

C. TRIPP.
Grinding Mill.

No. 18,610.

Patented Nov. 10, 1857.

Fig. 1

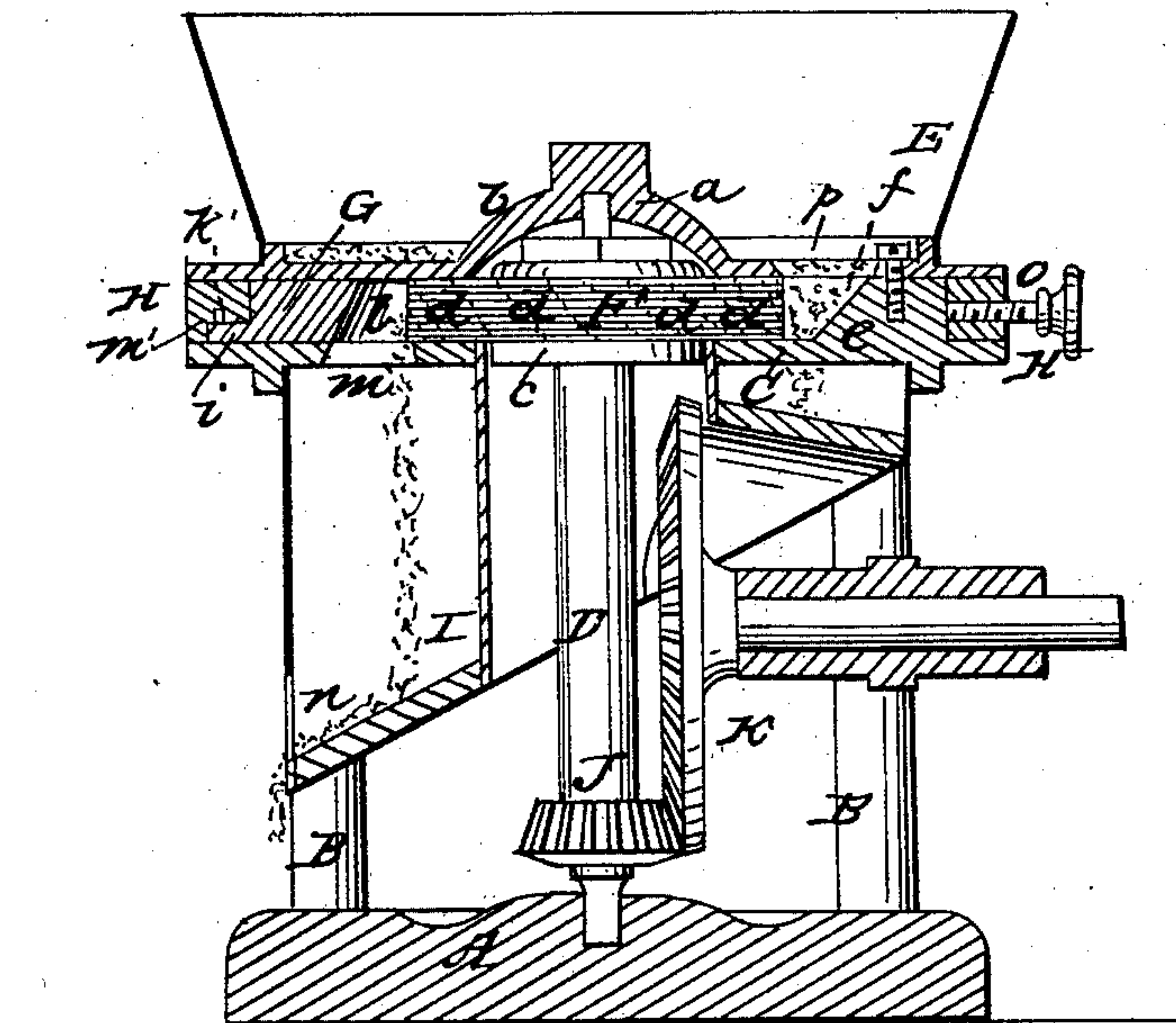


Fig. 4

