

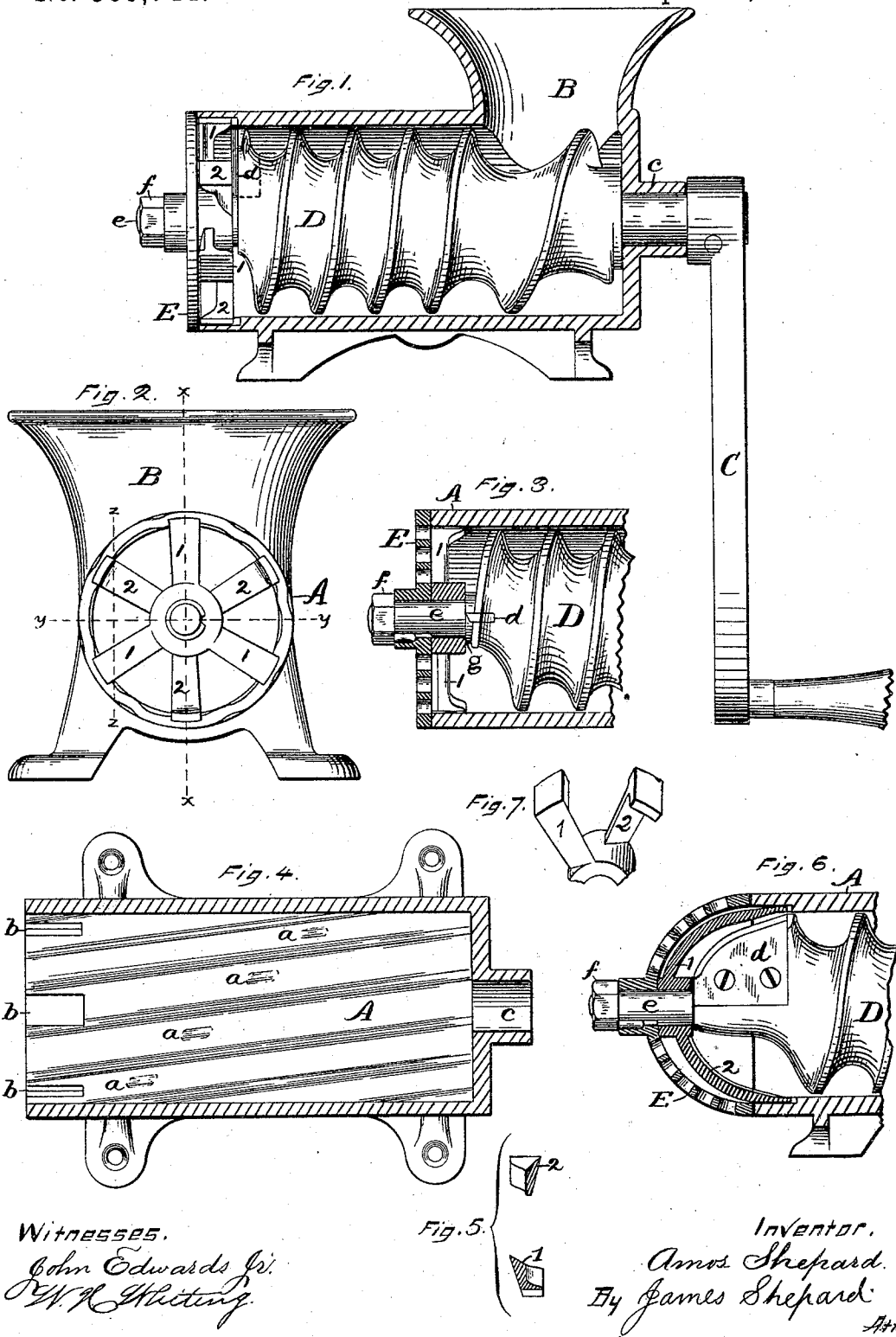
(No Model.)

