

(No Model.)

3 Sheets—Sheet 1.

D. BARNETT & D. BLACK.
MACHINE FOR COMBING FIBER.

No. 474,513.

Patented May 10, 1892.

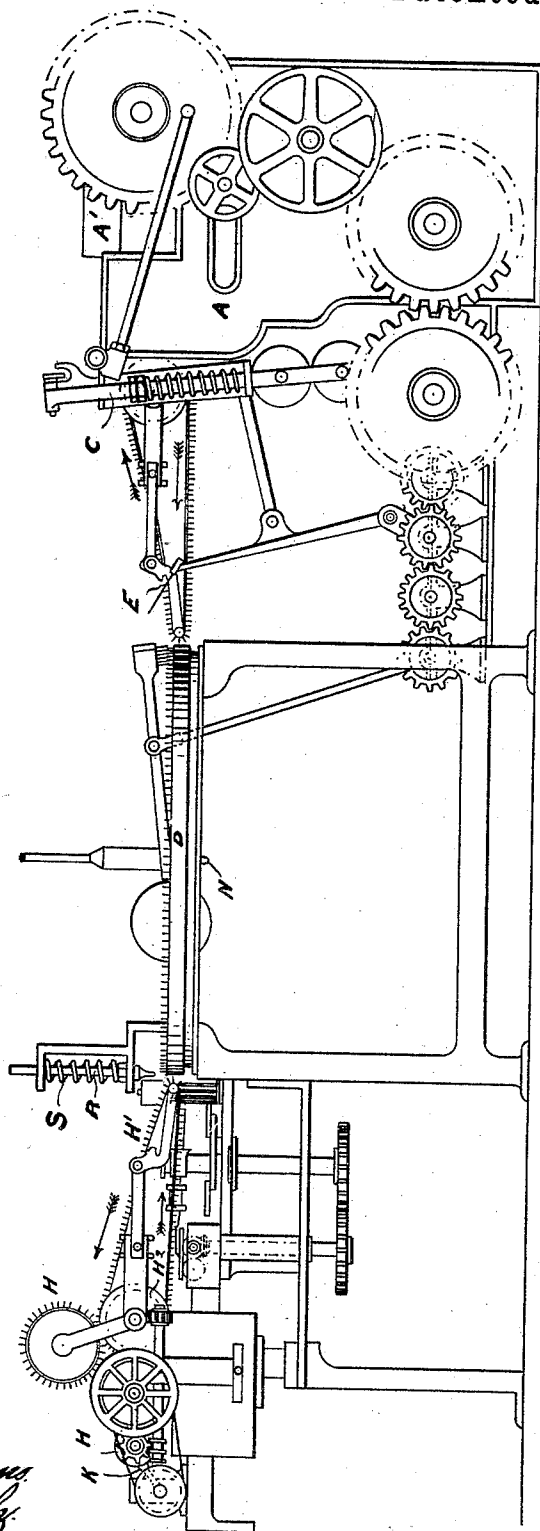


FIG. 1.

