

No. 640,149.

Patented Dec. 26, 1899.

J. S. NEWLIN.

CUTTING AND GRINDING MILL.

(Application filed Feb. 27, 1899.)

(No Model.)

Fig. 3.

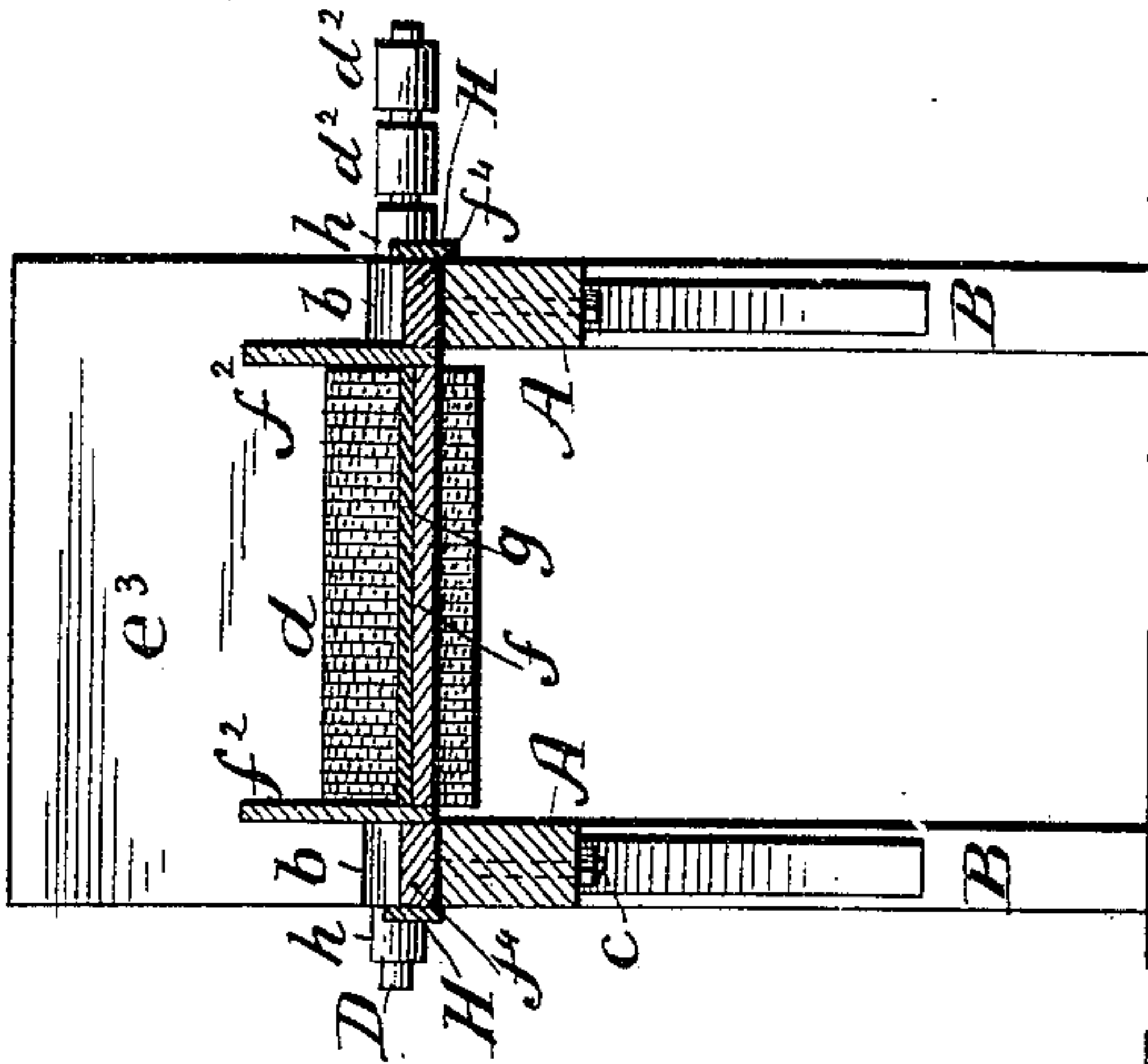


Fig. 1.

