

D. PETERS.
Meat-Choppers.

No. 154,078.

Patented Aug. 11, 1874.

Fig. 1

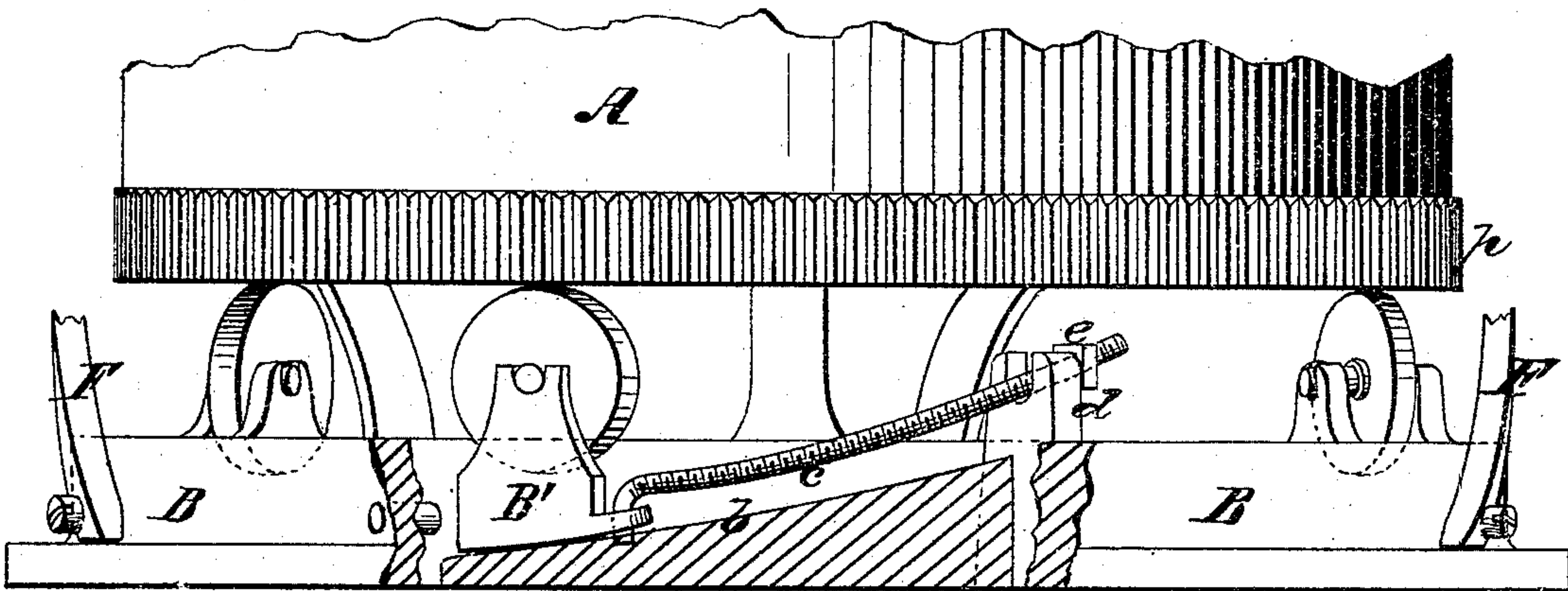
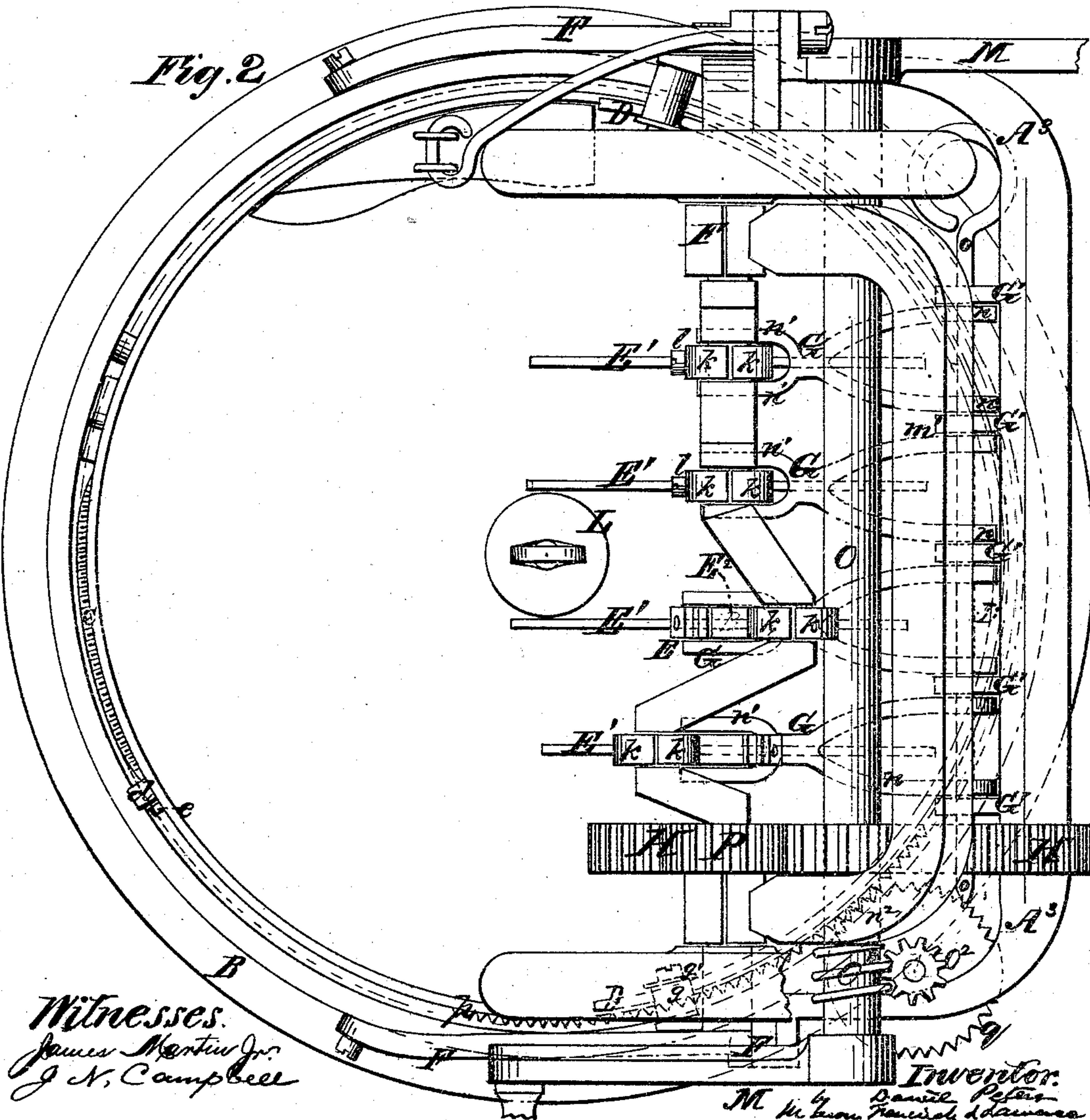


