B. W. LEONARD.

Grinding Mill.

No. 19,093. Patented Jan. 12, 1858.

Fig. 4.

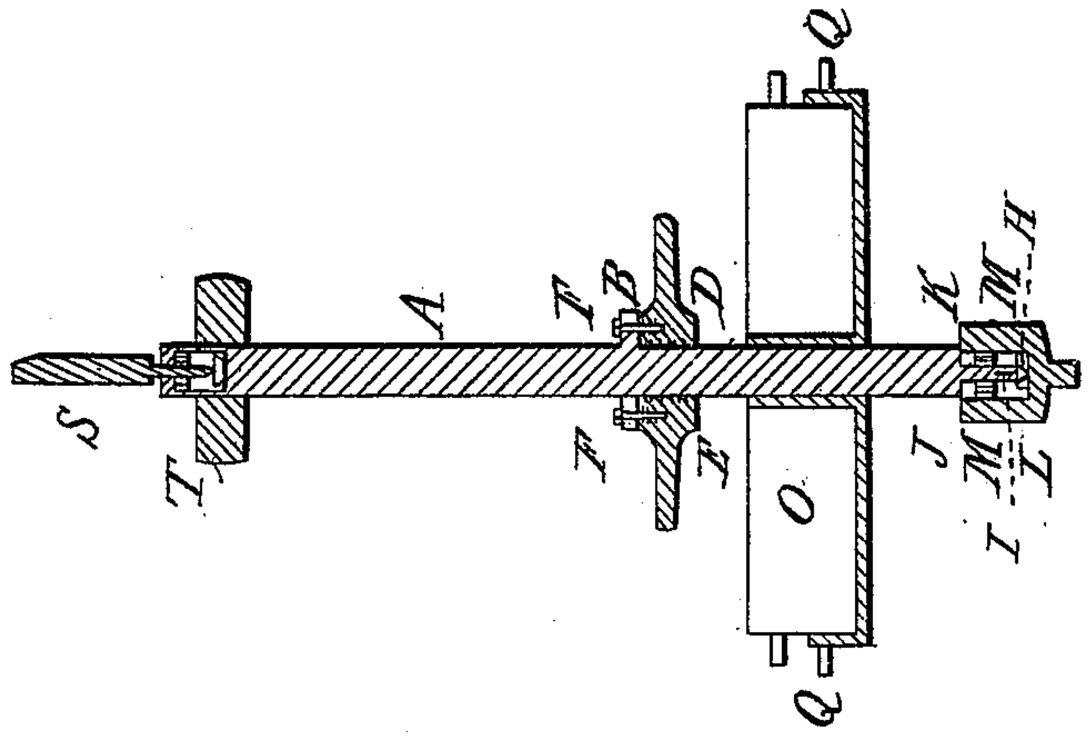
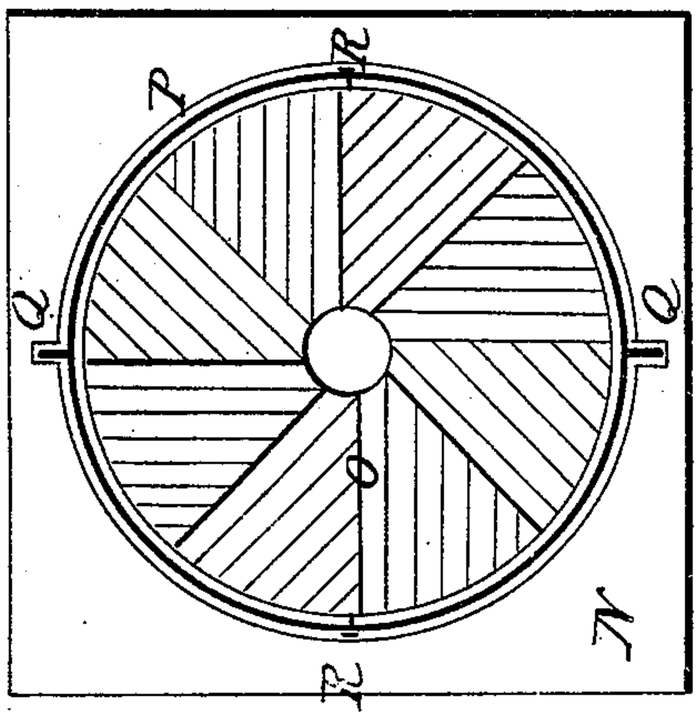
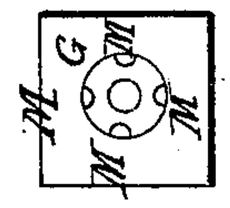


Fig. 2.