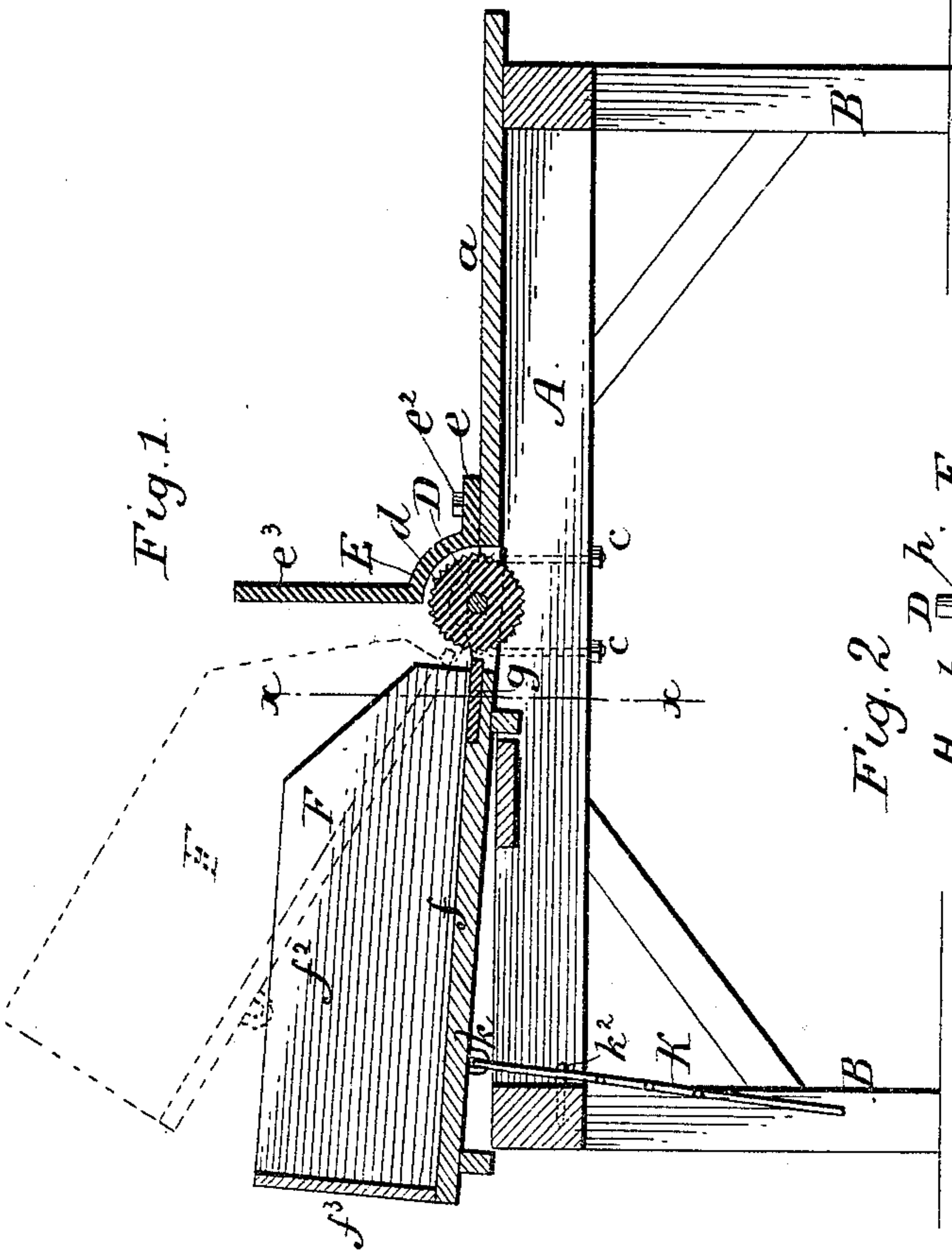


Fig. 2.

