

(No Model.)

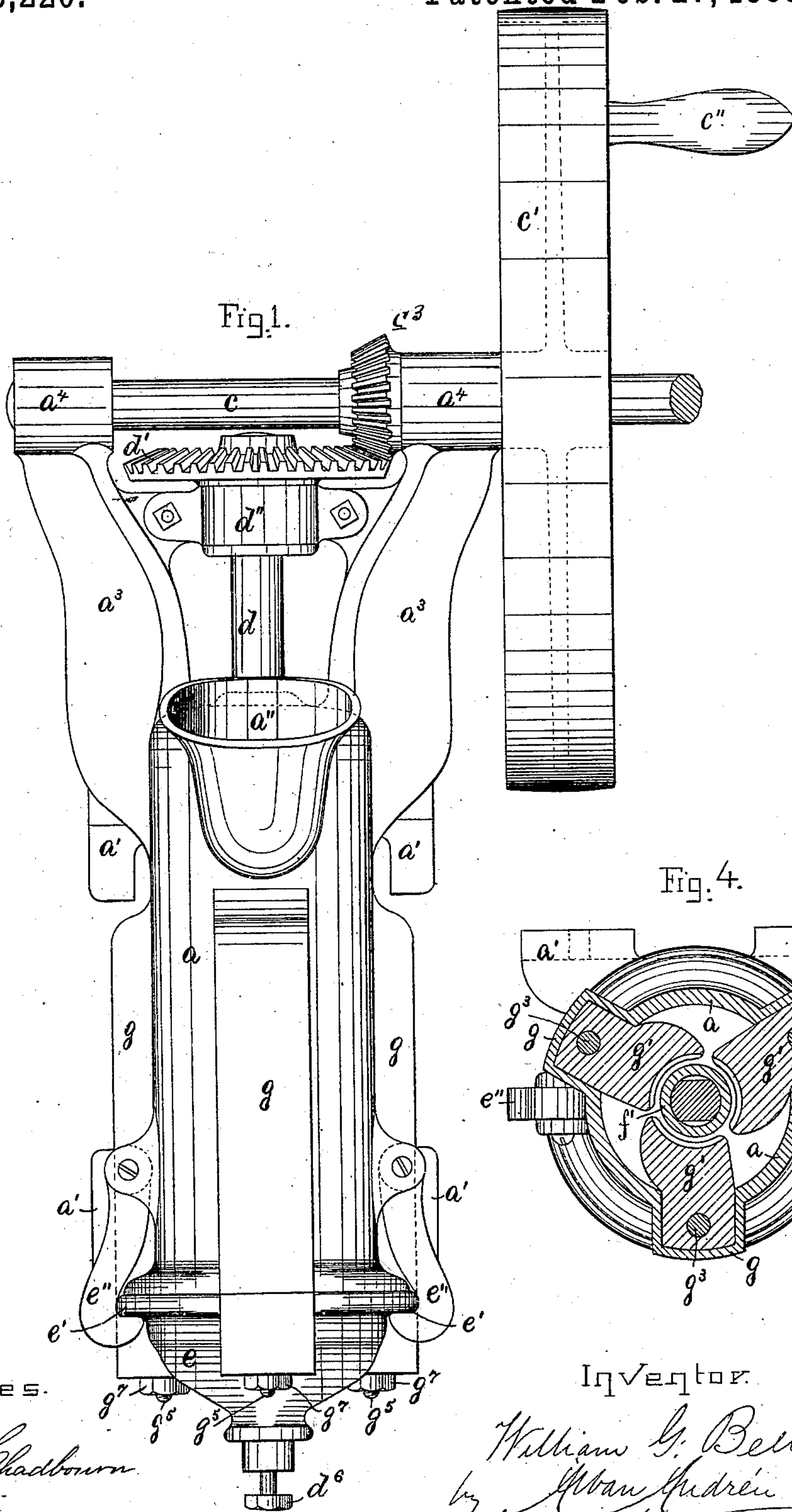
2 Sheets—Sheet 1.

W. G. BELL.

MEAT CUTTER.