A. SHEPARD.

MEAT CUTTER.

No. 369,744.

Patented Sept. 13, 1887.



Witnesses.

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UNITED STATES PATENT OFFICE.

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MEAT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 369,744, dated September 13, 1887.

Application filed February 14, 1887. Serial No. 227,476. (No model.)

To all whom it may concern:

Be it known that I, AMOS SHEPARD, a citizen of the United States, residing at Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Meat-Cutters, of which the following is a specification.

My invention relates to improvements in that class of meat-cutters in which there is a combined feeding and cutting mechanism; and the objects of my improvements are, in general, to simplify the construction and to render the machine more efficient and convenient.

In the accompanying drawings, Figure 1 is a vertical section of the case of my machine on line *x x* of Fig. 2, with the other parts shown in elevation. Fig. 2 is an end view of my machine, with the perforated shear-blade removed. Fig. 3 is a partial section on line *y y*, Fig. 2, and partial elevation of a portion of my machine. Fig. 4 is a horizontal section of the lower part of the case on line *y y*, Fig. 2. Fig. 5 is a vertical section of part of the stationary knives on line *z z*, Fig. 2. Fig. 6 is a vertical section of a portion of my machine, showing a modification in the form of the perforated blade; and Fig. 7 is a perspective view of one knife of each set and a portion of the hub to which they are connected.

The case A and its hopper B may in their general form be of any ordinary style. I prefer to form the case with spiral ribs extending to the discharge end of the case, and between said ribs in the lower part of the case to place short ribs *a*, arranged with each successive one a little nearer the discharge end of the case, as shown in Fig. 4, to improve the efficiency of the feed. I provide the inside of the case, near its discharge end, with longitudinal grooves or recesses *b*, Fig. 4, to receive the ends of stationary or fixed knives, hereinafter described. The opposite end of the case is provided with the usual central hub, *c*, in which the shaft-bearing for that end is formed, and against which the hub of the driver or crank C abuts.

Within the main portion of the case is the feed-screw D, of any ordinary construction, and for which other ordinary feed mechanism may be substituted as an equivalent therefor. At the discharge end of the feed-screw, near the

end of its thread, is a sharp edge or knife, *d*, Figs. 1 and 3, formed on said screw or rigidly secured so as to rotate therewith, and projecting beyond the end of the screw from said knife is the trunnion or shaft end *e*, having a stop-shoulder, *g*, in the same plane as the edge of the knife *d*. Fitted to said shaft end, so that the shaft may revolve therein, is a hub bearing two sets of knives, 1 1 1 and 2 2 2. The knives 2 are sharpened on the edge which faces the knife *d* at the end of the screw, and the side farthest from the screw (the outer side) is beveled back wedge-shaped, so as to force the meat, when cut off by the knives 2, outwardly away from the screw. The other knives, 1, are sharpened on the front edge, but are beveled in the opposite direction. The ends of all these knives preferably rest within the recesses *b*, Fig. 4, of the case, so as to hold them against rotation and to center their hub within the case; but the recesses are best made long enough to leave the position of the knives relatively to the length of the case to be determined by the shaft of the feed-screw.

Outside of the knives 1 2, I secure upon the shaft the perforated or open-work shear-blade E by means of the nut *f*. The shaft end and central opening in the blade E should be provided with some means—as, for instance, a short spline and slot—to make the blade revolve with the shaft and feed-screw, and also to permit it to be forced along on the shaft by the nut *f* until the blade E strikes the knives and forces them along until stopped by the stop-shoulder on the shaft to cause said blade to properly bear against the knives 1 for cutting action. The nut *f* will hold the blade and knives in their adjusted position, when thus adjusted on the shaft, wholly independent of the case, and the pressure of the feed-screw will not in the least change said adjustment. The blade E, I prefer to make of a diameter equal to the external diameter of the case and have it come up toward and cover the end, as shown.