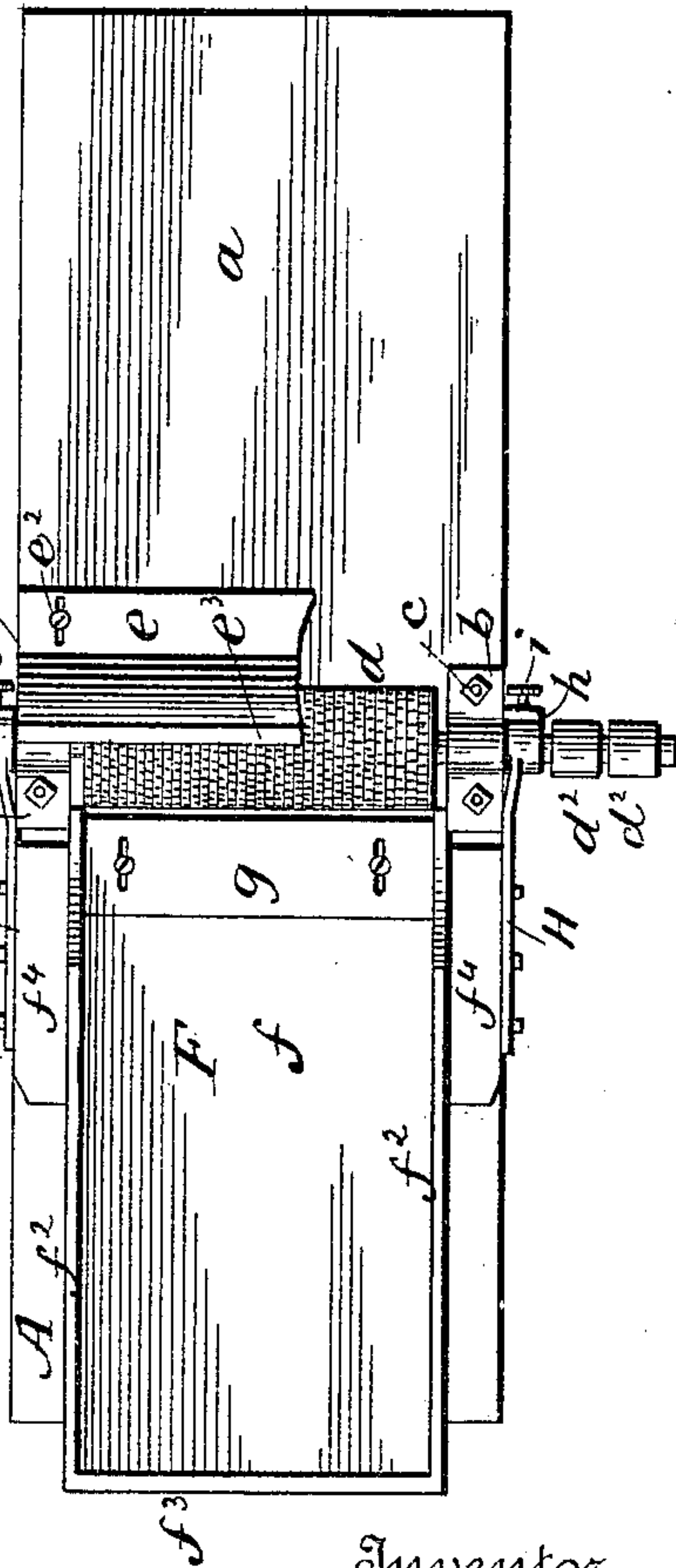


Fig. 4.

