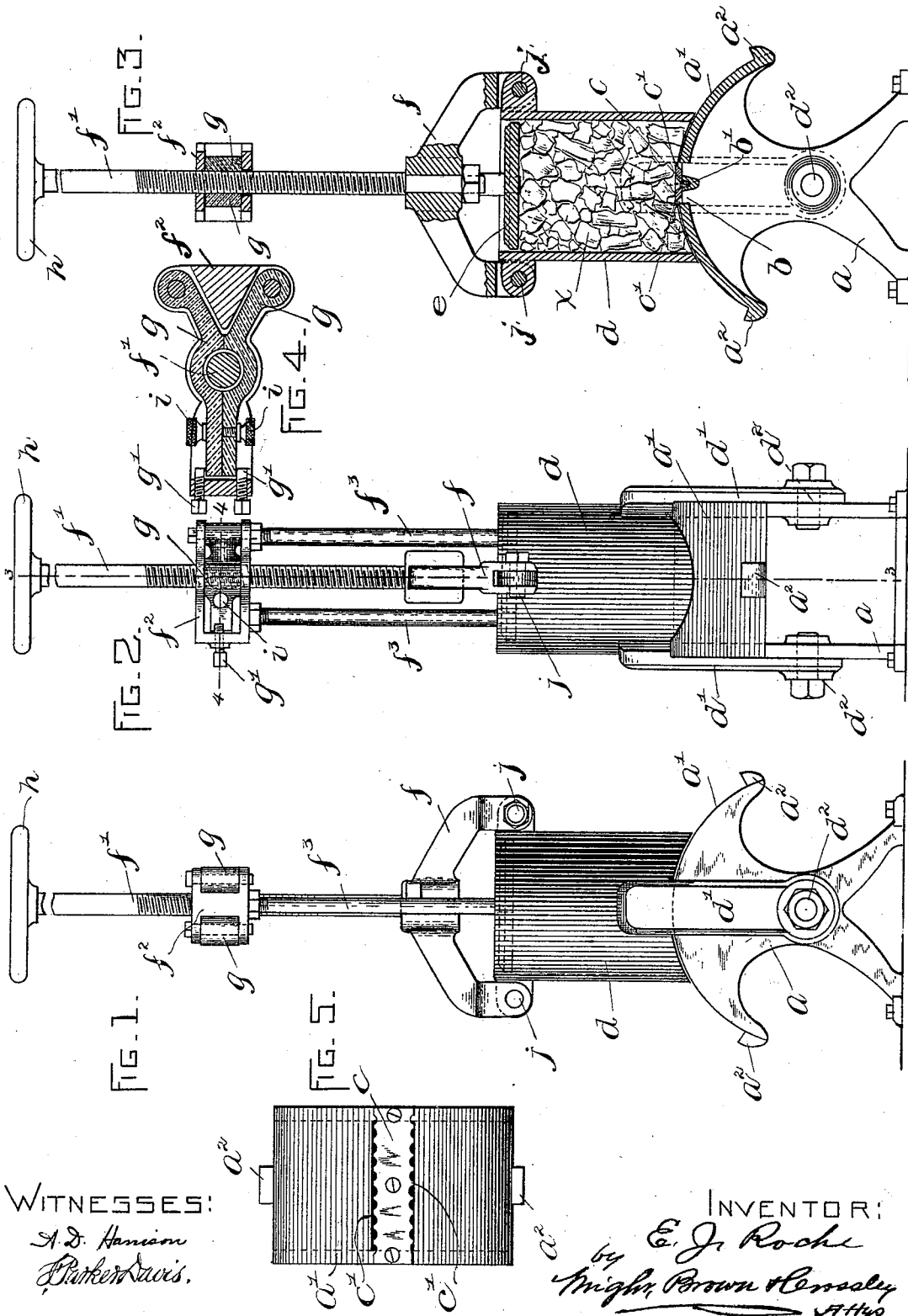


(No Model.)

E. J. ROCHE.
BONE CUTTER.

No. 516,510.

Patented Mar. 13, 1894.



UNITED STATES PATENT OFFICE.

EDWARD J. ROCHE, OF MILFORD, MASSACHUSETTS.

BONE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 516,510, dated March 13, 1894.

Application filed October 16, 1893. Serial No. 488,243. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. ROCHE, of Milford, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Bone-Cutters, of which the following is a specification.

This invention relates to an improved machine for cutting up green bones and vegetable matter, to prepare such matter for use as food for poultry and other stock.

