D. H. LINTNER.

Mincing-Machine.

No. 223,809. Patented Jan. 27, 1880.

Fig. 1.

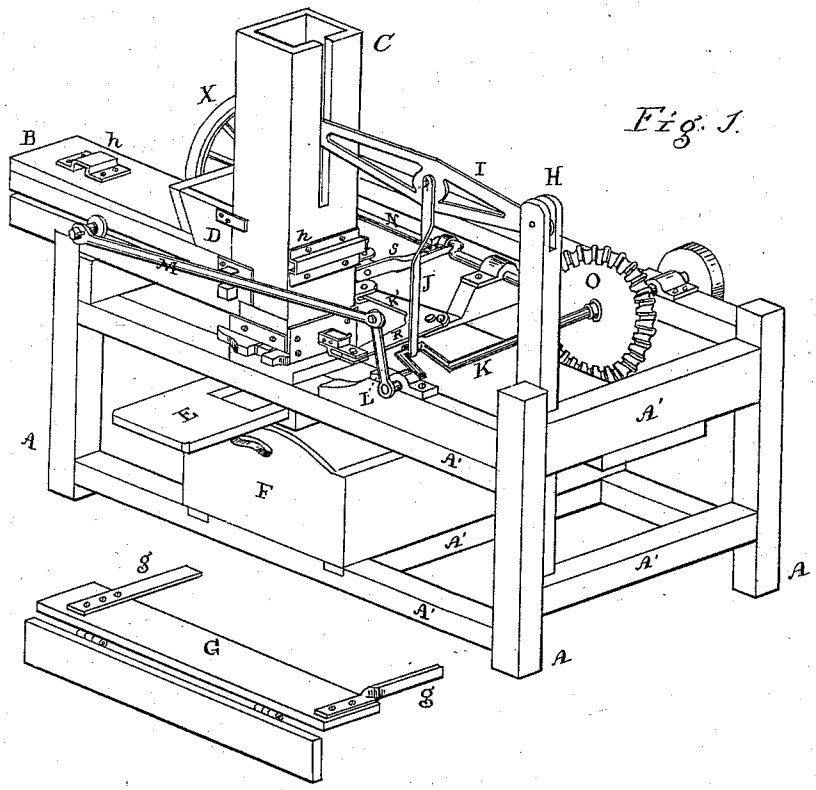


Fig. 4

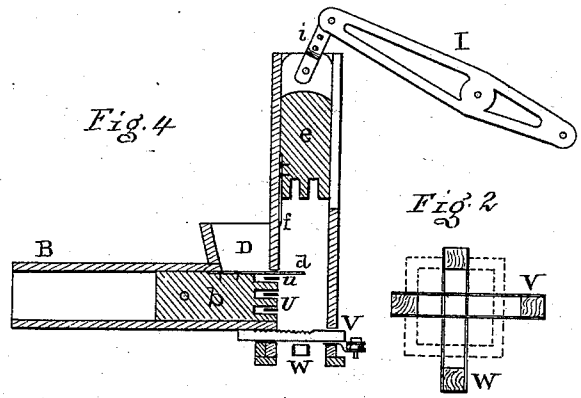
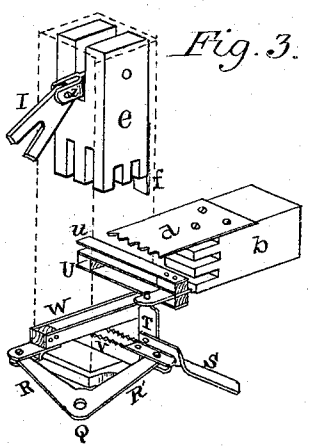


Fig. 2

Fig. 3.



WITNESSES:

W. B. Miley

Jacob Stauffer

INVENTOR

D. H. Lintner

ATTORNEY

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANIEL H. LINTNER, OF MILLERSVILLE, PENNSYLVANIA.

MINCING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 223,809, dated January 27, 1880.

Application filed October 4, 1879.

To all whom it may concern:

Be it known that I, DANIEL H. LINTNER, of Millersville, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Machines for Mincing Fatty Matters, Meat, &c., of which the following is a specification.

This improvement relates to a class of devices for cutting fatty matters for being rendered.

The novelty consists in the arrangement of the several sets of cutters, and providing the feed-plungers with cutting devices only on one side, next the base and the open side of the hopper, respectively acting in a vertical and horizontal manner reciprocally, to sever the mass while it is being subjected to side cutters to form slabs and to cross-cutting knives to form them into cubical pieces, as herein more fully set forth.

