(No Model.)

# G. & E. ASHWORTH.

## CLEANING APPARATUS FOR CARDING ENGINES.

No. 369,271. Patented Aug. 30, 1887.

FIG. 1.

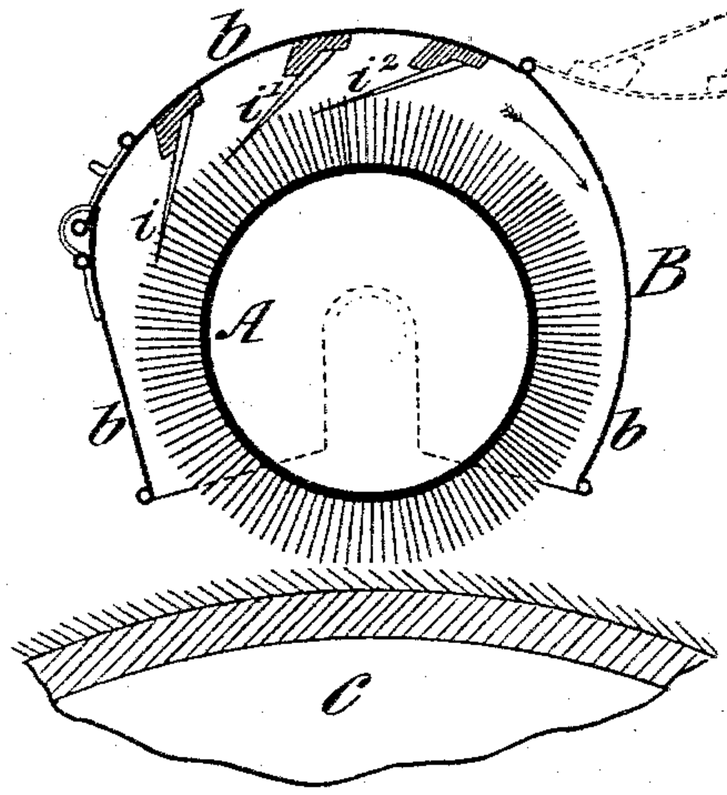



FIG. 3.