Witnesses:
Wm. Houghman
Wm. Schulz

Inventors:
D. Barnett &
D. Black
by their attorneys
Roeder & Bickman

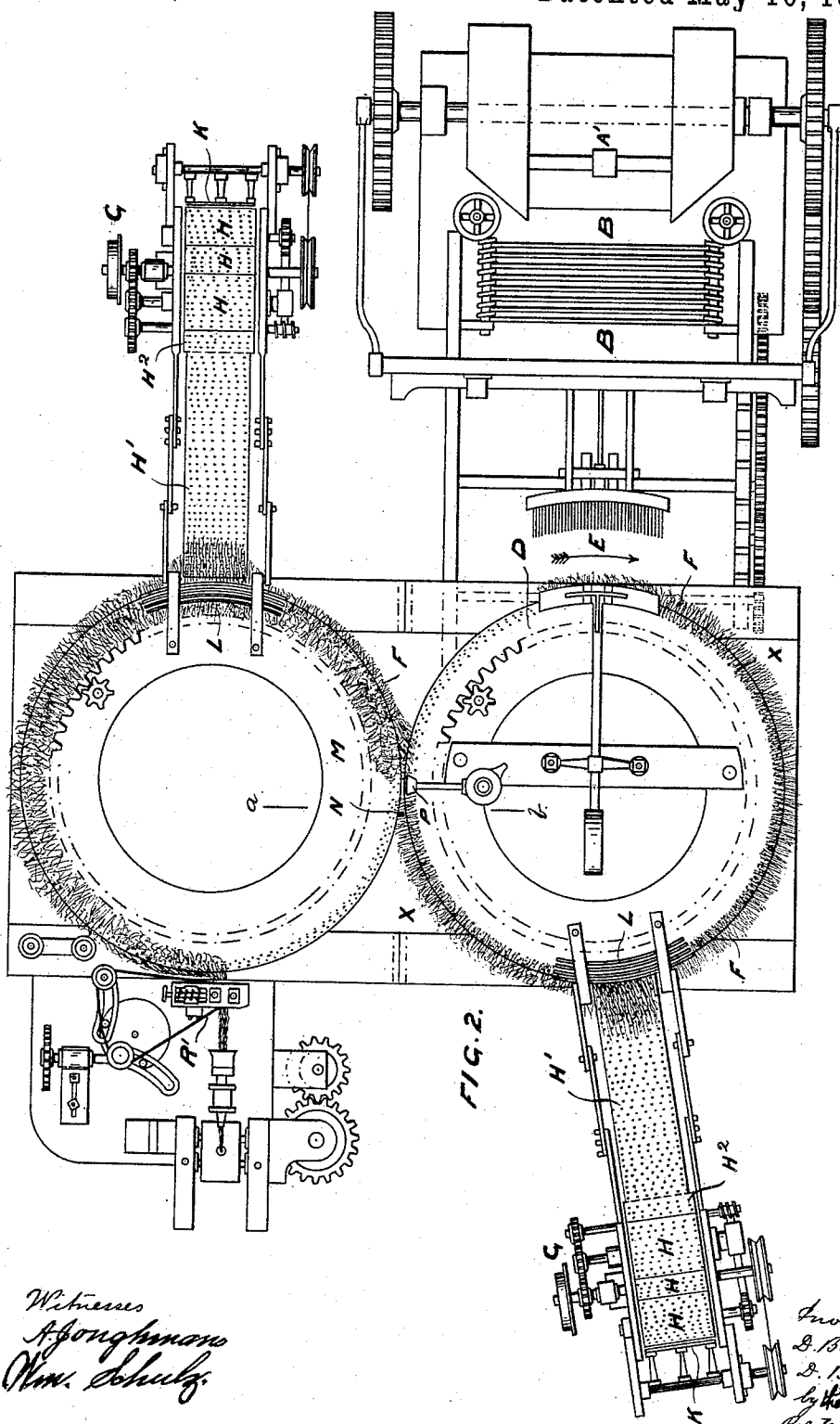
(No Model.)

3 Sheets—Sheet 2.

D. BARNETT & D. BLACK.
MACHINE FOR COMBING FIBER.

No. 474,513.

Patented May 10, 1892.



(No Model.)

D. BARNETT & D. BLACK.
MACHINE FOR COMBING FIBER.

3 Sheets—Sheet 3.

No. 474,513.

Patented May 10, 1892.

FIG. 3.

