

(No Model.)

W. B. COWAN.
TRITURATING AND EMULSIFYING MACHINE.

No. 511,755.

Patented Jan. 2, 1894.

Fig. 1.

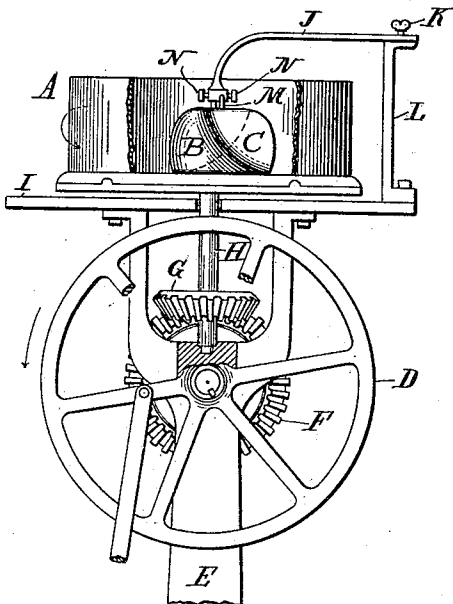


Fig. 2.

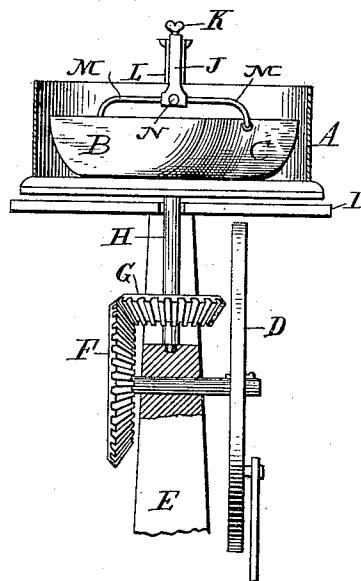


Fig. 3.

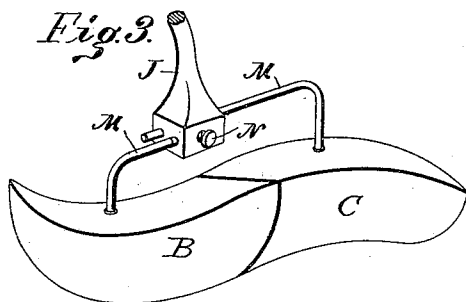
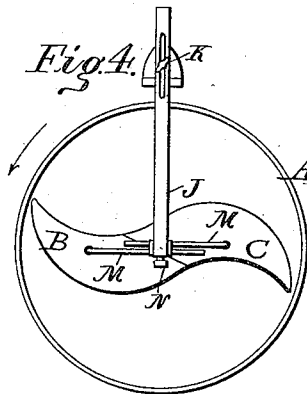


Fig. 4.



William B. Cowan,

WITNESSES

C. C. Burdine
Horace A. Dodge.

INVENTOR

per David H. Barlow,
Dodge & Sons,
ATTYS

UNITED STATES PATENT OFFICE.

WILLIAM B. COWAN, OF GUELPH, CANADA.

TRITURATING AND EMULSIFYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 511,755, dated January 2, 1894.

Application filed July 13, 1892. Serial No. 439,936. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. COWAN, a citizen of Canada, and a subject of Her Majesty Queen Victoria, residing at Guelph, in the
5 county of Wellington and Province of Ontario, Canada, have invented a new or Improved Triturating and Emulsifying Machine for Grinding and Mixing Medical Substances, of which the following is a specification.

10 My invention relates to a machine for quickly and easily grinding and thoroughly mixing medical substances solid or fluid, with water, oil, or other suitable liquid media; by means of attrition, so that the substances are
15 reduced to impalpable atoms, that are in intimate, and permanent admixture with the liquid medium in which they are ground. The medical substances may be solid in the form of grains or powder, as in a trituration;
20 or fluid such as oils, extracts, &c., as in an emulsion. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

25 Figure I. is a side elevation of the machine, partly in section. Fig. II. is a front view of the machine, also partly in section. Fig. III. is an enlarged perspective view of the grinding stones, and the adjustable fork, for holding them in their proper position. Fig. IV.
30 is a plan of the revolving pan, grinding stones, and adjustable fork.

Similar letters refer to similar parts throughout the several views.

35 The machine consists essentially of a revolving pan A in the bottom of which lie two peculiarly shaped grinding stones or slugs B and C of stone, or other suitable substance, held in place from above by an adjustable
40 fork J. M. which is entirely independent of the revolving pan, and which permits only a slight up and down motion of the stones, and by means of which they may be set to suit any sized pan.

45 The pan A is revolved in the usual way by means of a treadle not shown and drive wheel D the shaft of which passes through a bushing in the stand E and carries on its other end a gear wheel F, which in turn engages

with the pinion G on the vertical shaft II which carries the revolving pan, and which
50 is stepped at its lower end into the frame or stand E the other end carrying the revolving pan passing through a bearing in the table top I of the frame or stand.

The grinding stones B, C are shaped and
55 beveled so as to gather the substances (together with their containing media) from the edge of the revolving pan A (where it has been thrown by the centrifugal force of the machine) and throw them toward the center,
60 and under the stones which are shaped so as to pass the mixture under them in a thin stream, which gets thinner by means of the weight of the stones as the solid particles are reduced; till the whole is of the consistency
65 of cream or oil.

The fork consists of a carrier J, one end of which is adjustably secured by means of a slot and thumb screw K to a post L which is
70 rigidly secured to the table I outside the revolving pan, and of sufficient height to allow the fork carrier, which is secured horizontally to it to project over the edge of the pan. The other end of the carrier which projects
75 in a downward direction into the center of the pan is enlarged at its extremity to allow of two lateral parallel holes being drilled through it. Through these holes the stems of the fork tangs M are passed and secured in any desired position by means of thumb
80 screws N. The lower ends of the tangs fit into holes in the stones, which are thus held in position while the pan is being revolved, while by means of the set screws they can be adjusted to fit pans of various sizes.
85

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

1. In a machine of the class described, the combination with a pan and means for rotating the same; of the S-shaped grinding stone
90 mounted therein.

2. In combination with pan A and means for rotating the same; the grinders B C mounted therein and provided each with a
95 tang or stem M; a post L outside pan A, and

an arm J secured to the post and fashioned at its lower end to receive the tangs.

3. In combination with pan A and means for rotating the same; the concavo-convex grinding stones B C mounted therein, and made rounding on their under face.

4. In combination with pan A and means for rotating the same, the grinding stones B C

mounted therein and adjustable toward and from the inner face of the pan.

Signed at Guelph this 2d day of July, 1892.

W. B. COWAN.

Witnesses:

J. S. MCKAY,
HUGH McMILLIN.