

G. V. BRECHT.
Meat-Cutting Machines.

No. 156,761.

Patented Nov. 10, 1874.

Fig. 1.

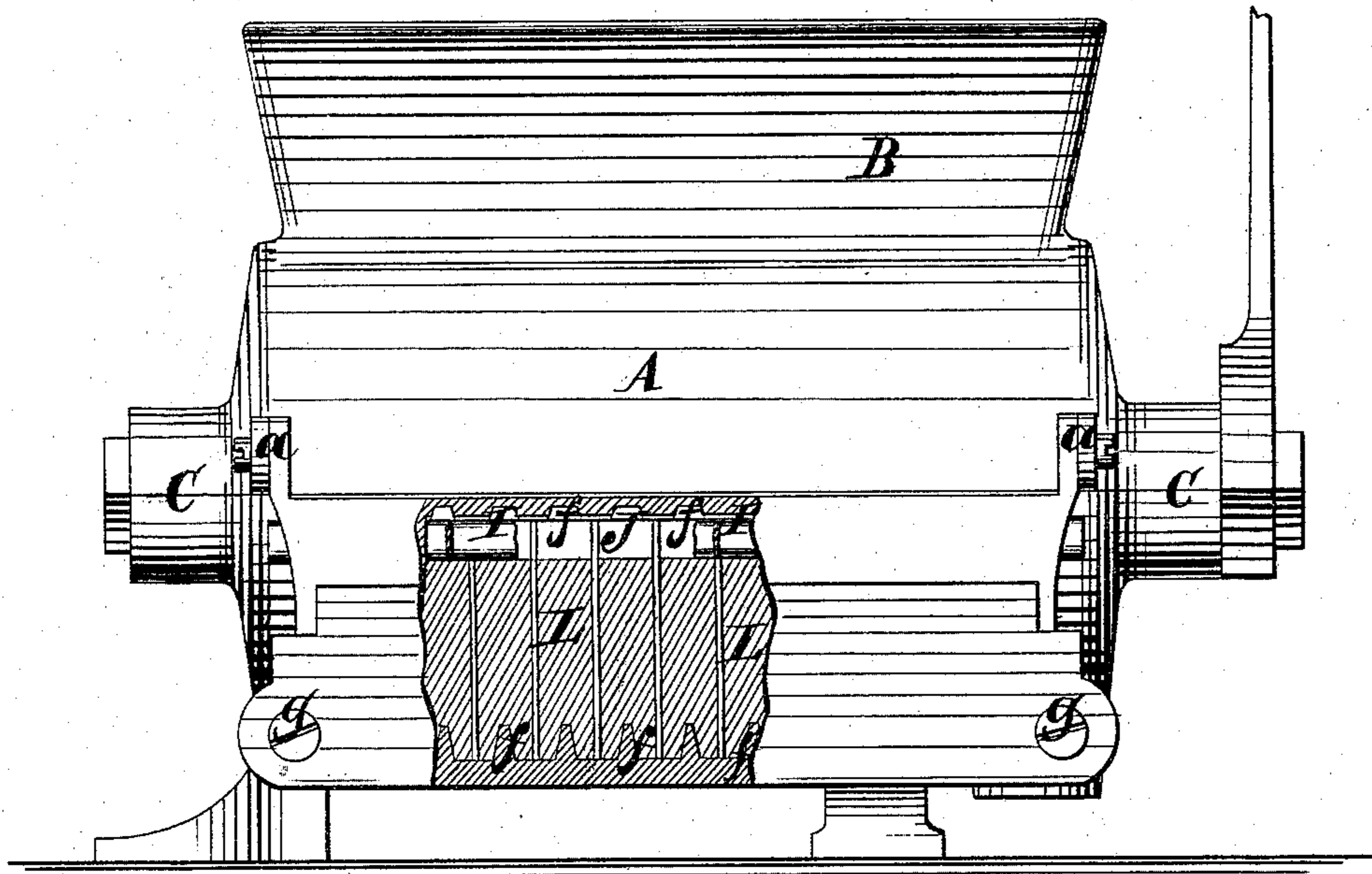
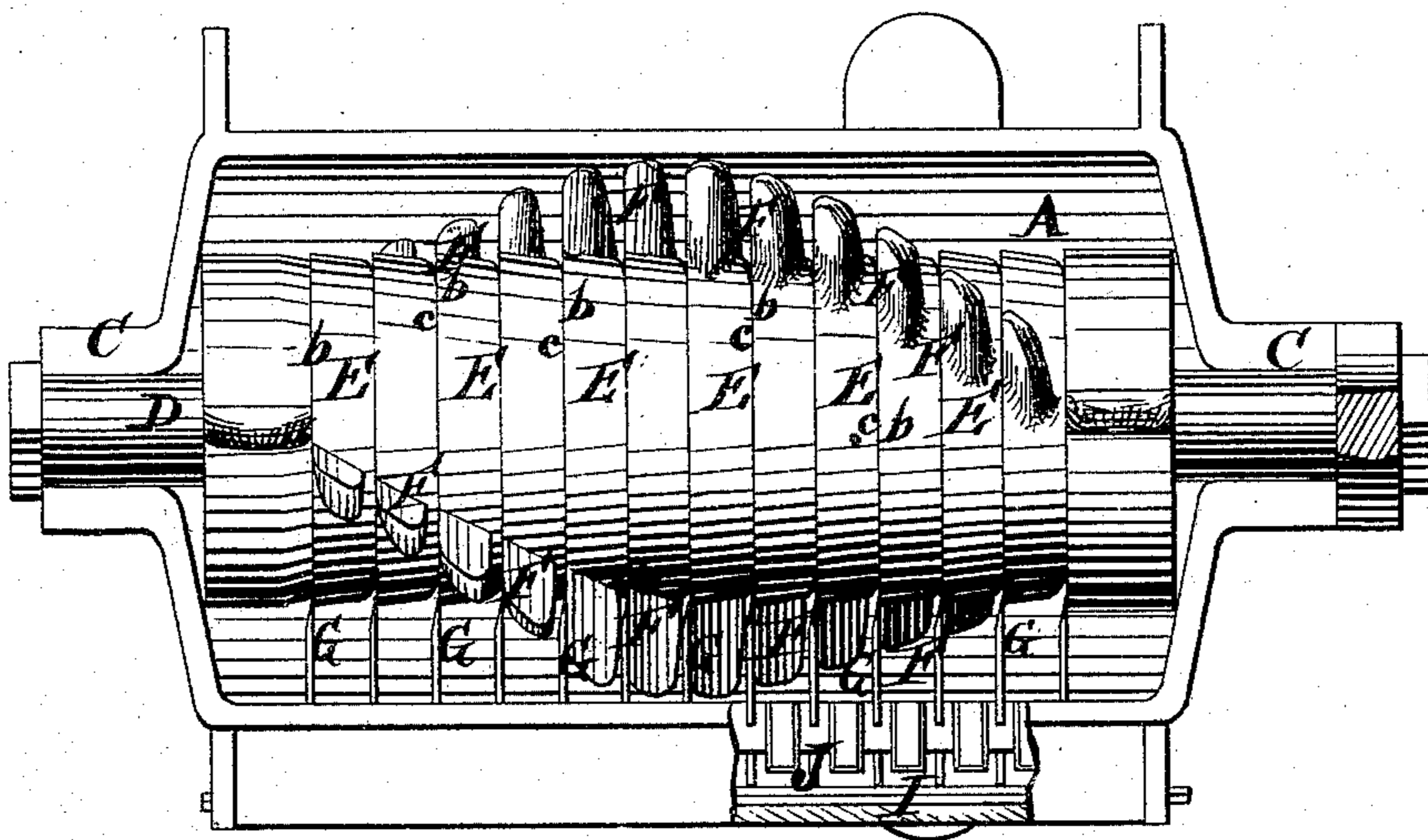