No. 273,220.

Patented Feb. 27, 1883.



Witnesses.

Henry Chadbourne  
C. A. Blackwell.

Inventor.

William G. Bell  
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his atty.

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2 Sheets—Sheet 2.

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Fig. 2.

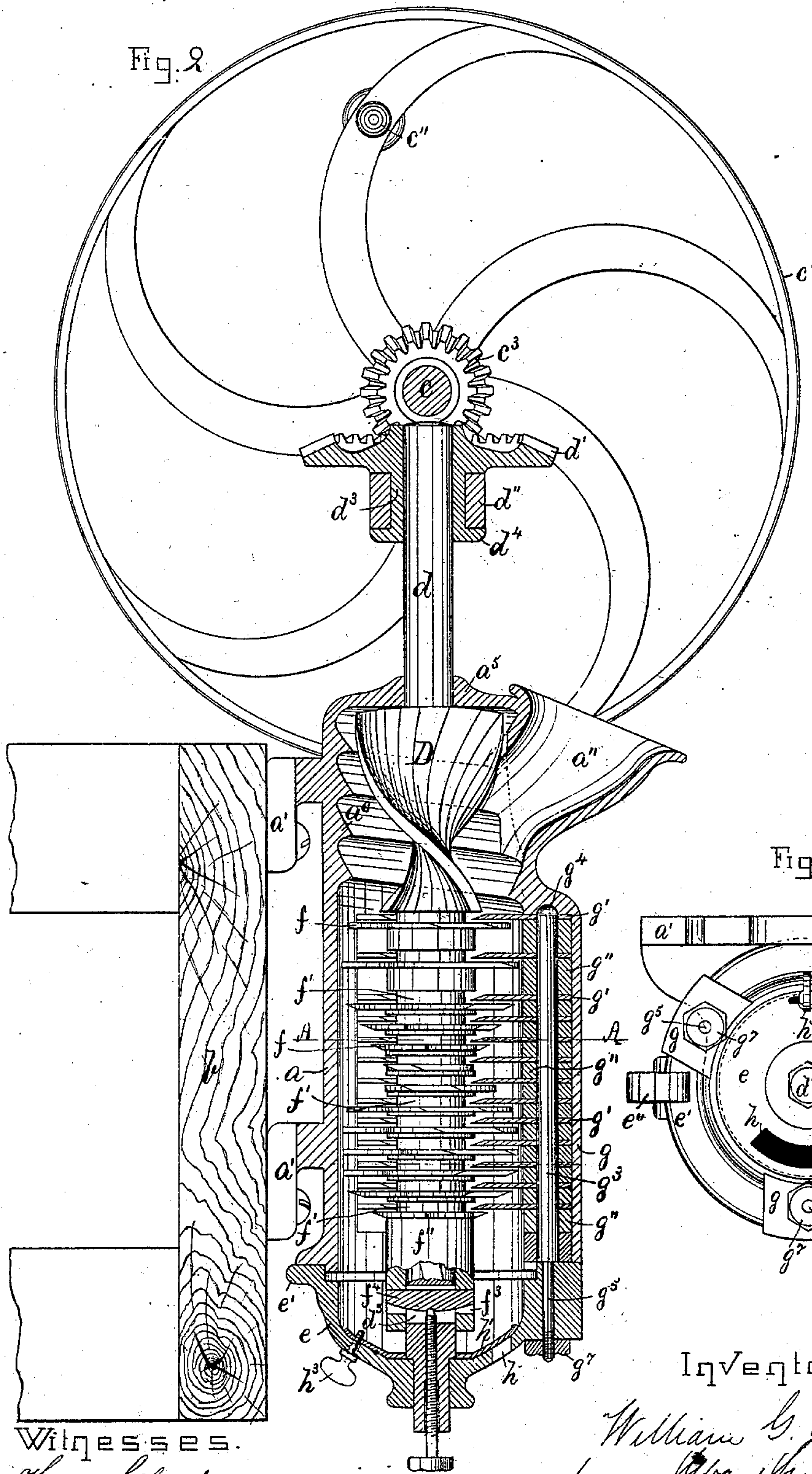
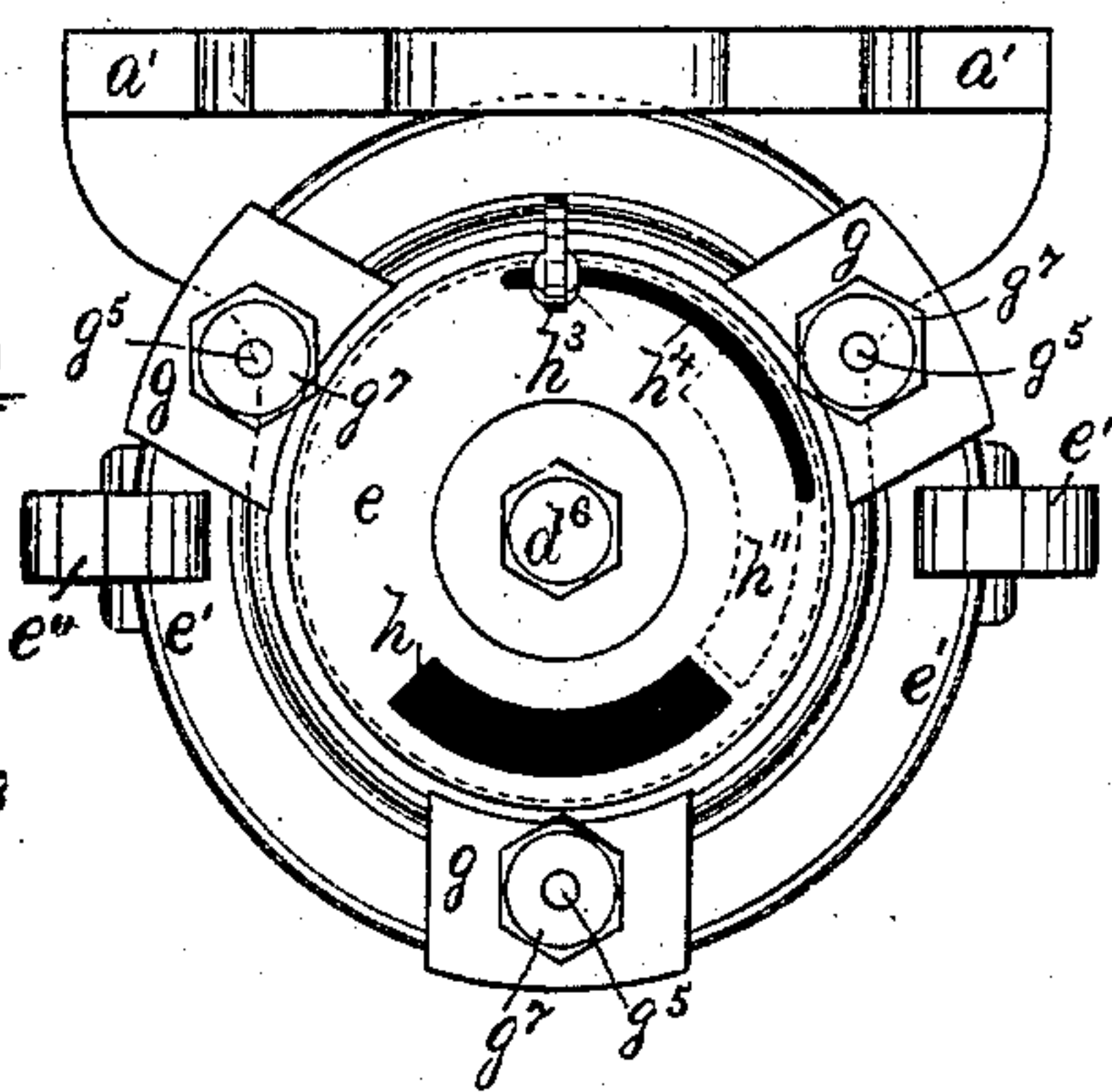


Fig. 3.



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# UNITED STATES PATENT OFFICE.