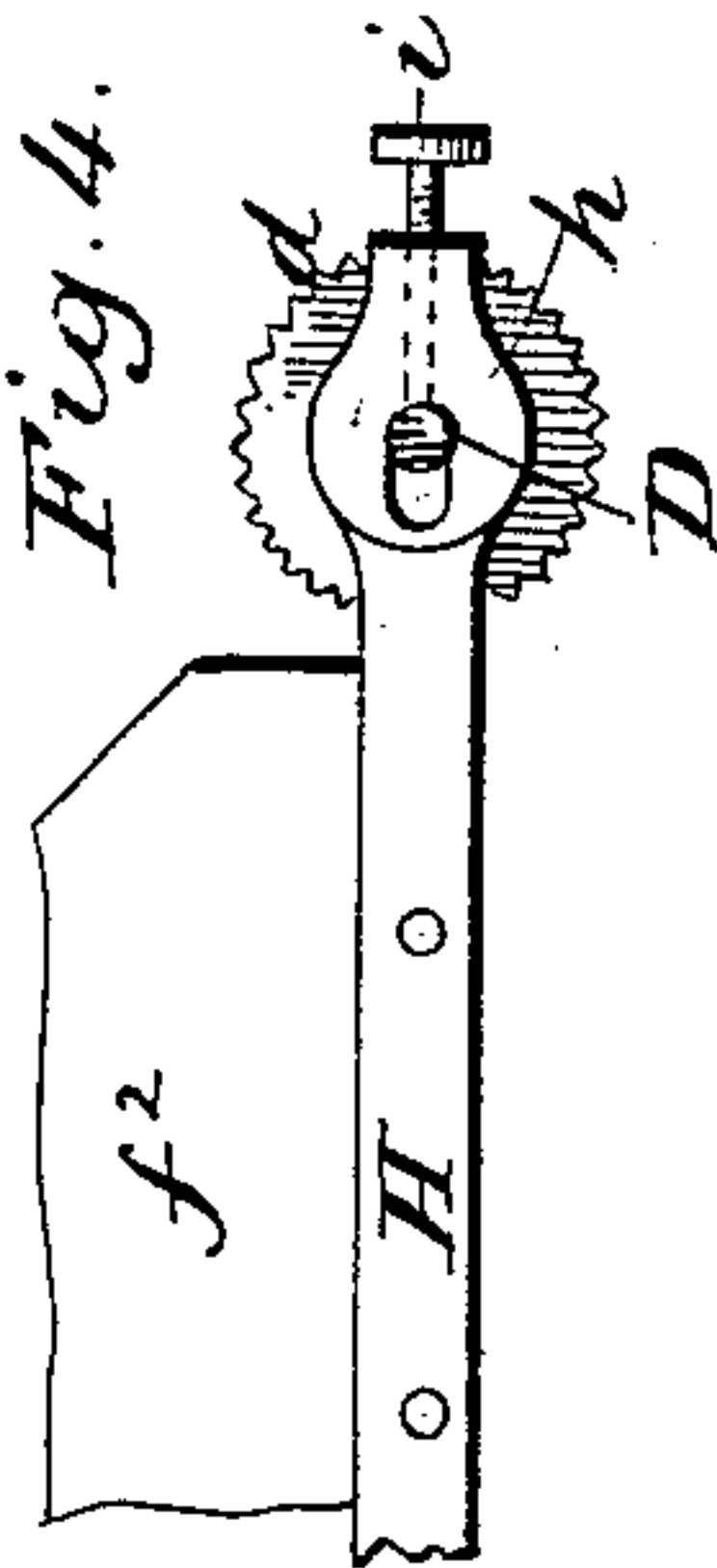
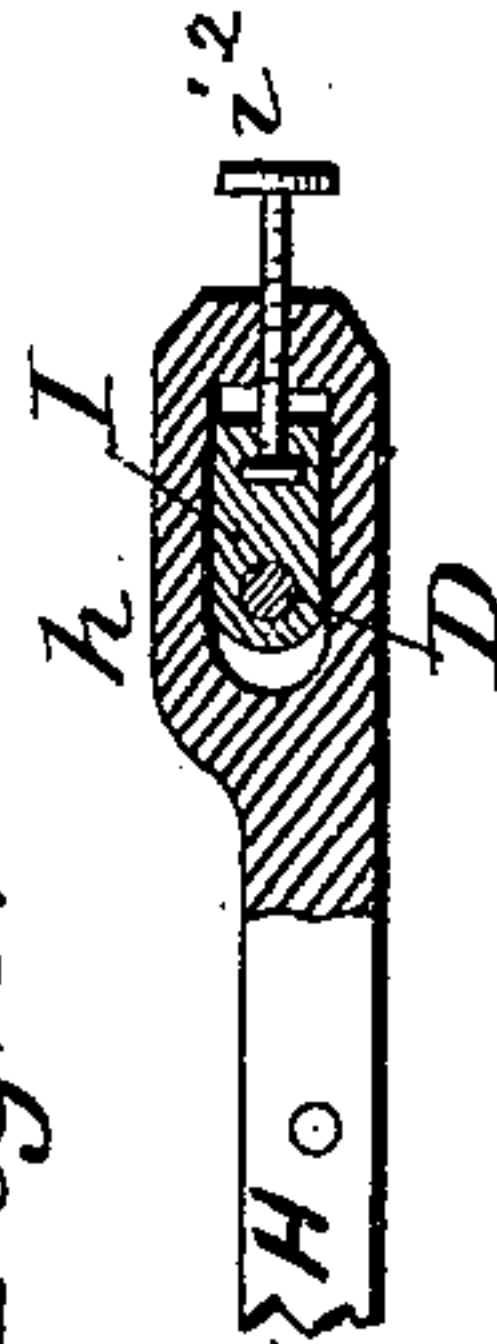


Fig. 5.



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JOSEPH SIDNEY NEWLIN, OF ROBBINS, SOUTH CAROLINA, ASSIGNOR OF
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CUTTING AND GRINDING MILL.

SPECIFICATION forming part of Letters Patent No. 640,149, dated December 26, 1899.