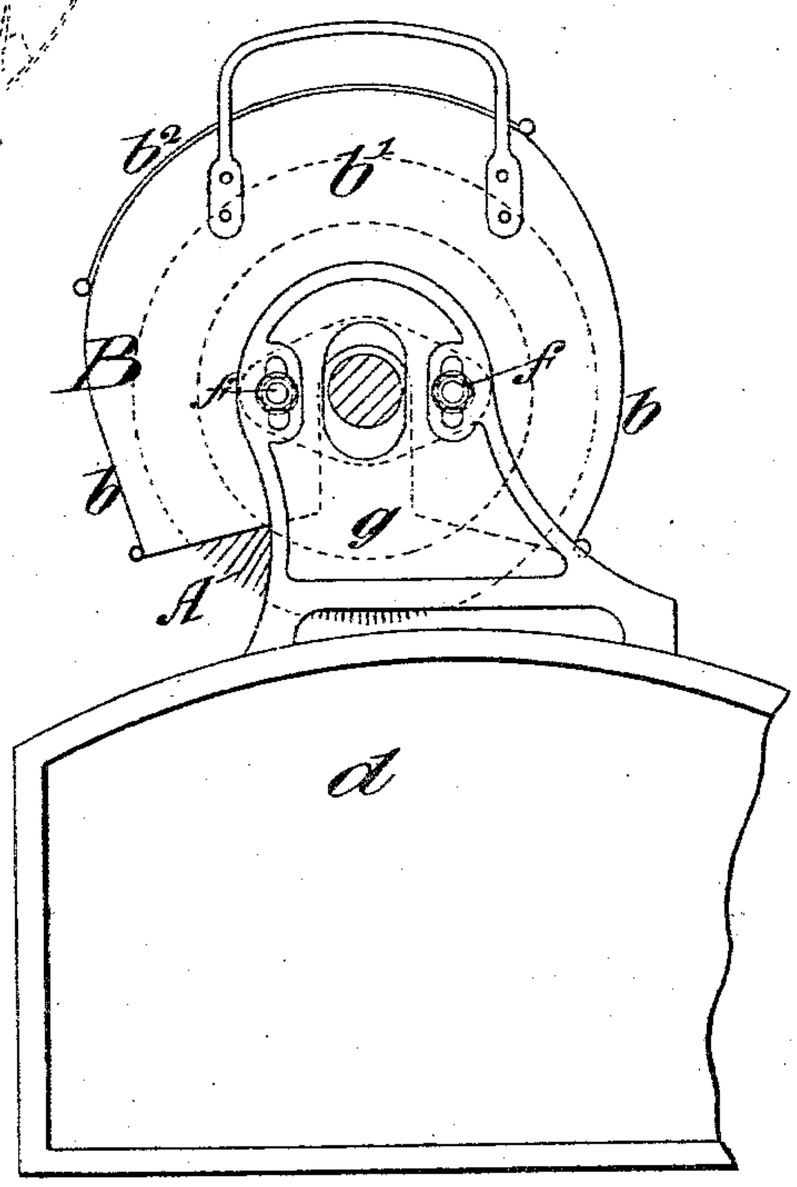
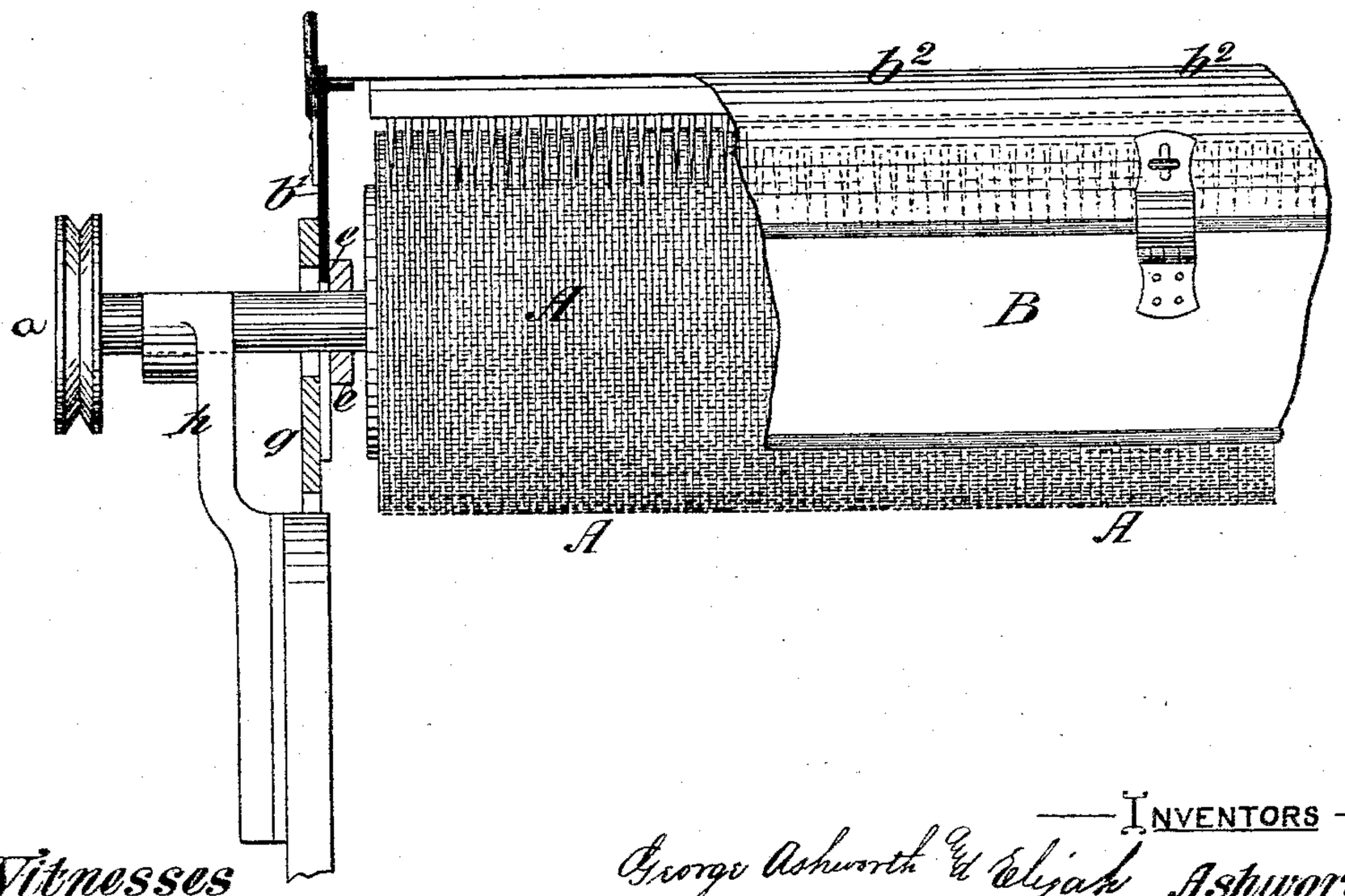



FIG 2




Witnesses

John E. Parker

William D. Bonner

Inventors

George Ashworth and Elijah Ashworth

by their Attys Howson & Sons

# UNITED STATES PATENT OFFICE.

GEORGE ASHWORTH AND ELIJAH ASHWORTH, OF MANCHESTER, COUNTY OF LANCASTER, ENGLAND.

