

(No Model.)

J. M. HETHERINGTON.

CARDING ENGINE.

No. 388,679.

Patented Aug. 28, 1888.

FIG. 2.

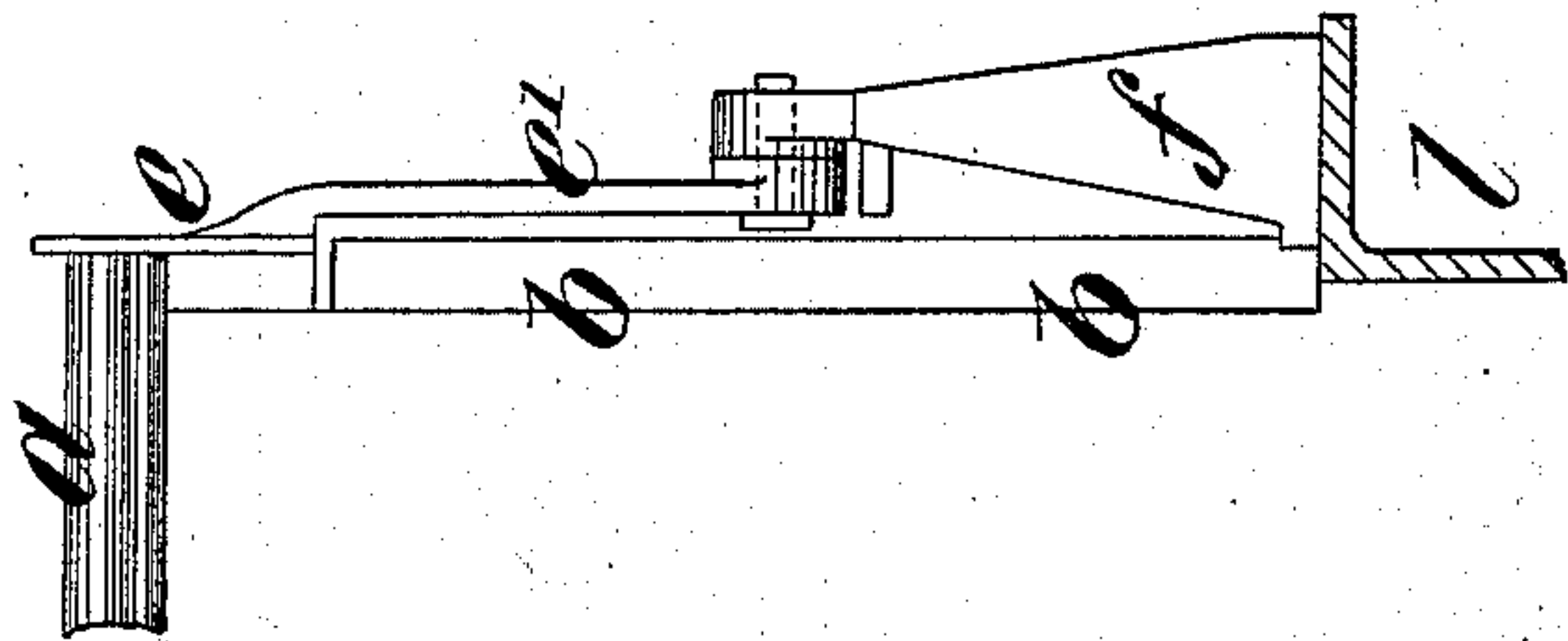
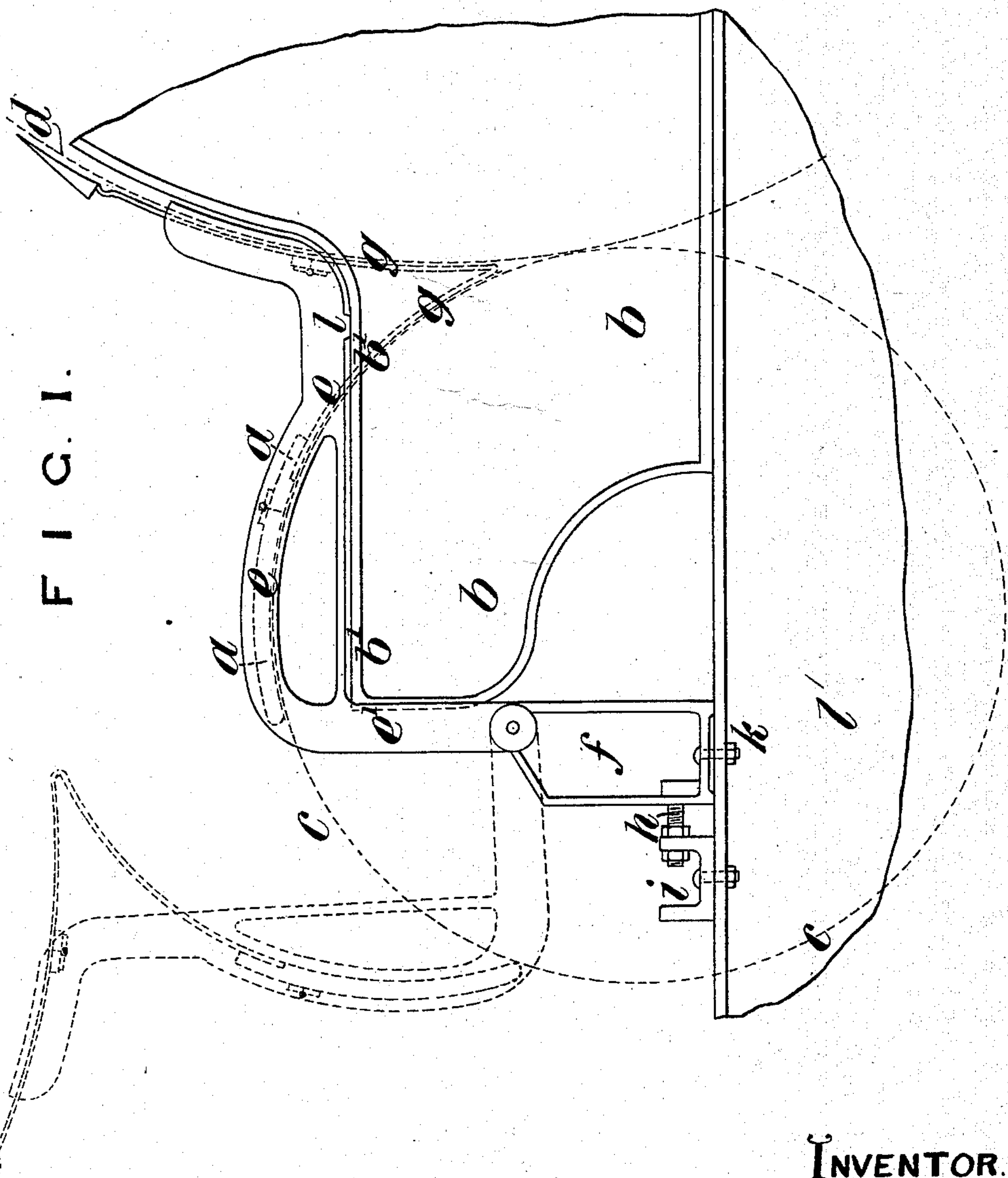


