J. G. BAKER.

Grinding-Mills.

No. 143,867. Patented Oct. 21, 1873.

FIG. 1.

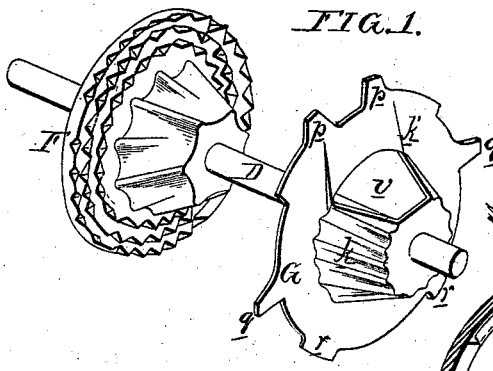


FIG. 3.

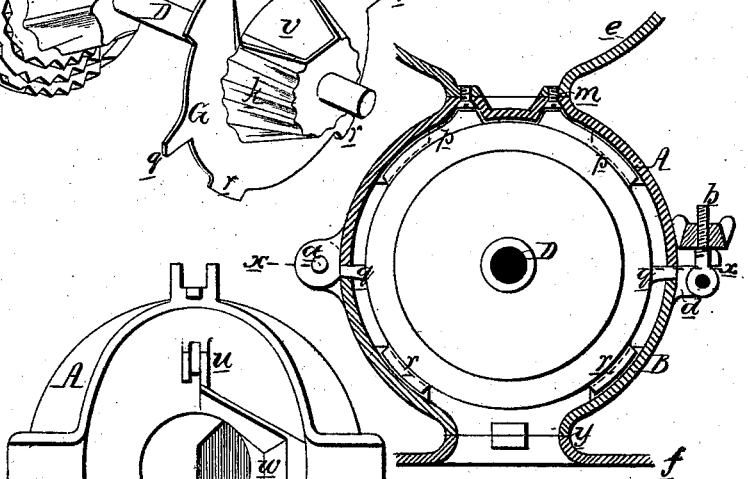
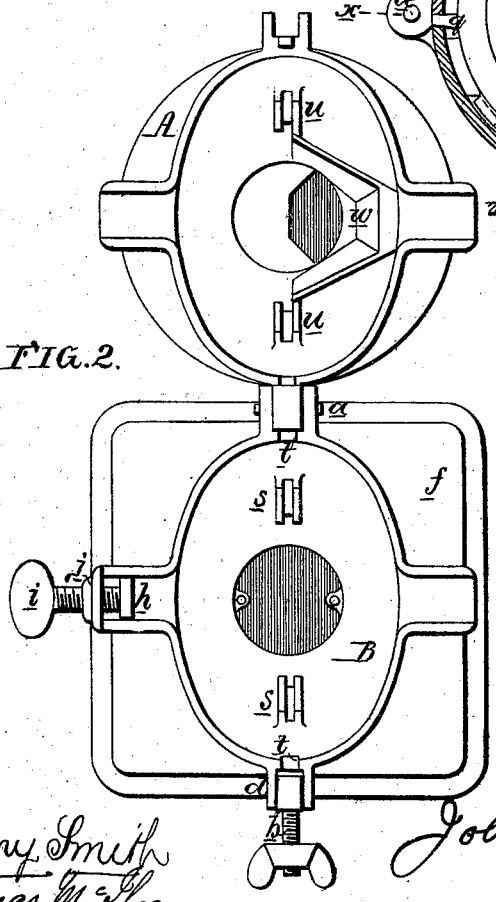


FIG. 2.



Witnesses,

Harry Smith

Thomas M. Shaw

John G. Baker

by his Attys

Howson and Son

UNITED STATES PATENT OFFICE.

JOHN G. BAKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE ENTERPRISE MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **143,867**, dated October 21, 1873; application filed July 5, 1873.