## CLEANING APPARATUS FOR CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 369,271, dated August 30, 1887.

Application filed March 15, 1887. Serial No. 231,004. (No model.) Patented in England February 7, 1880, No. 542.

*To all whom it may concern:*

Be it known that we, GEORGE ASHWORTH and ELIJAH ASHWORTH, subjects of the Queen of Great Britain and Ireland, and residing at Manchester, county of Lancaster, England, engineers, have invented certain Improvements in Cleaning Apparatus for Carding-Engines, (for which we have obtained a patent in Great Britain, No. 542, dated February 7, 1880,) of which the following is a specification.

Our invention relates to the appliances used in the brushing or cleaning of the cylinders of carding-engines employed in the preparation of fibrous materials. We partly inclose the revoluble brush in a casing consisting of sides and ends and a curved hinged cover, and to the inner side of the said cover we attach combs or hackles, which receive the fibers from the brush. Access is had to clear the comb-teeth by simply turning up or over the hinged cover. To support and adjust the brush-casing we attach to each end of the casing a part which prevents the rotation of the brush-casing.

In the accompanying drawings, Figure 1 is a cross-section of our brushing appliance and portion of a carding-cylinder. Fig. 2 is a side view, partly in section, and represents one end of the apparatus. Fig. 3 is an end view of the apparatus.

In the said figures, A is a cylindrical brush. B is the casing of the brush. *c* represents a portion of the doffer, and *d* a portion of the framing of a carding-engine, these parts *c* and *d* being represented only in order to illustrate the application of the apparatus to the carding-engine.

The casing B is formed with two sides, *b b*, which are connected together by end plates, *b'*, and fitted with a curved cover or door, $b^2$, which is hinged to one of the sides *b*. These parts are or may be made of sheet metal. The end plates, *b'*, are slotted to pass over the axle of the brush, as indicated by the dotted lines in Figs. 1 and 3. At each end of the axle of the brush is mounted a clamping-washer, *e*, which is connected by means of bolts or screws *f* with a rest, *g*. The end *b'* passes between the parts *e* and *g*, and is clamped thereto by tightening the bolts *f*. The rest *g* is formed with feet, which rest upon the framing *d* when the brush is in use, the axle of the brush revolving in the ordinary bearings attached to the engine-framing, and which carry the axle of the ordinary grinding-rollers or brushes when in use. One of these bearings is indicated at *h* in Fig. 2. When the brush is caused to revolve by any suitable means—such as a band passing over a pulley, *a*, on the axis of the brush—the rest *g*, by bearing upon the framing *d*, prevents the rotation of the casing. The bolts *f* pass through slots in the rest *g*, in order that it may be adjusted to set upon the framing *d* when the brush has been adjusted to its proper position in relation to the doffer, as is usual. To the hinged cover $b^2$ are attached three ranks of comb-teeth, *i i' i²*. The ends of these teeth enter between the bristles or the equivalent members of the brush, and receive therefrom fibers which have been brushed out of the cards. We prefer to arrange the teeth in the rear rank, $i^2$, closer together than the teeth in the middle rank, *i'*, and the teeth in the latter closer together than the teeth in the front rank, *i*.

We do not confine ourselves to the use of three combs or ranks of teeth, as only one or only two or more than three might be used. When the cover is thrown back, as indicated by the dotted lines in Fig. 1, the combs are accessible for the removal of the fibers.

The form of the casing B may be varied, and we may use a comb-carrier hinged so as to be capable of being turned up to withdraw the combs from the brush without using the side casings, *b*. The formation of the rests or parts *g* at the ends of the brush-casing may be varied to suit the formation of the parts to which the brushing apparatus is to be applied.

In Fig. 3 the brush is represented as applied to act upon the doffer of the engine; but it will be understood that it can be applied to act upon the main cylinder or licker-in of the engine.

We claim as our invention—

1. The combination of a rotary cleaning-brush with an inclosing-casing therefor, having a hinged door, and teeth carried by the door, all substantially as set forth.

2. The combination of a rotary cleaning-

brush with an inclosing-casing having teeth, end rests, and means, substantially as set forth, for adjustably securing the said rests to the casing, as and for the purpose described.

3. The combination of a rotary cleaning-brush with a casing provided with a movable door carrying teeth to act upon the brush, all substantially as described.

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

GEO. ASHWORTH.
ELIJAH ASHWORTH.

Witnesses:
DAVID FULTON,
ARTHUR LEDGER.