J. H. HOLLINGER.

Meat-Cutter.

No 161,961. Patented April 13, 1875.

Fig. 1

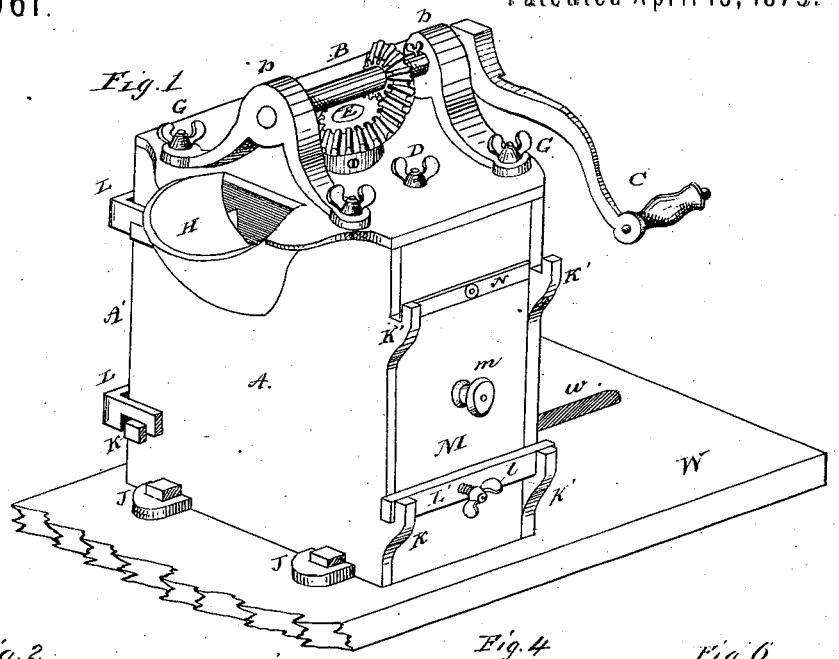


Fig. 2

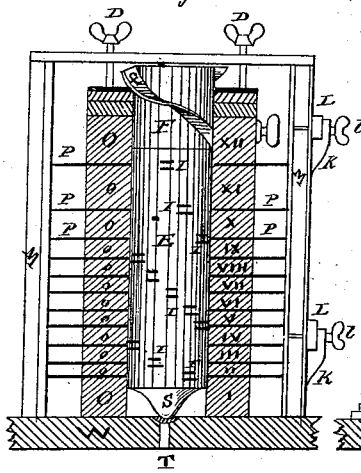


Fig. 3

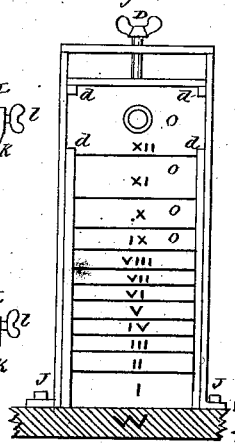


Fig. 4

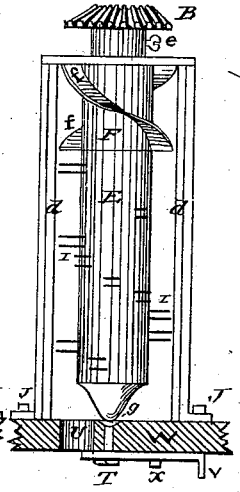


Fig. 6

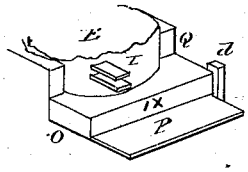
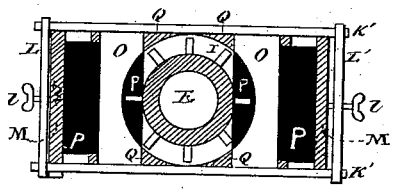


Fig. 5.



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JOHN H. HOLLINGER, OF LANCASTER, PENNSYLVANIA.

IMPROVEMENT IN MEAT-CUTTERS.

Specification forming part of Letters Patent No. **161,961**, dated April 13, 1875; application filed January 9, 1875.

To all whom it may concern:

Be it known that I, JOHN H. HOLLINGER, of the city of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Machines for Mincing or Cutting Meat, of which the following is a specification, reference being had to the accompanying drawings making a part of the same, which, with the letters of reference and a brief description, will enable those skilled in the art to make and use the machine, of which—

Figure 1 is a perspective view, showing one side and one end with gear; Fig. 2, a vertical side view, to show the two series of knives and blocks, &c.; Fig. 3, an end view of the same, with the follower M removed. Fig. 4 shows the knives and blocks removed, to show the central shaft. Fig. 5 shows a top view of the shaft, knives, blocks, followers, &c.; Fig. 6, a perspective view of a single block, knife, and double guides or pins.

