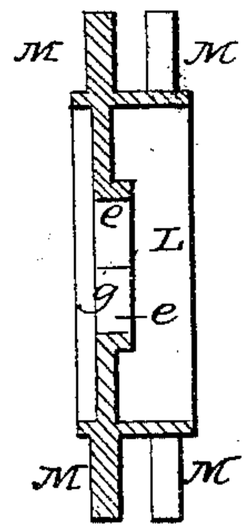


Fig. 9

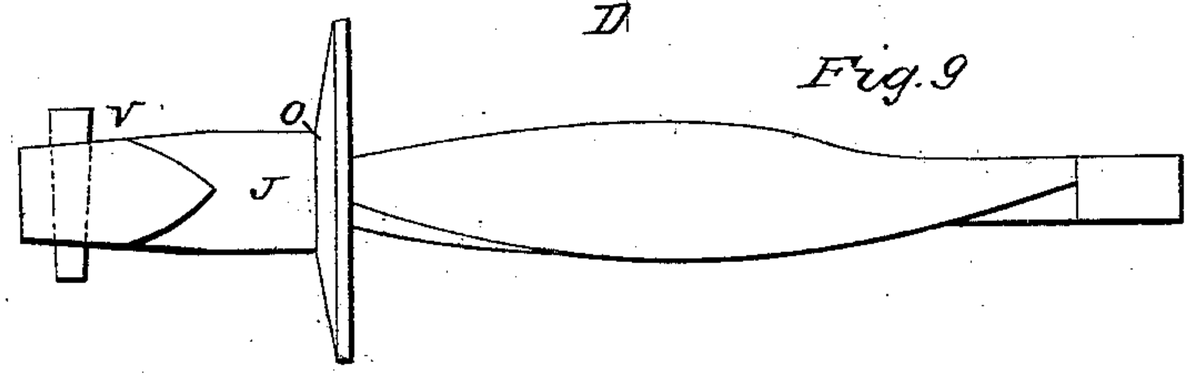
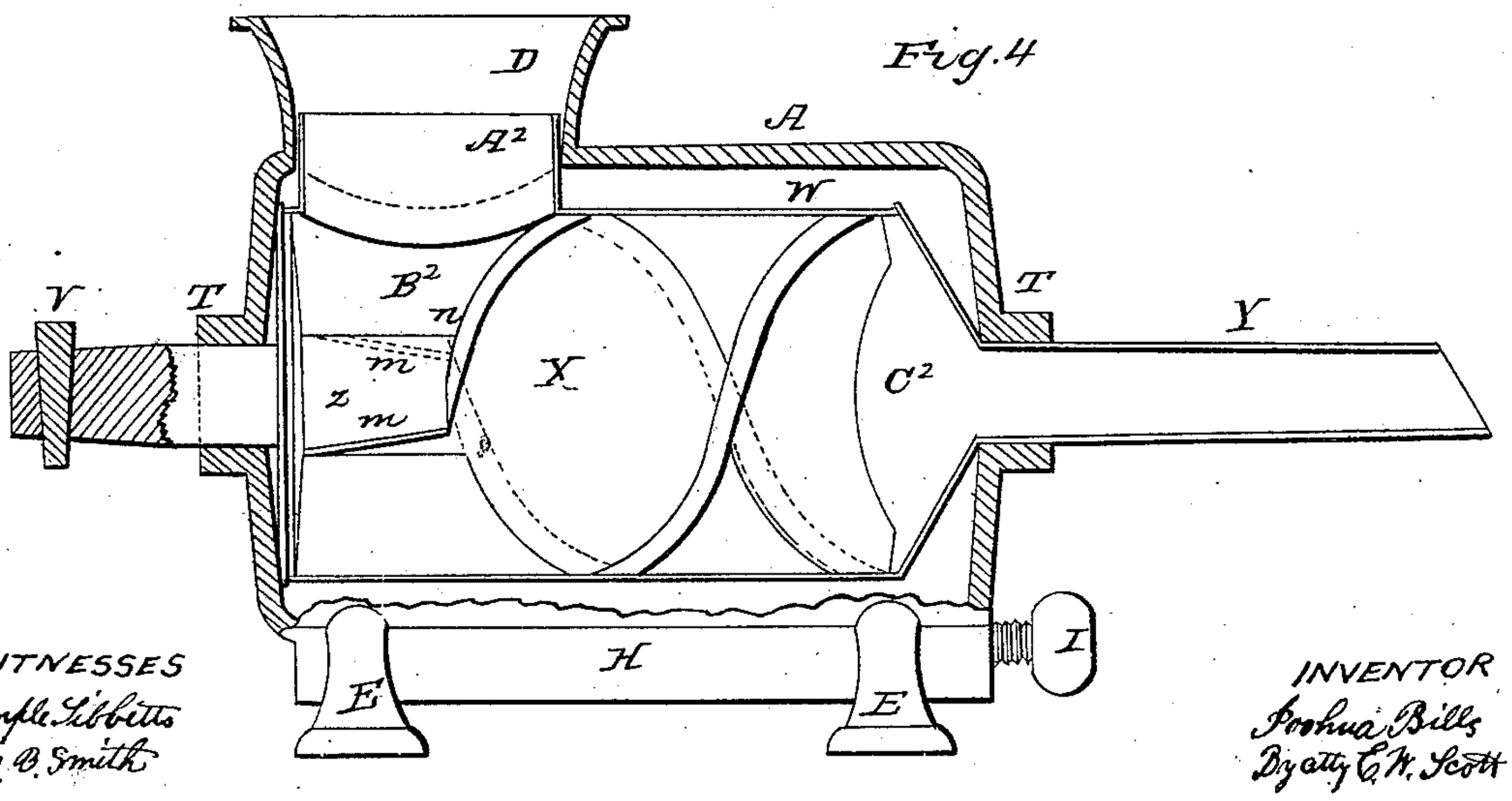