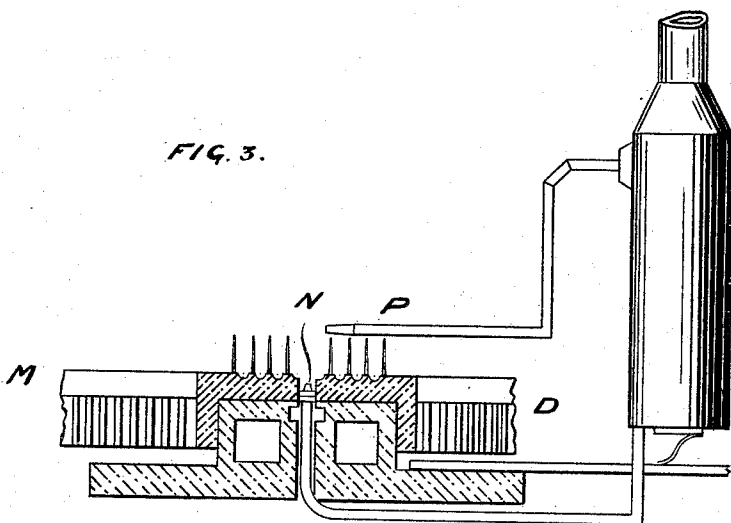


FIG. 5.

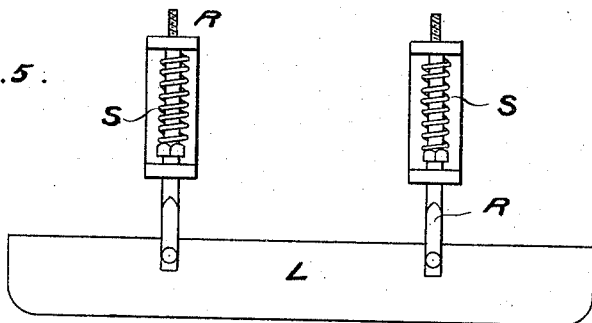
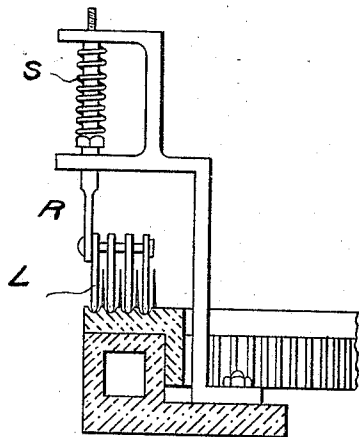


FIG. 4.



Witnesses:
Houghman.
Am. Schuch.

Inventors:
D. Barnett &
D. Black
by their attorneys
Roeder & Briskin

UNITED STATES PATENT OFFICE.

DAVID BARNETT AND DAVID BLACK, OF BRADFORD, ENGLAND.

MACHINE FOR COMBING FIBER.

SPECIFICATION forming part of Letters Patent No. 474,513, dated May 10, 1892.

Application filed January 22, 1892. Serial No. 418,877. (No model.)

To all whom it may concern:

Be it known that we, DAVID BARNETT and DAVID BLACK, subjects of the Queen of Great Britain and Ireland, and residing at Bradford, in the county of York, England, have invented certain Improvements in Machines for Combing Fiber, of which the following is a specification.

This invention relates to a machine for combing that class of fibers known as "ramie fiber" or "china-grass," and has for its object to render the machine compact, simple, and effective.

The invention consists in the combination, with the comb-circle of an ordinary wool-combing machine, of another comb-circle and in securing around the circumference of each one or more lashing-heads, opposite to each of which are a number of plates fitting into grooves cut in the comb-circles for the purpose of holding the fiber during the lashing operation, by which it is opened, straightened, and some of the loose and knotty portions removed therefrom. The fiber is then transferred from one comb-circle to the other by means of air-blasts, the portion of fiber on the inside circumference of the first comb-circle being placed on the outside circumference of the second comb-circle to be lashed or opened out and the short and knotty portions removed, the straightened fiber being finally drawn from the second comb-circle by rollers mounted and operated in the usual manner.

In describing our invention more in detail reference is made to the accompanying drawings, in which--

Figure 1 represents an elevation of such portions of a combing-machine as will illustrate our novel combination. Fig. 2 is a plan of the same; Fig. 3, an enlarged section of the two comb-circles through line *a b*, Fig. 2; Fig. 4, a section through the circle and press-plates for holding the fiber during the operation of lashing, and Fig. 5 a front view of the press-plates and supports for same.

