(No Model.) 2 Sheets—Sheet 1.

J. H. BEAR.

GRINDING MILL.

No. 294,956. Patented Mar. 11, 1884.

Fig. 1.

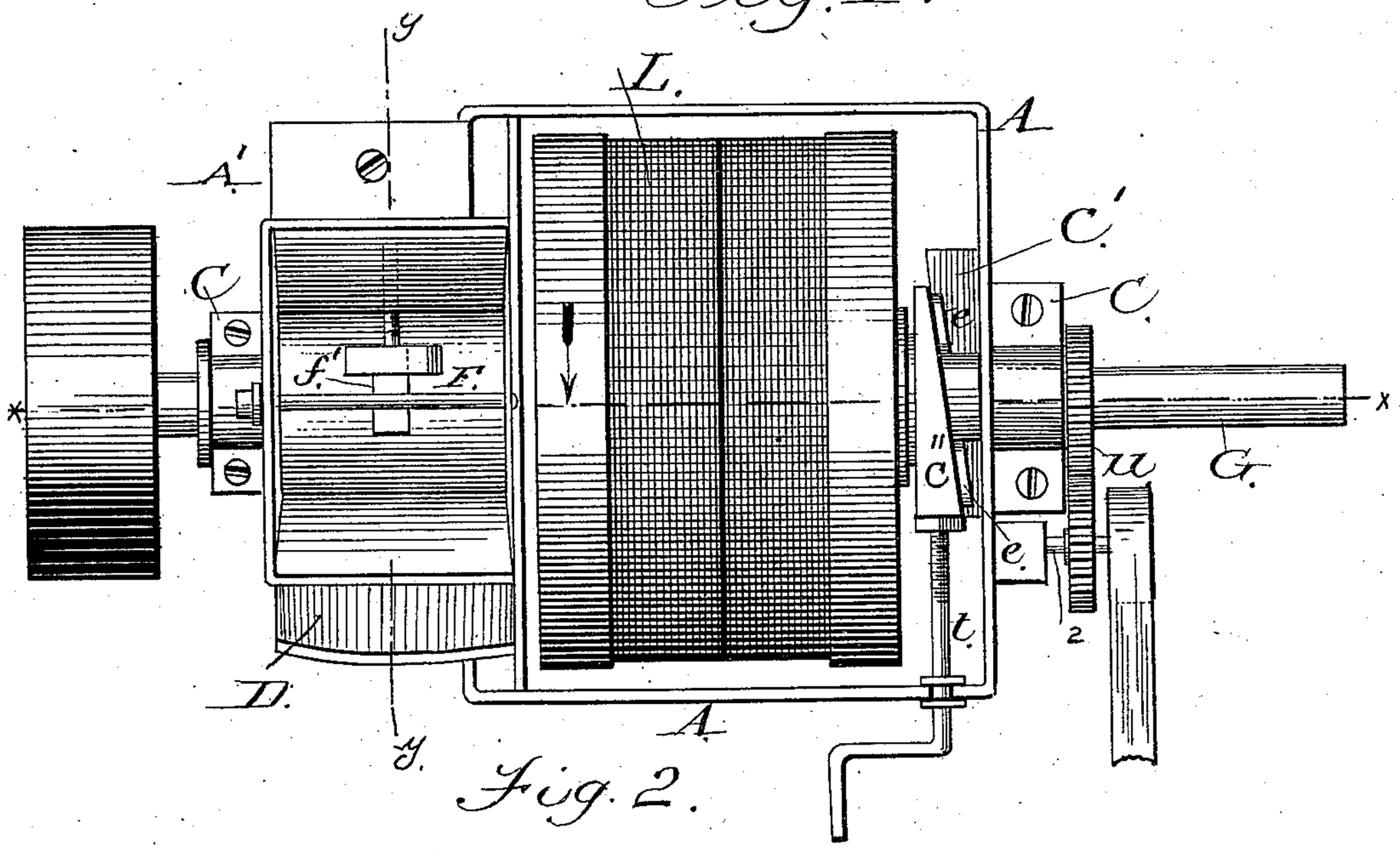
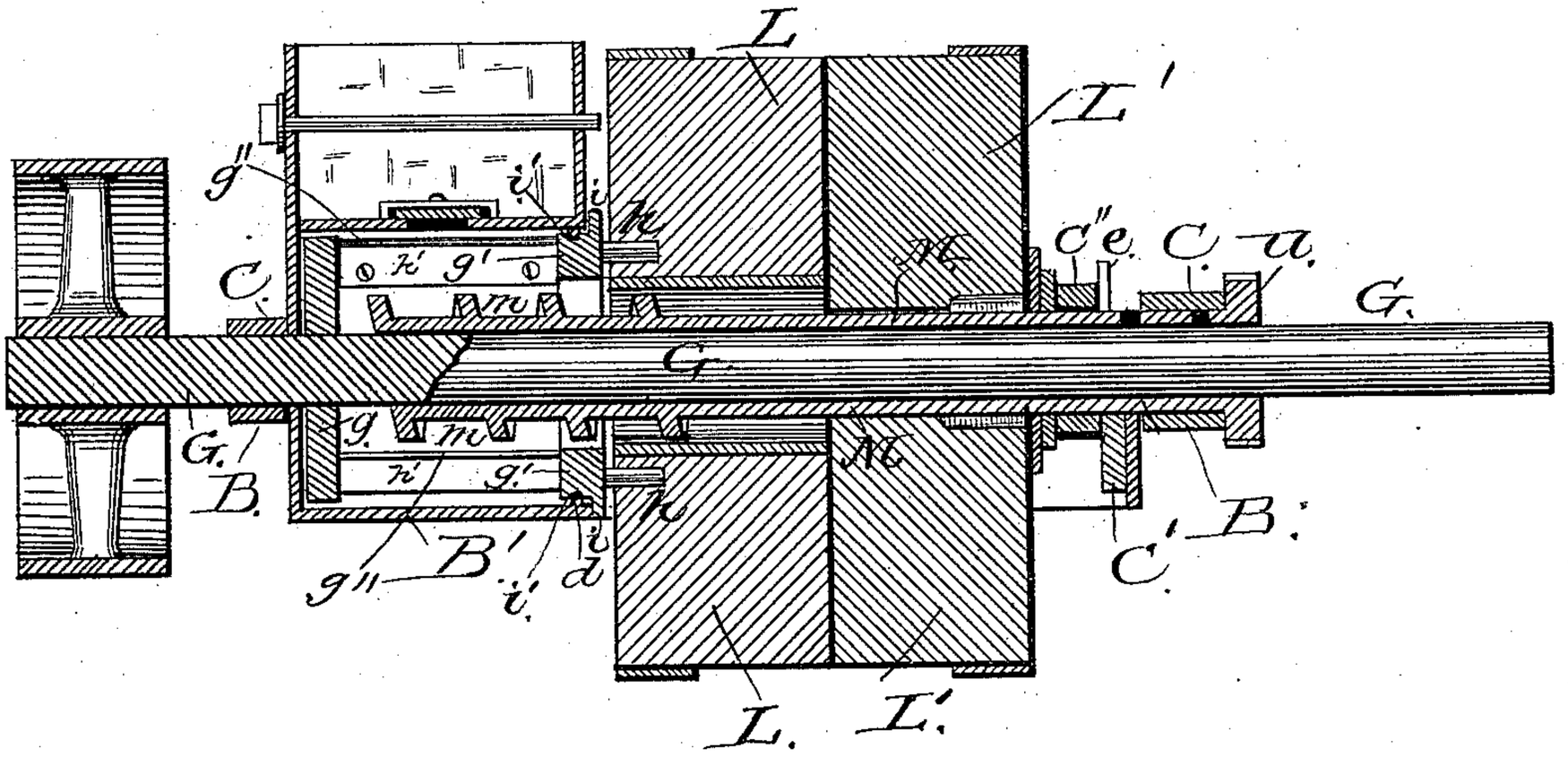


