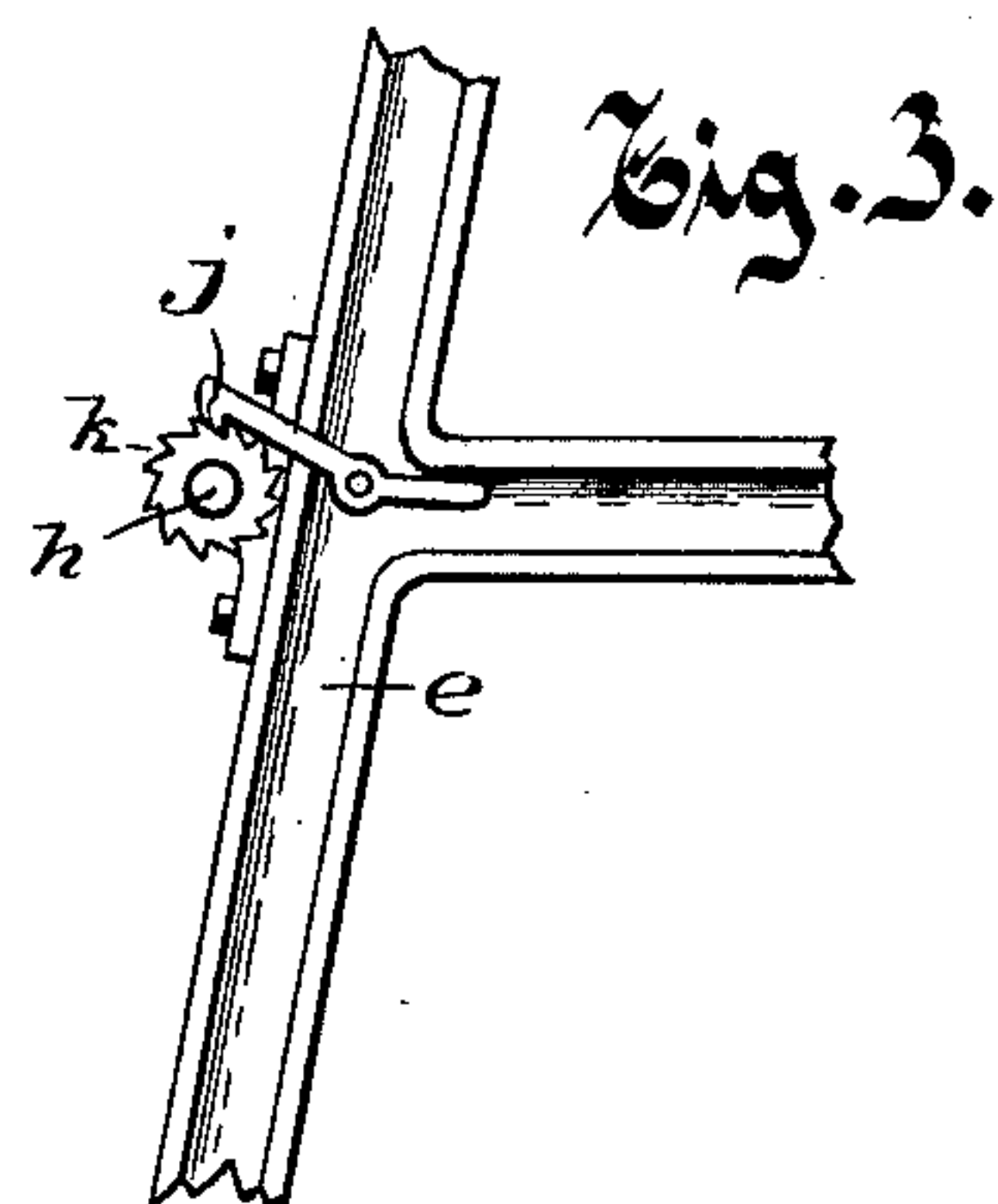
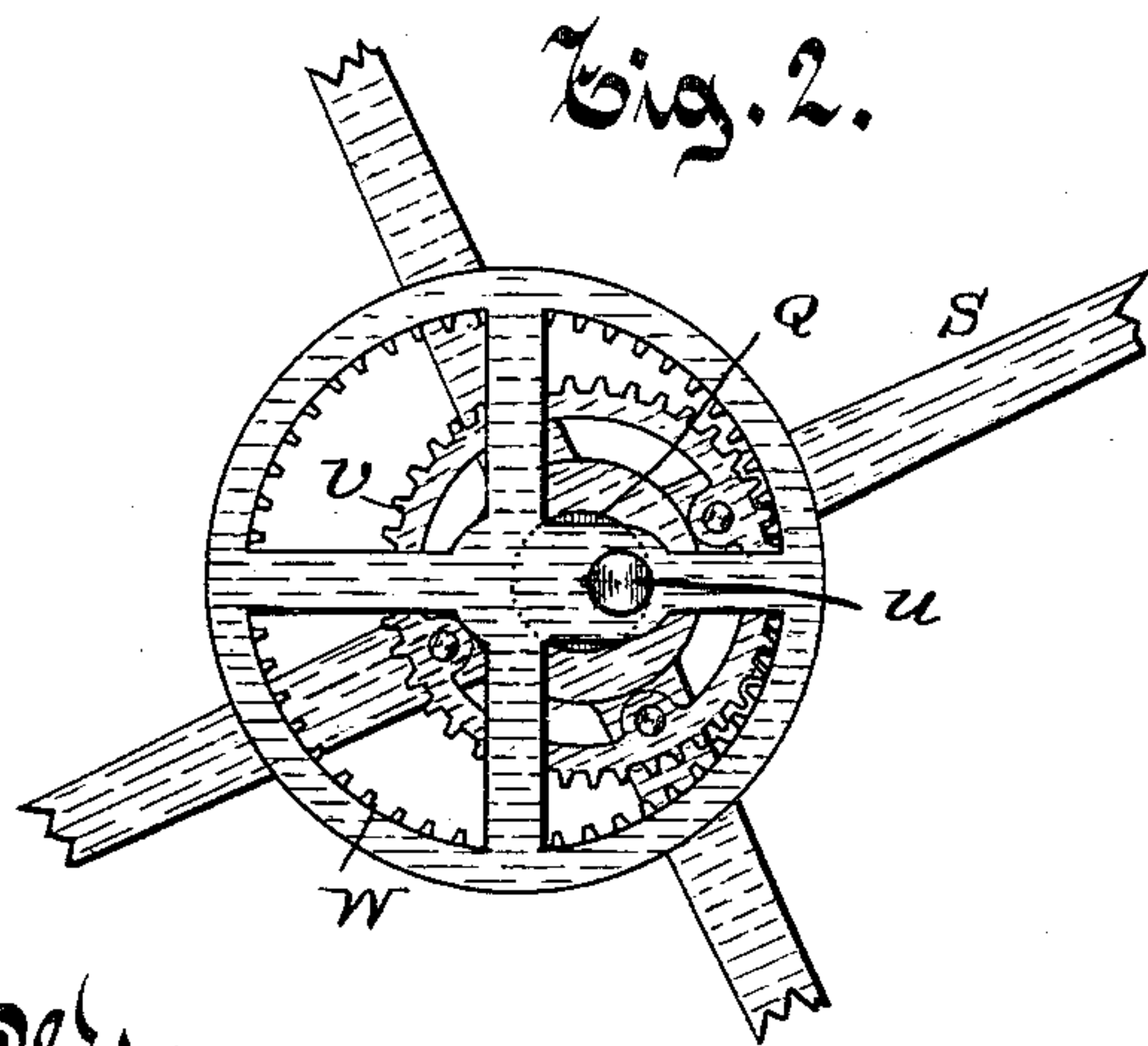