Fig. 2



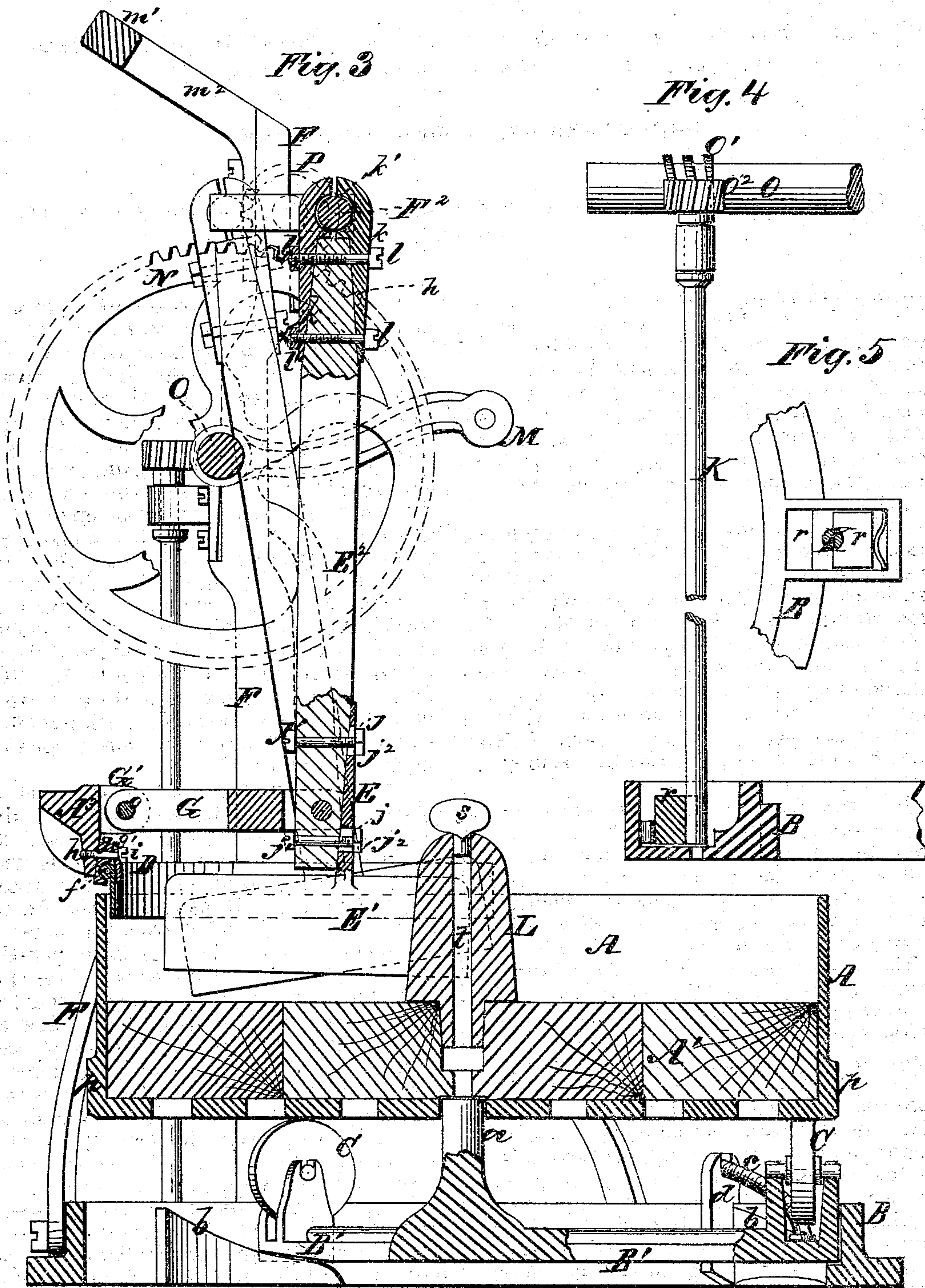
Witnesses.
James Montier Jr.
J. N. Campbell