Fig. 4



WITNESSES
Temple Sibbetts
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INVENTOR
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By atty C. W. Scott

UNITED STATES PATENT OFFICE.

JOSHUA BILLS, OF SOUTHINGTON, CONNECTICUT.

IMPROVED SAUSAGE-MACHINE.

Specification forming part of Letters Patent No. **27,422**, dated March 13, 1860.

To all whom it may concern:

Be it known that I, JOSHUA BILLS, of Southington, in the county of Hartford and State of Connecticut, have invented a new and useful Sausage-Machine; and I hereby declare that the following specification, in connection with the accompanying drawings and references marked thereon, constitute a lucid, clear, and exact description of the construction and use of the same.

In referring to the said drawings, Figure 1 denotes a plan of the cutter ready for use; Fig. 2, a longitudinal and vertical section of the case on line A B of Fig. 1, and showing the cutting-cylinder therein in elevation; Fig. 3, an end elevation of the cutter. Fig. 4 denotes a longitudinal and vertical section in part of the cutting-case with its cutting-cylinder and the knives removed and the stuffer-case in section and its stuffer in elevation, placed therein ready for operation; Fig. 5, a plan of the cutting-knife disconnected from the case; Fig. 6, an end view of the same; Fig. 7, an end elevation of one of the cutters with its spirally-twisted shaft shown in section therein; Fig. 8, a section on line C D of Fig. 7; Fig. 9, an elevation of the spirally-twisted cutter-shaft.

The nature of my invention consists in constructing the cutting-cylinder of a number of heads all alike, they having cutting-prongs projecting from their periphery and a square hole through their center. Two of the most distant corners of square holes fit to the corners of a spirally-twisted shaft, which imparts the same twist to the cutting-prongs, which shaft receives the driving-crank, this shaft forcing the cutter-heads to turn and prevent their slipping, they being drawn together laterally by a screw; also, in the construction of a series of cutting-knives united to one piece of metal by casting it thereon and providing a recess or cavity in the bottom of the cutter-case, where these knives can all be secured by one screw, the cutting-prongs passing between them in revolving and forcing and cutting the meat thereon; also, in the stuffer, consisting of a section of a screw turning within a syringe-shaped case, the forward end of the stuffer being concaved to freely force the sausage-meat forward, and the feeding end having a portion of its spiral wings removed and thin inclined planes inserted to freely admit and draw in the sausage-meat to be forced forward into the skins; also, in so combining the case with the cutter and cutting-knives and the stuffer that both may be operated in the same case for making sausages, all as will be hereinafter seen.

To enable persons skilled in the art to which my invention appertains to construct and carry out the same, I will proceed to describe it, as follows:

I construct a cast-iron case (seen at A) divided and hinged at B at its center into two main portions, the clasp or connection being seen at C. An opening or hopper D is formed through the top half of the case A, in which the meat or substance is fed into the machine to be cut, and through the lower part of case A a hole is formed (seen at N) for the discharge of the meat when cut.

