

(No Model.)

T. WILLIAMS, Jr.
Meat Cutting Machine.

No. 239,902.

Patented April 5, 1881.

FIG. 2.

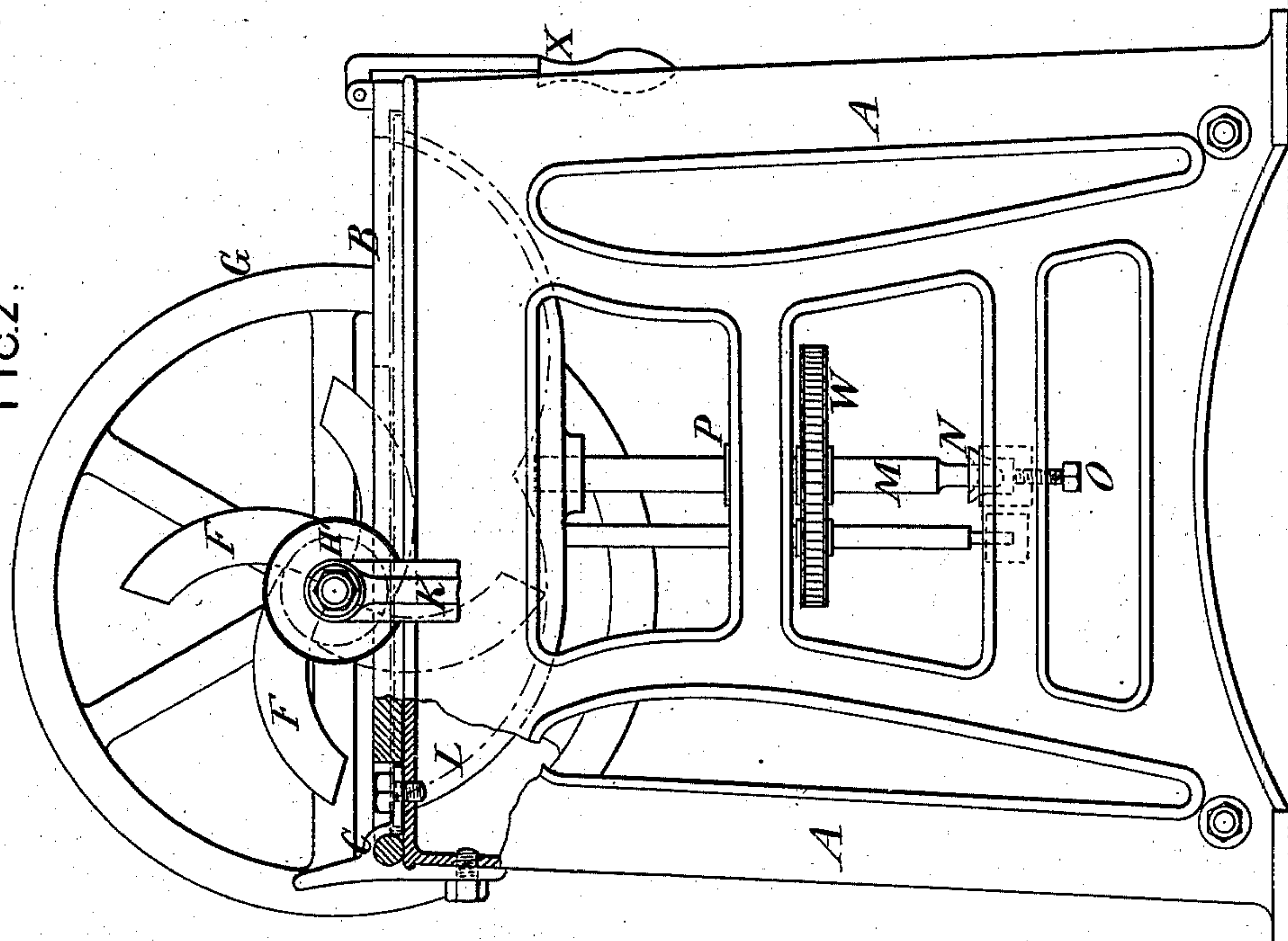
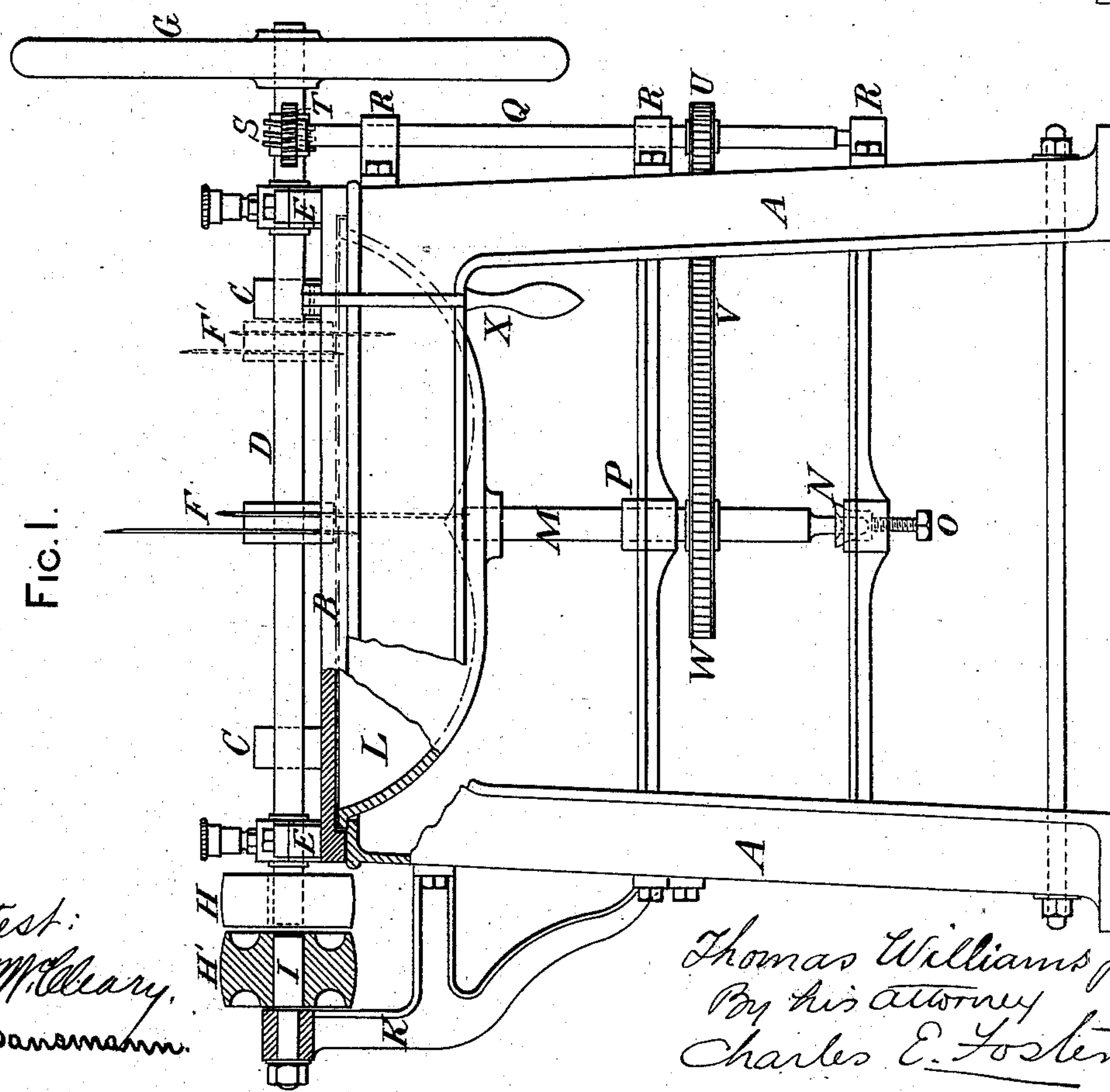


