A. M. ROUSE.

Apparatus for Regulating Reciprocating Motion.

No. 202,052. Patented April 2, 1878.

FIG. 1.

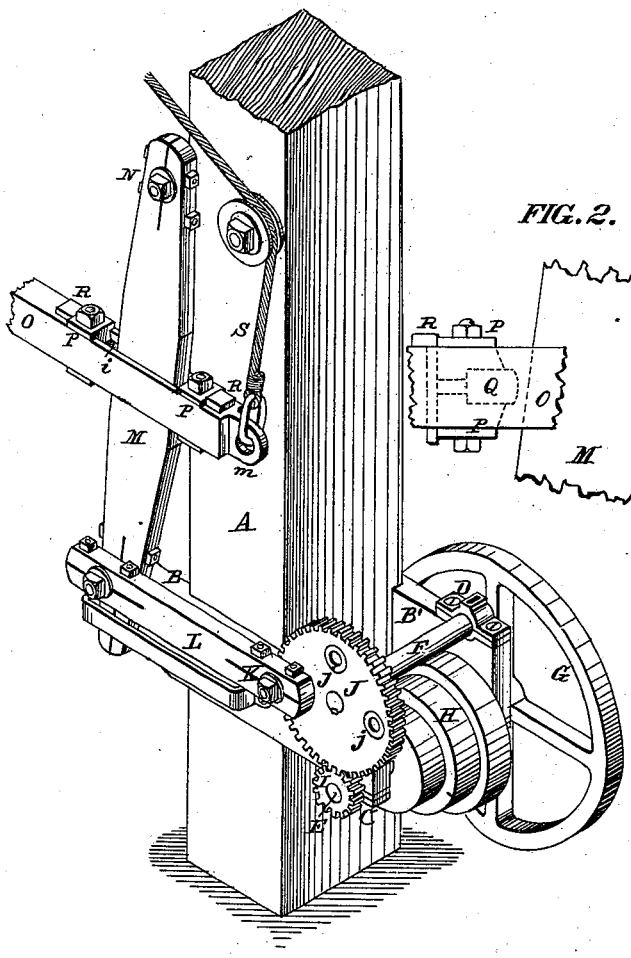
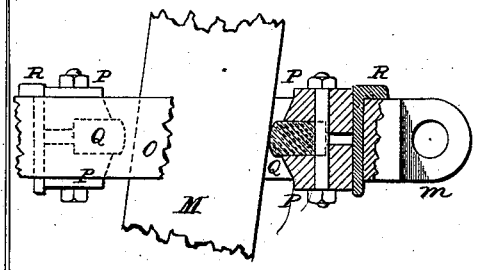


FIG. 2.



ATTEST:

Robert Burns
Le Blond. Burdett.

INVENTOR:

Albion M. Rouse
By Knight Bros
Attys

UNITED STATES PATENT OFFICE.

ALBION M. ROUSE, OF BOULDER, COLORADO.

IMPROVEMENT IN APPARATUS FOR REGULATING RECIPROCATING MOTION.

Specification forming part of Letters Patent No. **202,052**, dated April 2, 1878; application filed March 27, 1878.

To all whom it may concern:

Be it known that I, ALBION M. ROUSE, of Boulder, Boulder county, State of Colorado, have invented a new and useful Improvement in Apparatus for Regulating Reciprocating Motion, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

This improvement relates to a mechanism for imparting the percussive blows by which reciprocation and agitation are given to the table.

My improvement consists in the combination of a rod, one end of which is hinged to the table and the other end made vertically adjustable, and having an aperture through which passes an oscillating lever, the travel of the connecting-rod being regulated by raising or lowering it upon the lever.

Referring to the accompanying drawings, Figure 1 is a perspective view of my improvement. Fig. 2 is a detail side view, partly in section, showing the adjustable blocks against which the lever impinges.

A is a post, to which the apparatus is secured. B B′ are brackets thereon, supporting the journal-boxes C and D of the shafts E and F. The shaft E carries a balance or fly wheel, G, a cone-pulley, H, and a cog-pinion, I. The cone-pulley receives a belt by which the mechanism is driven, and the pinion I engages with a spur-wheel, J, upon the shaft F, to cause the rotation of said shaft. The spur-wheel J has a number of holes, *j j*, at different distances from the center, for the insertion of a wrist-pin, K, so as to give a means for regulating the throw of the connecting-rod L, which connects the wrist-pin with the lower end of the lever M. Thus, to lessen the vibration of the lever M, the wrist-pin K is changed to a hole, *j*, nearer to the center of the spur-wheel.

The lever M is fulcrumed at N, and passes between the blocks secured to the connecting-rod O, whose other end (not shown) is connected to the ore-concentrating table. The lever M is shown as passing through an aperture in the connecting-rod O, and this is my preferred mode of construction; but the same end would be accomplished (though in a less perfect way) if the blocks were attached to the side of the connecting-rod. The blocks consist of an adjustable metallic box, P, with an elastic pad, Q, against which the side of the lever M impinges. The box P is made adjustable by the insertion of a shim, R, behind it.

The distance between the pads Q Q is greater than the breadth of the lever M, so that the reciprocation of the connecting-rod O shall not be by a continuous motion, but that it shall have a jerking motion imparted to it by the blow of the lever M against the pad.

It will be understood that the movement of the connecting-rod O will vary according to its position upon the lever M, and to govern such position I attach to the end of the connecting-rod a cord, S, which passes upward and gives support to the end *m*, so that by means of the cord this end is supported at any desired altitude.

It will be observed that the lever M is narrowed at the upper end, so that when the end *m* is raised to its upper position no motion is imparted to the connecting-rod by the lever M in its oscillation.

I have not shown or described any particular form of ore-concentrating table or pans, because my mechanism is applicable to any where a reciprocating motion is required.

I will now briefly review the means for regulating the movement of the mechanism. The speed is regulated by changing the belt upon the cone-pulley H. The oscillation of the lever M is regulated by the position of the wrist-pin K in the spur-wheel J, and the length of stroke of the connecting-rod O is regulated by the position on a vertical line of the end *m* of said rod.

I claim—

1. The combination of lever M and rod O, adjustable thereon by means of a cord, S, substantially as and for the purpose set forth.

2. The combination of rod O, cord S, lever M, rod L, and crank-wheel J, substantially as and for the purpose set forth.

3. The combination of rods O and L, lever M, crank gear-wheel J, with adjustable wrist-pin K, pinion I, shafts E and F, cone-pulley H, and fly-wheel G, substantially as set forth.

4. In combination with the rod O and lever M, the blocks P Q, to receive the impingement of the lever, substantially as set forth.

ALBION M. ROUSE.

Witnesses:

GEO. D. REYNOLDS,

GEORGE W. AMES.