To all whom it may concern:

Be it known that I, JOHN G. BAKER, of the city of Philadelphia, Pennsylvania, have invented certain Improvements in Grinding-Mills, of which the following is a specification:

The objects of my invention are, first, to securely retain the working parts of a hand grinding-mill within the casing, and to enable the same to be readily removed when necessary; and, second, to prevent waste of the material to be ground in its passage from the hopper to the space between the burrs.

I attain the first of these objects by simply confining the burr F and shell G and mill-spindle D (see perspective view, Figure 1) between the upper and lower hinged sections of the casing, (shown in the plan view, Fig. 2, and vertical section, Fig. 3,) the shell G having lugs upon its periphery adapted to corresponding recesses and slotted lugs in the two sections of the casing, between which it is thus rigidly secured; and the second object is attained by the combination, with an opening, *v*, in the fixed shell, of a partition or chute, *w*, cast within the upper section of the casing, by which communication is established between the hopper and interior of said shell.

The outer casing of the mill consists of two semicircular parts, A and B, which meet at the horizontal line *x x* drawn through the center of the mill-spindle D, on which line also is the center-pin of the hinge *a*, connecting together the two halves of the casing, the latter being further secured at a point opposite the hinge by a bolt, *b*, connected to lugs *d* on the lower portion B of the casing, and having a thumb-nut bearing on a slotted lug on the upper portion A of the casing, so that the latter, after loosening the nut and depressing the bolt, can be turned outward and downward, thereby exposing the interior works of the mill, and permitting their removal from the casing. (See sectional elevation, Fig. 3.) The hopper *e* is secured to the upper half A of the casing at *m*, and the lower portion of the latter is attached, at *y*, to the base *f*, which contains the drawer for receiving the ground material. The mill-spindle D has its bearings partly in the upper and partly in the lower portion of the casing, and is furnished at one end with a suitable handle, the other end bearing against a washer, *h*, acted on by a screw, *i*, which passes through the closed end *j* of the rear bearing, this end being cast on and forming a part of the lower half B of the casing, and the washer having a projection passing through an elongated slot in the rear bearing, so that, while the said washer can be moved to and fro as the spindle is adjusted for coarse or fine grinding, it cannot turn with the spindle.

The coffee or other material is ground by causing it to pass from the hopper between a rotating burr, F, keyed to the spindle, and a fixed shell, G, through which the spindle passes, but which is rigidly confined between the two halves of the casing in the manner which I will now proceed to describe.

The hollow conical portion *k* of the shell G has a disk-like flange, *k'*, on the edges of which are six lugs, *p p*, *q q*, and *r r*, the two latter of which, when the spindle and its burrs are placed in position upon the lower section of the casing, enter recesses *s s* formed for their reception in the latter, the exact position of the shell being thus determined before the upper section of the casing is closed upon the same. In thus adapting the lugs *r* of the shell to the recesses *s* its lugs *q q* are also fitted to slotted lugs *t t* formed in the lower half of the casing; and similar slotted lugs *u u* on the upper half of the casing adapt themselves to the lugs *p p* of the shell when the said upper half is closed upon the lower, as shown in Fig. 3, thus rigidly confining the shell G, and enabling the burr F secured to the spindle to be adjusted from and toward the same for coarse and fine grinding, while by simply separating the two halves of the casing—both burr and shell—the spindle can be lifted out of the mill, and ready access thus obtained to all parts of the latter for purposes of cleansing or repairs. An opening, *v*, is formed in the upper portion of the fixed shell G, and a partition or chute, *w*, cast within the upper half of the casing, fits snugly over this opening when the mill is closed, and forms a communication between the same and the hopper *e*, and thus directs the whole of the material to be

ground into the space between the burr and shell.

I claim as my invention—

1. The combination, substantially as described, of the fixed shell G and its lugs with the slotted lugs and recesses in the upper and lower halves of the casing, between which the said shell is retained, as set forth.

2. The combination of the flange *k'* of the shell with the partition *w*, cast in the upper portion A of the casing, and forming, with the said flange, a chute, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. BAKER.

Witnesses:
THOMAS MCILVAIN,
HARRY SMITH.