FIG. 1.



Attest:
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UNITED STATES PATENT OFFICE.

THOMAS WILLIAMS, JR., OF WEST SMITHFIELD, LONDON, ENGLAND.

MEAT-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 239,902, dated April 5, 1881.

Application filed November 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WILLIAMS, the younger, of West Smithfield, in the city of London and Kingdom of England, engineer, have invented Improvements in Machinery or Apparatus for Cutting or Mincing Sausage-Meat and other Substances, of which the following is a specification.

My invention relates to what are commonly known as "silent mincing-machines," in which rotating knives fixed on a horizontal shaft operate in conjunction with a horizontally-rotating bowl.

In machines of this class as heretofore constructed the shaft which carries the rotating knives or cutters, and is mounted in bearings on the hinged rising cover, is driven as a second-motion shaft by any convenient arrangement of toothed or frictional gearing from a first-motion or driving shaft mounted in fixed bearings beneath the bowl, which latter shaft also imparts the horizontal rotary motion to the bowl direct by a worm and worm-wheel or other gearing.

Now, my improvements consist in the combination, in this class of machines, of a loose driving-pulley mounted on a separate and independent stationary stud or pin disposed in a line with the knife-shaft, with a fast driving-pulley on the said shaft, to admit of the rising cover with its shaft being turned up or opened on its hinges without being interfered with by the driving-strap.

Figure 1 is a front elevation of my improved silent mincing-machine, and Fig. 2 is a corresponding side elevation of the same, looking on the driving side thereof. In these figures one corner of the framing is broken away and a portion of the rising cover is shown in section.

