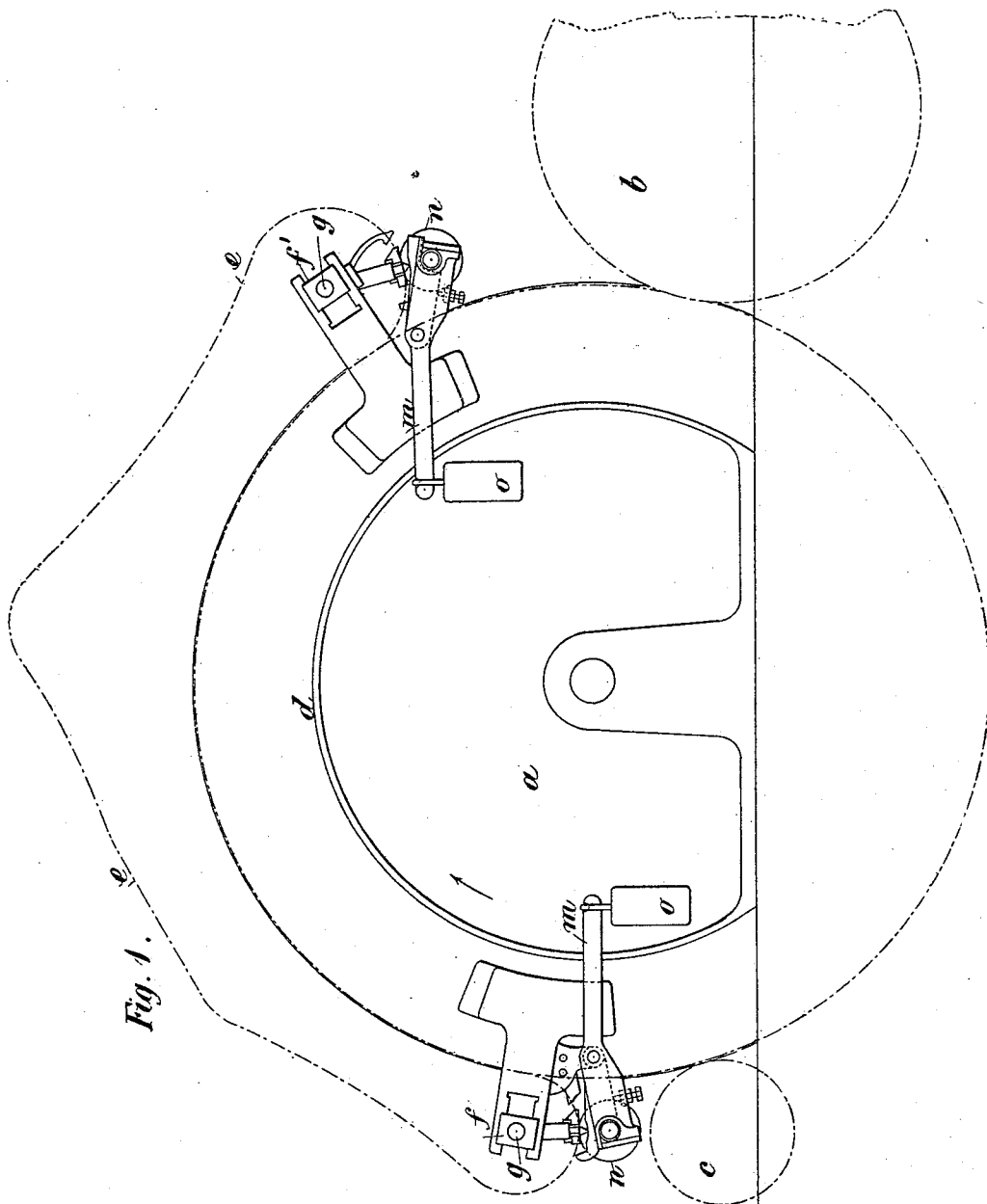


(No Model.)

3 Sheets—Sheet 1.

B. A. DOBSON & W. I. BROMILEY.
MECHANISM FOR GRINDING THE TRAVELING FLATS OF CARDING ENGINES.
No. 473,187. Patented Apr. 19, 1892.