Fig. 2.



Witnesses.

Henry Gentner
Chas. Kahler.

Inventor.

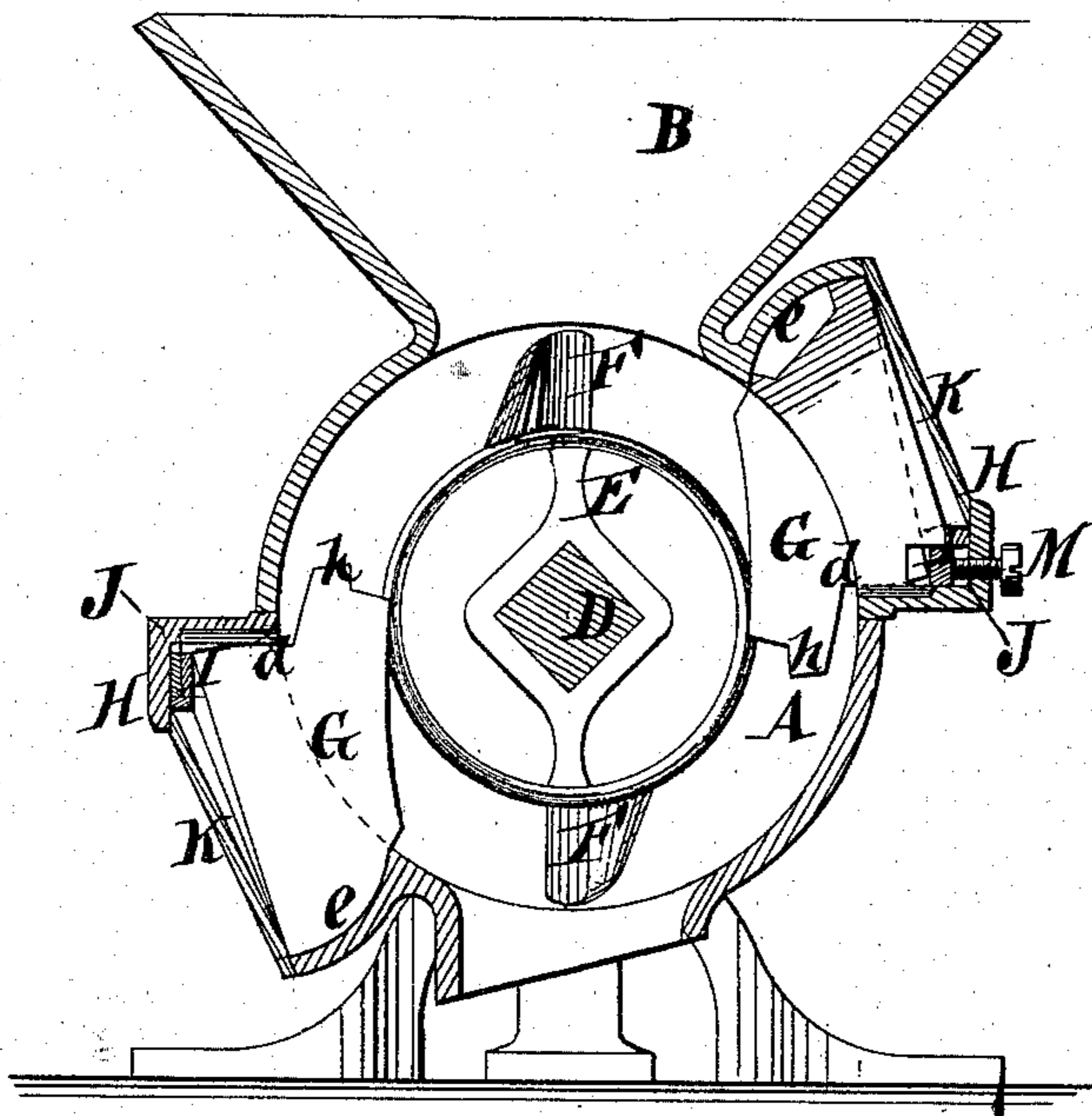
Gustavus V. Brecht
by Van Santvoord & Hauff
his Attys

G. V. BRECHT.
Meat-Cutting Machines.

No. 156,761.

Patented Nov. 10, 1874.

Fig. 3.



Witnesses.

Henry Gardner.
Chas. Wahlers.

Inventor.

Gustavus V. Brecht
by Van Santvoord & Hauff
his attys

UNITED STATES PATENT OFFICE.

GUSTAVUS V. BRECHT, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN MEAT-CUTTING MACHINES.

Specification forming part of Letters Patent No. **156,761**, dated November 10, 1874; application filed August 26, 1874.

To all whom it may concern:

Be it known that I, GUSTAVUS V. BRECHT, of St. Louis, in the county of St. Louis and State of Missouri, have invented a certain new and useful Improvement in Meat-Cutting Machine, of which the following is a specification:

My invention consists in making the cutting-roller of a series of circular disks arranged upon a shaft, and each being provided with projecting cutting-teeth and an annular cutting-edge, in combination with flat knives secured to the cylinder in which the cutting-roller revolves, the cutting-edges of said knives bearing against the annular cutting-edges of the disks, whereby the cutting operation is continuously performed and an additional or supplemental cutting-edge secured. The invention further consists in making the cylinder-knives with curved or bearing edges, which fit curved seats in the cylinder, in combination with a slide arranged back of a shoulder on the upper end of the knives, whereby, as the knives wear or are ground away, the cutting-edge of the same may be adjusted toward the annular cutting-edges on the series of cutting-disks, all of which will be fully hereinafter described.

The knives are provided with curved bearing-edges, fitting in seats in their boxes in such a manner that the knives can be adjusted at any angle or in any position. The knife-boxes are formed with a channel or groove in the rear of the knives for the reception of slides, which, aided by the back plates of the boxes, serve to brace or hold the knives in position. On the inner side of the knife-boxes are a series of ribs and grooves, serving to give hold to the filling, which is placed between the knives for the purpose of supporting them in a lateral direction.

The cutting-roller is constructed of a series of circular toothed plates, the peripheries of which are conical, and which are provided with a sharp and a beveled edge, so disposed as to form grooves, into which the cylinder-knives project in such a manner that when the roller is revolved the knives and cutting-teeth cut against each other. The cutting-edges of the cylinder-knives are beveled or grooved toward the edges of the roller teeth

or knives, whereby the same cut to the greatest possible advantage.