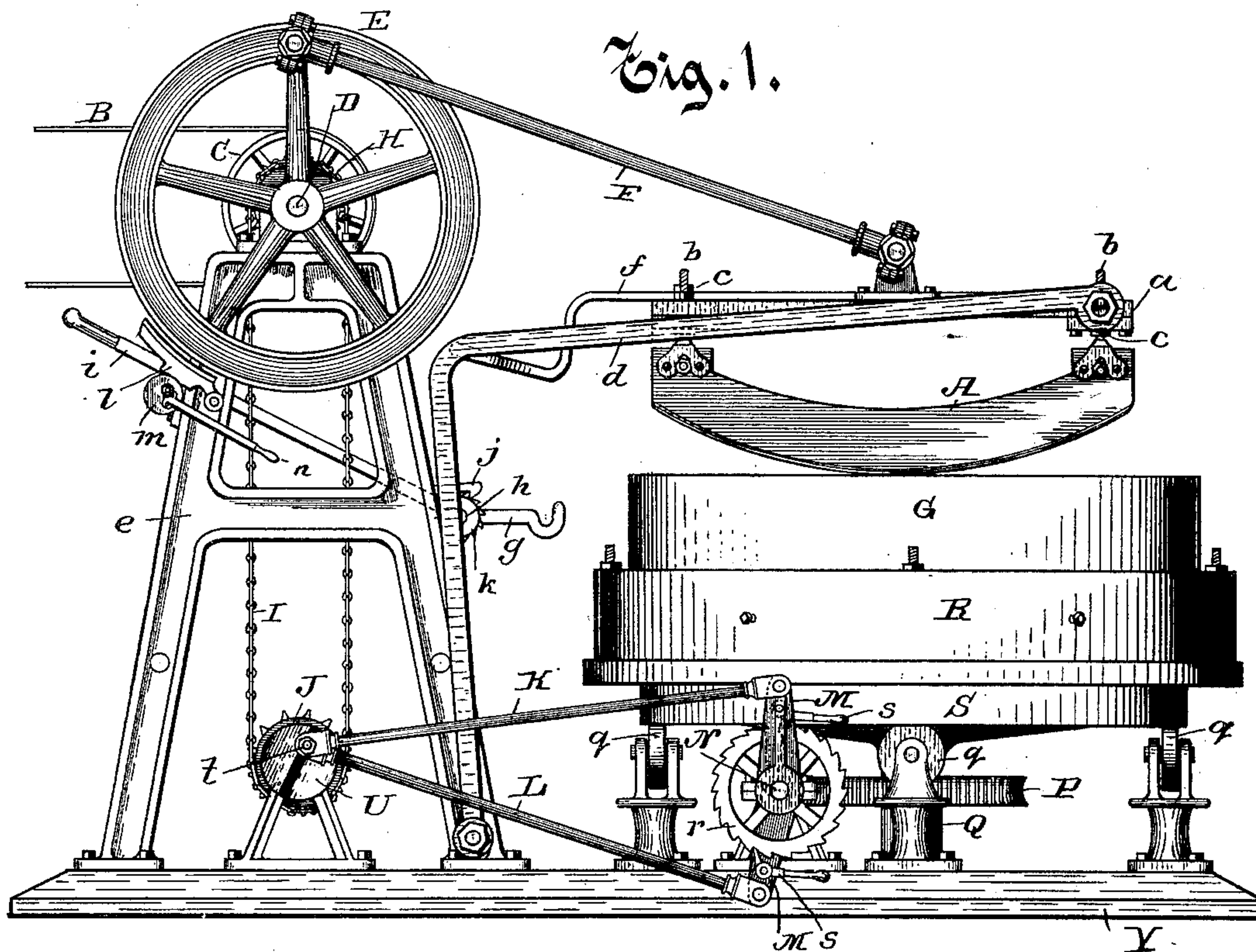


