

**No. 708,250.**

**Patented Sept. 2, 1902.**

**H. A. OWEN.**  
**CARDING MACHINE.**

(Application filed Oct. 5, 1900.)

(No Model.)

Fig. 2.

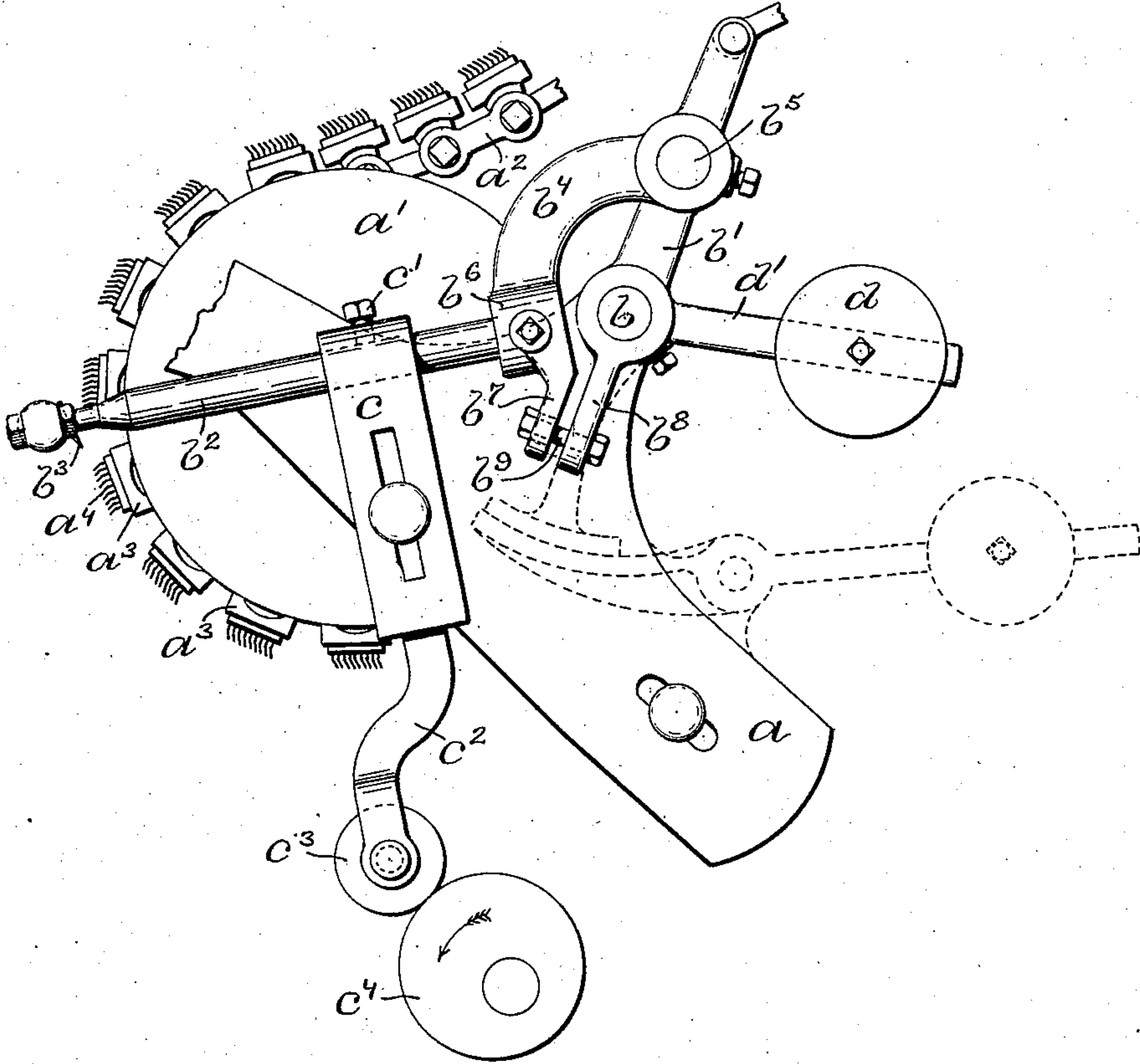
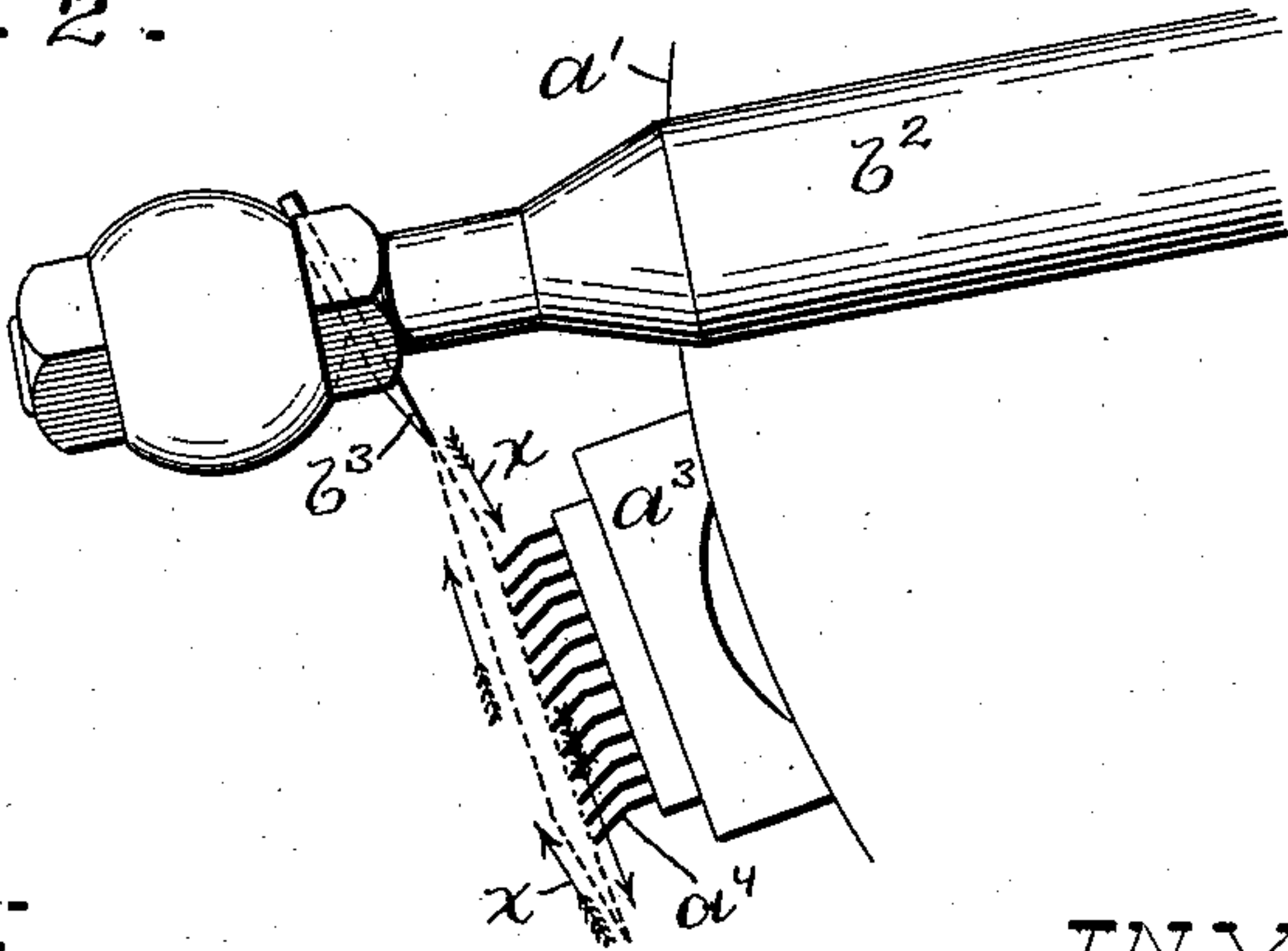