The object of this invention is to obviate the casting of curved sections or cylinders to surround a central revolving shaft in machines for mincing meat, as well as to obtain a right-angled chamber on two opposite sides of the central shaft, for the reception of a series of right-angled wooden blocks, having their inner vertical face centrally made concave, and alternating with right-angled knives, all separately set in against or between simple shoulders or flanges cast on the inner face of the two prolonged parallel side pieces of the case, so arranged that the combined vertical pile in each chamber is compressed and held by a single set-screw entering through the top, and the knives adjusted and held horizontally by a single follower, that also closes the ends.

Fig. 1 shows the one side, A′, with a hopper, H, the bearings *b* secured to the top by the bolts and nuts G, shaft and bevel-pinion B, crank-handle *c*, set-screws D. The end shows the follower M and knob *m*, which sets in between the sides and under the top. A metallic cross-strip is shown above at N, and the side notched holders K′, to receive a cross-bar, L′, which has a central screw-thread for a binding-screw, *l*, to press the follower above and below against the backs of the series of knives. (These catches K′ and clamps L′ are shown simplified from those marked K L on the other end of Fig. 1.) W is a base-board, to which the sides are bolted at J. This board extends on each side, and has a slot, *w*, by which it can be secured over a tub or vessel to receive the cut meat through an opening, U, Fig. 4, which also shows an adjusting-slide, X V, to regulate the discharge to the proper action of the knives. Fig. 2 shows the two series of knives P and blocks O. On each side of the central column or shaft F the knives extend back behind the blocks, to allow of being sharpened and pressed up by the follower M. As they wear off in time, the blocks O, set between two side flanges, *d* Q, and the inner vertical face, are made concave, to allow space for the slotted or double pins I on the shaft to pass. These pins I are arranged somewhat spirally, but on the horizontal plane of the knives, which, as shown, are arranged so as to allow the projecting blades P to pass through the slot or intervening space as the shaft is revolved. Fig. 6 shows one block, O, and knife, P, under it, with a double pin, I, or guide and cleaner, or holder, to facilitate the cutting operation, which may be summed up in a few words.

The meat to be minced is best cut in long strips and placed into the hopper. The spiral flange *f* catches it, draws it in, and presses it downward, when it is subjected to the action of the knives, as it is regularly carried round and gradually spirally downward across the edges of all the knives, until it reaches the bottom of the shaft, where it is hollowed out, and where it is discharged through an opening, U, aforesaid. In order not to allow the discharge to be too fast, a slide, V, with a slot and headed pin, *x*, is employed for regulating it. A screw, T, in the step is shown to regulate the shaft. The top of the case can be taken off. The blocks are readily slipped out by relaxing the binding-screw D on top. There is an open space between the lug and flange *d d′*, through which the blocks can be slid out, and the knives can thus be removed for being ground or sharpened, or for cleaning. They simply fit between the flanges, and are held in place by the blocks, tightened down by the set-screw D on each side. The upper block, marked XII, is faced with an iron plate to resist the action of the set-screw D. The suc-

ceeding blocks downward to I are made gradually less in thickness, to bring the knives in closer proximity as the meat is being cut finer. The object of forming right-angled chambers in the two ends is to allow the use of right-angled blocks, more especially right-angled knives, so easily made, ground, and put in and held in place.

I am aware that in Patent No. 50,984, of November 14, 1865, a vertical screw-shaft is combined with knives around it, and a screw-formed feeder, having also a knife on its top to cut the meat, and the interior of the curved segments or cylindrical case provided with projections; and Patent No. 61,424, January 22, 1867, in which the knives are inserted through slots in the cylindrical case, and a gang or series of knives secured by projecting ribs and clamped by an end screw. There are also partial chambers shown in Patent No. 110,721, January 3, 1871, for curved knives, to adapt them to the curved sections hinged together, to form the case or cylinder. But I disclaim the use of cylinders or sectional cylinders surrounding the shaft to form the external shell, be the knives and blocks arranged as they may. I am aware, also, that double spikes are not new; nor do I claim such apart from the combination and arrangement herein specified.

What I claim in a meat-mincing machine having a central shaft operated by bevel-gear in the ordinary manner, is—

The combination of a vertical series of alternating, graduated, right-angled blocks, O, and knives P, when set against and between flanges or shoulders Q *d*, formed on the inner face of the two parallel sides A of the case, which are prolonged on the sides of the central shaft, to form right-angled open chambers for the reception of the follower or end piece M, clamps L, catches K, and lugs J, the whole substantially mounted, constructed, and arranged as and for the purpose specified.

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