The object of this invention is to provide a simple and practical hand-operated machine which can be expeditiously handled, and to this end the invention consists in the novel construction and arrangement of parts hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the machine. Fig. 2 shows an end elevation of the machine. Fig. 3 shows a section on line 3—3 of Fig. 2. Fig. 4 shows a section on line 4—4 of Fig. 2. Fig. 5 shows a top plan view of the bed and cutter.

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

In the drawings, the letter *a*, designates a fixed base support which is formed with a convex top surface or bed, *a'* in the arc of a circle and having projecting stop-lugs, *a²*, at each end. A transversely extending opening *b*, is formed at the middle of the bed *a'* and a bar *b'* extends centrally and longitudinally of said opening and supports a straight double-edged knife *c* whose cutting edges *c'* project above the convex surface of the bed, *a*, space being left between each cutting edge and the side of the opening for the passage of the material under treatment. The cutting edges *c'*, are preferably notched or serrated as shown in Fig. 5.

Above the bed, *a'*, is supported a hopper which is here shown in the form of a cylinder *d*, having an open lower end and concave at its lower end to fit the convex bed. This cylinder is supported by side arms *d'*, which are pivoted at *d²* to the base *a*, their pivots being concentric with the convex surface *a'*, so that under oscillation the concaved lower end of the cylinder follows the said convex surface. Green bone or other matter to be operated upon, and designated in the draw-

ings by the letter *x*, is placed in the cylinder and will rest on the bed *a'* so that under oscillations of the cylinder such matter will encounter the cutting edges *c'* and be cut up thereby. It will be observed that by reason of the cutter being double edged it will act on the material under both directions of movement of the cylinder. A feeding follower *e* fits the bore of the cylinder and is adapted to press the matter in the cylinder down upon the bed *a'* and hold it in position to be properly acted upon by the knife.

The means employed to force the follower upon the material and which also constitute means for oscillating the hopper, are as follows. A yoke *f*, is attached to ears on opposite sides of the cylinder by pins *j* and supports the lower end of a screw-shaft *f'* which turns loosely therein. Said screw-shaft extends through a cross-head *f²* which is connected by rods, *f³* with the follower *e* and which carries a two part nut composed of hinged members *g* located on opposite sides of the screw-shaft and threaded on their inner sides to engage said shaft. The two members of the nut are held together by screws, *g'* entered through one end of the cross-head. The screw-shaft carries a hand wheel *h* on its upper end by which to turn it and it will be seen that by turning said shaft the follower may be forced down upon the material in the hopper to feed the same. At the same time the hand wheel serves as a handle by which to oscillate the hopper and thereby carry on the cutting operation.

The object of the two part nut is to provide means for disengaging the screw threads when the follower is to be withdrawn. Each half nut has a knob, *i* by which to open it out on its hinges, after turning back the screw, *g'* which holds it in. When the cylinder is to be filled, one of the pins *j* connecting the yoke *f* with the cylinder, is removed and the yoke may then be turned back on the other pin as a pivot, and carries all the parts above the cylinder with it leaving the upper end of the cylinder open and an unobstructed entrance for the material to be treated.

The machine is well adapted for cutting up green bones to be used as poultry food, and may be employed for cutting up other matter equally as well.

The machine has many points of superiority. The hopper and parts attached thereto work on a center which gives an easy and effective action. The straight double edged
5 cutter has a large capacity for action. The means for oscilating the cyllinder and the means for feeding the material in the hopper are combined so that the operator controls both by one handle.

10 It is evident the construction here shown is susceptible of variation without departing from the spirit and scope of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters
15 Patent, is—

1. A machine of the character described, comprising in its construction a fixed bed extending in the arc of a circle, a fixed cutter projecting above the bed, an oscillating hopper
20 above the bed, a yoke or bracket fastened to the hopper and extending over the upper end of the same, a screw-shaft journaled in

the said yoke or support, a follower in the hopper, a cross-head carrying a nut in engagement with the screw-shaft, and a rigid
25 connection between the cross-head and follower.

2. A machine of the character described comprising in its construction a bed having a convex surface and a cutter an oscillatory
30 hopper over said bed, a follower adapted to travel in the hopper, a support connected by pivot-pins with ears on the hopper, a screw-shaft whose lower end turns in said support and a cross-head connected with the follower
35 and carrying a nut engaging the screw-shaft.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of October, A. D. 1893.

EDWARD J. ROCHE.

Witnesses:

F. PARKER DAVIS,
ARTHUR W. CROSSLEY.