

No. 887,526.

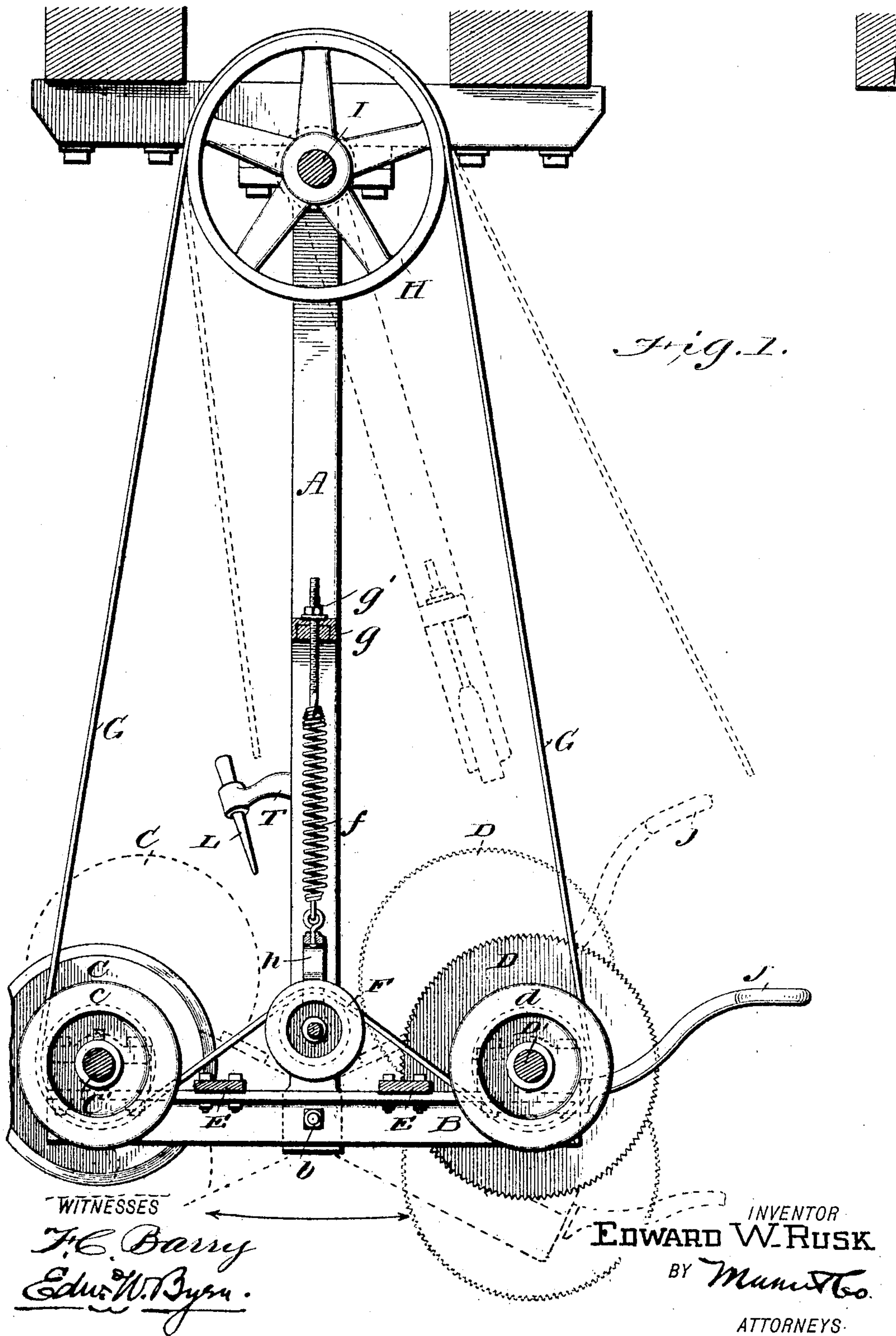
PATENTED MAY 12, 1908.

E. W. RUSK.

MEAT CUTTING MACHINE.

APPLICATION FILED AUG. 17, 1907.