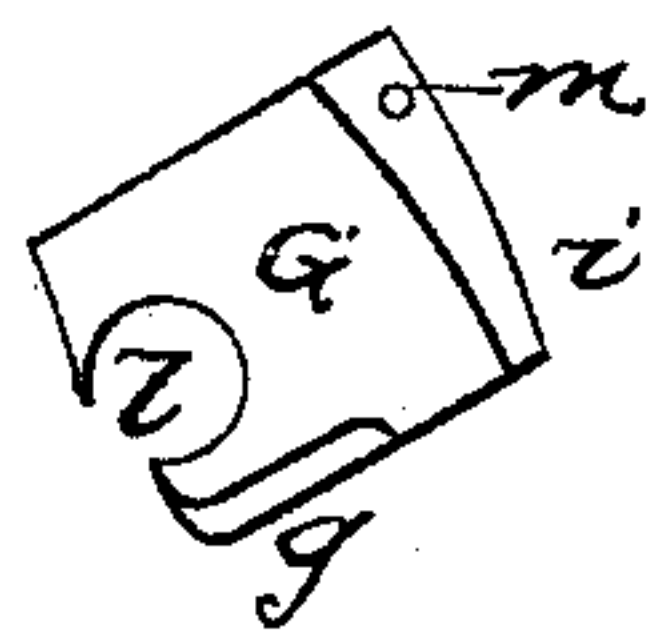


Fig. 2

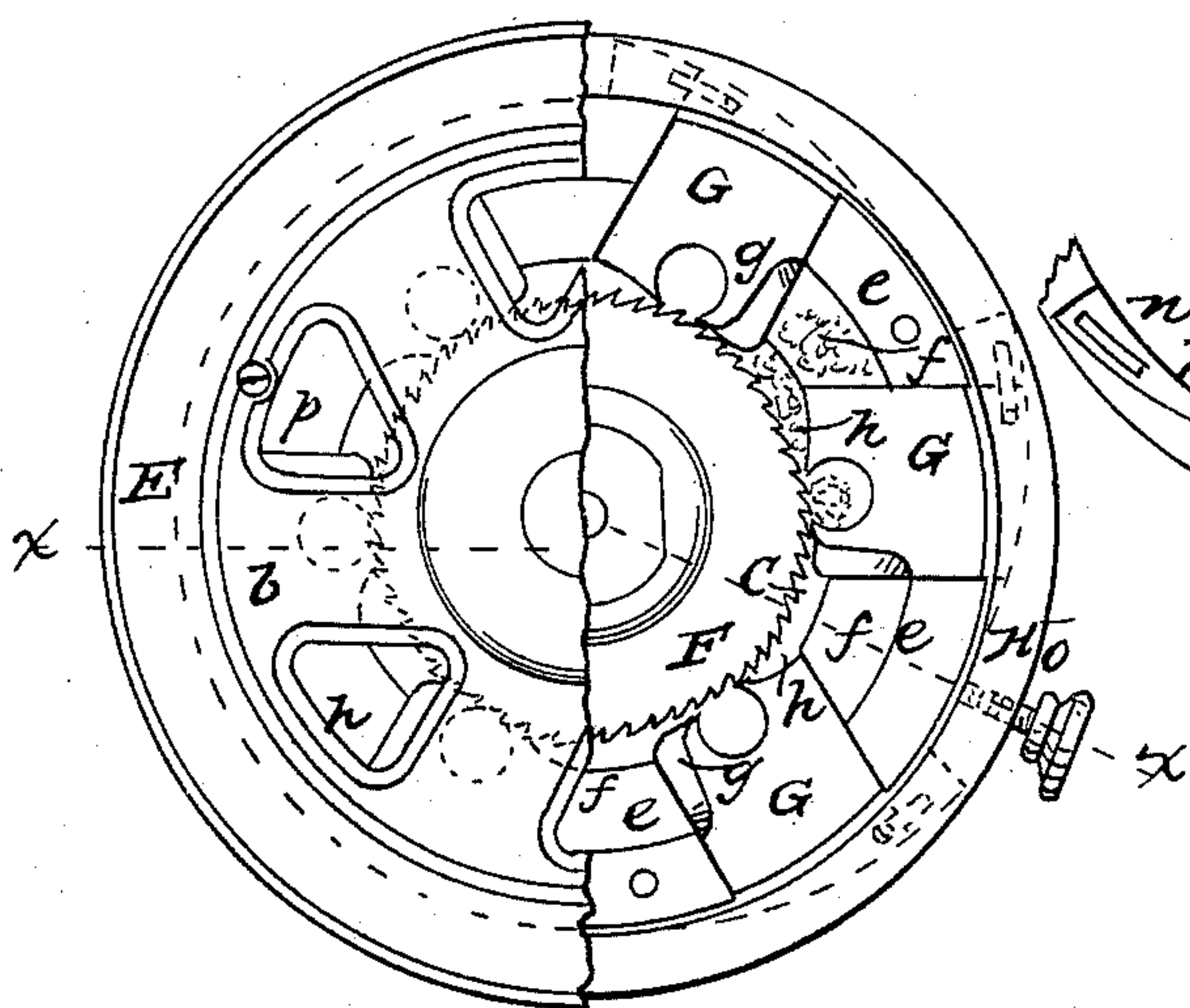
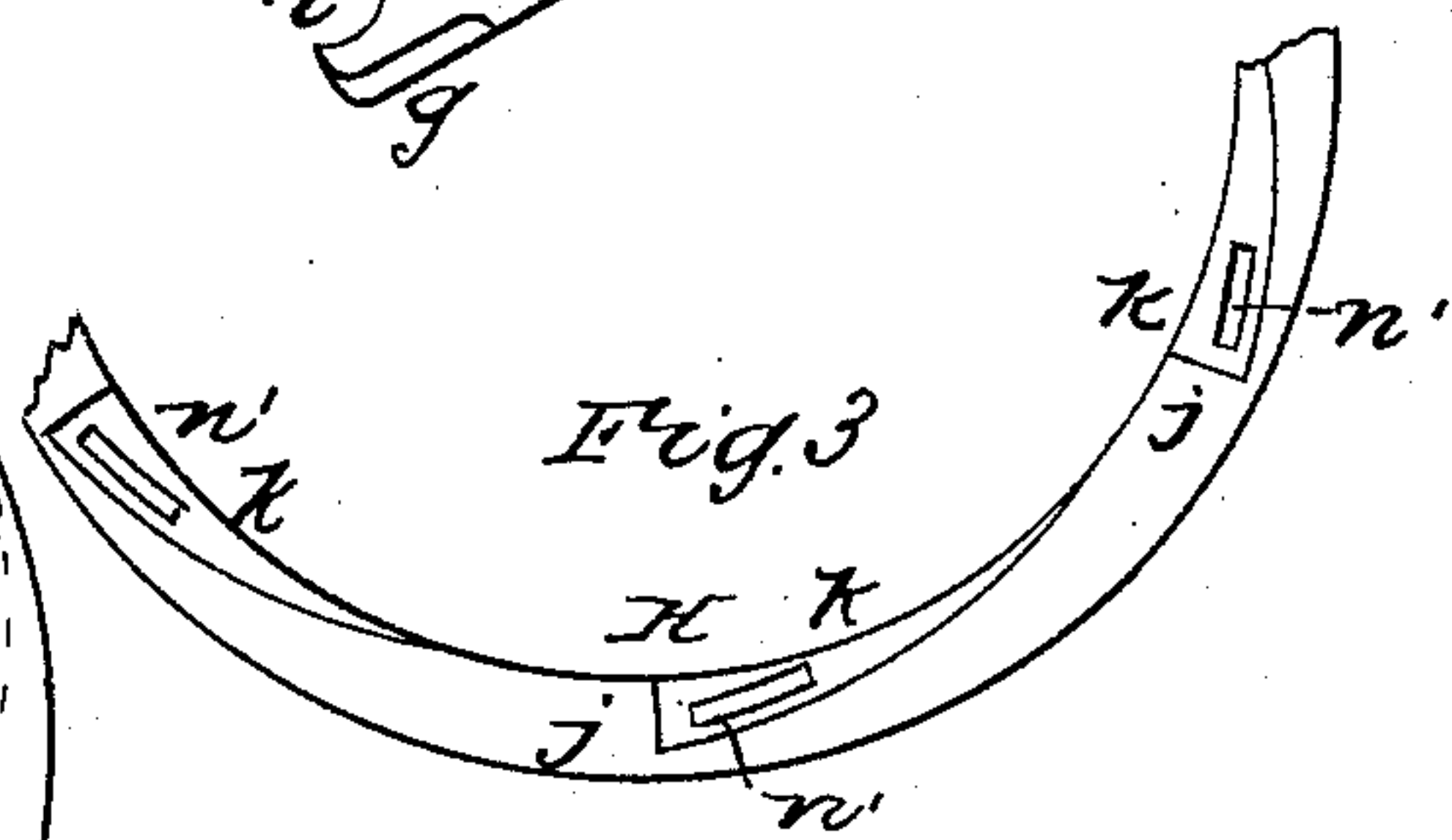


Fig. 3



UNITED STATES PATENT OFFICE.

CHARLES TRIPP, OF ANN ARBOR, MICHIGAN.

GRINDING-MILL.

Specification of Letters Patent No. 18,610, dated November 10, 1857.