Inventor.
Daniel Peters
McLean, General Adm'r

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Witnesses.
James Martin Jr.
J. A. Campbell.

Inventor.
Daniel Peters
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UNITED STATES PATENT OFFICE.

DANIEL PETERS, OF BURLINGTON, IOWA, ASSIGNOR TO HIMSELF AND MURRAY IRON-WORKS COMPANY, OF SAME PLACE.

IMPROVEMENT IN MEAT-CHOPPERS.

Specification forming part of Letters Patent No. **154,078**, dated August 11, 1874; application filed January 17, 1874.

To all whom it may concern:

Be it known that I, DANIEL PETERS, of Burlington, in the county of Des Moines and State of Iowa, have invented a new and useful Improvement in Meat-Choppers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a view, partly in elevation and partly in section, of the lower portion of my meat-chopper. Fig. 2 is a plan view of the whole machine. Fig. 3 is a vertical cross-section through the center of the machine. Fig. 4 is a section through a portion of the base-ring and step-box of the worm-wheel shaft, and showing the worm-wheel shaft and a portion of the worm-shaft in elevation. Fig. 5 is a horizontal section of the worm-wheel shaft, and showing the step-box and a portion of the base-ring in elevation.

My improvements relate to the machine for chopping meat patented by me on the 13th day of February, 1872, and the same will be better understood by describing them in connection with said machine, which machine, as improved, is the one shown in the accompanying drawings.

The first improvement which I will describe relates to a certain construction of the supporting and raising and lowering devices of the meat-cylinder A and its bottom, which forms the wood chopping-bed A¹ thereof.

My plan now is to fit loosely, within the base-ring B, a spider with three radial arms and a hub, the latter extending up in form of a center-pin, and serving as a central axis, *a*, for the cylinder A and chopping-block B to revolve around. This spider is furnished with bearings to receive friction-wheels C, upon which the chopping-cylinder and block rest, as shown. The base-ring, on its inner circumference, is constructed with three inclined projections, *b*, set at equal distances apart, upon which the arms of the spider rest, and glide up and down when the chopping-block and cylinder are raised and lowered, to bring the block nearer to or move it farther from the

edges of the knives. To effect this adjustment I employ an inclined screw-threaded rod, *c*, one end of said rod being fastened to the outer end of an arm of the spider, and the other elevated and passed down through an open slotted lug, *d*, cast on the upper inner edge of the base-ring. On this end of the rod a nut, *e*, is fitted and screwed up against the lug. It will be evident that by screwing up the nut *e* the spider will be caused to rise up on the inclined planes of the projections *b*, and in thus rising the cylinder A and block A¹ will be elevated, and by unscrewing the nut and pressing down the spider the cylinder and block will be lowered. By this construction an equal adjustment on three sides of the center can be effected, and there is no liability of tilting, as when more than three arms are used. The inclined screw-rod with nut affords a very simple and convenient means for affecting the adjustment.

It is very desirable to adjust the block and cylinder at a proper distance from the knives, both in the first use of the machine and after the block has been worn away by long use.

