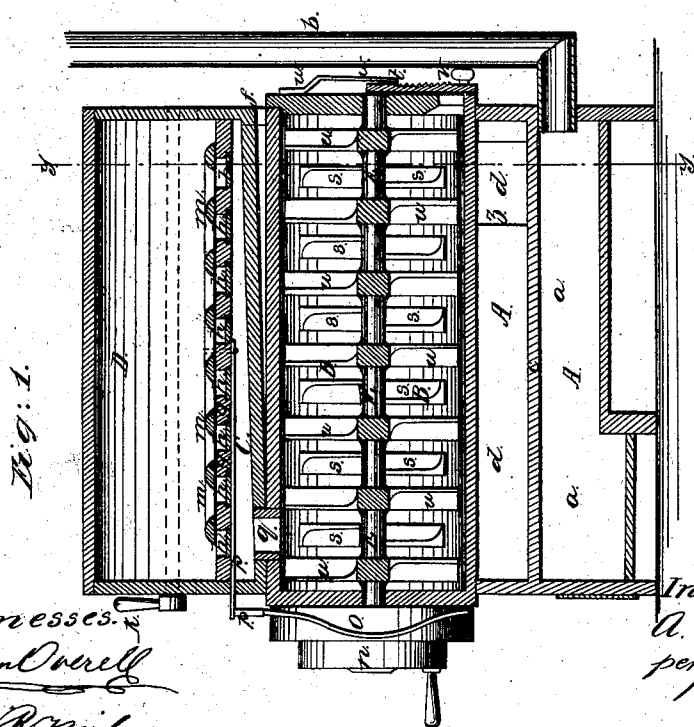
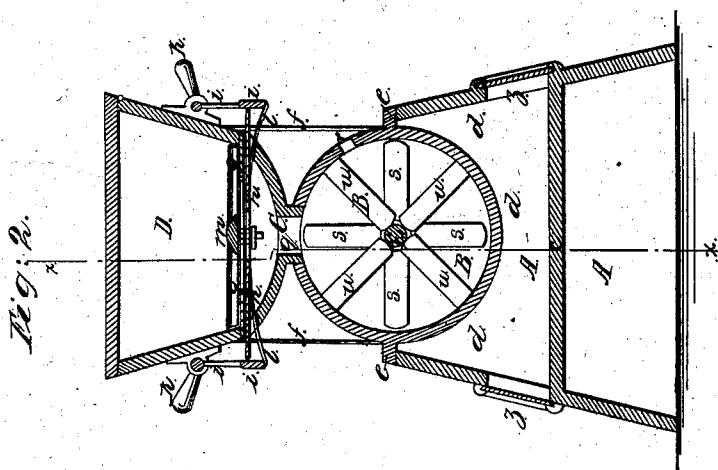


A. Eagle.

Roofing Apparatus.

N^o 63,873.

Patented Apr. 16, 1867.



Witnesses.
Wm. Deane
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Inventor:
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United States Patent Office.

ALBURTIS EAGLE, OF TRENTON, NEW JERSEY.

Letters Patent No. 63,873, dated April 16, 1867.

IMPROVED MACHINE FOR MIXING ROOFING COMPOSITIONS AND OTHER MATERIALS

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ALBURTIS EAGLE, of Trenton, in the county of Mercer, and State of New Jersey, have invented a new and improved Machine for Mixing Compositions; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to construct a machine in which two or more ingredients can be united promiscuously into a compound. It is to be chiefly intended for mixing powdered slate with tar, for a roofing composition, but may be used with equal advantage for other compositions.

The invention consists in the use of a hopper, into which the powdered slate or other material is fed, and which is provided with a slotted bottom, above which a series of bars or a slotted bar slides, alternately closing and opening the holes in the bottom, and thus gradually feeding the slate into a horizontal cylinder, into which the tar is also gradually poured. A revolving shaft passes through the centre of this cylinder, and is provided with stirrers, which not only thoroughly blend and stir the mixture, but which, being set on an incline, also gradually move the mixture towards one end of the cylinder, whence it is drawn off into any suitable vessel. A furnace is arranged below the cylinder to heat the tar and keep it fluid. In the annexed drawing, my invention is illustrated—

Figure 1 being a longitudinal vertical section of my improved machine, the plane of section being indicated by the line *x x*, fig. 2.