2 Sheets—Sheet 1.

No. 407,056.

Patented July 16, 1889.



Witnesses.

A. H. Ferguson.

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(No Model.)

2 Sheets—Sheet 2.

P. H. BRODESSER & P. J. TERNES.
MEAT CUTTER.

No. 407,056.

Patented July 16, 1889.

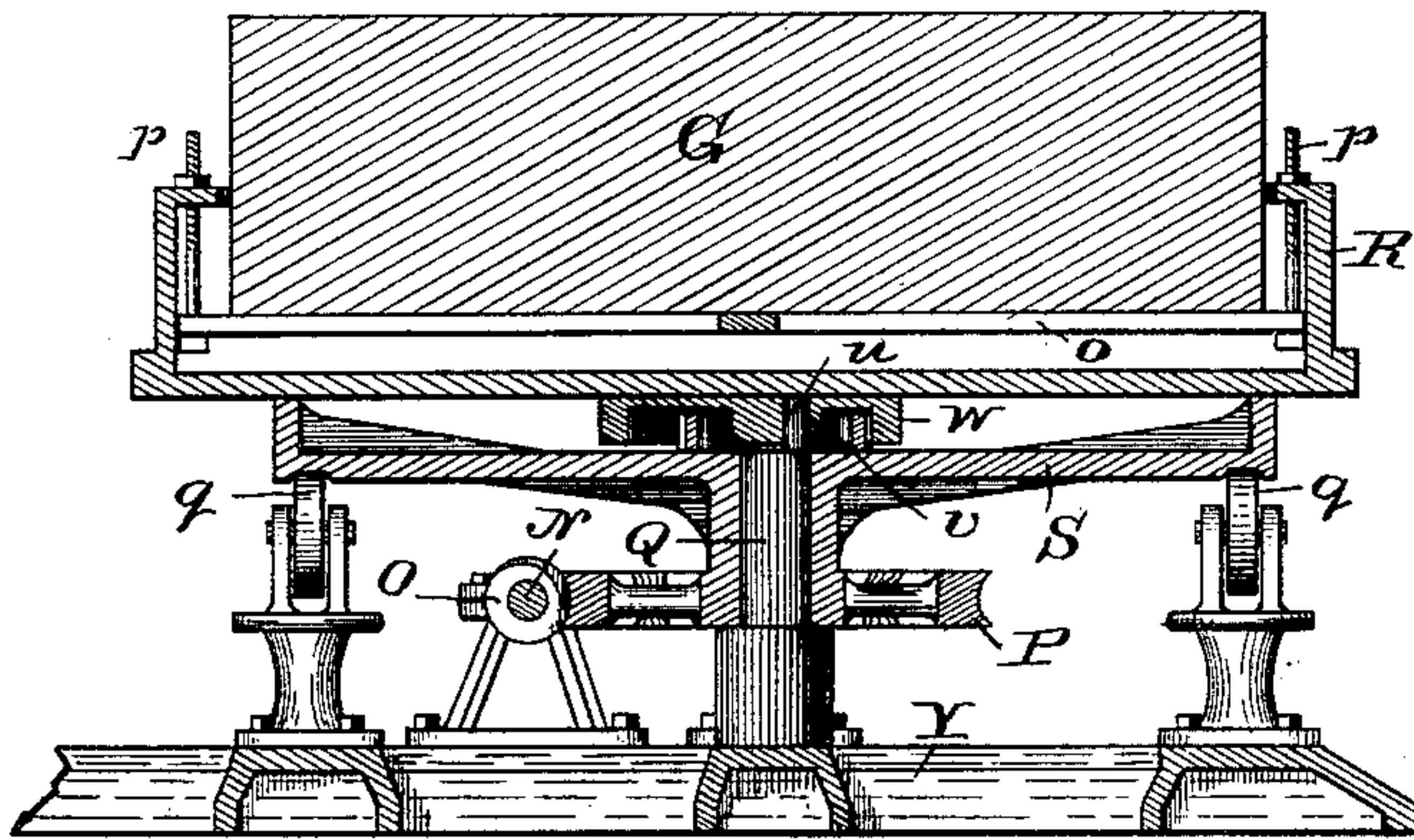
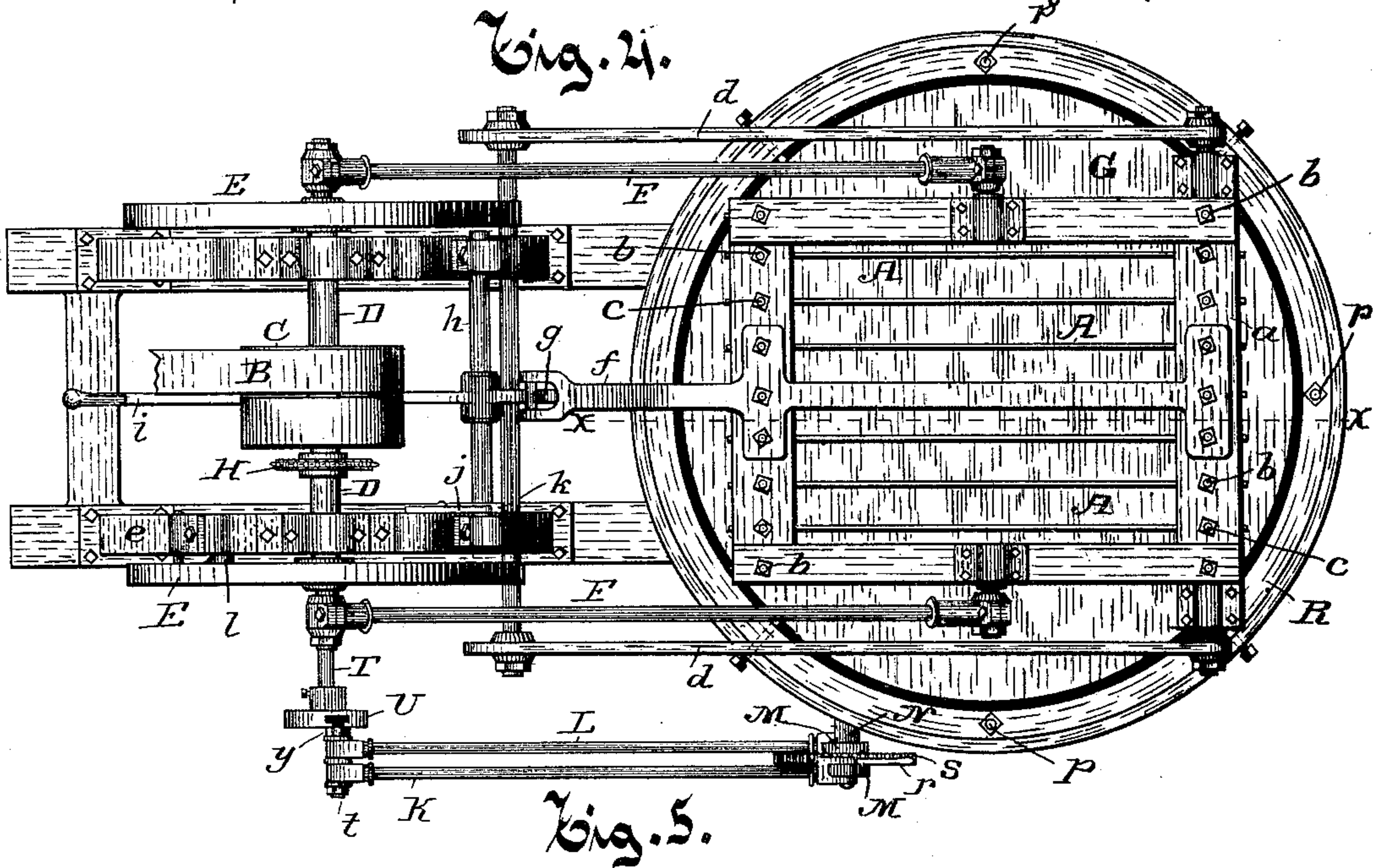


Fig. 6.

