

Paint Mill.

Patented Sept. 10, 1850.



UNITED STATES PATENT OFFICE.

W. W. DRAPER, OF GREENFIELD, MASSACHUSETTS.

PAINT-MILL.

Specification of Letters Patent No. 7,630, dated September 10, 1850.

To all whom it may concern:

Be it known that I, WM. W. DRAPER, of Greenfield, in the county of Franklin and State of Massachusetts, have invented a new and useful Improvement in Mills for Grinding Paints and Like Substances; and I do hereby declare the following to be 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 I is a perspective view. Figs. II and III are parts in detail, in all of which like letters indicate like parts.

The nature of my invention consists in the shape of the grinding face given to the muller *a*, when it is combined with the smooth face of the bed *a'*; viz: the face of the muller having broad depressions *b*, *b*, formed in it, extending from near its center to within a short distance of its periphery, and a corresponding number of narrow discharging grooves *c*, *c*, that extend to the periphery of the same; one of which grooves is located immediately in front of each of the depressions, as shown in Fig. 3. The object of the depressions *b*, *b*, in the muller, being to keep a large body of paint in contact with the face of the bed and gradually distribute it between the grinding faces of the bed and muller, while they at the same time prevent the escape of the paint therefrom before it is thoroughly levigated; the said grooves *c*, *c*, serving to collect the levigated paint after its passage over the smooth surface of the muller face, between the rear edge of the depressions and the grooves, and discharge the same at the periphery of the muller.

I construct a circular muller (*a*) of suitable metal, having on the face depressions or feeders (*b*) for the purpose of receiving the paints or other substances to be reduced. These feeders extend from near the center, to near the outer edge of the muller. Close to each of these feeders I make a groove or channel (*c*) extending from near the feeder entirely to the edge so as to discharge there. The muller is firmly fixed on a shaft (*d*) at right angles with its face, and to which rotary motion is given by a pinion of common construction. The shaft extends far enough beyond the face of the muller to form a journal (*d'*) and it has also a jour-

nal on the reverse end. The bed (*a'*) is a circular plate of suitable metal having a cavity in the center (*d''*) to receive the journal (*d'*). It has a rim (*e*) around it, rising above the face, and of such size as to be capable of inclosing the muller within it. The bed has projections (*f*) on opposite sides forming a groove by which it is kept in place. A receptacle (*g*) for the pigment to be ground is made on the back of the bed communicating with the face of it by the opening (*h*); and the rim (*e*) is cut through at the bottom to allow a scraper (*l*) of common construction to play upon the edge of the muller. The frame (*k*) in which these parts are placed is of wood or metal. It has on opposite sides projections (*o*) forming ways of such size as will fit loosely between those (*f*) on the bed. A box (*l*) is made at one end to receive one journal of the shaft of the muller, and that on the other end rests in the cavity (*d''*) when the bed is placed on the ways (*o*). The bed is adjusted to the muller by a set screw (*m*) working against a triple-armed spring (*n*).

The operation will be thus. The receptacle being filled, and the muller put in rotation in the direction indicated, the paint or other material is supplied by the feeders (*b*) to the faces of the muller and of the bed, between which it is reduced, but any hard particles which might find their way between the faces, would instead of choking or stopping the mill, only cause the bed to yield at that particular side since its position is governed by the triple-armed spring. The levigated matter is taken up by the grooves (*c*) and discharged at the edge of the muller where it is collected by the scraper.

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

The broad depressions *b*, *b*, in the face of the muller *a*, when combined with the discharging grooves *c*, *c*, in the same, and with the plane surface of the bed *a'*, substantially in the manner and for the purpose as herein set forth.

W. W. DRAPER.

Witnesses:

ALPHEUS F. STONE,
JOHN J. PIERCE.