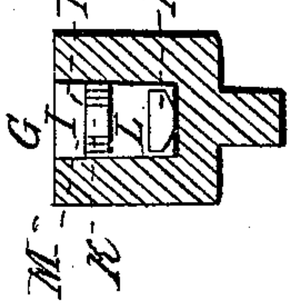
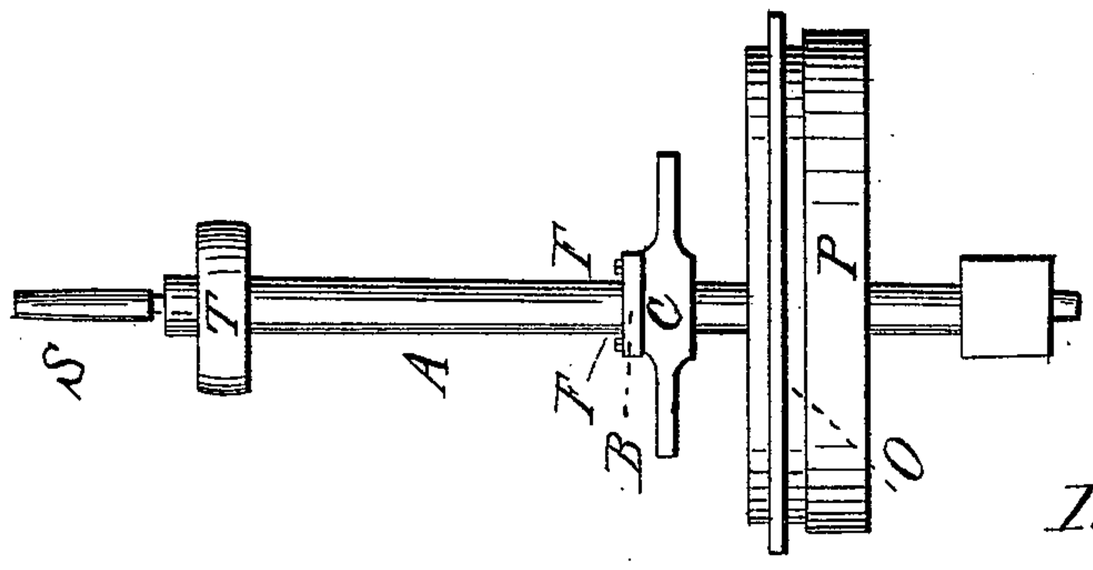


Fig. 3.

Fig. 1.



Inventor:

Burton W Leonard

UNITED STATES PATENT OFFICE.

BURTON W. LEONARD, OF BRIDGEPORT, CONNECTICUT.

GRINDING-MILL.

Specification of Letters Patent No. 19,093, dated January 12, 1858.

To all whom it may concern:

Be it known that I, BURTON W. LEONARD, of Bridgeport, county of Fairfield, and State of Connecticut, have invented a new and Improved Mode of Constructing Grist-Mills; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the figures of reference marked thereon.

The nature of my invention consists in hanging the bed stone in the frame in such a way and manner as to give it a free and easy vibration or balance. Also in the manner of connecting the bail or carrier to the spindle, and also in the manner of constructing the step or oil cups in such a way as to prevent the points heating or running dry.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I construct my mill frames in any of the known forms and apply thereto the manner of hanging or securing the stones as herein set forth, also the pecliar form or arrangement of step or oil chamber.

Figures 1 and 4 is the spindle with bail and step connected, passing through the bed stone O. Fig. 2 is the bed stone as hung in the frame, Fig. 3 the bottom step or cup. Fig. 4 is a vertical section through the middle of the spindle and improved parts.

A of Figs 1 and 4 is the spindle.

B is a collar secured to the spindle at any required point which forms a shoulder for the bail or carrier C.

D is a thread or screw cut on the spindle A.

C is a bail or carrier with center hub and arms connected, the ends being round and inserted in the eye of the runner stone admitting it to roll or vibrate on the same.

E is a hole through the hub of bail C in which a thread or screw is cut to receive the corresponding thread D.

F and F are two bolts passing through the collar B, and screws into the top or hub of carrier C.

G is a hole or bore in the step Fig. 3, at the bottom of which is dropped a loose button H of steel or other metal on which the end of the steel point I rests.

H is a ring or bush inserted in the step Fig. 3 at such a point as to form a receiving oil cup I and oil chambers L.

M is a slot or groove cut on the outer edge of bush H through which the oil can pass from cup I to chamber L and point I.

N is the frame in which the bed stone O is hung.

P is a rim with two opposite points or bearings *q q* secured to the outer surface of rim projecting outward and hangs in frame N so as to balance or vibrate on the same.

R R are two opposite points or bearings secured on the skirt of bed stone O and hung in rim P so as to balance or vibrate in the same; S S the top point with same arrangement of oil cup as shown in Fig. 3; T T the pulley to which the driving belt is attached.

What I claim as my invention and desire to secure by Letters Patent is—

The arrangement for connecting the bail or carrier to the spindle also the manner of hanging the bed stone in the frame by means of a universal joint or balance, also the manner of constructing the step and oil cups as herein set forth and described.

BURTON W. LEONARD.

Witnesses:

FREDERICK M. LOCKWOOD,

HARRY MAY.