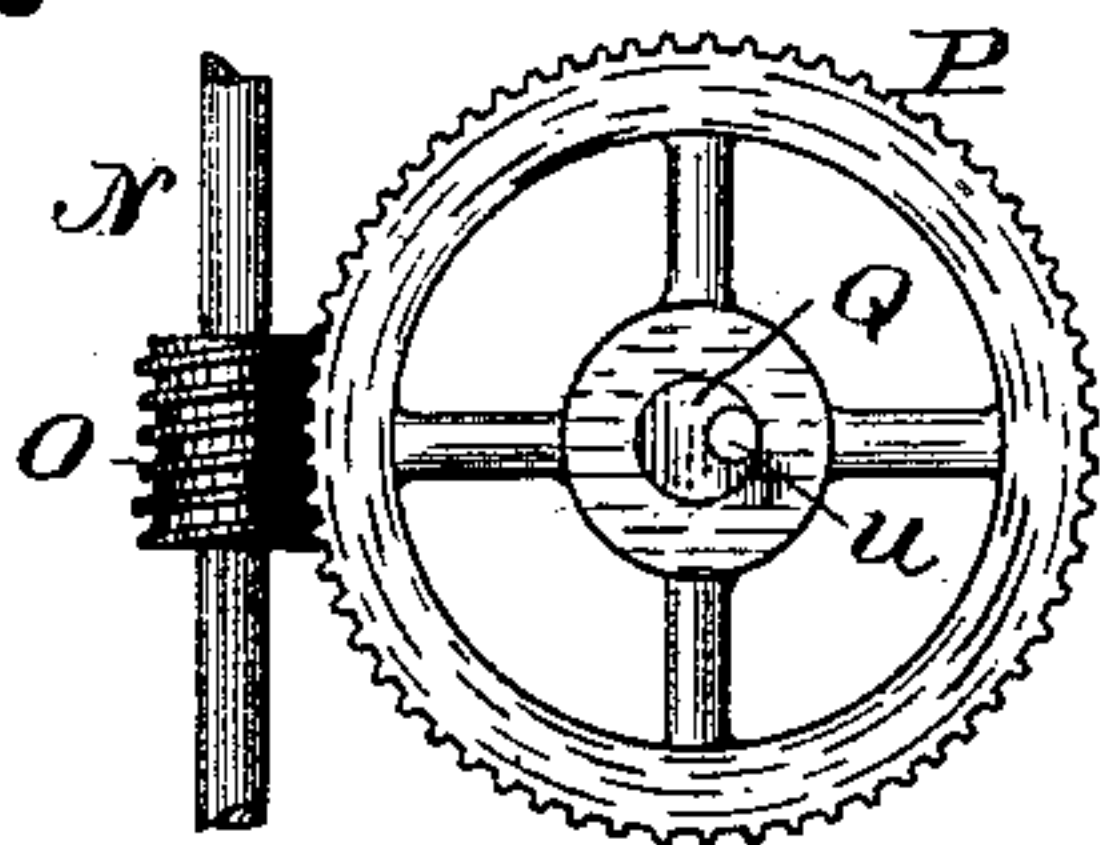


Fig. 7.