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a side view, partly in section. Fig. 2 is a plan view, the upper half of the cylinder being removed to expose the inner parts. Fig. 3 is a transverse section.

Similar letters indicate corresponding parts.

The letter A designates the meat-cylinder, which is made in two halves or sections, united by means of screws or rivets *a*. On the upper part of this cylinder is a hopper, B, through which the meat or other substance to be cut up is introduced. The cylinder is supported on suitable legs or a frame, and provided with boxes C, which form the bearings for a shaft, D, on which is mounted the cutting-roller. This roller is constructed of a series of circular toothed plates or wheels, E, which are provided with teeth F, having a cutting-edge, and the shaft D is twisted in such a manner that when the several plates E are shoved on it their teeth describe a spiral. The cutting-edges of the roller-teeth coincide with one of the edges of the plates E, which edge is sharp, while its other edge is beveled, the sharp and beveled edges being marked, respectively, *b* and *c*. The peripheries of the roller-plates E are conical or tapering, so that by means thereof, and by or through their edges *b c*, grooves are formed between the plates, as shown. Into these grooves project the edges of the cylinder-knives G, being directly alongside of the sharp edge *b*, so that as the cutting-roller is revolved its teeth F successively cut against these cylinder-knives, and if meat or any other substance is placed in the cylinder it is caught between the knives and the teeth and is cut up. At the same time, by the spiral arrangement of the roller teeth or knives F, the meat, as it is cut up, is fed to the discharging end of the cylinder.

By constructing the disks E conical or tapering, it will be seen that, by placing a series of the same upon the operating-shaft, there will be a groove or recess around the periphery between each one, whereby the circular cutting-edge *b* is provided. It will thus appear that I secure an additional or supplemental cutting-edge, as the cylinder-knives will bear

into the annular groove or recess and against the cutting-edge *b*, thereby greatly improving the cutting operation. The cutting-edge *b* on the disks and cylinder-knives *G* will be continuously performing the cutting operation when the machine is in operation, while the cutting-teeth *F* cut successively.

The cutting-edges of the cylinder-knives *G* are beveled or ground off toward the cutting-edges of the roller-teeth *F*, so that the two—namely, the cylinder-knives and roller-teeth—meet and cut against each other with a shear-like action.

In the side of the meat-cylinder are boxes *H*, in which the cylinder-knives are arranged and adjusted in the following manner: The knives are provided with curved bearing-edges—that is to say, with a shoulder, *d*, and an edge, *e*, the shoulder fitting under the top of the knife-box, and the edge *e* in a curved seat or bearing formed in the bottom of the box. By the curved edges *d e* the cylinder-knives can be turned forward in the boxes, so as to bring their edges into the grooves of the roller, being held or braced by means of slides *I*, which are situated in a groove or channel, *J*, and by means of the back plate *K* of the knife-boxes, which press upon the backs of the knives. The slides *I* are introduced to their grooves from the ends of the machine, and are doubled or trebled, according to the position of the cutting-edges of the knives, which edges should in all cases project into the grooves of the cutting-rollers, to insure the perfectness of the cut. The side spaces between the knives are occupied by a filling, *L*, of zinc or any other suitable material, which is held by means of ribs and grooves *f*, formed on top and bottom of the knife-boxes, the filling being so put in as to allow of moving the knives in either direction longitudinally, but at the same time firmly support

them laterally. The back plate *K* is detachable, being secured to the knife-box by means of screws or rivets *g*, and by taking off this back plate and the top half of the meat-cylinder, and removing the cutting-roller, the knives *G* can be taken out of the boxes, and, if worn, sharpened, or ground and readjusted, a slide being in this case added to those already in the groove to reset the knife forward close to the cutting-roller, or, in other words, to compensate for the space lost by grinding. A prominence, *h*, is formed on the knives *G*, whereby they can easily be driven home in the boxes. With the slides *I* may be combined a set-screw, *M*, as shown in Fig. 3, the screw acting upon a plate, which is placed in the rear of the cylinder-knives.

By my invention the knives can be kept at all times in working order, and with economy, inasmuch as there is no necessity of providing a new knife when the old one becomes worn, as in the old machines.

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

1. The cutting-roller consisting of the series of tapering or conical circular toothed disks *E*, having cutting-teeth *F* and annular cutting-edges *b*, in combination with the cylinder-knives *G*, bearing against the cutting-edges *b*, substantially as set forth, for the purpose described.

2. The knives *G*, having a shoulder, *d*, and curved edge *e*, in combination with the cylinder *A*, having the curved seat for the curved edges of the knives, and the slide *I*, for adjusting the cutting-edges of the latter toward the cutting-disks, substantially as and for the purpose described.

GUSTAVUS V. BRECHT.

Witnesses:

EDMUND F. SCHREINER,
ADOLPH E. SCHMIDT.