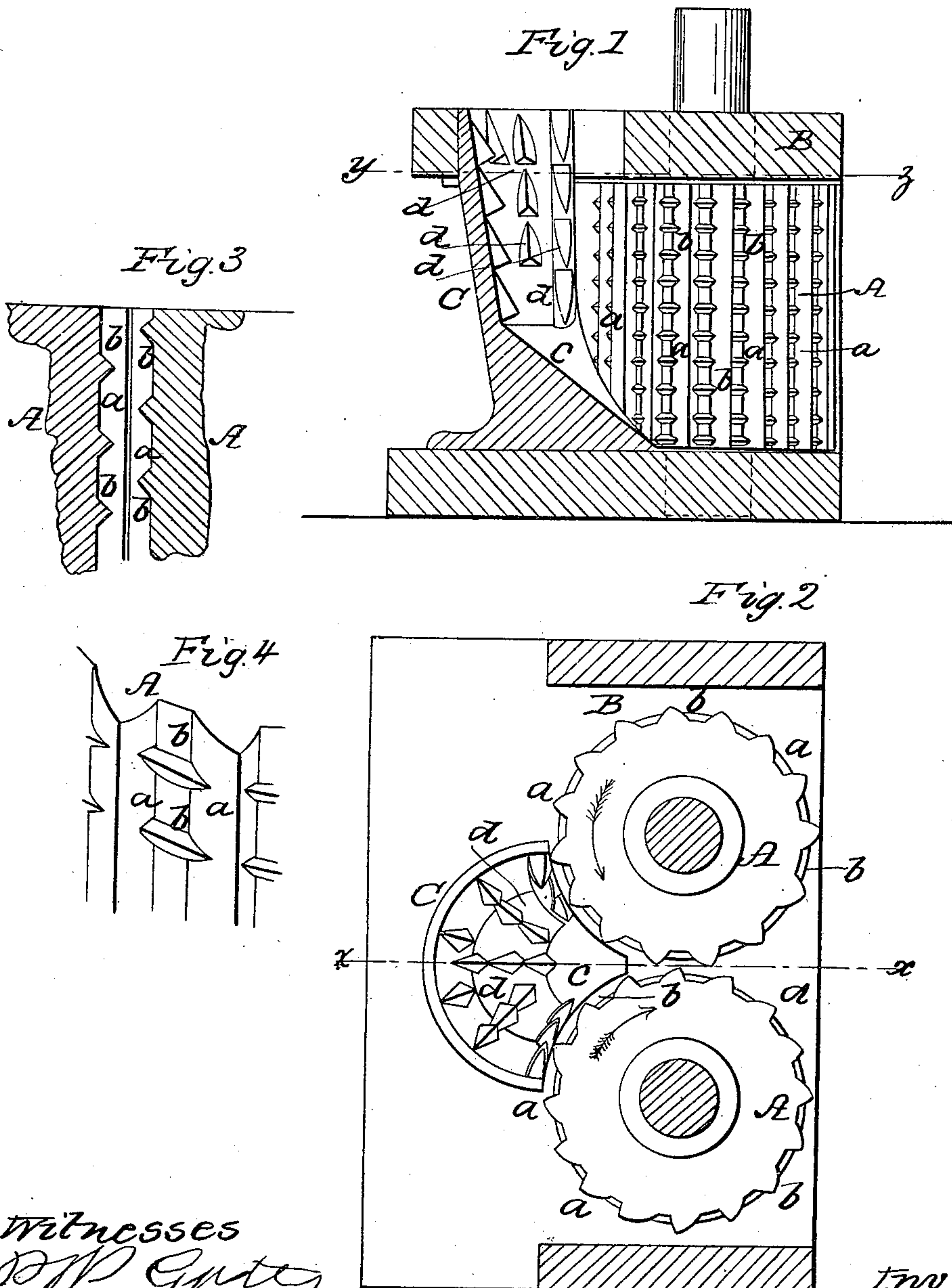


I. SCOVILLE.

Machine for Cracking Stone.

No. 25,371.

Patented Sept. 6, 1859.



Witnesses
D. P. Gates
O. L. Fargo

Inventor
I. Scoville

UNITED STATES PATENT OFFICE.

IVES SCOVILLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND W. H. SCOVILLE,
OF SAME PLACE.

MACHINE FOR BREAKING STONE FOR TURNPIKE-ROADS, &c.

Specification of Letters Patent No. 25,371, dated September 6, 1859.