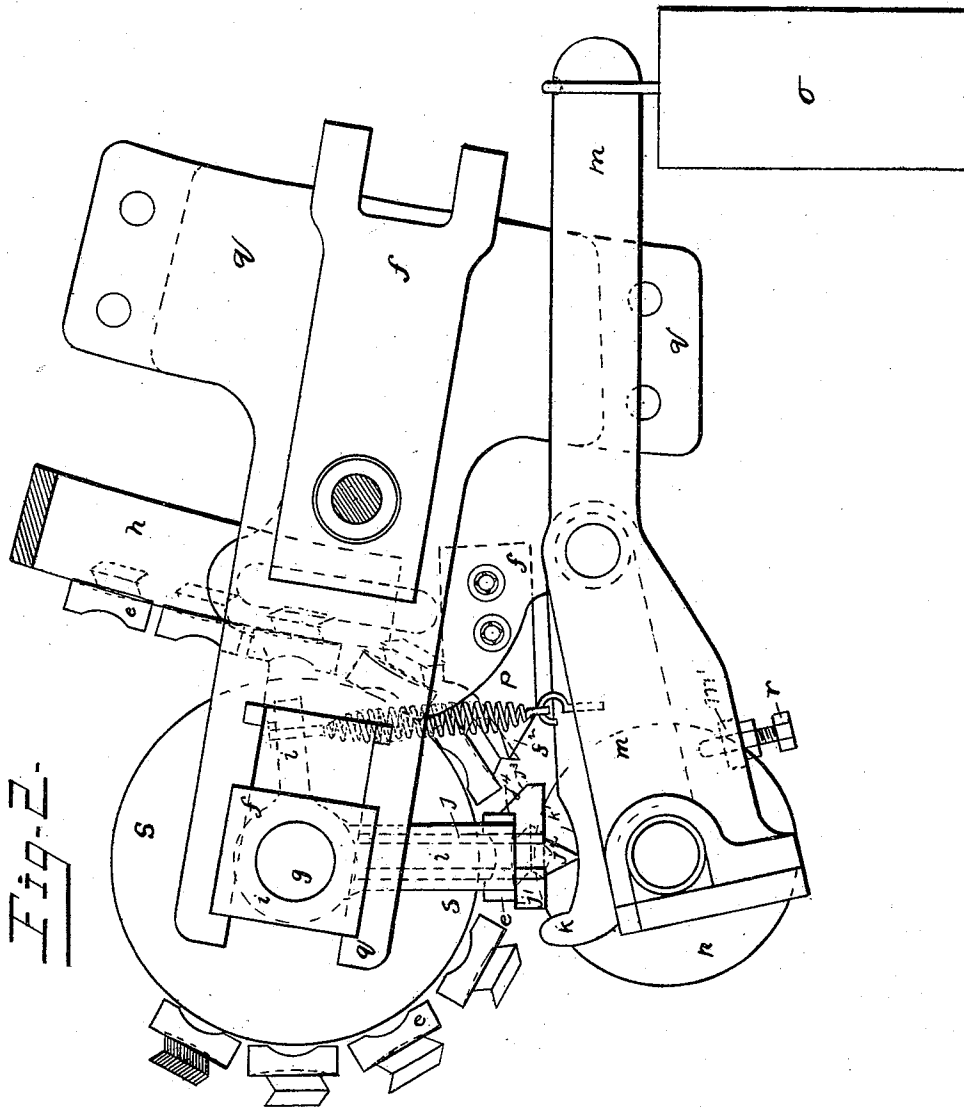
Witnesses:
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Agnes Rose Dunne;

Inventors:
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William Schawood Bromiley
By *Richard A.*
their Attorneys.

(No Model.)

3 Sheets—Sheet 2.

B. A. DOBSON & W. I. BROMILEY.
MECHANISM FOR GRINDING THE TRAVELING FLATS OF CARDING ENGINES.
No. 473,187. Patented Apr. 19, 1892.



WITNESSES:

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Richards & Co.
ATTORNEYS.

(No Model.)

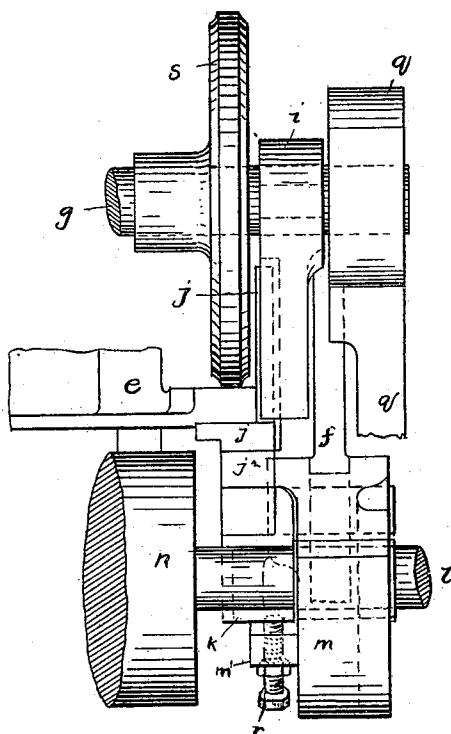
3 Sheets—Sheet 3.

B. A. DOBSON & W. I. BROMILEY.
MECHANISM FOR GRINDING THE TRAVELING FLATS OF CARDING ENGINES.

No. 473,187.

Patented Apr. 19, 1892.

Fig-3.



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UNITED STATES PATENT OFFICE.

BENJAMIN ALFRED DOBSON AND WILLIAM ISHERWOOD BROMILEY, OF BOLTON, ENGLAND, ASSIGNORS TO DOBSON & BARLOW, OF SAME PLACE.

MECHANISM FOR GRINDING THE TRAVELING FLATS OF CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 473,187, dated April 19, 1892.

Application filed November 13, 1891. Serial No. 411,820. (No model.) Patented in England September 9, 1891, No. 15,264.