WILLIAM G. BELL, OF BOSTON, MASSACHUSETTS.

## MEAT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 273,220, dated February 27, 1883.

Application filed June 22, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM G. BELL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Meat-Cutters; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

10 This invention relates to improvements in meat-cutting machines for making mince or sausage meat, and it is carried out as follows, reference being had to the accompanying drawings, on which—

15 Figure 1 represents a front elevation, and Fig. 2 represents a central longitudinal section, of the improved meat-cutter. Fig. 3 represents a bottom view, and Fig. 4 represents a cross-section on the line A A, shown in Fig. 2.

20 Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

*a* is the vertical cylinder or meat-receptacle, in which the meat is cut up by means of the rotary cutter and stationary knives, such cylinder being cast in one single piece, without any joints whatever, by which all leakage of meat particles or fibers or juice is entirely avoided. By the employment of a vertical cylinder, *a*, in meat-cutting machines, the advantage is obtained of more evenly distributing the meat within the cylinder, and of cutting it up uniformly throughout its whole mass, without liability of clogging toward one side of the cylinder, as is the case in the use of the ordinary horizontal meat-cutting machines.

40 *a' a'* are flanges or brackets cast on the exterior of the vertical cylinder *a*, by means of which and suitable screws or hooks said cylinder *a* is secured to the upright wall *b* or equivalent frame-work.

45 *a''* is a mouth-piece or orifice near the top of the cylinder *a*, through which the meat is dropped or fed into the top of said cylinder *a* preparatory to being cut and minced.

50 *a<sup>3</sup> a<sup>3</sup>* are brackets extending upward from the top of cylinder *a*, which brackets terminate in their upper ends as bearings *a<sup>4</sup> a<sup>4</sup>* for the horizontal driving-shaft *c*, which is pro-

vided with a pulley, *c'*, to which a rotary motion may be applied by means of a belt or cord; or said shaft may be actuated by hand-power applied to the crank *c''* for the smaller sizes of machines.

55 To the shaft *c* is secured the bevel-pinion *c<sup>3</sup>*, that engages into the teeth of the bevel-gear *d'*, secured to the cutter-shaft *d*, the latter being journaled in the bearing *d''*, which forms a part of and unites the upper ends of the brackets *a<sup>3</sup> a<sup>3</sup>*. The bevel-gear *d'* has cast in one piece with it a sleeve, *d<sup>3</sup>*, which terminates below the bearing *d''* as an annular flange or collar, *d<sup>4</sup>*, by which arrangement greater strength is obtained, as the strain on the cutter-shaft is 60 transferred to the bearing *d''* and brackets *a<sup>3</sup> a<sup>3</sup>* from the upper end or head, *a<sup>5</sup>*, of the cylinder *a*, by which all danger of bursting or cracking the said cylinder or its upper head is obviated. The cutter-shaft *d* passes through a 65 perforation in the head *a<sup>5</sup>* into the cylinder *a*, where it is provided with the usual feeder wing or propeller, *D*, which, in combination with the internal screw-thread, *a<sup>6</sup>*, at the upper end of the cylinder *a*, serves to feed the meat 70 downward to the cutting mechanism, hereinafter to be described. The lower end of the cylinder *a* is open, and covered when the machine is in operation by means of the detach- 75 able cover *e*, having an outwardly-projecting annular flange, *e'*, by means of which and a pair of hinged hooks, *e'' e''*, the said cover *e* is secured to the lower end of the cylinder *a*. The cover *e* may be detached from said cylinder *a* by simply detaching the hooked ends of the 80 hooks *e''* from their hold on the flange *e'*, as usual in meat-cutting machines.

85 *f f f* represent the rotary cutters on the shaft *d*, and *f' f' f'* represent the washers or dividers on the said shaft *d*, one between two successive cutters *f f*, as shown in Fig. 2, as usual. The lower end of the cutter-shaft *d* passes through a central perforation in the cover *e*, in which it has its lower support and bearing, as shown in Figs. 1 and 2.

