(No Model.)

G. B. MELLADEW.

CARDING MACHINE.

No. 261,016. Patented July 11, 1882.

Fig. 1a

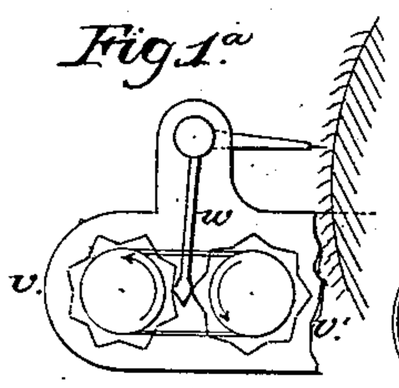


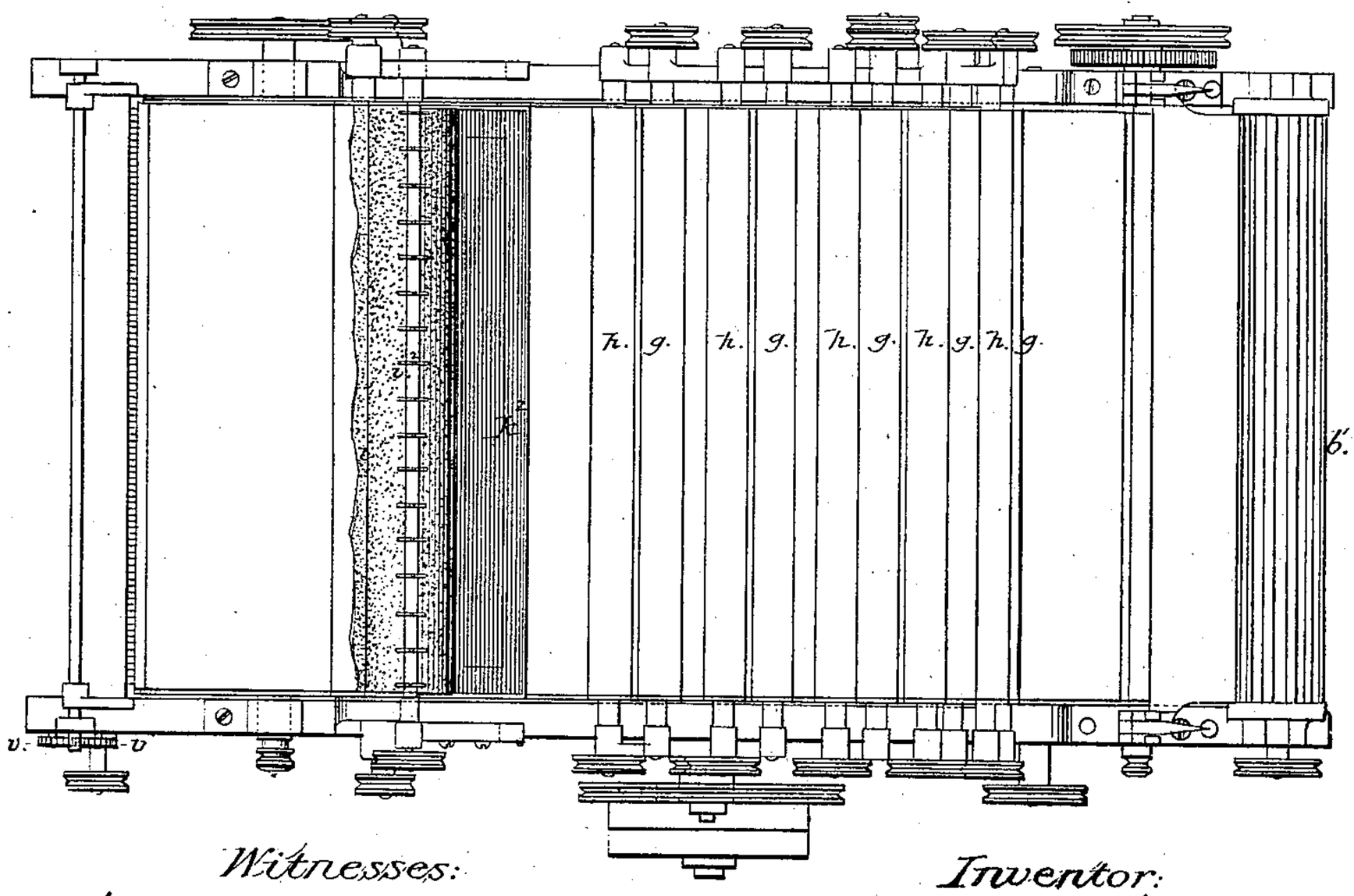
Fig. 1.

Fig. 1b

Fig. 3.

Fig. 4.

Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE B. MELLADEW, OF BOSTON, MASS., ASSIGNOR TO HIMSELF AND J. CONRAD GERLACH AND ROBERT F. BARKER, BOTH OF SAME PLACE.

CARDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 261,016, dated July 11, 1882.

Application filed August 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. MELLADEW, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Carding-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to carding-machines; and it consists in certain improvements therein, as hereinafter described, and pointed out in the claims.

In my drawings, Figure 1 is a central section taken in a vertical plane through the machine. Fig. 2 is a plan view of the same. Fig. 1^a is a detail showing the vibrating mechanism and comb enlarged. Fig. 1^b is a section showing the arrangement for adjusting the knife *l*. Figs. 3 and 4 are details of the cylinder i^2.

Similar reference-letters indicate like parts in all of the figures.

Referring to drawings, *a* is the fiddle-stand, having the usual slot for the shaft of the lap-roll and bracket *a'*.

b' is the supporting-roll, which receives the lap, unrolls it, and feeds it to the feed-rollers.

c c' are the feed-rollers, which feed the fiber to the licker-in roll.

e is a grid, which receives impurities and allows them to sift through and pass out of the way. Beneath the licker-in roll is a plate, *f*, to protect the said roll from the blast of the main cylinder.

ggg are the carding or combing rolls, which retain and comb the fiber. The fiber raised from the main cylinder A by said rolls *g* is again brought in contact with said main cylinder by comb-cleaning rolls *h h*, each pair repeating the operation of combing and cleaning. After the fiber has left the rolls *g h* it comes in contact with a raising-cylinder, *i*, located close to the main cylinder and rotated at a greater surface speed than said main cylinder, which raises the fiber with all impurities to the surface of the said main cylinder. This raising-cylinder working with the cylinder A keeps it sharp and clean. The impurity-roll *k* separates leaf, dirt, &c., from the raised fiber, which drops into a receptacle or box, *m*.

Above the box *m*, and between the dirt or impurity roll *k* and the main cylinder A, I place the adjustable knife *l*, which deflects the impurities taken off the main cylinder by the rolls.

To prevent atmospheric suction induced by the movement of the main cylinder from disturbing the fiber on the doffer, I provide a concave plate, *o*, set so as to be concentric with said main cylinder and secured to the frame of the machine. By this guard-plate *o*, I induce or direct the current in the direction of movement of the main cylinder, thus relieving the doffer of the current or blast after taking off the fiber from said main cylinder. The devices above described are of any ordinary or usual construction. After the fiber is operated upon by the raising-cylinder said cylinder is met by a rotary brush, *i'*, and thoroughly brushed and cleaned, said brush being in turn beaten and cleaned by blades fixed in a rotary cylinder, i^2, above it. The blades referred to are arranged in rows and fixed radially in said cylinder. The cylinder i^2 in its movement carries the blades in the same direction as the brush *i'*. (See arrows in drawings.) Beneath the brush *i'*, I provide an apron, *k*, and in connection with it a box, k^2, which latter receives any flying particles or impurities taken off from the raising-cylinder. A slide is provided in the bottom of said box, whence such accumulation may be removed. The brush *i'* and rotating cylinder i^2 are driven from the source of power by suitable belting, which passes over pulleys fixed upon the respective shafts of said devices.

On the outside of the main frame of the carding-machine I pivot a couple of wheels or disks, *v v'*, fluted on their edges, which rotate by suitable gearing, indirectly from the main shaft, relatively to each other, as shown by arrows. Said disks are so set that the flutes or notches alternate in such a manner that a line drawn horizontally touching their axes would pass through the center of one of the flutes and a space between two of said notches

of the opposite disk. To the shaft which forms the axis of the comb I secure a rod, *w*, at the lower end of which I form a small V-shaped piece intended to engage alternately the notches or flutes, one at a time, of said fluted disks. By this mechanism I effect the necessary vibrating motion of the comb, and thereby remove the fiber from the doffer.

Immediately behind the concave plate *o*, in close proximity to the doffer-cylinder, I place upon a cylinder, *o'*, a series of blades similar to those described in cylinder i^2, which rotate in a direction shown, for the purpose of dispensing with any leaf that might possibly have passed the knife *l*.

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

1. The combination, with the raising-cylinder, of a rotary brush and a shaft or cylinder provided with rotating blades arranged in close proximity to each other, as and for the purpose specified.

2. The combination, with the brush *i'* and the cylinder i^2, of the box k^2, provided with the apron *k'*, as and for the purpose set forth.

3. The combination, with the doffer-comb, of the disks *v v'* and the rod *w*, with the enlarged end, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE B. MELLADEW.

Witnesses:

JOS. H. ADAMS,

J. C. GERLACH.