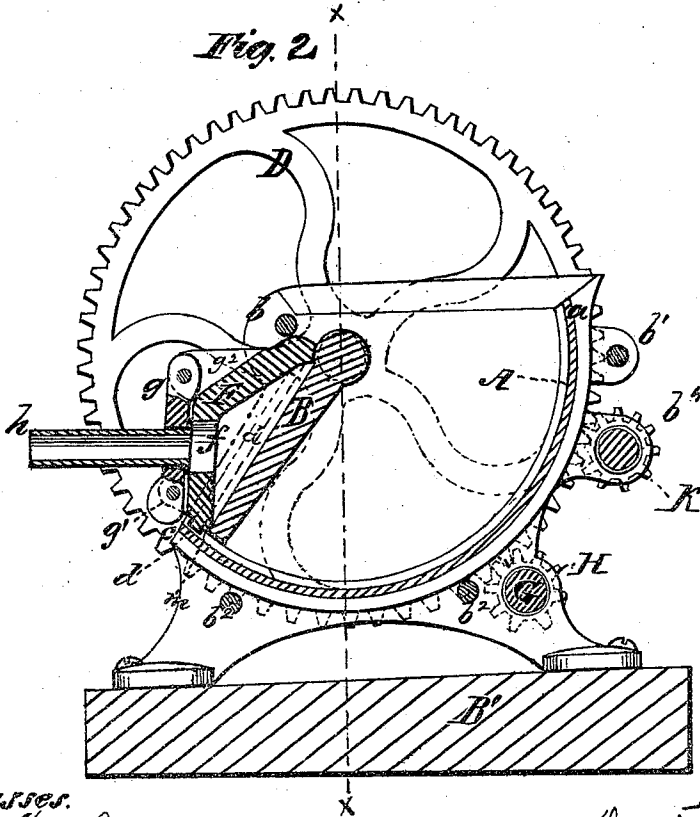
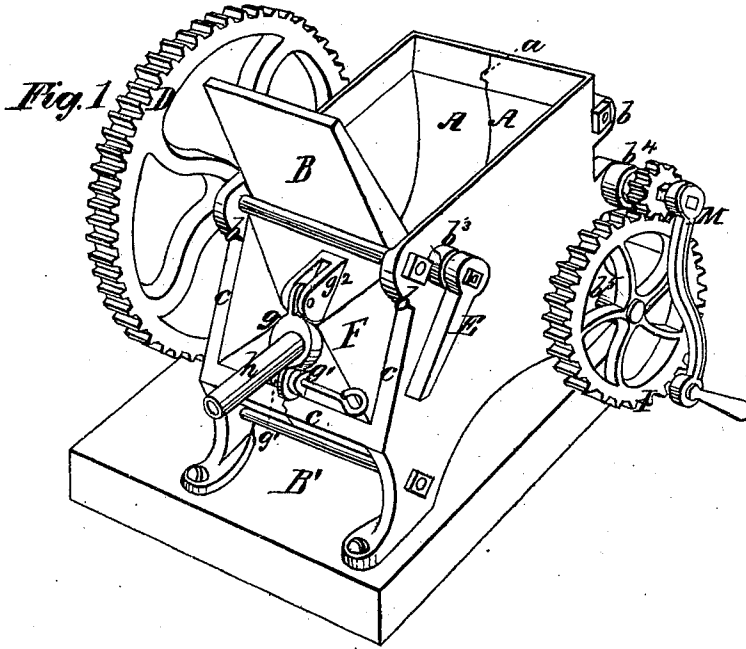


D. PETERS.
Sausage-Stuffers.

No. 148,322.

Patented March 10, 1874.



