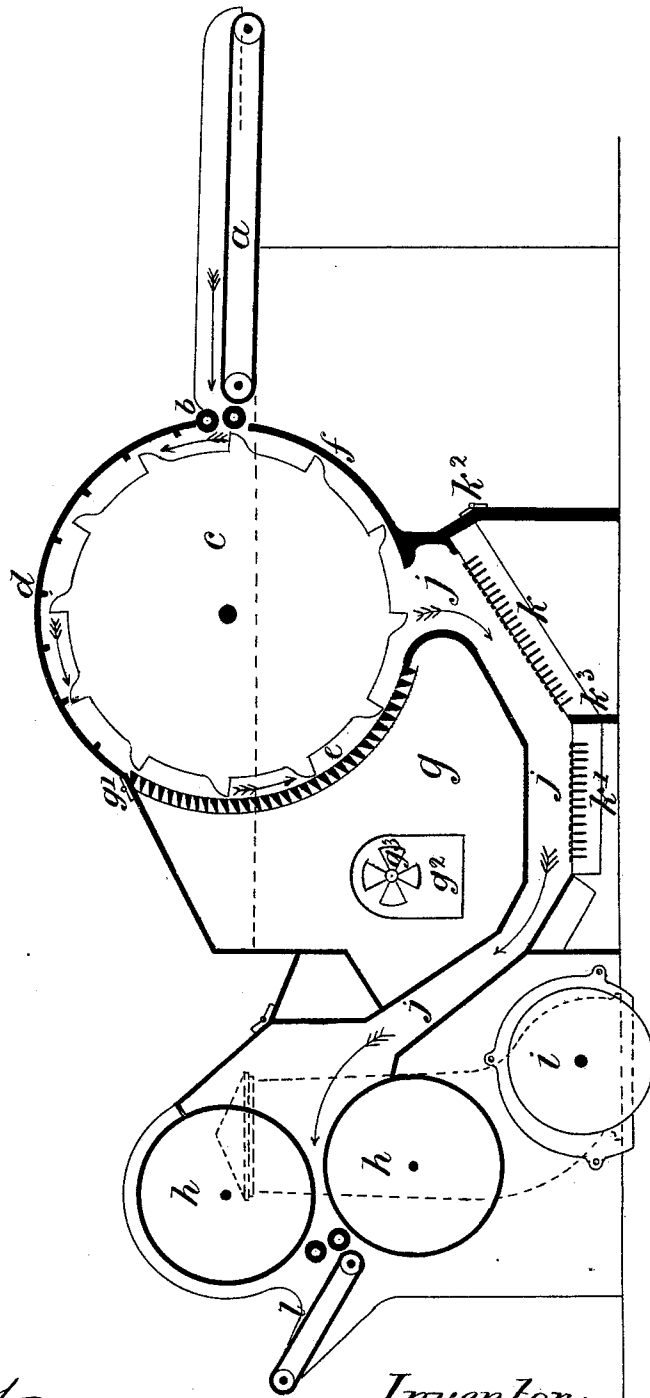


E. BUCKLEY.

MACHINE FOR OPENING COTTON.

No. 175,024.

Patented March 21, 1876.



Witnesses;
Peter J. Livsey
J. H. Williamson

Inventor:
Edward Buckley.

UNITED STATES PATENT OFFICE.

EDWARD BUCKLEY, OF STALYBRIDGE, GREAT BRITAIN.

IMPROVEMENT IN MACHINES FOR OPENING COTTON.

Specification forming part of Letters Patent No. **175,024**, dated March 21, 1876; application filed October 29, 1875.

To all whom it may concern :

Be it known that I, EDWARD BUCKLEY, of Stalybridge, in the county of Chester, and Kingdom of Great Britain and Ireland, have invented an Improvement in Machines for Opening Cotton and other fibrous materials, of which the following is a specification :

The object of my invention is a more convenient arrangement of opening machinery, so that while the fibrous material may be acted upon by a large portion or segment of the operating-cylinder it may be fed at one end and delivered at the other end of the machine, and be conveniently combined with mechanism to form the fibrous material into a lap or deliver it in a heap, as desired.

My invention consists of an arrangement and combination of well-known opening-cylinder and connected parts with the well-known wire or perforated cylinders and fan-draft by means of a passage or channel extending from the casing of the opening-cylinder under the compartment or receptacle for heavy droppings, (which is modified by such arrangement,) then upward to the wire cylinders, the fan-draft acting through the wire cylinders to draw the fiber and dust from the outlet of the casing of the opening-cylinder, and along the said passage or channel to the wire or perforated cylinders, between which it passes, to be delivered onto the floor in a heap, or to an ascending endless lattice, or to the rollers and mechanism of a lap-machine, to be formed into a lap, as desired.

My invention is more fully explained by the accompanying drawing, which is a longitudinal section, showing so much of the parts of a machine constructed according to my invention as will be necessary to explain the same, in which machine the fibrous material, after leaving the wire cages or cylinders, passes on to a lattice, which delivers the material in a heap, or to well-known lap mechanism combined with the machine.

a is a lattice; *b*, feed-rollers; *c*, toothed cylinder; *d*, casing over cylinder, having teeth; *e*, grid, through which the heavy dirt and "droppings" pass; *f*, plain casing of cylinder; *g*, compartment for heavy droppings; *h*, wire

or perforated cylinders or cages; *i*, fan for drawing air and dust from the cages.

The parts above mentioned are old and well known, except where modified by my improvement. *j* is a channel or passage from the casing of the toothed cylinder to the wire draft-cages. This channel passes under the compartment *g*, for heavy droppings. The lower side of this passage has two grids, *k* and *k*¹, for fine droppings, which drop into the compartments below, which have doors, hinged in any convenient manner, through which the droppings are removed. For the compartment *k* the door may be hinged at *k*²; for the compartment *k*¹ there may be two doors at *k*³, hinged at each side and closing against each other, or in any other convenient manner.

The arrows show the direction in which the fibrous material passes. There is a door to the heavy-droppings compartment at the top, hinged at *g*¹, and there is another door, *g*², at the side, and one of these may be placed at each side, each door having a valve arrangement, *g*³, to admit air. The action of the fan *i* draws air from the compartment *g* for heavy droppings, through the grid *e*, from the casing of the toothed cylinder *c*, along the channel or passage *j*, and through the wire cages *h*, the current taking the fibrous material and fine dust along with it, the dust passing through the cages *h*, while the fiber passes between the cages *h*, and then between rollers to an ascending lattice, *l*, or to the rollers of a lap-machine when the fiber is to form a lap.

One or more endless lattices may be employed to form the lower side and part of the upper side of the channel or passage *j*; but I prefer to employ the channel or passage, as hereinbefore described, and shown in the drawings, with a sufficiently strong draft to draw the fibrous material through it.

It will be seen from the above that the lap is subjected to the action of a large portion of the cylinder, from the feed-rollers *b* to the discharge-opening *j*, while at the same time the objectionable plan, usual under the circumstances, of having the feed and discharge at

the same end of the machine is avoided by causing the material to pass below the heavy-droppings chamber.

I claim as my invention—

The combination of the feed *b* at one side of the cylinder *c* with the grid *e* at the opposite side, and the discharge-passage *j*, com-

municating below the heavy-droppings chamber *g* with a fan, as and for the purpose set forth.

EDWARD BUCKLEY.

Witnesses:

PETER J. LIVSEY,
T. H. WILLIAMSON.