Fig. 2.



Attest;

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

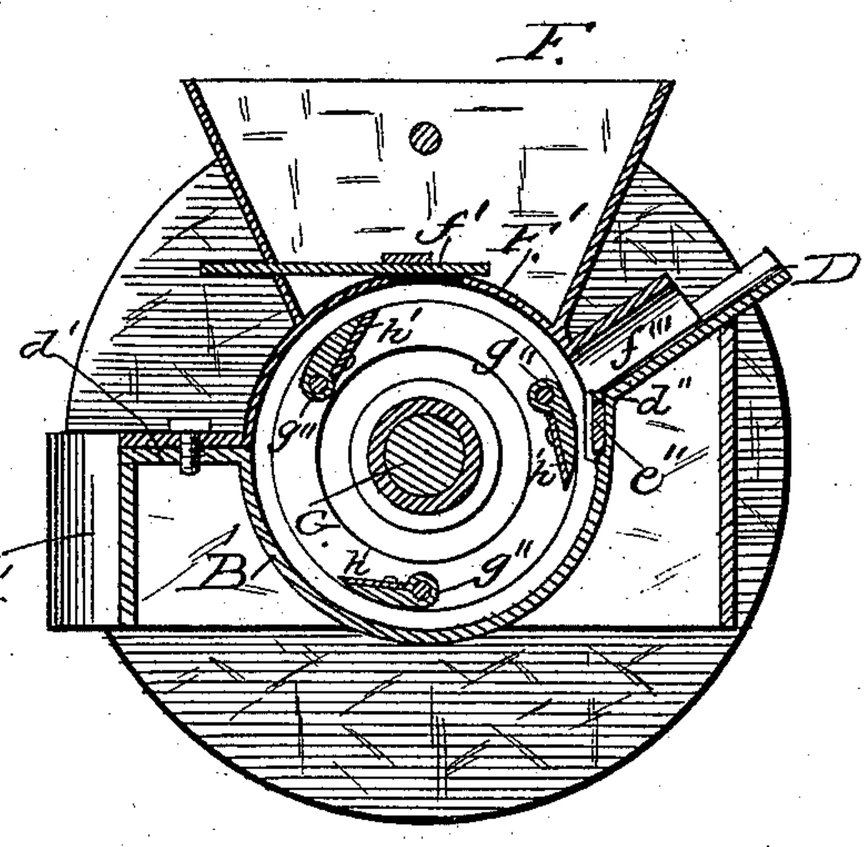


Fig. 4.

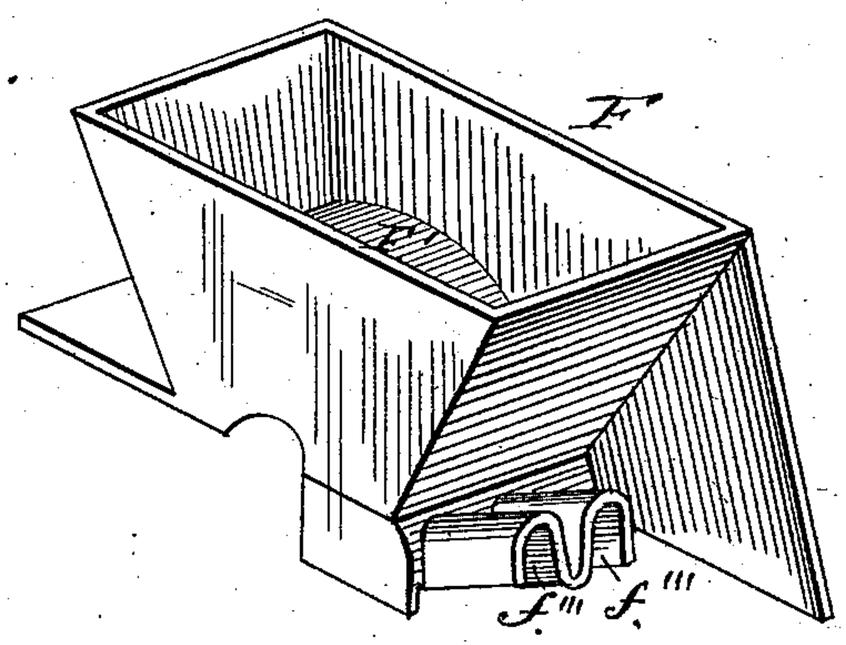
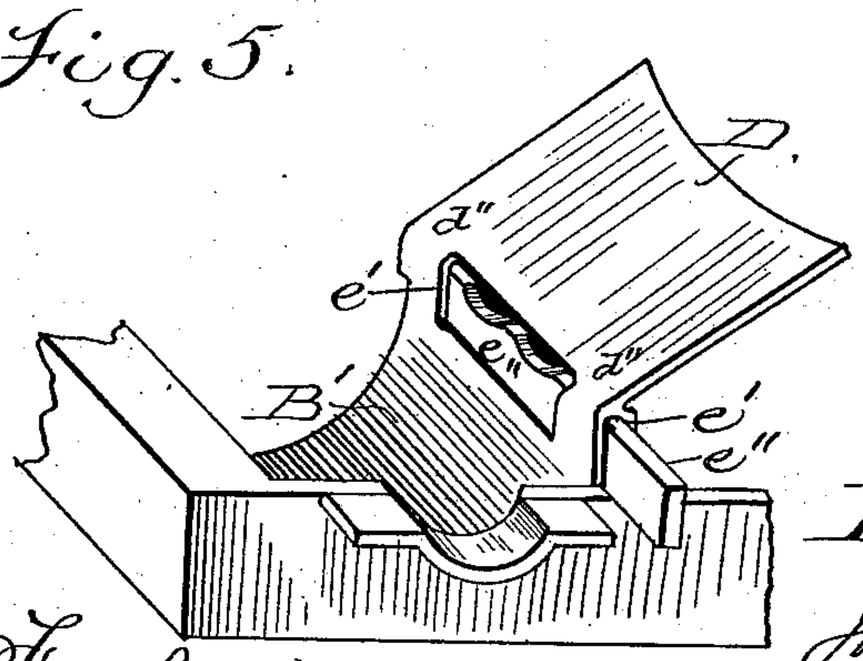


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN H. BEAR, OF WEST MANCHESTER, PENNSYLVANIA.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 294,956, dated March 11, 1884.