FIG. 1.



Witnesses.
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By his Atty.^s *Horsen and Horsen*

UNITED STATES PATENT OFFICE.

JOHN M. HETHERINGTON, OF MANCHESTER, COUNTY OF LANCASTER,
ENGLAND.

CARDING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 388,679, dated August 28, 1888.

Application filed January 4, 1888. Serial No. 259,791. (No model.) Patented in England July 24, 1884, No. 10,518.

To all whom it may concern:

Be it known that I, JOHN MUIR HETHERINGTON, a subject of the Queen of Great Britain and Ireland, residing at Manchester, county of Lancaster, England, have invented certain Improvements in Carding-Engines, (for which I obtained a patent in Great Britain, No. 10,518, dated July 24, 1884,) of which the following is a specification.

10 My invention relates to the covering or inclosing casing of the upper part of the doffer and of the adjacent part of the main carding-cylinder of the carding engine, and has for its principal object to facilitate the adjustment of the parts.

15 In my invention the doffer-cover is hinged to parts which can be adjusted upon the framing toward and from the main cylinder, the cover, when raised, moving away from the said cylinder. The making-up pieces are carried by the cover, and the hinges are situated at the front of the doffer-axis and at the same level, or at such a suitable level as that when the cover is raised all parts of the curved surface 25 which are concentric with the doffer-axis move farther away from the doffer and the curved surface which is concentric with the main cylinder-axis moves away from the said cylinder. To enable the cover to be adjustable independently of the doffer, I make the cover to fit at 30 the ends upon flat surfaces which are parallel with the line of adjustment.

My invention will be understood when described with reference to the accompanying drawings, in which—

35 Figure 1 represents a side elevation of part of the doffer end of a carding-engine, and shows an end view of the doffer-cover and a portion of the side casing of the engine. Fig. 40 2 is a view taken on a plane at right angles to that of Fig. 1, and shows the hinging of the doffer-cover and a part of the main frame in section.

45 In the said figures, *a* is the doffer-cover, and *b* is a side frame, which in this instance is a portion of the casing for the doffer and main cylinder on one side of the engine, the dotted circle *c* indicating the doffer and the dotted arc *d* the main cylinder. The doffer-cover is 50 attached to two side pieces, *e*, one at each end

of the doffer. Each of these side pieces is formed or provided with a leg or downward extension, *e'*, whereby it is hinged to a standard, *f*, which is bolted or secured to the under framing, *l'*, of the engine. The joint-pins of the 55 two hinges on the two sides of the engine are arranged to be in line across the engine, so that the two side pieces, *e*, carrying with them the doffer-cover, can be turned up and over, as indicated by the dotted lines. The side 60 pieces, *e*, also carry the making-up piece or pieces *g*, so that when the doffer-cover is raised access is had to the main cylinder for grinding the same or for other purposes. Each standard is adjustable upon the framing toward 65 and from the main cylinder. The standard is connected by means of a screwed stud, *h*, with a bracket, *i*, which is firmly bolted to the framing, and serves as an abutment or fixed point from which the standard can be adjusted 70 by turning nuts on the screwed stud. When the adjustment has been effected, the standard can be secured by means of a bolt, *k*, passing through an opening in the lower part of the standard *f* and through a slot in the flange of 75 the lower framing. The upper edge, *b'*, of each side frame is made parallel with the line of adjustment, or thereabout, and the side piece, *e*, rests upon this level edge at the point *l*, or is otherwise suitably formed to rest or fit upon 80 the said upper edge, *b'*, of the casing. It will be seen that by reason of this straight and level formation of the edge *b'* and of the under sides of the side pieces, *e*, the doffer-cover can be set up or adjusted in a direction toward or from 85 the main cylinder to any required extent without altering the relations of the cover and the side or end casings, *b*.

Having now described my invention, I declare that what I claim is— 90

1. In a carding-engine, the combination of the main and doffer cylinders, under framing, and side frames having flat or level surfaces, with the doffer-cover resting upon said flat or level surfaces, standards or blocks to which 95 the doffer-cover is hinged, and means for adjusting the said standards upon the framing, substantially as set forth.

2. In a carding-engine, the combination of the main and doffer cylinders, side frames, and 100

under framing, with the doffer-cover and parts to which said cover is hinged in front of the main axis of the doffer, so that when the cover is lifted all parts move clear from the
5 doffer, substantially as described.

3. In a carding-engine, the combination of the main and doffer cylinders, under framing, and side frames having horizontal surfaces, in combination with the doffer-cover, making-up
10 pieces, and side pieces resting upon the said

horizontal surfaces, standards to which the said side pieces are hinged, and means for adjusting the standards, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two sub- 15
scribing witnesses.

JOHN M. HETHERINGTON.

Witnesses:

DAVID FULTON,

EDUARD L. DUTTON.