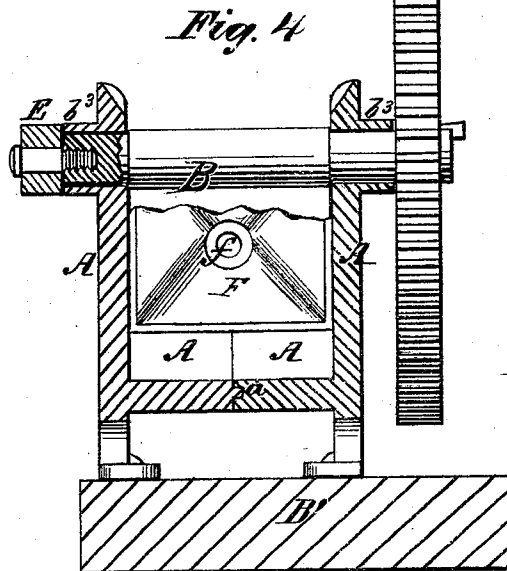
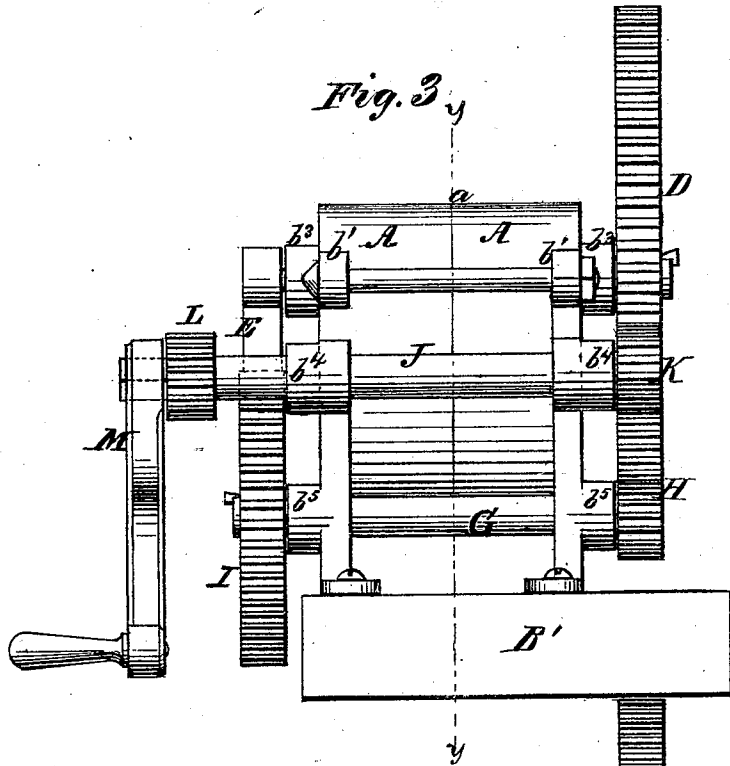
Witnesses.
James Martin Jr.
J. N. Campbell

Inventor.
Daniel Peters
By
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Mann, Revick & Hammer

UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN SAUSAGE-STUFFERS.

Specification forming part of Letters Patent No. 148,322, dated March 10, 1874; application filed
November 28, 1873.

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 Sausage-Stuffers; 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 perspective view of the sausage-stuffer as in condition for receiving meat into its hopper. Fig. 2 is a vertical longitudinal section of the same in the line *yy* of Fig. 3. Fig. 3 is a back view of the machine; and Fig. 4, a vertical section in the line *xx* of Fig. 2, a portion of the plunger being broken away in order to show the discharge-passage, and the pyramidal concentrating-chamber around said passage.

The same letters of reference in the several figures indicate the same parts.

The nature of my invention consists, first, in a discharging end plate, of pyramidal form, made with an internal concavity and external convexity, in combination with a vibrating rectangular plunger, which is hung at one side of the mouth of the hopper, as shown, and a segmental hopper. By this construction nearly the full width of the opening or mouth of the hopper is secured for the feeding in of the sausage-meat. The meat is pressed into the discharging-tube by a flat-faced, straight-edged plunger, and before it escapes into said tube is subjected to a gradual concentrating pressure from the inclined sides of the cavity at the terminus of the segmental hopper. The object of having the parts thus constructed is that they may all be made with true-fitting surfaces, and thus caused to work perfectly true and tight.

My invention consists, second, in making the hopper in two halves, and with tongues and grooves and laterally-extended hollow bearings, in combination with extended journals on the plunger, and with tongues on the edges of the discharging end plate, whereby the plunger can have its journals extended through the side plates of the hopper, and the discharging end plate can have its tongues fitted into the grooves of the said side plates,

and then the whole confined tightly together by bolts and nuts, and a perfectly air-tight fit between the plunger-journals and the side plates and other parts, without liability of leakage from wear of the edges of the plunger against the side of the hopper, is secured; and whereby, also, the end plate can be readily detached when it is desired to clean out or get access to the interior of the lower part of the segmental hopper.

My invention consists, third, in a stop-pawl attached rigidly to one of the journals of the plunger, in combination with one of the spur-wheels, whereby, when the plunger has made its full movement toward the discharging end of the hopper, its further motion is arrested by said pawl falling in between two of the teeth of the spur-wheel, and thus breakage avoided.

My invention consists, fourth, in the combination, with the segmental hopper and the plunger, of a large spur-wheel, a small pinion, a small spur-wheel, and an elongated sliding crank-shaft with two pinions, whereby the crank-handle can be moved always in the same direction, whether a pinion of the crank-shaft is in gear with the small spur-wheel, which gives a slow inward motion, or a pinion of said shaft is in gear with the large spur-wheel for giving a fast outward motion. The combination is also such that the fast motion may be used both for inward and outward movements of the plunger.

To enable others skilled in the art to understand my invention, I will proceed to describe the same with reference to the drawings.