All the mechanism supported by the frame A forms part of an old and well-known type of wool-combing machine known as "Lister's," and is operated in the same manner as heretofore. The fiber being fed over the apron A' to the traveling fallers B is drawn therefrom

by nip-plates mounted in the reciprocating frame C and deposited on the pins of the comb-circle D by the carrying-comb E. So far the description relates to what are old and unaltered portions of the machine, to which no claim is made.

The comb-circle D rotates in the direction of the arrow, and around the outer circumference of the same, between the points indicated by *x x*, one or more lashing-heads, hereinafter described is, or are secured. In the drawings, only one is shown for simplicity.

As is well known with this class of combing-machines, the carrying-comb E deposits the major portion of the short and knotty fiber on or behind the pins forming the inner diameter of the rows of teeth of comb-circle D, the long portion of the fiber F passing through and projecting beyond the outer circumference of the comb-teeth somewhat as shown, so that on the circle rotating it is brought in contact with the lashing-heads. Each lashing-head is driven by a pulley G, and is composed of one or more rollers H and an endless apron H', all of which are covered with card-clothing. The endless apron H', traveling in the direction of the arrows, is supported at one end by a large roller H², and at the other by a small roller placed near the circumference of the outer row of pins forming the comb-circle.

By mounting the endless apron H' in the manner described the fiber F, projecting from the comb-pins of the rotating circle, is brought into contact with the teeth of the card-clothing of endless apron H', and by the teeth of the card-clothing passing through the fiber it is opened. At the same time any loose or knotty portion is removed therefrom, which fiber is cleared from the card-teeth of the endless apron H' by the card-teeth on rotating rollers H, from which it is stripped by the oscillating bar or doffer-knife K, constructed and operated in a similar manner to the doffer-knife of an ordinary carding-machine.

In order to secure the fiber F to the comb-circle D while the same is being lashed or opened out by the card-teeth on the endless apron H', a curved press-plate L is inserted between each two adjacent row of pins of the comb-circle, the bottom edge of each plate

terminating in a groove cut in the said circle, the press-plates being attached to the rods R and pressed into said grooves by compressed springs S, supported by brackets. Thus by these means the long portions of fiber are retained in the circle during the operation of lashing out while the short and knotty fibers are being removed therefrom. On the fiber F arriving at the point where the two comb-circles D and M approach each other the portion of fiber projecting from the outer circumference of comb-circle D is blown upward by a current of air from the small pipe N, and by another current from the flat-ended pipe P it is laid across the comb-pins of the circle M, so that on the two combs separating the fiber is drawn through the pins of the comb-circle D, thereby placing the uncombed portion on the outside circumference of comb-circle M, to be opened or lashed out, in the manner as before described, by the lashing head or heads attached around the circumference of the said comb-circle. Thus by these means the whole length of fiber staple is opened out and freed from short and knotty pieces, the cleansed fiber being finally drawn from the pins of the comb-circle M by the vertical drawing-off rollers R', constructed and operated in the same manner as when

applied to a combing-machine constructed in the ordinary manner.

What we claim as our invention is—

1. In a combing-machine, a comb-circle plate having grooves cut therein between the comb-pins, combined with press-plates L, springs S, and lashing-out endless aprons H', arranged substantially as specified.

2. The combination of comb-circles D and M with endless carding-aprons H', communicating therewith, and the vertical and horizontal blowpipes N and P, substantially as specified.

3. The combination of two adjoining grooved comb-circles with press-plates L, engaging the grooves, endless carding-aprons H', communicating with the comb-circles, and blowpipes for transferring the fiber from one comb-circle to the other, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

DAVID BARNETT.
DAVID BLACK.

Witnesses:

JNO. GILL,
WM. PREST.