3 SHEETS—SHEET 1.

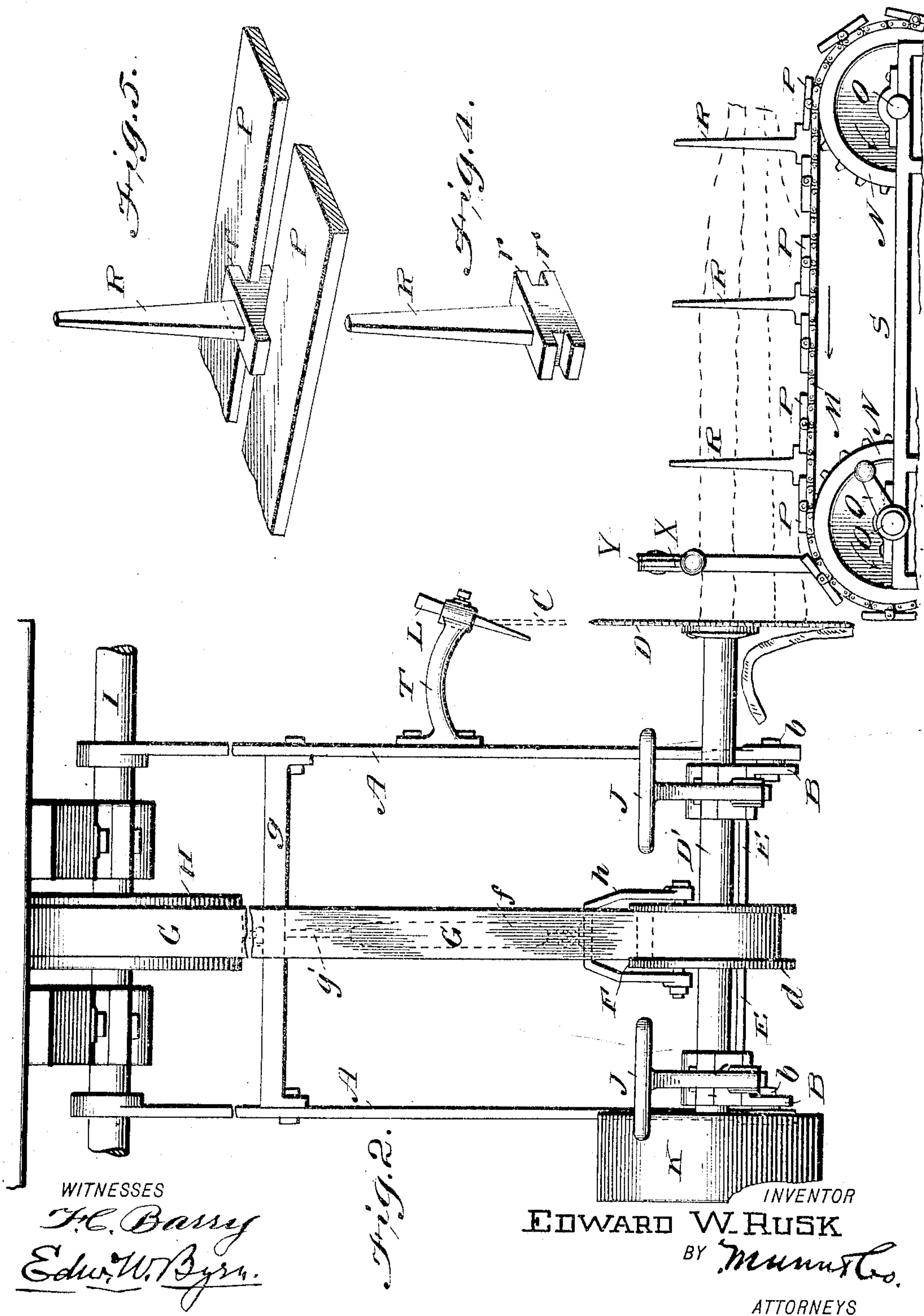


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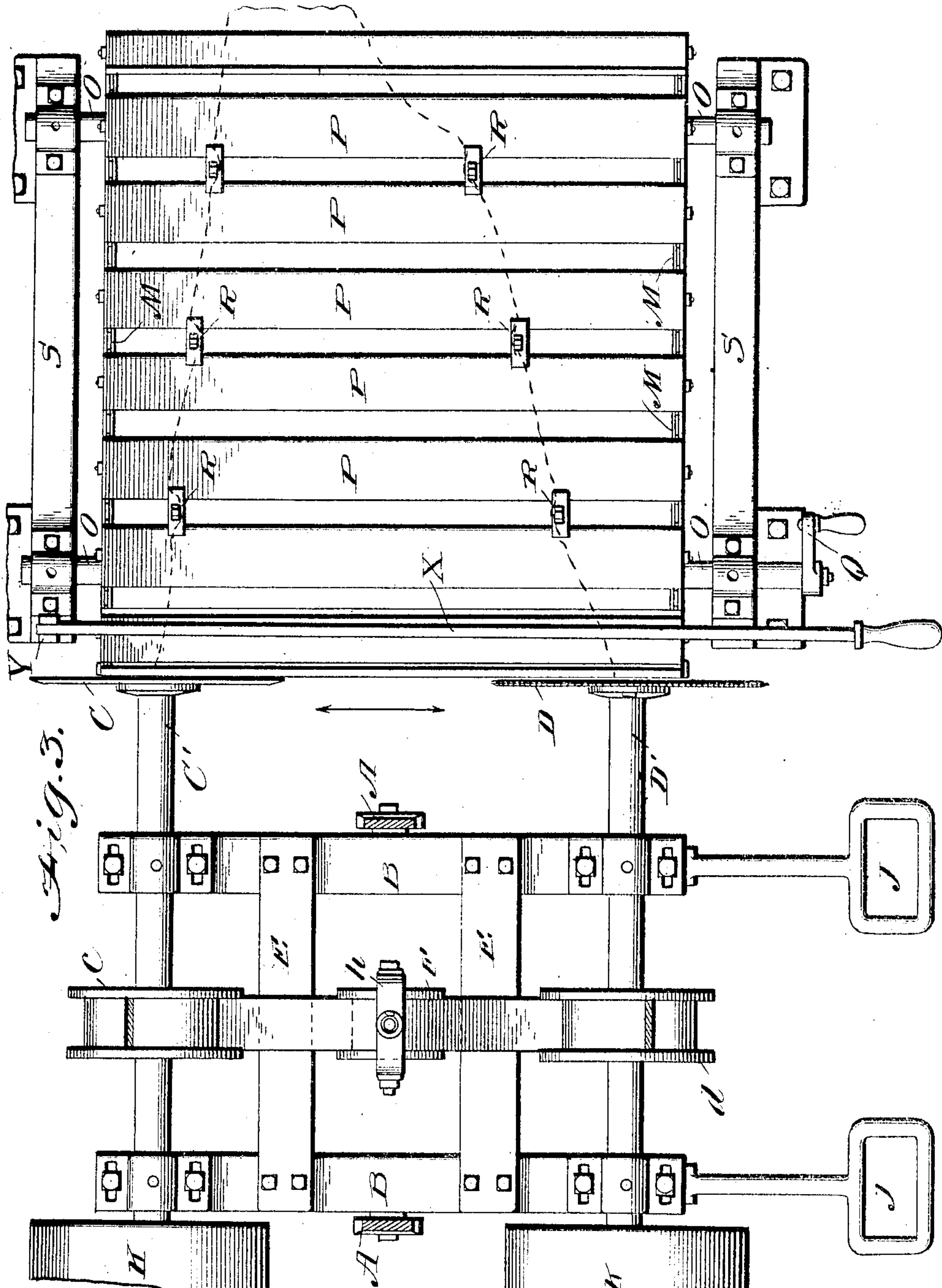


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WITNESSES

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MEAT-CUTTING MACHINE.

No. 887,526.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed August 17, 1907. Serial No. 389,038.

To all whom it may concern:

Be it known that I, EDWARD W. RUSK, a citizen of the United States, residing at Callaway, in the county of Custer and State of Nebraska, have invented a new and useful Improvement in Meat-Cutting Machines, of which the following is a specification.

