

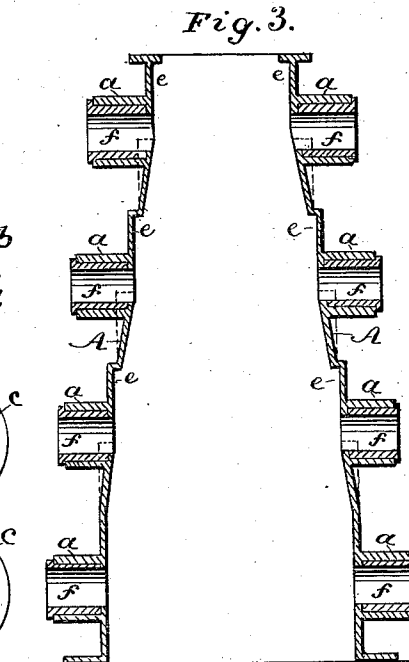
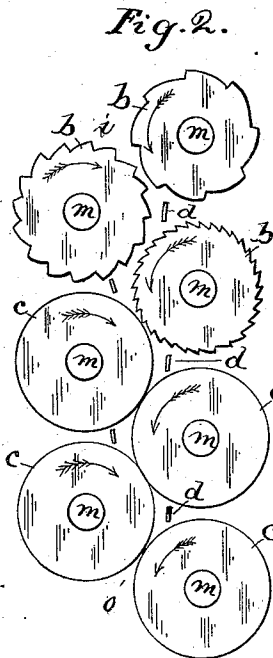
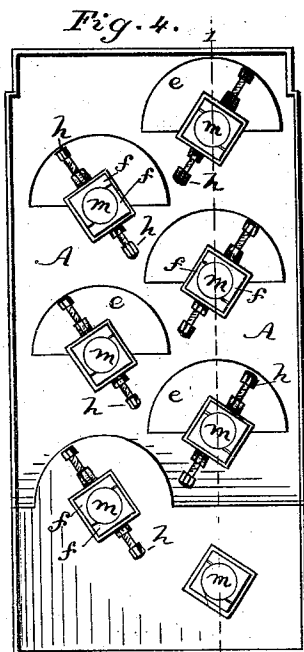
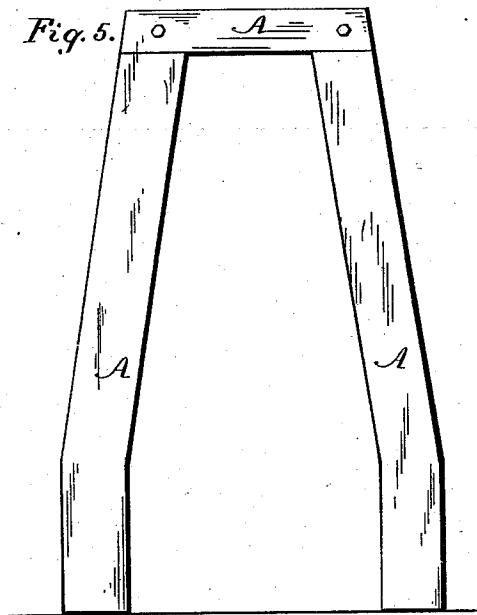
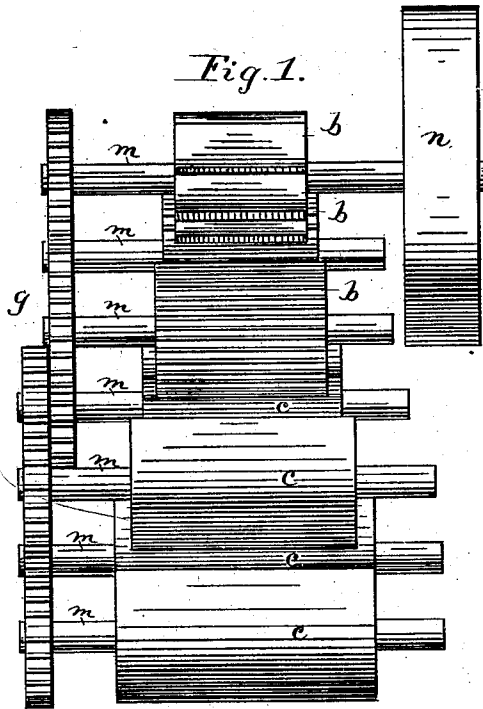
(No Model.)