To all whom it may concern:

Be it known that I, IVES SCOVILLE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful
5 Improvement in Machines for Breaking Stone for Ballasting Railroads and Macadamizing Streets and Turnpikes, &c.; and I do hereby declare that the following is a full, clear, and exact description of the
10 same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of my invention taken in the line *x, x*, Fig. 2. Fig. 2, is
15 a horizontal section of ditto, taken in the line *y, y*, Fig. 1. Fig. 3, is a detached vertical section of a portion of the cylinders taken at the "bite." Fig. 4, is a detached perspective of a portion of one cylinder.

20 Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in the arrangement of two vertical cylinders dressed substantially as hereinafter described, in combination with a funnel shaped
25 hopper which is dressed with teeth, ribs or projections tending to prevent the rock or stones from rising up in the hopper when being broken by the rollers, and arranged
30 vertically opposite the space between the approximating circumferences of the two cylinders so that it stands off some distance from the cylinders at the top and touches the cylinders at the base and also encircles
35 a portion of each cylinder, substantially as hereinafter described.

The difficulty hitherto attending the cracking or breaking of round stones or other hard substances by means of cylinders
40 has been owing to the inability of the cylinders to catch or seize them, (the stones), in consequence of their rotundity being liable to turn and slip from the "bite" as the cylinders rotate. This difficulty is fully
45 obviated by my invention.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

50 A, A, represent two vertical cylinders which are placed within a suitable frame, B, and side by side so that they will be nearly in contact or at a distance apart to crack or break the stone of the desired size. These cylinders are of cast iron, and cast with a

chill. Each cylinder has a series of vertical
55 projections *a*, on its periphery and also a series of horizontal or circumferential projections *b*. The vertical projections *a*, project out farther from the cylinders than the circumferential projections *b*. The vertical
60 projections *a*, are transversely of ratchet-tooth form, as shown clearly in Figs. 2 and 4, and those of one cylinder are placed in a reverse position to those of the other, as
plainly shown in Fig. 2. The projections *b*,
65 are beveled or inclined so as to be transversely of V-form as shown clearly in Fig. 3.

C, is a hopper which is a cast iron shell also cast with a chill and secured by the side
of the cylinders A, A, opposite their "bite,"
70 as shown clearly in Fig. 2. This hopper may be described as being the longitudinal half of a truncated hollow cone placed in an inverted position and connected at its lower
and smaller end with an inclined plane *c*, the
75 lower part of which extends within the "bite" of the rollers at their lower ends as shown in Figs. 1 and 2. The interior of the hopper C, is provided with teeth *d*, which
extend down to its bottom or to the upper
80 end of the inclined plane *c*.

The operation is as follows: The cylinders
A, A, are rotated in the direction indicated
by the arrows and the stones or other substances in consequence of their gravity and
85 the inclined form of the hopper and plane *c*, pass down into the "bite" or between the two cylinders and are prevented from escaping from the "bite" of the cylinders in
consequence of the hopper and inclined
90 plane *c*, the latter being merely a continuation of the hopper. It will be seen therefore that the stones or other substances will be kept in such position as to insure the
cylinders grasping them. The teeth *d*, are
95 intended to aid the hopper in performing its function, said teeth having a tendency to prevent the stones or other substances from turning and also from moving upward. In
certain cases however they may be dispensed
100 with and I therefore do not confine myself to their use. The arrangement of the projections *a*, *b*, on the peripheries of the cylinders A, A, add considerably to the efficiency
of the cylinders, said projections cracking or
105 breaking the stones or other articles or substance into lumps of quite uniform size. The cylinders operate with the best effect when

the horizontal or circumferential projections
b, of one cylinder are in line with the spaces
between the corresponding projections of the
other cylinder, as shown clearly in Fig. 3.

- 5 I do not claim a machine for breaking
stone consisting of two horizontal cylinders
and dressed with teeth adapted for breaking
stone, as shown in the patent granted to
Messrs. Ellithorpe and Scoville in 1858.
10 Nor do I claim the use of two horizontal
cylinders in combination with a small upper
cylinder as shown in the patent of Batten in
1845, but

What I do claim as my invention and de-
sire to secure by Letters Patent, is—

The arrangement in the manner set forth 15
of the funnel shaped hopper C, constructed
substantially as described with the two verti-
cal cylinders A, A, constructed substantially
as described, for the purpose of breaking 20
stone for ballasting railroads and macadam-
izing streets, turnpikes, etc.

IVES SCOVILLE.

Witnesses:

P. W. GATES,
I. L. FARGO.