In the slicing of meats for retail, such as the cutting off of steaks from the larger stock pieces the butcher ordinarily uses his knife to slice the flesh until the bone is reached and then discarding the knife takes up the saw and saws through the bone and then, resuming the knife again, proceeds to sever the still connected fleshy parts. Rotary cutting and sawing machines have heretofore been devised for this work, but for various reasons, affecting their practicability, the independent use of the knife and saw is still relied upon generally by butchers.

My invention is designed to provide a simple and practical machine for more rapidly, conveniently and effectively doing this work without the constant change of implements and it consists in the novel construction and arrangement of parts which I will now proceed to describe, reference being had to the accompanying drawing, in which

Figure 1 is a side elevation of the machine. Fig. 2 is a front elevation of the same. Fig. 3 is a plan view partly in section. Fig. 4 a detail view of one of the meat holding prongs and Fig. 5 is a view in perspective showing the application of the meat holding prongs to the slats of the carrier belt.

In the drawings, Figs. 1 and 2, A A represent two hanger bars pivotally supported at their upper ends upon a horizontal shaft I carried in bearings overhead. At their lower ends these hanger bars are pivotally connected by bolts *b* to a rectangular frame composed of two parallel side bars B B and two cross bars E E. The pivotal connection *b* forms a rocking center upon which the rectangular frame may be tilted as indicated in dotted lines at the bottom of Fig. 1. In bearings in this tilting frame on opposite sides of the rocking center are arranged the parallel shafts C' D'. The shaft C' has near the middle a rigidly attached pulley *c* and on one end a rotary knife C of circular form. The other

shaft D' in like manner has near the middle, and in the same plane with pulley *c*, a pulley *d* and on one end a rotary circular saw D arranged in the same plane with the circular knife C. Between the two pulleys *c* and *d* and in the same plane therewith is arranged a belt tightening pulley F held in a yoke *h* suspended from a spiral spring *f* whose tension is regulated by a threaded stem and screw nut *g'* connected to a cross bar *g* extending across horizontally from one hanger bar A to the other.

Mounted on the shaft I is a large driving pulley H, Fig. 1, which is preferably attached to and driven by the shaft. An endless belt G passes around this driving pulley and extends underneath the subjacent pulleys *c* and *d* and over the belt tightening pulley F to impart rotary motion to the two shafts C' D' and the two rotary cutters C and D.

Two loop shaped handles J are attached to the tilting frame bars B B and furnish means for the manipulation of the cutter frame which is given two independent movements. One of these movements is a swinging movement of the hanger bars and subjacent frame like a pendulum about its elevated center on the shaft I, as indicated by the dotted lines at the upper part of Fig. 1 and the curved and double headed arrow at the bottom. This movement is for the purpose of advancing and withdrawing the cutters in a nearly horizontal direction for making the slice. The other movement of the cutter frame is a tilting movement about the rocking center *b*, as indicated in dotted lines at the bottom of Fig. 1. The purpose of this adjustment is to bring either the knife or the saw into alternate engagement with the piece of meat to be cut according to whether flesh or bone is to be severed. Thus in cutting off a steak from a section of beef carrying a bone the handles J are elevated which throws the knife C down and in this position of the tilting frame the cutter frame is advanced across the beef until the bone is struck. The handles J are then depressed until the knife rides over the bone and continues the cutting of the flesh and then when the saw reaches the bone it completes the severance of the bone, thus rapidly cutting off the flesh and bone and

quickly and cleanly slicing off the steak. If the piece of meat be very bulky more than one pass of the cutter frame across the meat may be made, but for smaller pieces of meat complete severance may be effected at one pass by simply manipulating the tilting cutter frame with a rocking movement.

I will now describe the means for holding the piece of meat up to the action of the cutters and for feeding it intermittently thereto, reference being now had to Figs. 2, 3, 4 and 5.