The next improvement to be described is the circular guard D fastened to the frame F of the machine, in relief from the inner circumference of the cylinder A, and applied to extend down a short distance below the upper edge of said cylinder. This guard I construct with a bead, *f*, on its upper back edge, and this bead is placed between pieces *g g'*, and I confine the whole to lugs *h* of the frame by clamp-screws *i*, as shown. The guard permits the cylinder to be raised and lowered, and still serves to prevent the meat flying out at the back of the cylinder as the knives are raised and lowered.

The next improvement is the device by which the shanks E, of the knives E¹, are attached to the wooden handles E², for the purpose of permitting an up-and-down adjustment of the knives. This device consists of oblong slots *j* and bolts *j*¹, on the ends of which are nuts *j*². The bolts pass through the wooden handles and metal shanks, and the nuts are screwed upon the ends of the bolts so as to unite the shanks of the knives firmly

to the handles. By loosening the nuts the knives can be lowered or raised as required, and then, by again tightening the nuts, firmly secured in position.

Another improvement relating to the knives consists in constructing a metal hanger on the upper ends of the handles E^2 . This hanger is composed of two plates or jaws, k , bored out as at k' , to fit the circular parts of the crank-shaft F^2 , and form a box or bearing for the same to turn in. These plates are confined upon the upper ends of the handles by means of two clamp-bolts, l , and nuts l' . By setting up the nuts the plates can be made to fit closer around the crank-shaft, and thus any wear that occurs is provided for.

In practice, the plates and handles may be so shaped on those parts where they unite that a bearing will only take place at the point z ; and thus, when the nuts are set up, the plates will react like springs, and keep them from getting loose, the same as in my application for a patent filed in the Patent Office on the 27th day of December, 1873.

Another improvement is in the frame or standards thereof, and the cross-bar uniting the same at the top, above the crank-shaft F^2 . These standards are terminated with oblique or inclined portions m^2 , which extend back some distance, and are connected by a cross-bar, m^1 , whose upper surface is on a plane with the upper sides of the inclined portions m^2 , as shown.

By this construction a rest is afforded by the bar for the knives when they are thrown up and back out of operation.

Another improvement is the construction of the bars G , by which the knives are oscillated and made to produce a drawing cut, in connection with intermediate supports or lugs G' , to which they are hung, whereby these bars are sustained on two sides, and the knives steadied and supported more perfectly. Each bar is forked at its back and front end, as shown at n n' , and thus, while its front end takes hold of both sides of the knife-handle, its rear end spreads out wide, and has a bearing on two sides against lugs G' , as shown; and in this connection I have provided for fastening all the rods to the lugs of the bar A^2 of the frame by means of a single pin, o , which pin can be drawn out at will for the purpose of detaching all the bars from the cross-bar of the frame.

And further, I have improved the mechanism for turning the cylinder and block by making a circle of V-shaped teeth, p , on the lower end of the cylinder, and employing a pinon, q , with teeth of similar form, to work into the said circle of teeth. This pinion is

placed on the worm-wheel shaft K , which has its lower end stepped in a spring sliding step-block, r , as shown.

The spring step-block presses the lower end of the shaft K toward the cylinder A , and this action insures the gearing contact of the pinion with the circle of teeth p , and the rotation of the cylinder and chopping-block when the machine is in motion. This feature of my invention saves a considerable expense, as nice fitting of the gearing is not necessary.

And, finally, in order to secure all the advantages of the central projection L , (shown in my aforesaid patent,) and at the same time provide a neat and convenient means for oiling the bearing or central pin of the spider, I have made this central projection hollow, as at r , and provided it with a set-screw or screw-cap, S .

By removing the screw the nose of the oil-can can be introduced, and oil poured into the chamber of the projection, and this oil will find its way down upon the pin of the spider.

The operation of the machine is very plain. Power being applied to the crank-shaft by means of the handles M , the large spur-wheel N on the worm-shaft O sets in motion the pinion P of the crank-shaft, and this pinion turns the crank-shaft, and causes it to reciprocate the knives. At the same time that a fast motion is imparted to the knives a slow motion is imparted to the worm-wheel shaft K by means of the worm O^1 , gearing into the worm-wheel O^2 , and this slow motion is transmitted to the cylinder and block by means of the pinion q on the worm-wheel shaft gearing with the teeth of the cylinder. As the knives move up and down they are caused to oscillate, as illustrated in Fig. 3, by means of the bars G pivoted to their lower ends; and, by the revolving motion of the cylinder and block, the meat chopped at each stroke is moved to a position which will insure a re-cutting of it when the knives again descend.

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

1. The oblique backward extensions m^2 on the upper ends of the standards, in combination with the cross-bar which serves as a rest for the knives when thrown up, substantially as set forth.

2. The central projection L of the chopping-block, made hollow, and provided with a screw or cap, in combination with the pin of the spider, substantially as and for the purpose described.

DANIEL PETERS.

Witnesses:

J. A. SMYTH,

THOMAS HEDGE, Jr.