Application filed December 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BEAR, a citizen of the United States, residing at West Manchester, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Grinding-Mills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to that class of grinding-mills in which the spindles are arranged horizontally, so that running stones or burrs will revolve in vertical planes; and it consists in the novel construction and combinations of parts, as will be hereinafter more fully set forth and claimed.

In the drawings, in which similar letters of reference indicate corresponding parts, Figure 1 is a plan view of my improved grinding-mill. Fig. 2 is a vertical longitudinal section of the same on line *x x* of Fig. 1. Fig. 3 is a cross-section on line *y y* of Fig. 1. Fig. 4 is a detail perspective view of the hopper; Fig. 5, a detail perspective view of the curved plates B′ and D and plate *e″*.

A represents the bed or frame of the machine, upon which are mounted the parts of my invention.

B B represent bearings, each provided with a cover or top, C.

To the inside of one end of the frame A is secured, by any suitable means, a wedge-shaped plate, C′, having upwardly-projecting arms *e e*, one on each side of the sleeve M. This wedge-shaped plate C′ is placed under the sleeve M, and, in conjunction with the bifurcated wedge C″, regulates the distance between the stones L L′. This wedge C″ is adjusted by means of a threaded rod, *t*, having a bearing in frame A.

On the portion A′ of the frame A is a semicircular plate, B′, having flange *d′*. On the front portion of plate B′ is a flange, *d″*, and where the angle is made between the semicircular plate B′ and the portion D, I form on the outside of plate D guides *e′ e′*, for the reception of a plate, *e″*, having a square edge and depressions, in which the ears of corn rest as they are fed to the knives. It will be readily seen that this plate *e″*, in conjunction with the revolving knives *h′*, will quickly and effectively cut or chop the ears of corn as they are fed inward through the guides *f‴*.

Resting upon the flange *d′* and portion D, and supported by any suitable means, is hopper F, provided with a convex bottom, in which is placed a slide or valve, *f′*, for the purpose of regulating the flow of shelled corn or other grain to the burrs L L′ by means of the spiral flange *m* on the hollow shaft M. This hopper has also formed upon its lower portion guides *f‴ f‴*, the object of which is to feed the unshelled ears of corn to the knives.

G is a shaft supported in the bearing B and the hollow shaft M, and adapted to be revolved by the application of any well-known power.

On the shaft G, and under the convex plate of the hopper F, is secured, by a key or other well-known means, an annular head, *g*, connected to the head *g′* by means of beveled cross-pieces *g″*, having outwardly-projecting prongs *h*, which fit in openings formed in the stone L, and cause it to revolve by means of the annular head *g* and the beveled connecting-pieces *g″*.

To the sides of the cross-pieces *g″*, and secured by any well-known means, are the knives *h′*, for cutting or chopping up the ears of corn as they are fed between the guides *f‴* to the knives.

Upon the periphery of the head *g′*, I form a flange, *i*, and an annular groove, *i′*, whereby it is adapted to revolve upon the flange *d*, formed on the plate B′.

Loosely fitting the shaft G is a hollow spindle or sleeve, M, provided for a portion of its length with a spiral flange, *m*, for feeding the ear-corn as it is cut to the stones L L′. The stone or burr L′ is rigidly held upon the hollow shaft M by any well-known means, and as the burr or stone L is revolved in the direction of the arrow the stone or burr L′ will be caused to rotate by means of a band-wheel or other similar device mounted upon an axle, *z*, journaled in the frame A or in a block secured to the frame. On this shaft *z* may be secured a pinion, which, meshing with the gear-wheel *u*, will cause the stone or burr L′ to revolve in direction opposite to that of stone L.

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

1. In a grinding-mill, the plate B′, annular heads *g g′*, the connecting-pieces *g″*, and knives *h′*, in combination with the feeding devices, shaft G, sleeve M, and burrs L L′, substantially as and for the purpose set forth.

2. The shaft G and annular heads *g g′*, in combination with beveled connecting-pieces *g″*, knives *h′*, plate *e″*, guides *e′*, and the plates B′ and D, all constructed to operate substantially as set forth.

3. The sleeve M, having a spiral flange, *m*, formed on one end, in combination with hopper F, having guides *f‴ f‴*, curved plates B′ and D, and burrs L L′, substantially as and for the purpose set forth.

4. The frame A and wedge-shaped block C′, with projections *e e* formed thereon, in combination with the sleeve M, the shaft G, the adjustable bifurcated wedge C″, and the vertical burrs L L′, substantially as and for the purpose set forth.

JOHN H. BEAR.

Witnesses:
H. H. JACOBS,
B. F. MYERS.