To all whom it may concern:

Be it known that I, CHARLES TRIPP, of Ann Arbor, in the county of Washtenaw and State of Michigan, have invented a new and Improved Grinding-Mill; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of my improvement taken in the line (x), (x), Fig. 2. Fig. 2, is a plan or top view of ditto, a portion of the hopper being broken away. Fig. 3 is a detached under view of a portion of the ring by which the rests are adjusted, or mill graduated or gaged to grind coarse or fine. Fig. 4, is a detached view of one of the rests.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in the employment or use of a grinding bur or stone, in combination with adjustable rests, arranged substantially as hereinafter described, whereby articles or substances may be ground very rapidly by very simply means.

The invention is mainly applicable for grinding grain and other substances for food for stock, but it may be advantageously used for various other grinding purposes.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a circular base having upon is four uprights B to the upper ends of which a circular plate C, is attached.

D is a vertical shaft the lower end of which is stepped at the center of the base A, the upper end passing through the center of the plate C and fitting in a bearing (a) in the under side of the bottom plate (b) of the hopper E and at the center of said bottom see Fig. 1. On the shaft D, a collar (c) is formed or permanently attached and on this collar a grinding bur F rests, the under surface of the bur just clearing the plate C. This bur may be of stone or other material corrugated or furrowed on its periphery which is the grinding surface. I prefer however having the bur made of a series of circular disks cut out of steel plate and having their edges provided with teeth similar to those of a saw, suitable washers being interposed between the disks, and the disks so placed rela-

tively with each other that the teeth will form inclined furrows as shown at (d) in Fig. 1. The disks may be secured in any proper manner on the shaft D.

On the upper surface of the plate C a series of projections (e) are formed at equal distances apart. These projections are situated in annular form around the bur F and their outer sides are curved each forming a portion of one and the same circle. The outer sides of the projections (e) are vertical or perpendicular to the plane of the plate C, but the inner sides are inclined as shown at (f).

Between the projections (e) rests G are placed, the outer edges of these rests are curved to correspond with the outer surfaces of the projections (e). The rests G have parallel sides and consequently the projections (e) are of taper form viewed from above as shown in Fig. 2. A portion of one side of each rest G is curved at the inner end, as shown at (g) see Figs. 2 and 4 and the inner end of each rest is of beveled form to allow of taper recesses (h) between the bur F, and the rests see Fig. 2. At the outer edge of each rest G a wedge-shaped projection (i) is formed and a ring H is fitted around the projections (e) and rests G, said ring having wedge-shaped projections (j) formed on its under side so that recesses (k) are formed to receive the projections (i) on the rests G, see Fig. 3. The rests have each an opening (l) made through them, said openings being of taper or conical form and holes (m) are made through the plate C, said holes being in line with the openings (l) in the rest G. A pin (m') is placed in the upper surface of each projection (i) said pins fitting in curved slots (n') in the under side of the ring H.

I represents an annular trough which is secured underneath the plate C. The bottom of this trough is inclined and a discharge opening (n) is made in its lower end.

A set screw (o) passes horizontally through the ring H and bears against the outer edge of one of the projections (e).

On the lower end of the shaft D a pinion J is placed and a toothed wheel K gears into this pinion. The hopper E is secured by screw bolts to the upper surfaces of the projections (e), and the bottom (b) of the hopper has openings (p) in it corresponding to the spaces between the rests G.

The operation is as follows:—The grain

or substance to be ground is placed into the
hopper E and it passes by its own gravity
down the inclined sides (*f*) of the projec-
tions (*e*) and into the recesses (*h*) where it
5 is ground or cut by the bur F, the ground
material passing between the edges (*q*) of
the rests into the openings (*l*) through
which it passes into the annular trough I.
The edges (*q*) of the rests are adjusted
10 nearer to or farther from the bur F so that
the substance may be ground coarse or fine
as desired by turning the ring H, the wedge
shaped projection (*j*) at the under side of
the ring acting against the projections (*i*)
15 on the rests G move the rests inward and
the pins (*m'*) in consequence of fitting in
the slots (*n'*) draw them outward.

This mill has been practically tested and
it operates rapidly and well. It cannot be-
20 come choked or clogged—is simple in con-
struction and there are no parts liable to get
out of repair nor become deranged by wear.

I do not claim a bur formed of a series

of saws for grinding for such device has
been previously used and although perhaps 25
preferable thus constructed is not absolutely
necessary in my improvement as burs con-
structed in other ways, and of a different
material such as stone may be used with suc-
cess; but, 30

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

The adjustable rests G placed between the
projections (*e*) and the plate C constructed
substantially as shown and provided with 35
the discharge throats (*l*) in combination
with the bur F, it being understood that I
do not confine myself to the ring H and
other parts herein shown and described for
adjusting the rests G, but claim such means 40
or any other means arranged to effect the
same purpose.

CHARLES TRIPP.

Witnesses:

SAMUEL GRISSON,
E. H. SPALDING.