The lower part of the case A has four stands or legs (seen at E) for securing it to a bench or table by screws through holes *a*.

The cutting-knives are seen at F, and are united or kept in position by first placing them in a mold and then pouring a molten soft metal around their lower portions, (seen at G,) which constitutes the knives fixed in a solid metal bar with their cutting-edges projecting above and toward the center of the case. The bar G, which carries the cutting-blades, is placed in the cavity H, formed in the lower portion of the lower case to receive it and be firmly held therein by a single screw I.

The cylinder is constructed of a central shaft, (seen at J,) it being twisted spirally and each of its edges or corners *c* fitting the most distant corners *e* of a square hole *g*, formed through each of the several heads or section-pieces L, they being all cast from one pattern, and consequently their teeth or cutters M are of the same form spirally when placed on the shaft as the shaft itself. The object of this is to equalize the cut entirely around the cylinder and to give the meat a lateral movement from the hopper during the cutting operation toward the opposite end of case A, and to then discharge it through the opening N, formed through it. This construction of cylinder allows it to be readily taken entirely apart for cleaning all its parts or for any other purpose.

The cutter-shaft J has a stationary collar

O, against which the peripheries of the several head-pieces L are pressed and held laterally by means of the movable collar P on opposite end of shaft J, which is drawn up by the screw Q in end of shaft J, by turning of which these collars are brought toward each other and press the head-pieces L between, they being kept from turning upon the shaft J by its corners *c* coming in contact with corners *e* of square holes *g* in heads L. The portion R of removable collar P constitutes one of the journals for the shaft J, the other being seen at S, both constituting the journals for the cutter, which freely revolves in the bearings T, formed in the upper and lower case A. One end of shaft J is squared and tapered to receive the drive-crank U, which is held thereon by pin V.

The teeth or cutting-prongs M are so positioned laterally as to pass the cutting-blades F, the edges of which are set at an incline or tangent with the cutting-cylinder in order for it to give the meat a shearing spiral and consequent easy and effectual cut with little power.

That part of my machine for stuffing the sausage consists of a tin case W, within which is placed and operated a stuffer X, they being placed and operated within the case A for use, first removing the cutting cylinder and knives by opening the case A and lifting out the cutting-cylinder and then turning back the screw I from the knife-bar and removing it. The tin stuffer-case W (shown in section at Fig. 4) terminates in a nozzle Y, which rests in one of the bearings T, and is to receive the sausage-skin which is to be filled, a part of case W being projected up, which fits into hopper D, as seen at A^2, the upper part of case A readily shutting down thereon.

The stuffer X is made spirally twisted, as seen, Fig. 4, which is fitted to fill and turn freely in large part of case W, it having a stationary collar near its end, (seen at Z,) which is fitted to large end of tin case W, its end constituting the journal on which it revolves and terminating in a square shape to receive the same crank U by which the cutting-cylinder is turned, and is connected by pin V in the same manner.

The stuffer, in order to readily receive and effectually force forward the sausage-meat into the skin, must be necked down or have a portion of the spiral wings removed (seen at B^2) and thin inclined planes *m* inserted, which freely allows the sausage-meat when put into the hopper D to descend into this cavity B^2. Then the edges *n* of stuffer X receive and the spiral wings force the meat forward into the skin, the end of stuffer X being concaved, as seen at C^2, to freely force the meat first into the nozzle Y and then into the skin.

Cooked meat, vegetables, and other substances may be cut on my machine, if desired.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The spiral shaft J, passing through the central slots *g* of the heads L, essentially in the manner and for the purposes fully set forth.

2. The cutting-knife F, united solidly to a metal bar G by its being cast thereon and forming a cavity H in the bottom of case A to receive this knife and so position it by the single screw I, essentially in the manner and for the purposes fully set forth.

3. The forward end of the stuffer being concaved at C^2 and the feeding end having a portion of its spiral wings removed at B^2 and inclined planes *m* inserted, essentially in the manner and for the purposes fully set forth.

4. The arrangement of the case A, the stuffer X, and its case W so that both the cutter and stuffer may be operated in the same case, essentially in the manner and for the purposes fully set forth.

JOSHUA BILLS.

Witnesses:
M. A. SCOTT,
E. W. SCOTT.