Application filed February 27, 1899. Serial No. 707,081. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SIDNEY NEWLIN, a citizen of the United States, residing at Robbins, in the county of Barnwell and State of South Carolina, have invented certain new and useful Improvements in Cutting and Grinding Mills, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to rotary grinding apparatus; and the objects of my invention are to produce a simple and inexpensive mill suitable for rapidly converting corn, its cob, shuck, and stalk, and other substances into fine feed for stock and cattle and for converting corn and cob into meal palatable for family use. I attain these objects by the construction illustrated in the accompanying drawings, in which—

20 Figure 1 is a longitudinal vertical section of a cutting and grinding mill constructed in accordance with my invention. Fig. 2 is a top view of the same with the concave shield partly broken away. Fig. 3 is a transverse section of the same on line xx of Fig. 2. Fig. 4 is a side view of a portion of the hopper and of one of its hinges on a larger scale. Fig. 5 is a vertical section of a portion of one of the hinges, showing a modification of the adjusting means thereof to the main shaft.

30 In said drawings, A represents a rectangular horizontal frame mounted upon four legs B, suitably braced thereto. Upon said frame is secured the platform a , through the inner end of which there is a rectangular opening for the passage of the bottom portion of the saws of the grinding-roll and of the ground material. Upon the top of the platform a , adjacent to two of its sides, or upon the top of the frame A are mounted two bearing-blocks b , secured to the frame by bolts c . Said blocks receive the driving-shaft D, upon which are mounted and suitably secured thereto a series of saws d , placed side by side.

45 About one-quarter of the surface of the saws d is covered by a concave shield or plate E, which has a horizontal flange e , by which it is adjustably secured on top of the platform a by bolts e^2 , passing through slots in the ends of the flange e , and thus secured to the frame of the machine adjustably to the size of the

saws to maintain the relative position of said parts. The concave plate E has a vertical flange e^3 , which serves as an abutting end of the hopper F. Said hopper has a rectangular flat bottom f , two vertical sides f^2 , having their front edges beveled to permit the hopper to be adjustably tilted up toward the vertical flange e^3 of the concave shield or plate E, and a rear end f^3 , which also braces the sides f^2 to the bottom f . The front edge of the bottom f is covered and protected by a plate g , of steel or other suitable metal, that is adjustably secured to said bottom f , so that it coacts and serves as a member of the cutting and grinding edges in connection with the saws d . To the side edges of the bottom f are secured, through intermediate blocks f^4 , the metal straps H, the front ends of which have a boss h , perforated to receive the driving-shaft D, which thus serves as a pivot-spindle for the straps H, and consequently for the hopper F. To permit the edge g of the hopper to be adjusted toward the saws, each boss h is provided on its front end with a screw i , the end of which bears against the periphery of the shaft D, the material ground by the saws having a tendency to force the edge g away from said saws; but if it is desired to have these parts positively retained and adjusted relatively to each other the boss h of each hinge-strap H may be provided, as shown in Fig. 5, with a shaft bearing-block I, adjustably retained by a screw-bolt i^2 , having one end in engagement with said bearing-block, the screw-threaded portion of the bolt being in engagement with the boss h .

To lift and adjustably retain the rear end of the hopper elevated, so as to deliver to the saws the proper quantity of various materials operated upon, there is pivotally secured to its bottom at k one or two rods K, having perforations therethrough to receive and enter into engagement with a pin or pins k^2 , secured to the frame of the machine. The driving-shaft D is provided with pulleys d^2 , by which it can be rotated at a high speed with suitable belting.

Having now fully described my invention, I claim—

1. In a cutting and grinding mill, the com-

5 bination of the frame thereof, shaft-bearings mounted upon said frame, a shaft transversely thereof, a series of saws mounted upon said shaft, a hopper hinged to said shaft means for securing said hopper in different inclinations and a plate secured to the front edge of said hopper in close relation to the periphery of the saws, substantially as described.

10 2. In a cutting and grinding mill, the combination of the frame thereof, shaft-bearings mounted upon said frame, a shaft transversely thereof, a series of saws mounted upon said shaft, a concave shield covering a
15 portion of the saws and having a vertical flange over them, a hopper connected to said shaft by the bosses of the hinges, and means

within said bosses, to adjust them relatively to the shaft, substantially as described.

3. In a cutting and grinding mill the combination of the frame, shaft-bearings mounted upon said frame, a shaft transversely thereof, a series of saws mounted upon said shaft a concave shield having a vertical flange over the saws, a hopper hinged to the shaft, and
25 means to elevate and adjustably retain the rear end of the hopper, substantially as described.

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

JOSEPH SIDNEY NEWLIN.

Witnesses:

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