Similar letters refer to similar parts in both views.

A A are the cast-iron standards or other supports of the machine, which is provided with the usual rising cover, B, hinged at C C, in any suitable manner, to the standards, and having the usual opening (not seen in the drawings) for facilitating the feeding and handling of the meat in the bowl, which opening I prefer to make in the front portion of the said cover.

D is the rotating knife or cutter-shaft,

mounted in bearings E E, secured to the rising cover B, as is well understood; but this shaft is driven direct, whether by hand or by power, and is made to serve as the driving or first-motion shaft of the machine, for which purpose, when driven by power, I mount on the said shaft, in addition to the usual knives or cutters, F, a fly-wheel, G, and a fixed driving-strap pulley, H, in order to enable it to be driven by power direct by an ordinary driving-strap; and in order to admit of the said shaft being lifted along with the hinged rising cover B without interference from the driving-strap, I mount a loose driving-pulley, H', of the same diameter as the fast pulley H, upon a stationary independent stud or pin, I, secured by a nut or otherwise into a fixed bracket, K, (partly broken away in Fig. 2,) secured to the standard of the machine. The stud or pin I, which is entirely separate and distinct from the combined driving and cutter shaft D, is so situate as that its axis shall form a prolongation of the axis of the said shaft when the hinged rising cover is closed down, as shown in my drawings, thereby admitting of the driving-strap being readily shifted from off the fast driving-pulley H onto the independent loose pulley H' when required, in which latter position of the strap the rising cover with its knife-shaft is left perfectly free to be opened or turned up on its hinges C without interference from the strap which drives the knife-shaft.

It is obvious that the same arrangement of independent loose pulley H', mounted on a separate fixed stud or pin, I, may be employed in combination with a fast driving-pulley, H, on the knife-shaft in cases even where the knife-shaft may be driven as a second-motion shaft by an intermediate driving-strap; or, if desired, a single pulley, H', might be employed working loose on the fixed stud I, and made so as to slide bodily along with its strap onto a feather on the end of the shaft D. When the cover is closed down or restored to its normal position again, the strap in the one case can be readily shifted back again onto the fast pulley H, or, in the latter modification, the loose sliding pulley H' may be slid onto or brought into gear with the shaft D.

Any of the well-known methods may be

adopted for securing the knives or cutters F on their shaft, and the position of the knife-shaft D as regards the axis of the bowl L, as well as the form or construction of the bowl itself, may be such as to admit of the rotating knives working either right across the bowl or across a portion of the bowl only, both being well-known arrangements in this class of machines.

In my drawings I have shown as an example the knives as arranged to work across a portion only of the bowl, the usual slots or narrow openings in the rising cover for the knives to work through being provided, as is well understood. I may also employ in my improved machine either one set of rotating knives or two or more sets of such knives mounted on the same knife-shaft, and each set containing two, three, or more knives, the position of the second set of knives, when employed, being indicated by dotted lines at F' in Fig. 1; but I do not claim any particular arrangement of or mode of mounting the knives as forming part of my said invention.

I prefer to mount the bowl L fast upon the upper end of a vertical spindle, M, rotating in an oil-cup and footstep-bearing, N, easily accessible for cleaning and lubrication, and made so as to be adjustable vertically by an adjusting-screw, O, in order to compensate for wear, the spindle M being steadied by a collar-bearing at P; but this mode of mounting the bowl forms no part of my present invention.

I impart the requisite horizontal rotary motion to the bowl in mincing-machines of the class referred to from the knife-shaft D on the rising cover through a vertical shaft, Q, rotating in bearings R R on the side framing

of the machine, and driven preferentially by a worm, S, on the shaft D gearing into a worm-wheel, T, fast on the upper end of the said vertical shaft. This shaft Q transmits its motion to the bowl by means of a chain-wheel, U, and pitch-chain V, the latter gearing into a chain-wheel, W, fast on the vertical rotating spindle M of the bowl; or, in lieu of a pitch-chain and chain-wheels, as shown, it is obvious that other well-known mechanical arrangements—such as a strap and pulleys or toothed gearing—may be employed for transmitting the motion from the vertical second-motion shaft Q to the bowl.

XX are the usual catch-lever handles, hinged to the front of the rising cover B, for elevating the same and securing it in its closed position, one of such lever-handles being omitted in Fig. 1.

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

In a meat-cutter, the combination of the basin, a cover, B, hinged above the basin, a knife-shaft carried by said cover, and a shaft or stud arranged opposite the end of the knife-shaft, with a pulley to receive the driving-band, whereby the cover and its shaft may be elevated independently of the driving-belt, as set forth.

In witness whereof I have signed my name in the presence of two subscribing witnesses.

THOMAS WILLIAMS, JUNR.

Witnesses:

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