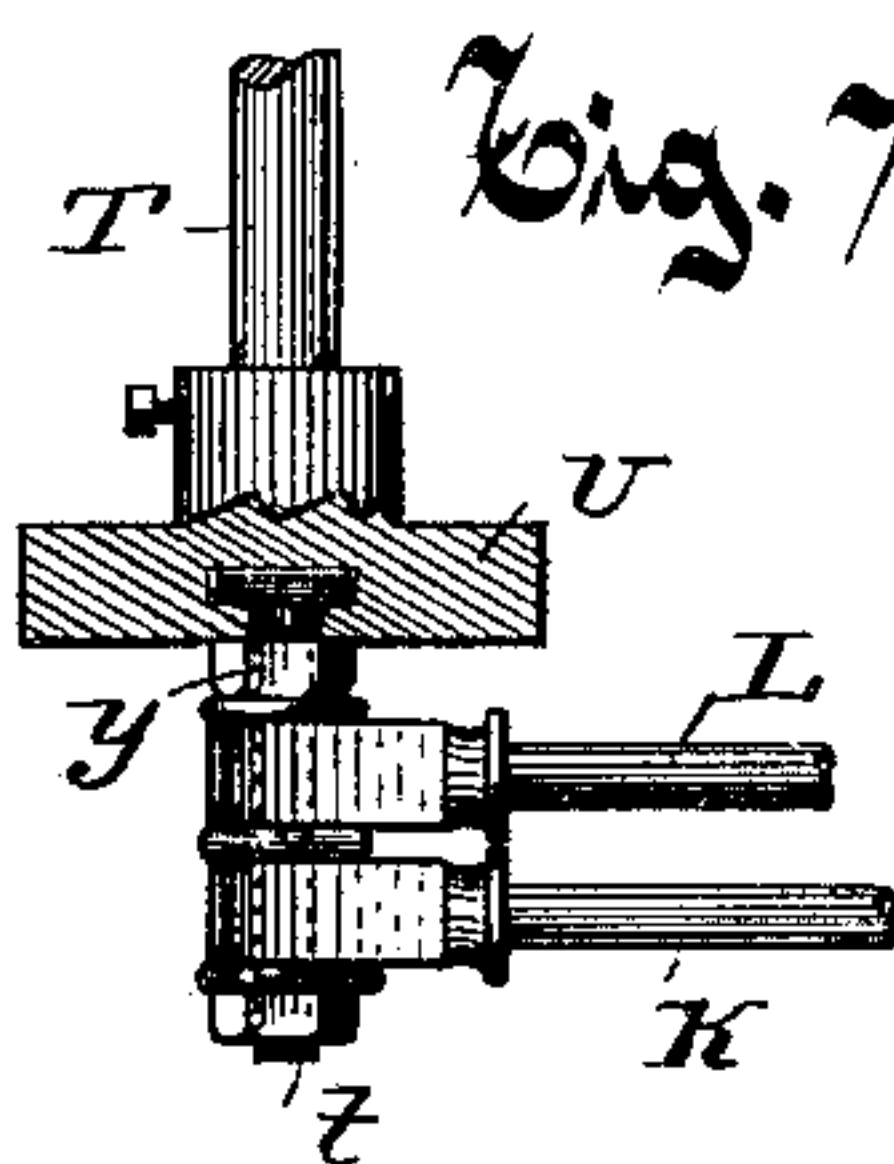
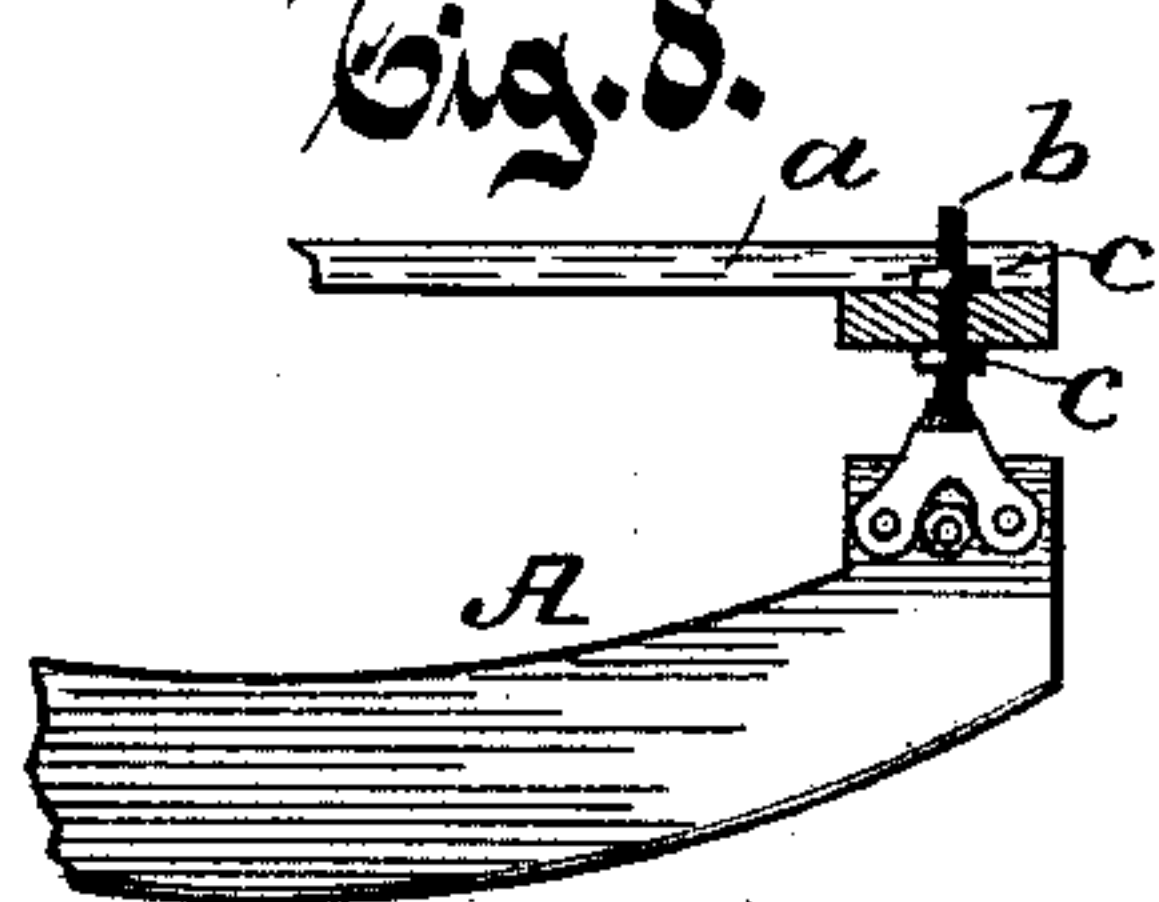