90 *f''* represents the cylindrical sleeve, located on the shaft *d*, below its lowest cutter, which sleeve has a lateral perforation, *f<sup>3</sup>*, through which, as well as through the slotted perforation *d<sup>5</sup>* in the shaft *d*, is inserted the pin or 95 100



bar  $f^4$ , that is pressed upward against the sleeve  $f''$  by means of the central set-screw,  $d^6$ , in the ordinary manner, by which arrangement the rotary cutters  $f f$  are firmly secured in place on the shaft  $d$ .

On the circumference of the cylinder  $a$  are cast longitudinal knife-receptacles  $g g g$ , in which the stationary knives or cutters  $g' g'$  and intermediate washers or dividers,  $g'' g''$ , are located upon spindles  $g^3$ , which pass through perforations in the said cutters and dividers, as shown in Figs. 2 and 4. Each spindle  $g^3$  rests in its upper end in a corresponding recess,  $g^4$ , in the upper end of each knife-receptacle  $g$ , as shown in Fig. 2. The lower end of each spindle  $g^3$  has an offset at the junction of the lower end of the cylinder  $a$  and the cover  $e$ , and projects through said cover as a reduced shank or bolt,  $g^5$ , that projects downward through a corresponding hole in said cover  $e$ , to which it is secured by means of a nut,  $g^7$ , as shown in Fig. 2.

By the construction and arrangement as hereinabove described I am able to insert the stationary cutters  $g' g'$  and to hold them firmly in their places within the receptacles  $g g$  simply by first securing the spindles  $g^3 g^3 g^3$  to the cover  $e$ , after which the cutters  $g' g'$  and dividers  $g'' g''$  are placed serially on said spindles  $g^3$ , and the latter, with their cutters and dividers, introduced from below in the knife-receptacles  $g g$ , after which the cover  $e$  is secured to the cylinder  $a$  by means of the fastening-hooks  $e'' e'' e''$ . In this manner the stationary cutters  $g' g'$  may be removed with ease from the interior of their receptacles  $g g$  in case they need to be sharpened or replaced by others.

For the purpose of properly regulating the fineness of the meat delivered from the machine, I make through the cover  $e$  an elongated perforation,  $h$ , (shown in Fig. 2,) and also by the black curved arch in Fig. 3, which opening may be covered more or less by the rotary slide

or cut-off disk  $h'$ , located around the shaft  $d$  on the inside of the cover  $e$ , and adapted to be turned loosely around said shaft  $d$ . The rotary cut-off disk  $h'$  is provided with an elongated slot hole or opening,  $h''$ . (Shown in dotted lines in Fig. 3.) Into the disk  $h'$  is screwed the thumb-screw  $h^3$  after first passing through the curved slot  $h^4$  in the cover  $e$ , and in this manner the disk  $h'$  may be swung around the shaft  $d$ , so as to more or less cover the delivery-opening  $h$  in the cover  $e$ , and thus to regulate the amount of cut meat delivered in a given time from the cylinder  $a$ , as well as its fineness. After the disk  $h'$  is turned to its required position it is secured in place to the cover  $e$  by means of the thumb-screw  $h^3$ , as shown in Figs. 2 and 3.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

1. In a meat-cutter, the combination of the vertical cylinder  $a$ , having brackets  $a^3$  and detachable bearings  $d''$ , and the rotary cutter-shaft having the bevel spur-wheel  $d'$ , formed with a flanged sleeve,  $d^3 d^4$ , with the horizontal driving-shaft  $c$ , journaled in the brackets  $a^3$ , and provided with the spur-wheel  $c^3$ , and the rotary and stationary cutters, as and for the purpose set forth.

2. In a meat-cutter, the combination of the vertical cylinder  $a$ , having vertical pockets  $g$  and an upper ledge provided with internal seats, with the stationary cutters  $g'$ , the vertical rods  $g^3$ , having cutters fitted thereon, and the detachable end head,  $e$ , carrying the cutters and rods  $g^3$ , as and for the purpose set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM G. BELL.

Witnesses:

ALBAN ANDRÉN,  
JOSEPH WEISSBACH.