

CLAUDE LÉON DESMOLINS. Improvement in Stone Crushing Machines.

No. 120,502. Patented Oct. 31, 1871. Fig. 10. Fig. 11.

Fig. 1.

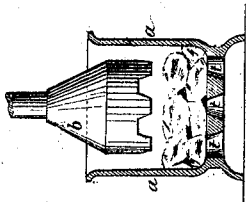


Fig. 3.

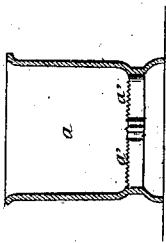


Fig. 2.

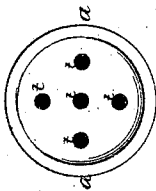


Fig. 4.

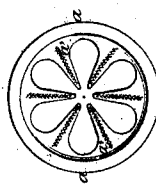


Fig. 5.

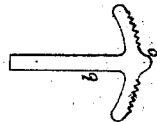


Fig. 7.

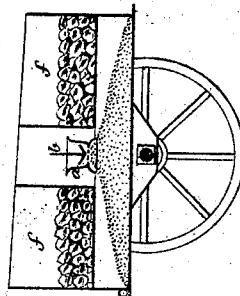


Fig. 8.

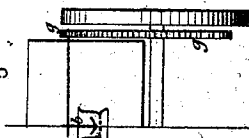


Fig. 6.

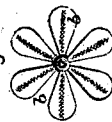
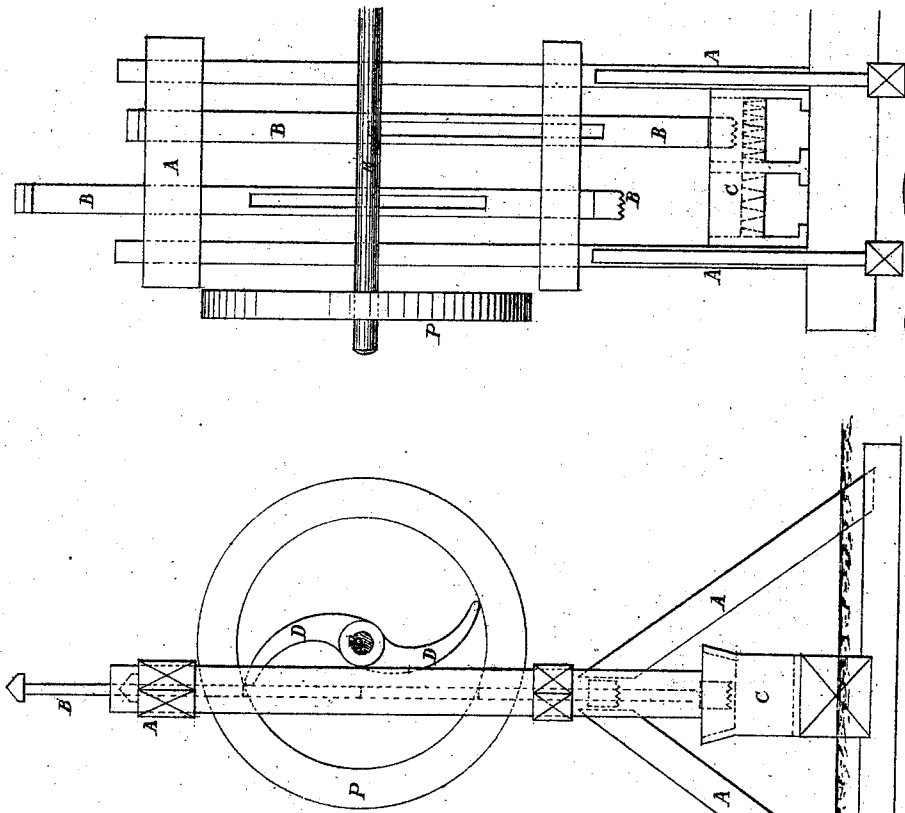
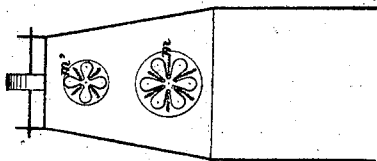


Fig. 9.