The accompanying drawings, with the letters of reference marked thereon, and a brief explanation, will enable those skilled in the art to make and use the same, and in which—

Figure 1 is a perspective view of the machine with the side table removed and shown detached; *g*, the arms to insert into the keepers *h* on B and C. Fig. 2 shows the lower sets of cross-knives, (two, four, or more may be used in a set;) Fig. 3, the two plungers, bell-crank, and manner of operating the sets of knives reciprocally. Fig. 4 is a vertical section in front of the same.

The corner-posts A and cross-pieces A′ represent the frame-work. H is a vertical post, slotted in the top to hold the end of a walking-beam lever, I, having its other end connected by a jointed rod, *i*, to the top of the vertical plunger *e*, within the slotted box C. The bevel cog-wheel O, on its crank-shaft K, receives motion, by a strap-pulley or otherwise, by hand, steam, or other power. This crank-shaft connects by a rod, J, with the walking-beam I, which gives motion to the vertical plunger *e*. On the outer end of this shaft K is also a crank-arm, L, connecting, by the rod M, with the horizontal plunger *b* in the slotted case B, and gives reciprocal motion to it.

D is the feed-hopper. E is a sliding shut-off valve, to close or open the mouth of the vertical case or box C when the vessel F is being removed to empty, or to open by drawing out when the receiving-vessel is replaced. At right angles to the crank-shaft K there is a crank-shaft, N, having a bevel-pinion at one end, and deriving motion from the bevel cog-wheel O aforesaid. The other end of this shaft N has a fly-wheel, X, all in ordinary boxes and bearings. To the crank of this latter shaft N an arm-pitman, S, connects with and operates three sets of knives or saw-toothed cutters, joined by an upright, T, with the upper blades, *u* U, in a horizontal position. The lower two series are in a vertical position on their respective end heads. One arm, R′, of a bell-crank, Q, is also connected with S, so that the knives U, *u*, and V and the other arm, R, with a similar set or pair of knives, W, are at right angles to the set or pair V before mentioned, as seen in Fig. 2. Two knives only are shown in each of the lower pairs. In a large machine more may be employed in a like manner. The vertical plunger *e* is boxed out or slotted into nine square projections on its lower face, or more when more knives are used, with a projecting set of chisel-formed cutters, *f*, on the face next the open mouth of the hopper D.

To cut off the mass previously pushed in by the horizontal plunger *b*, which has also a projecting cutter, *d*, having a series of cutting-teeth, so as to cut off a block from the mass in the feed-hopper D, forming a regular charge, the slotted plunger *b* pushes the mass in through the upper knives, U *u*, cutting it in slabs, when the vertical plunger forces the cut slabs through the lower two pairs or series of knives W and V, moving at right angles to each other, alternately in and out, thus cutting the slabs into square blocks, which drop or are forced through into the receiving-vessel F.

The reciprocal action of the bell-crank and cranks in general is well understood, and the operation simple. The crude material being put into the hopper D, the action of the two plungers is such that as the horizontal one comes forward the vertical one rises out of the way, and after the action of its stroke, in having forced the cut-off block in through the upper horizontal knives, to lodge the slabs upon the upper pair of the lower cross-knives, the moment it begins to draw out, the vertical plunger comes down, and with its nine or more

projecting ends enters between the lower cross-knives, which perform their cutting motion at the same time, without any chance of interference, at whatever speed the machine is run, and produces a neat and rapid slicing, forcing the matter through and cleaning the cutters.

In extensive establishments it is exceedingly tedious when performed by hand, and saves much valuable time, and consequently expense in labor, as one man with the machine can perform the labor of twenty men in less time and more satisfactorily.

I am aware that knives cutting reciprocally at right angles, operated by crank action, are not new, nor knives set at right angles in the end of a trough to cut the material into bars to be cut transversely by another set of knives into small pieces; but I am not aware of any combination of knives in which the feed-plungers separate the mass from the hopper, to be cut into slabs or broad pieces, then forced through two series of cross-cutting knives, as herein set forth, for being further reduced into cubical pieces. Therefore,

What I claim is—

1. In combination with the horizontal plunger *b* and knife *d*, the upper series of knives in a horizontal position, U *u*, arranged and operated as and for the purpose set forth.

2. The combination of the three sets of knives U, V, and W, by their connection T, with pitman S and the bell-crank Q, the whole arranged and operated as and for the purpose described.

D. H. LINTNER.

Witnesses:
W. B. WILEY,
JACOB STAUFFER.