An endless carrier belt for the meat is provided whose movement is at right angles to the plane of the meat cutters. This belt is formed of wooden slats P connected at their ends to two endless chains M M passing around pairs of sprocket wheels N N on two parallel shafts O O journaled in bearings in a frame S. One of the shafts O is provided with a crank handle Q, see Fig. 2, by which this endless belt carrier is advanced in the direction of the arrow in Fig. 2 to cause the meat to project far enough beyond the carrier to allow the cutter blades to slice it off.

To hold the meat firmly on this carrier belt I provide a number of upright detachable prongs R which have at their lower ends a basic support narrow enough to pass between any two of the slats P. These bases when passed between the slats and turned a quarter around are made to engage the slats without other fastening and for that purpose the base of each prong has its ends slotted with a recess of a size to receive into them the adjacent edges of two slats as seen in Fig. 5. When these prongs are forced up tightly to and slightly pressed into the edges of the meat as seen in dotted lines in Fig. 3 the natural elasticity of the meat strains the upper ends of the prongs outwardly and causes their lower slotted bases to grip and hold to the slats with a clutch effect without other fastening. This permits of quick adjustment and removal and also makes it practicable to easily clean the carrier.

On one of the hanger bars of the swinging frame, see Fig. 2, I mount a laterally projecting arm T which at its end carries a socket and set screw, in which socket a "steel" or emery stick L is rigidly secured in such a position as to be above the rotary knife and at an acute angle to its peripheral edge, so that when the knife becomes dull all that will be necessary to sharpen it will be to tilt the cutter frame on its rocking axis b, Fig. 1, until the revolving knife is brought against the sharpening tool. This is so quickly and conveniently accomplished as to occupy scarcely any time and necessitates no disconnection of the parts and no interruption of the work.

In Figs. 2 and 3 I have shown fly wheels K on the shafts of the cutters to give greater

momentum but these may be dispensed with if desired. I may also make many other changes in the construction and arrangement without departing from my invention as set forth in the claims and may use either mechanical power or electrical power for operating the cutters. I also consider it desirable to employ a presser bar to press down upon and hold the meat while being cut. Such a presser bar is shown at X and consists of a handled lever pivotally mounted in a stationary standard Y rising from the meat carrier frame.

It will be noticed, by reference to Fig. 3, that the journal boxes which carry the shafts D' C' are adjustably connected by slots and bolts to the subjacent frame. This is for the purpose of adjusting the planes of the cutter C and saw D to perfect alinement with each other so as to make a clean cut and avoid mutilating the steaks.

I claim:

1. A meat cutting machine comprising a swinging frame hung from a pivotal support above and having an independently tilting lower portion, two rotary and parallel shafts arranged on opposite sides of the tilting center of the lower portion and bearing respectively a rotary knife and a rotary saw arranged in the same plane with each other and having an opposite movement about the tilting center.

2. A meat cutting machine comprising a swinging frame hung from a pivotal support above and having an independently tilting lower portion, two rotary and parallel shafts arranged on opposite sides of the tilting center of the lower portion and bearing respectively a rotary knife and a rotary saw arranged in the same plane with each other and having an opposite movement about the tilting center, and means mounted on the tilting frame for adjusting the saw and cutter into perfect alinement of their planes.

3. A meat cutting machine comprising a swinging frame hung from a pivotal support above and having an independently tilting lower portion, two rotary and parallel shafts arranged on opposite sides of the tilting center of the lower portion and bearing respectively a rotary knife and a rotary saw arranged in the same plane with each other and having an opposite movement about the tilting center, two pulleys rigidly fixed to the two shafts in the same plane, a belt tightener arranged between the pulleys and in the plane of the same, an endless belt passing over the belt tightener and under the shaft pulleys and a driving pulley above for the endless belt.

4. In a meat cutting machine, the combination with the cutter blade; of an endless

traveling belt having parallel, spaced slats arranged parallel to the cutter blade, and meat holding prongs each having a clutch seat at the lower end made narrower than the
5 spaces between the slats and having an unlimited frictional adjustment longitudinally along the spaces between the slats to any desired position corresponding to the size and

shape of the piece of meat and arranged to maintain the clutch connection by the expansive action of the meat against the upper ends of the prongs. 10

EDWARD W. RUSK.

Witnesses:

EDW. W. BYRN,
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