Witnesses.

C. H. H. H.

A. H. H. H.

Claude-Léon Desmolin

UNITED STATES PATENT OFFICE.

CLAUDE LÉON DESMOLINS, OF AVALLON, FRANCE.

IMPROVEMENT IN STONE-CRUSHING MACHINES.

Specification forming part of Letters Patent No. 120,502, dated October 31, 1871.

To all whom it may concern:

Be it known that I, CLAUDE LÉON DESMOLINS, of Avallon, in the French Empire, have invented certain Improvements in Stone-Crushing Machines, of which the following is a specification sufficiently full, clear, and exact to enable others to make and use my invention, reference being had to the accompanying drawings, in which—

Figures 1, 2, 3, and 4 are sectional and plan views of mortars. Figs. 5 and 6 are the pestles. Figs. 7 and 8 represent the mortars and pestles applied to a cart or other receptacle. Fig. 9 is the apparatus as applied to a barrow. Figs. 10 and 11 represent the machine as to be operated by steam or other power.

This invention relates to a machine for crushing stone or other substance to produce an article capable of being used for macadamizing roads, as railroad-ballast, or as fine gravel, &c.; and consists of the combination, with one or more mortars, of a pestle adapted to operate in said mortar, the bottoms of the mortars being provided with a series of apertures, and the solid portions between the apertures being formed with denticulations, so that when the substance to be pulverized is placed in the mortar and the pestle operated it will be thoroughly pulverized and crushed and the pulverized material will pass through the perforated bottom into a cart or other suitable receptacle.

In the drawing, *a a* represents a cast-iron mortar, the bottom of which is formed or provided with conical or other-shaped apertures *t t*, and the solid portions between the apertures are provided with a series of denticulations or teeth, *a'*. *b* is the pestle, constructed of metal or other material, and has at its lower end projecting arms *b' b' b'*, which are also provided with a series of teeth.

When the stone or other substance to be crushed is placed in the mortar *a* the pestle is placed therein and operated, and, owing to the several series of teeth, the material will be crushed and pulverized, the pulverized material passing through the apertures *t t* into a suitable receptacle. The matter thus crushed may be afterward employed for macadamizing roads and for other purposes. The receptacle into which the pulverized mass passes may consist of

a cart or barrow, *E*, having two chambers, *f f*, between which the mortar or mortars are situated. When two mortars are employed in this connection, one will be used for the primary crushing and the remaining one for the final crushing; or, when it is desired to finely pulverize the matter, a series of mortars may be used. At the side of the cart *E* and upon the axle is secured a cog-wheel, *g*, geared into a smaller cog-wheel, *g'*, so that on motion being given to the cart it will operate the cog-wheel *g* and the latter will give motion to the wheel *g'*, and through the medium of suitable cams alternately raise and drop the pestle, as shown in Figs. 7 and 8. In Figs. 10 and 11 the mortar and pestle are adapted to be operated by steam or other motive power, *A* being the frame which supports the pestle *B*, and *C* the mortars situated at the bottom of the frame, directly beneath the pestle. *E* is the transverse shaft, provided with cams *D* or equivalent devices for operating the pestles; and *P*, the fly-wheel for driving the shaft *E*.

By this means a driving-belt from an engine or other power may be connected to the wheel *P*, and on the same being revolved it will operate the cams *D*, causing the pestles *B* to alternately ascend and descend, thus effectually crushing and pulverizing the substance in the mortars.

I do not desire, however, to confine myself to any particular means of operating the pestles, as it may be done in any convenient and suitable manner. Instead of the pestle being formed with radiating arms *b' b'*, it may be constructed as shown in Fig. 1.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The mortar *a* provided with openings *t t* and a series of denticulations, *a'*, in combination with the pestle *b* provided with a denticulated face, when the same are constructed, arranged, and operate in connection with each other, substantially as described.

CLAUDE LÉON DESMOLINS.

Witnesses:

C. BLÉTRU
A. BLÉTRU,
Z. U. ZURT