To all whom it may concern:

Be it known that we, BENJAMIN ALFRED DOBSON and WILLIAM ISHERWOOD BROMILEY, both subjects of the Queen of Great Britain, and residents of Bolton, in the county of Lancaster, England, have invented certain new and useful Improvements in Mechanism for Grinding the Traveling Flats of Carding-Engines, (for which we have obtained Letters Patent in Great Britain, numbered 15,264, bearing date September 9, 1891,) of which the following is a specification.

Our invention relates to improvements in mechanism for grinding the traveling flats of carding-engines with the wire downward, this being the position they occupy when at work upon the card; and the object of our improvements is to avoid the deflection existing when grinding in the usual way with ordinary appliances.

We attain this object by the mechanism illustrated on the accompanying three sheets of drawings, in which—

Figure 1 is a side elevation of a carding-engine, showing our improved mechanism for grinding the flats applied in two different positions. Fig. 2 is a side elevation, and Fig. 3 an end elevation, of the said improved mechanism.

In Fig. 1, *a* designates the main cylinder; *b*, the doffer; *c*, the licker-in; *d*, the bend or side framing; *e*, the chain of traveling flats, and *f* *f'* the ordinary slides, which carry the bowl-shaft *g* and bowls upon which the flats travel as they enter upon or leave the flexible bend *h*.

Our improved mechanism for grinding the flats is illustrated by the detail views, Figs. 2 and 3, and may be applied to the carding-engine in either of the positions shown in Fig. 1—namely, at the licker-in end or at the doffer end, as may be most convenient. We will describe it as applied at the licker-in end to the slide *f*, which is fitted in the bracket *g*, secured to the bend *d*. Upon the bowl-shaft *g* is mounted loosely a lever *i*, in one arm of which is fitted a slide or intermediate piece *j*, the upper surface *j'* of which is made, preferably, to the same radius as that of the flexible bend *h*, and the lower surface has a finger *j*², working upon the curved surface *k'* of a

“dummy” or guide *k*. The dummy or guide *k* is centered upon a shaft *l*, which is supported in an arm of the slide *f*, the position of which is regulated by the flexible bend *h* when applied to an engine of the type specified in Letters Patent of the United States granted to us, the said BENJAMIN ALFRED DOBSON and WILLIAM ISHERWOOD BROMILEY, No. 361,815, and dated April 26, 1887. On the said shaft *l* is also centered a lever *m*, in which is supported at one end the grinding-roller *n*, and at the other end is suspended a weight *o* to keep the grinding-roller *n* up to its work, and, further, the lever *m* is connected to the short arm of the lever *i* by a coiled spring *p*. At the back of the lever *m* is a threaded snug or projection *m'*, in which is fitted a screw *r*, the end of which supports the dummy or guide *k*, the weight *o* being sufficient to counterpoise the dummy as well as the grinding-roller. On the arm of the slide *f* is an inclined surface *f*², which forms a fixed stop for the corresponding inclined surface *j*³ on the slide or intermediate piece *j*.

In operation the prepared working surface of each flat *e* comes in its turn upon the prepared surface *j'* of the intermediate piece *j*, the back of the flat being in contact with the bowl *s* on the shaft *g*. The weight *o* on the lever *m*, acting through the screw *r*, dummy or guide *k*, and finger *j*², presses the surface *j'* of the slide or intermediate piece *j* upward against the working surface of the flat. As the flat moves forward its edge engages the projection *j*⁴ at the back of the inclined surface *j*³, and so carries with it in its traverse the intermediate piece *j* and the arm of the lever *i*, in which said piece is fitted, and also raises the other arm of the lever *i*, thereby extending the spring *p*. The finger *j*², as it travels on the curved surface *k'*, causes the grinding-roller *n* to approach or recede from the flat as the latter travels round the bowl *s*, and so the wire is ground to the “bevel” required. When the flat has passed over and left the surface of the grinding-roller *n*, the incline *j*³ on the piece *j* comes into contact with the fixed incline *f*², thus disengaging the flat and allowing the spring *p* to return the lever *i* and intermediate piece *j* to their original position ready for the next flat.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim, and desire to secure by Letters Patent of the United States, is—

1. In a traveling-flat carding-engine, the combination, with the grinding-roller supported in a counterbalanced lever, of the dummy or guide *k*, the slide or intermediate piece *j*, and the lever *i*, centered on the bowl-shaft, substantially as herein set forth.

2. The combination, with the grinding-roller and the guide-surface *k'*, both supported and kept to their work by a weighted lever, of the slide or intermediate piece *j*, one portion of which is prepared to receive the working surface of the flat and another is supported by

the aforesaid guide-surface *k'*, substantially as herein set forth.

3. The combination of the slide *f*, the bowl-shaft *g*, bowl *s*, lever *i*, slide or intermediate piece *j*, with its prepared surfaces and finger *j*², as specified, dummy or guide *k*, with its prepared surface *k'*, the balanced lever *m*, snug *m'*, screw *r*, spring *p*, and incline *f*², all substantially as and for the purposes herein set forth.

In witness whereof we have hereunto set our hands in presence of two witnesses.

BENJAMIN ALFRED DOBSON.
WILLIAM ISHERWOOD BROMILEY.

Witnesses:

ROBERT WINDER,
SAML. BROMILEY.