A A are the two segmental halves of the hopper, cast on vertical side plates, which extend down below the bottom of the hopper in form of legs, on which are perforated flanges to receive the screws for fastening the machine to a solid foundation, B'. The edge of one segment is tongued and the other grooved, as shown in Fig. 4, at *a*. The upper edges of the side plates and the back of the segmental hopper are beveled outwardly, so as to ease the entrance of the meat into the hopper. The rear ends of the side plates are extended at the top into two bolting-lugs, *b b*, and below these lugs these plates are cut away in an

oblique line, which passes entirely through the bottom of the hopper, as shown at *c c c*. On the inner sides and bottom of the plates forming the hopper, grooves *d* are formed, near the margin of the said oblique ends *c c c*, to receive the tongues on the edges of the end plate of the hopper, as shown. The side plates are also provided with perforated bolting-lugs *b¹ b¹*, bolt-holes *b² b²*, and extended bearings *b³ b⁴ b⁵*, as shown. B is the plunger, cast with its journals upon it, so that there shall be no side motion of it independent of its axis of motion, said journals being long enough to pass through the extended bearings *b³*, and to receive, respectively, the large spur-wheel D and the stop or gage pawl E outside of said bearings. This plunger is rectangular in form, and its axis of motion is at the extreme rear end of the feeding-mouth of the hopper. F is the discharging end plate of the hopper. It is rectangular in form, but pyramidal in its outward extension, as shown in Figs. 1, 2, and 4, both internally and externally. This form insures the direction of the meat toward the discharge-hole, and also a gradual concentration and compression as it is discharging. Just below the point or apex of this plate the discharge-passage *f* is formed. To the outer side of this plate, on projecting lugs *g²* thereof, a perforated clamp, *g*, is hinged, and a perforated tongue or fastening of this clamp passes down between two ears, *g¹ g¹*, on the plate, just below the discharge-hole *f*. Through the hole of the clamp a flanged tube, *h*, for conducting the meat into the skins to be stuffed, is passed, and then the clamp is brought down against the end plate, and a pin passed through the ears and its perforated end, as shown in Fig. 2. This secures the tube in line with the discharge-hole firmly upon the plate. G is a shaft, passed through the bearings *b⁵*; and on one of its ends is secured a pinion, H, and on the other an intermediate spur-wheel, I. The pinion gears with the large spur-wheel D. J is an elongated sliding crank-shaft, carrying a pinion, K, on one end, and a pinion, L, near the end where the crank-handle M is applied. This shaft is passed through the bearings *b⁴*, and one of the pinions is intended to gear with the large spur-wheel, and the other with the intermediate spur-wheel I, but both pinions are not at one time ever in gear with both wheels; but one is intended to be in gear with the large spur-wheel when a fast return stroke of the piston is being made, and the other in gear with the intermediate spur-wheel when a slow feeding or stuffing movement of the piston is being made. The change is made by sliding the shaft laterally in its bearings. The gearing is arranged to permit the crank to be moved in the same direction in both the slow and fast

movements of the piston, as is evident from the drawing. After the parts are all trued in a lathe, they are put together by passing one side plate over one of the journals of the piston and up against the end plate, and in like manner bringing the other side plate over the other journal of the piston and against the other edge of the side plate. All being in position, the parts are bolted together by passing bolts through the holes provided for them. The gear-shafts are next passed through their appropriate bearings, and the gear-wheels keyed upon the same.

It should be stated that the piston is adjusted at about a right angle with the stop-pawl E; and that the location of the spur-wheel I is such that, when the piston has made its full movement against the meat in the hopper, and nearly arrived at the stopping-point *m*, the stop-pawl will just have arrived at a point of contact with the teeth of the said spur-wheel, and will, therefore, arrest such further movement of the piston as would render liable the breaking of the parts.

The machine is very cheaply constructed, and, while this is the fact, it works without liability of leakage, as all of the parts can be turned in an ordinary lathe. It also is very effective in its operation, and expeditiously adjusted for the fast and slow movements.

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

1. The combination of the rectangular end plate F, formed with inclined converging internal surfaces, the rectangular vibrating plunger B, hung at one side of the mouth of the hopper, as shown, and a segmental hopper, A, substantially as and for the purpose described.

2. The segmental hopper made in two halves, A A, and constructed with laterally-extended bearings *b³ b³*, with tongue-and-grooved surfaces *a d*, as described, in combination with extended journals on the vibrating plunger B, and with tongues on the edges of the end-discharging-plate F, substantially as and for the purpose described.

3. The combination of the stop-pawl E, the vibrating plunger B, and the spur-wheel I, substantially as described.

4. The combination of the segmental hopper, the plunger B, large spur-wheel D, a pinion, H, and shaft C, and spur-wheel I, the elongated sliding crank-shaft J, and the two pinions L and K, substantially as and for the purpose described.

DANIEL PETERS.

Witnesses:

P. HENRY SMYTH,
THOMAS HEDGE, Jr.