Figure 2 is a vertical cross-section of the same, the plane of section being indicated by the line *y y*, fig. 1. Similar letters of reference indicate like parts.

A represents a furnace, made of cast iron or other suitable material, in which *a* is the fire-chamber, and *b* the chimney. A partition, *c*, divides the upper chamber *d* from the furnace *a*, and the air in the same is heated by the fire in the furnace, and the heat transferred through the walls of the horizontal cylinder B, which is arranged on top of the furnace, heating the contents of the said cylinder. Flanges *e e* are arranged on each side of the cylinder B, and rest upon the edges of the walls of the furnace, as shown in fig. 2, and by means of bolts or screws the cylinder is held in the required position. Above the cylinder is arranged a trough, C, with inclined bottom, as shown, but with level top edges, and is connected with a hopper, D, which is arranged above, as shown in the drawings. The trough C and hopper D are held by means of supports *f f*, which rest upon the flanges *e e* of the cylinder. The level bottom *g* of the hopper D is provided with a series of slots, below each of which a sliding-plate, *h*, is arranged, which can be moved in or out, more or less, to make the space for the powdered slate, which is fed into the hopper, to fall through into the trough C, smaller or larger, as may be desired. The plates *h h* are attached to levers *i i*, which are pivoted at the outside of the hopper, and operated by handles *k k*, as shown in fig. 2. Springs *l l* serve to hold the plates *h* well against the bottom *g* of the hopper. The plates *h* are arranged on either side of the hopper, as are the slots in its bottom, as is clearly shown in fig. 2. Above the bottom *g* is arranged in the hopper a reciprocating false bottom, *m*, which is provided with slots like the bottom *g*. This false bottom, as it moves to and fro alternately, opens and closes the openings in the bottom *g*, and the slate in the hopper is thus prevented from falling too quickly into the trough C. Motion is given to the false bottom *m* by a shaft, E, which is placed horizontally through the centre of the cylinder B, and which itself receives rotary motion from a belt passing over a pulley, *n*, which is mounted on the shaft. A disk, *o*, on the shaft E, is provided around its periphery with a zigzag groove, into which a pin, *p*, fits, which is attached to the false bottom *m*; and thus, as the shaft E revolves, the plate *m* is moved to and fro in the hopper D. From the trough C the powdered slate (owing to the inclination of the trough) falls through an opening, *q*, into one end of the cylinder B. The tar is, through an opening, *r*, poured into the same end of the cylinder. On the shaft E is arranged a series of radial wings, *s s*, which are set obliquely on the shaft, so as to force the mixture of tar and slate towards the end *t* of the cylinder. A series of bars, *u u*, arranged stationary in the cylinder, and forming bearings for the shaft, serves to obstruct the course of the mixture, and the same is thus thoroughly blended and mixed when it arrives at the end *t* of the cylinder. In this end is arranged a hole, which is closed by a gate, *v*, which is provided with teeth on its outside, into which a spring-catch, *w*, engages, and the said gate can thus be raised and lowered to let the mixture flow out in a larger or smaller stream. In

the mean time a fire in the furnace A heats the air in the chamber *d*, and the tar in the cylinder is kept liquid. Doors *z z* are provided in the sides of the chamber *d* for regulating the draught and to let the heat escape altogether when required. The trough C may be omitted if desired, and the slate be fed from the hopper D directly into the cylinder B.

I claim as new, and desire to secure by Letters Patent—

A machine for mixing compositions, consisting of a combination with a hopper, D, which is provided with a slotted bottom, *g*, reciprocating false bottom *m*, and valves *h*, of a cylinder, B, which is provided with stirrers *s*, on shaft E, and stationary arms *u*, and of a furnace, A, all made and operating substantially as and for the purposes herein shown and described.

ALBURTIS EAGLE.

Witnesses:

JOSEPH HOWELL,

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