J. HAUSE.

MACHINE FOR CRUSHING AND GRINDING LIMESTONE ROCK, &c.

No. 256,678.

Patented Apr. 18, 1882.



WITNESSES: 2

Thos. Houghton.
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INVENTOR:

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UNITED STATES PATENT OFFICE.

JACOB HAUSE, OF CHEWSVILLE, MARYLAND.

MACHINE FOR CRUSHING AND GRINDING LIMESTONE-ROCK, &c.

SPECIFICATION forming part of Letters Patent No. 256,672, dated April 18, 1882.

Application filed January 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, JACOB HAUSE, of Chews-ville, in the county of Washington and State of Maryland, have invented a new and useful
5 Machine for Grinding and Pulverizing Lime-
stone-Rock and other Hard Substances, of
which the following is a full, clear, and exact
description, reference being had to the accom-
panying drawings and letters of reference
10 marked thereon, in which—

Figure 1 is a side elevation of the machine
without the frame. Fig. 2 is an end view of
the rollers. Fig. 3 is a vertical section of the
frame in the line 1 2 of Fig. 4. Fig. 4 is an
15 end elevation of the frame, and Fig. 5 is a side
elevation of the frame.

Similar letters indicate like parts in all the
figures.

My invention relates to improvements in ma-
chine for grinding and pulverizing limestone-
rock and other hard substances; and it con-
sists in the peculiar construction and arrange-
ment of the parts, as hereinafter more fully set
forth, and pointed out in the claims.

25 In the accompanying drawings, A A repre-
sent the inclined frame of the machine. The
outer faces of the ends of the frame A have
bearings a a for the shafts of the rolls b c, which
bearings are made integral with the ends of
30 the frame, and each bearing is provided inter-
iorly with bearing-boxes made in two parts,
f, adapted to be adjusted by the screws h in
the usual manner.

b b b represent grooved or roughened rolls,
35 fast on their shafts m, and are employed for
the purpose of crushing the larger lumps of
limestone or other hard substance; and c c c
are cylindrical rolls with smooth surfaces, in-
tended to pulverize the material after the large
40 lumps have been crushed. The rolls b c may
be of the same or different diameters. The
axes or shafts m of all the rolls are horizontal,
and the axes of two of the rolls b b on the
right-hand side of the machine and the axes
45 of two of the pulverizing-rolls c c on the same
side of the machine are in the same vertical

plane, and the axis of one of the crushing-rolls
b and the axes of the pulverizing-rolls on the
left side of the machine are also in the same
vertical plane. The axis of the top roll b on
the left side of the machine is below the axis
50 of the top roll on the right side, and each roll
on the left side of the machine is arranged so
as to work against two rolls on the opposite
side of the machine, so as to increase the crush-
ing and pulverizing effect of the rolls. 55

d d represent guides for the limestone-rock
fed into the machine at i and discharged at o.
The guides d d are secured to the ends of the
inclined frame A, and serve to guide the mate-
60 rial as it passes between the crushing and pul-
verizing rolls and thence out of the machine.

e e represent recesses formed in the inner
faces of the ends of the frame A. The recesses
e receive the ends of the rolls and lie above 65
them, their function being to prevent the ma-
terial being crushed and pulverized from pass-
ing over the ends of the rolls.

n represents a band-pulley secured to the
shaft m on the upper crushing-roll, and g g re-
70 present cog-gears secured to the opposite ends
of the shafts m and meshing with each other,
whereby the rolls are revolved in the direction
of the arrows in Fig. 2.

What I claim, and desire to secure by Letters 75
Patent, is—

1. The combination, with the grooved crush-
ing-rolls b b b and smooth pulverizing-rolls c c
c c, so arranged that each roll on one side of
the machine operates against two rolls on the 80
opposite side, of guides d, arranged as set
forth, substantially as described, and for the
purpose set forth.

2. The combination, with the crushing and
pulverizing rolls b c, of the inclined frame A A, 85
provided with recesses e e in its inner faces,
substantially as described, and for the purpose
set forth.

JACOB HAUSE.

Witnesses:

WM. H. STOTLER,
HENRY J. POFFENBERGER.