The knife *d*, as shown, is made of a flat blade set in a slot, firmly secured to the screw and moving with it as if the screw and knife were in one piece. The shaft end *e* receives the hub of the knives 1 and 2, and also the hub of the shear-blade E, so that the nut *f* secures said parts upon the shaft of the feed-screw.

The outer ends of the knives 1 and 2 rest within slots in the case to prevent said knives from rotating; but these slots are left open at the end of the case, so that they do not in any way prevent said knives from being slipped from out of the end of the case. The shaft and its appendages are secured within the case by fastening the crank or driver C to the end of said shaft, as shown in Fig. 1. The hub of the crank C bears against the end of the central hub, *c*, and the crank may be secured to the shaft by any ordinary means—as, for instance, by a pin, as shown. By detaching said crank all the other parts may be slipped out of the case, leaving the whole machine practically in only two pieces besides the crank, so that it is very convenient to clean. It is also cheaply constructed, and is very efficient and rapid in its work.

The modification shown in Fig. 6 requires no special explanation, as it differs from the construction shown in the other figures only by the employment of a hemispherical-shaped blade instead of a flat disk and a corresponding change in the shape of the several knives.

In both forms the knives 2 are opposite the space between two adjoining knives 1 in the other set and are back from the blade E, so as to leave a clearing-space to let the meat by said knives 2 as it is forced against said blade.

I do not claim, broadly, the combination of feed mechanism and a cutting mechanism in which a perforated shear blade is employed, either fixed or rotary.

I claim as my invention—

1. In a meat-cutter, the combination of the shaft having the stop-shoulder *g* at its outer end, a series of knives having a central hub fitted to said shaft and free to slide up against said shoulder, the shear-blade also fitted to said shaft and free to bear against said knives when their hub is in contact with said shoulder, and the adjusting-nut to bear against said shear-blade, substantially as described.

2. In a meat-cutter, the combination of a feed-screw and shaft, a series of knives, and a shear-blade secured to one end of said shaft, the case A, having the hub *c*, and the driver C, secured to the opposite end of the shaft in contact with the hub *c*, and constituting the means for holding the entire mechanism within the case, substantially as described, and for the purpose specified.

3. In a meat-cutter, the combination of the

rotary shear-blade E, the fixed knives in two sets, the rotary knife *d*, and the case and shaft for mounting said parts, one set of the knives acting in connection with the rotary shear-blade and the other set acting in connection with the knife *d*, substantially as described, and for the purpose specified.

4. The combination, with the case, of the feed-screw, the knife *d* at the end of the thread, and the shear-blade at the outer end of the shaft of said screw, and both rotating therewith, and the knives in two sets secured in the case, one set against which the knife *d* acts and the other set against which the shear-blade acts, substantially as described.

5. In a meat-cutter, the combination of a case and driving mechanism, the shear-blade, the knife *d*, and the interposed two sets of knives, having the set which acts against the knife *d* beveled back in wedge form in a direction to force the meat toward the shear-blade, substantially as described, and for the purpose specified.

6. In a meat-cutter having feeding mechanism, a driving-shaft, the shear-blade and the knife *d*, both rotating with said shaft, and a series of stationary knives in two sets, the stationary knives located between said shear-blade and knife *d* and having all their front edges sharpened, while the outer sides of the stationary knives in the two sets are beveled back from the cutting-edges in opposite directions, substantially as described, and for the purpose specified.

7. In a meat-cutter, the combination of the feed-screw with the case having long ribs and on its lower part the intermediate short ribs *a*, arranged with each successive one in advance of the other, substantially as described, and for the purpose specified.

8. In a meat-cutter, the combination of the two sets of knives, the main shaft, the shear-blade rotating with said shaft for working against the outer set, and a knife also rotating with said shaft on the other side of said knives for working against the inner set, the inner sets of knives, 2, having a clearing-space between them and the shear-blade, substantially as described, and for the purpose specified.

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Witnesses:

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