Fig. 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

PETER H. BRODESSER AND PETER J. TERNES, OF MILWAUKEE, WISCONSIN.

MEAT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 407,056, dated July 16, 1889.

Application filed October 1, 1888. Serial No. 286,861. (No model.)

To all whom it may concern:

Be it known that we, PETER H. BRODESSER and PETER J. TERNES, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Meat-Cutters; and we do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in that class of meat-cutters in which a number of curved-edge knives fixed in a frame in a set are given a rocking motion, whereby they are adapted for mincing meat on a rotating block.

Figure 1 is an elevation of a complete device embodying our improvements. Fig. 2 is a plan of the wheels and attached mechanism, whereby a rotary and an eccentric movement are given to the meat-block. Fig. 3 is a detail of a ratchet-wheel and pawl used in raising the knives away from the block. Fig. 4 is a view from above, or plan of the complete machine. Fig. 5 is a central vertical section of the meat-block and its supporting mechanism. Fig. 6 is a detail of the mechanism for rotating the meat-block. Fig. 7 is a detail showing the method of attachment of the rods for driving the meat-block-rotating mechanism with the driving-shaft. Fig. 8 is a detail of the device by which each knife is secured adjustably to the supporting-frame.

The same letters refer to like parts in all the views.

A number of knives A A, having a convex cutting-edge, are arranged at a distance apart, but parallel to each other, and are secured adjustably at each end, respectively, to the knife-frame *a* by means of a bolt *b*, having a bifurcated lower end, which is riveted or bolted to the end of the knife-blade, which bolt *b* is provided with a screw-threaded shank having thereon two nuts *c c*, one of which is turned against the under and the other against the upper side of the frame *a*, through which the shank of the bolt passes, whereby the knife is secured firmly, but adjustably, to the frame. These knives rest on their edges on

the block G, and the frame *a* is connected thereto by the pivoted rods F F, and to the fly-wheels E E at a radial distance from the axis of the driving-shaft D, on which the wheels E E are fixed, whereby by the rotary motion of the shaft D and the fly-wheels E E thereon the knives are given a rocking movement endwise on the block G. The shaft D is rotated by a belt B running on a pulley C, fixed on the shaft D, which belt is carried by the power-supplying mechanism. (Not shown.) A pair of bent arms *d d*, one at each side of the knife-carrying frame, are pivoted at one end, respectively, to the front end of the frame *a* and at their other ends to the shaft-supporting frame *e*. These bent arms *d d* are intended and adapted for guides for controlling and limiting the movement of the knives A, and are not a necessary part of the mechanism, but are preferably used therewith. An arm *f*, secured rigidly to the frame *a*, projects rearwardly therefrom, and is provided with a bifurcated end adapted to impinge against and rest on the bracket-arm *g* when the frame *a* is tilted rearwardly sufficient therefor.

The bracket-arm *g* is rigid on the shaft *h*, which is journaled and supported on the frame *e*, and is provided with a lever-handle *i*, which is also rigid to the shaft *h*. A check-pawl *j* is pivoted on the frame *e*, and is adapted to engage with the ratchet-wheel *k*, rigid on the shaft *h*. When the knives are tilted rearwardly until the arm *f* rests on the bracket-arm *g*, then by bearing down on the lever-handle *i* the knives are raised away from the block G, and by the engagement of the pawl *j* with the pinion *k* the knives are supported away from the block G. This is convenient and desirable when it is necessary to clean the surface of the block G or for cleaning the knives. A brake-shoe *l* is pivoted to the frame *e*, and is adapted to be held against the fly-wheel E by means of an eccentric *m*, pivoted on the frame *e* and provided with a handle *n*.

The meat-block G rests on the false bottom *o*, which is suspended adjustably vertically in the case R by means of the bolts *p p*, having screw-threads and nuts thereon. The case R rests movably on the horizontal wheel S, which rotates about the central vertical

arbor Q, which arbor is fixed rigidly in the supporting-base Y. The wheel S is supported and rotates on a series of bearing-wheels *q q*, journaled in standards fixed in the base Y.

