

CHARLES L. FOWLER.
Improvement in Roofing Machines.
Patented Oct. 24, 1871.
No. 120,153.

Fig. 2.

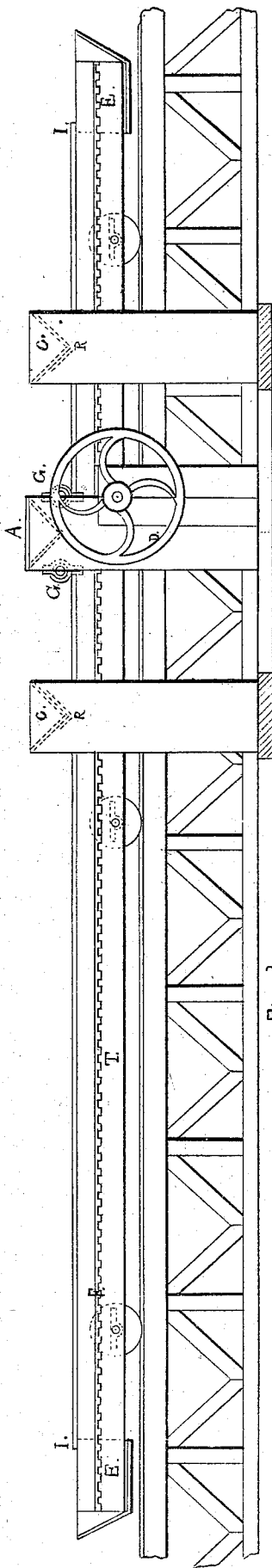
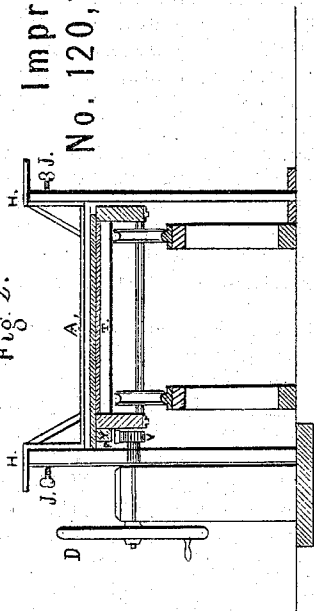


Fig. 1.

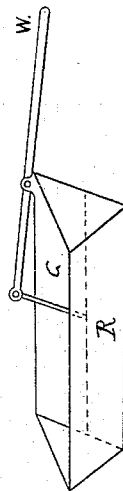
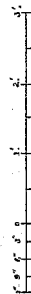


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES L. FOWLER, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN ROOFING-MACHINES.

Specification forming part of Letters Patent No. 120,153, dated October 24, 1871.

To all whom it may concern:

Be it known that I, CHARLES L. FOWLER, of Baltimore city, in the State of Maryland, have invented a new and useful double-acting Roofing-Machine, to be called "Fowler's Double-Acting Roofing Machine," and I do hereby declare that the following is a full, clear and exact description thereof:

The nature of my invention consists in the combination of an apparatus for spreading composition roofing, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal side elevation. Fig. 2 is a transverse sectional elevation through the center of hopper A. Fig. 3 is a perspective view of hoppers C C, showing the operation of lever W.

I I, Fig. 1, is a movable bed upon which the roofing is spread. T is a car upon which the movable bed rests. A is a hopper, through which the roofing material passes and is spread upon the bed. C C are hoppers through which the sand passes to form the surface of roofing. D is a wheel or crank, by which the car is moved back and forth on the iron track provided for it. E E are debris-boxes to catch the waste material after the bed passes hopper A. G G represent rollers used for the purpose of pressing the felt down to the bed, and to assist in keeping the bed in its place to receive the material as it passes under hopper A. The rollers are so arranged that they can be raised and lowered vertically by means of suitable levers.

The roofing material is prepared as follows: A sheet of felt is laid upon a movable bed of the car I I, as shown in Fig. 1. The hand-wheel D is now turned, which, by means of the pinion V, attached to the other end of the hand-wheel shaft, and which gears in the rack F bolted on to the under side of the longitudinal timber Y forming part of the car, causes the bed to advance. The first roller is lowered so as to press down on the felt; the first sand-hopper passed is kept closed, but the hot material in hopper A is allowed to fall on the felt. When the next hopper is reached the grainedizing is produced by

raising the valve at the bottom of the hopper by means of the lever shown by Fig. 3, which permits the sand to fall on the composition, the quantity being regulated by the lever. After the car has passed the last sand-hopper the valve is closed and the operation is completed. The bed is now removed, and a new bed put in its place on the car and operation reversed, the machinery being double-acting, and so arranged as to work both ways, the second roller in this reversed action being raised clear of the bed, as the rollers are never intended to come in contact with the composition, being only used to press down the felt, and to assist in holding the movable bed on the car; hence only one roller is in operation at a time, and that one the first that the bed passes under in its reciprocating motion.

The material hopper A is made of wood or iron, and is supported from the trestle or foundation by the uprights, and is held in its place by means of thumb-screws J J, by which it is made adjustable, so that by raising or lowering the hopper the roofing can be made of any desired thickness, there being gauges H H on the ends of each of the uprights to regulate the thickness of the roofing material as desired. The hoppers C C are supported by uprights from the trestle or foundation, and have openings in the bottom which are closed by valves R R, said valves being operated by hand-levers, so that the sand is shut off or let on at pleasure, and by this means the admission and exclusion of the sand is effectually regulated.

In laying the felting on the bed I I it is allowed to extend by the mouth of the hopper A one-half of an inch on the plain side, and two inches on the selvage side. When used the narrow edge is cut off, thereby leaving one edge square, and the other a two-inch selvage edge, so that each sheet can be nailed to the roof without nailing through the material of which the roofing is composed. The car represented by letter T is composed of two pieces of scantling two by six inches, or three by six inches, set on edge, with binders of the same once in ten feet apart, thereby making the car strong and perfectly firm and level, the surface of the car being covered with matched boards, and planed off smooth and level. The car is supported on iron axles, which have grooved wheels secured to

them, from six to twelve inches in diameter. These wheels roll on a track of half-round iron of suitable size to correspond with the grooves in the wheels. The car may be propelled either by a hand-wheel, as shown in the drawing, or by power by attaching a band-wheel on the hand-wheel shaft. The material hopper A is made four inches wide on the bottom, being closed with the exception of a space full one-half inch wide, which space is allowed for the material to pass through to the felt or bed. I I, Fig. 1, represents a bed ten or fifteen feet or any desirable length, upon which the felt is placed, and which is taken off after passing and receiving the material from hopper A and the grainedizing from hopper C. Beds should be kept on hand in numbers sufficient for the capacity of the kettle, and should be made of inch stuff of uniform thickness, strongly battened together, and when placed on the cars should be perfectly level. There are ledges projecting about one-quarter of

an inch above the surface of the bed, and extending longitudinally to confine the material in place on the bed, and there are corresponding grooves or recesses on the hoppers to allow the ledges projecting above the beds to pass under them.

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

The roofing-machine hereinbefore described, consisting of the combination of the movable bed I I, car T, material hopper A, double hoppers C C, and rollers G G, and all the parts constructed and arranged to operate substantially as herein described, and for the purpose of manufacturing as set forth, constituting a reciprocating, double-acting roofing machine.

CHARLES L. FOWLER.

Witnesses:

S. C. LONG,

SAML. WITHEROW.

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