5 A horizontal cog-wheel P, rigid on the hub of the wheel S, meshes with a worm O on the shaft N, which is journaled in brackets therefor supported on the base Y. The shaft N is provided with a ratchet-wheel *r*, fast thereon.

10 Two connecting-rods K L are pivoted at one end to the outer ends of the severally independent arms M M, respectively, and the inner ends of the arms M M are pivoted on the shaft N, and the arms M M are each provided with

15 a gravity-acting pawl *s*, adapted to engage intermittently the teeth on the ratchet-wheel *r*, forcing it to rotate in one direction by the alternately-reciprocating movement of the rods K and L, the pawls being adapted to pass

20 the teeth of the ratchet-wheel in the other direction. The rods K and L at their other extremities are by a common bolt pivoted on the face of the wheel U, the pivotal bolt *t* being provided with a head which enters and

25 is adapted to travel in a T-shaped slot in and across the face of the wheel U, which bolt is also provided with a nut *y*, adapted to turn by a screw-thread on the bolt against the face of the wheel, whereby the bolt *t* is made

30 rigid to the wheel. The wheel U is fixed on the shaft T, and the pivot *t* can be adjusted and set on the face of the wheel eccentric to its axis to such extent as is desired, whereby, when the wheel is rotated, a reciprocating mo-

35 tion is given to the rods K and L for rotating the meat-block G. The sprocket-wheel J is fast on the shaft T, which is journaled in brackets supported on the base Y. A sprocket-chain I, running on the sprocket-wheel J,

40 runs also on a sprocket-wheel H on the shaft D, whereby when the shaft D is rotated motion is communicated to the meat-block G through the mechanism described. A small vertical arbor *u*, projecting eccentrically from the ar-

45 bor Q, enters a recess or bearing therefor in the bottom of the case R, and about this small arbor *u* the case R is adapted to rotate in an eccentric orbit. A cog-wheel *v*, projecting upwardly from the wheel S and hav-

50 ing the same axis as the wheel S, meshes with a larger wheel *w*, having inwardly-projecting cogs extending downwardly from the case R, whereby, as the wheel S is rotated, the case R is caused to rotate in an eccentric

55 manner on the wheel S. This eccentric movement of the case R is intended and adapted to present a constantly-changing surface of the meat-block G to the knives A A.

What we claim as new, and desire to secure
60 by Letters Patent, is—

1. In a meat-cutter, the combination, with the knife-carrying frame *a* and an arm *f*, rigidly attached thereto, of a shaft *h*, journaled on the supporting-frame, and a bracket-arm *g*, provided with a handle *i*, rigid on said shaft, substantially as described. 65

2. In a meat-cutter, a horizontally-rotating wheel S, an arbor Q, rigid to the frame, about which arbor the wheel S rotates, and an arbor *u*, rigid on the arbor Q, eccentric to the axis thereof and entering a recess therefor in the bottom of case R eccentric to its center, in combination with case R, resting movably on the wheel S and rotating eccentrically about the arbor *u*, a small cog-wheel *v*, 75 rigid on the wheel S entirely at one side of the axis of that wheel, and an inwardly-facing cog-wheel W, rigid on case R, eccentric to its arbor, and meshing with the wheel *v*, whereby the case R is rotated eccentrically 80 about its own arbor and is carried eccentrically about the axis of the wheel S, substantially as described.

3. In a meat-cutter, a shaft N, having thereon a wheel meshing with a wheel on the 85 meat-block-supporting mechanism, and a ratchet-wheel *r*, rigid on shaft N, in combination with oppositely-extending arms M M, pivoted at their inner ends on the shaft N, gravity-pawls *s s*, pivoted severally on the 90 arms M M, and connecting-rods K and L, severally pivoted at one end to the outer ends of the arms M M, and at the other ends pivoted eccentrically by a common wrist-pin to a power-supplying wheel, substantially as 95 and for the purpose set forth.

4. In a meat-cutter, a mechanism-driving shaft N, provided with a worm therefor, a ratchet-wheel *r* rigid thereon, and two oppositely-extending arms M M, pivoted at their 100 inner ends on the shaft N, and provided with gravity-pawls *s s*, adapted to engage alternately with the ratchet-wheel *r*, in combination with connecting-rods K and L, pivoted at one end severally to the arms M M, and at 105 the other end pivoted by a common bolt *t* eccentrically to a driving-wheel, and the driving-wheel U, having a slot across its face, in which the bolt *t* is adjustably secured, substantially as described. 110

In testimony whereof we affix our signatures in presence of two witnesses.

PETER H. BRODESSER.
PETER J. TERNES.

Witnesses:

JAS. B. ERWIN,
C. C. H. KEENEY.