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## CARDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 708,250, dated September 2, 1902.

Application filed October 5, 1900. Serial No. 32,070. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY A. OWEN, a citizen of the United States, residing at Whitinsville, in the county of Worcester and State of  
5 Massachusetts, have invented a new and useful Improvement in Carding-Machines, of which the following is a specification.

This invention has reference to an improvement in the mechanism for operating and controlling the stripper by which the flats of revolving-flat carding-machines are cleaned.

The invention consists in the peculiar and novel construction by which the stripper-bars are pivoted on a point other than the center  
15 or pivot on which they turn in stripping the flats, whereby a reciprocating motion is imparted to the stripper-bars and the comb is moved toward the wires of the flats in its forward movement and moved away from the  
20 wires in its return movement, as will be more fully set forth hereinafter.

Figure 1 is a side view of part of a carding-machine, showing part of the chain and card flats, in connection with the stripper by which  
25 the short fiber is removed from the card clothing of the flats. Fig. 2 is an enlarged side view of the stripper, indicating in broken lines the path of the comb-knife.

In the drawings, *a* indicates a bracket secured to the side frame of a carding-machine, *a'* the disk supporting the chain *a*<sup>2</sup>, on which the flats *a*<sup>3</sup> *a*<sup>3</sup> are carried, and *b* the bearing on which the arm *b'* is supported. In the preferred form the bearing *b* is a shaft extending across the carding-machine and journaled in bearings formed in the bracket *a* at the opposite sides of the carding-machine, the arms *b'* being secured to the opposite ends of the shaft. The arms *b*<sup>2</sup>, one on each side of  
40 the carding-machine, support at their outer ends the comb *b*<sup>3</sup>. In stripping the flats the comb, which vibrates very quickly, making sixty or more double strokes per minute, passes close to the bent ends of the wires *a*<sup>4</sup>  
45 as it passes in the direction of the bends, as indicated in Fig. 2, without injury to the wires. If the comb on its return stroke were to pass in contact with the bent ends of the wires, the ends would straighten out and the  
50 wires be injured. In the downward or stripping stroke the comb and the arms *b*<sup>2</sup> swing on a center sufficiently far from the face of

the flat to be stripped to move the comb practically parallel to the face of the flat. In the drawings this center is the center of the bearing *b*. 55

To move the comb outward at the commencement of the backward stroke and inward at the commencement of the downward stroke along the broken lines, as indicated  
60 by the arrows in Fig. 2, I pivot the supports *b*<sup>4</sup> on the center *b*<sup>5</sup>, which center is preferably a shaft extending from one side to the other of the machine, supported in journal-bearings formed in the arms *b'*, to the opposite  
65 ends of which shaft the supports *b*<sup>4</sup> are secured. The arms *b*<sup>2</sup> are adjustably secured in the sockets *b*<sup>6</sup> by means of a clamp-screw or other suitable means. The support *b*<sup>4</sup> has the bracket *b*<sup>7</sup>, and the arm *b'* the bracket *b*<sup>8</sup>. 70  
The two brackets *b*<sup>7</sup> and *b*<sup>8</sup> are connected by a link, permitting the bracket *b*<sup>7</sup> to move away from or toward the bracket *b*<sup>8</sup>, while the comb-frame formed of the comb *b*<sup>3</sup>, the shaft forming the center *b*<sup>5</sup>, the supports *b*<sup>4</sup>, 75  
and the arms *b*<sup>2</sup> swing on the center *b*<sup>5</sup> and guide the comb in the oblique directions indicated by the arrows X X in Fig. 2. The link connecting the brackets *b*<sup>7</sup> and *b*<sup>8</sup> is shown in the drawings as the bolt *b*<sup>9</sup>, se- 80  
cured in one of the brackets, extending through an enlarged opening in the other bracket and provided with a head forming a stop limiting the movement of the bracket *b*<sup>7</sup>. The arm *b*<sup>2</sup> has the usual weighted rider *c* 85  
adjustably secured to it by the set-screw *c'*. The bifurcated arm *c*<sup>2</sup> is adjustably secured to the rider and provided with the roller *c*<sup>3</sup>, which bears on the cam *c*<sup>4</sup>, by the rotation of which the rider *c* and the frame supporting 90  
the comb are operated to swing during the first part of the stroke on the center *b*<sup>5</sup> and then through the rest of each stroke on the bearing *b*. In the upward stroke the bracket *b*<sup>7</sup>  
moves away from the bracket *b*<sup>8</sup> the length 95 of the link connecting the two brackets, (during this movement the comb-frame swings on the center *b*<sup>5</sup>,) when the link draws the bracket *b*<sup>8</sup> and swings the arm *b'* on the shaft or bearing *b*, which bearing *b* forms now the center on 100  
which the comb-frame swings. In the downward stroke the first part of the stroke acts to bring the brackets *b*<sup>7</sup> and *b*<sup>8</sup> together, the comb-frame swinging on the center *b*<sup>5</sup>, and



the rest of the stroke the comb-frame and the arms  $b'$  swing on the center or bearing  $b$ . The rapidity of the movement of the comb and the comb-frame requires, to insure the prompt diagonal movement of the comb at the beginning of each stroke, some frictional resistance to the free swinging of the arm  $b'$  on its bearing. A convex shoe may extend from the arm  $b'$  in contact with a segmental plate pivotally supported and counterweighted, as is shown in broken lines in Fig. 1, whereby the rocking of the arm  $b'$  is somewhat resisted and the movement of the bracket  $b^7$  away from or toward the bracket  $b^8$  facilitated.

In the practical use of the improvement I have connected the upper end of the arm  $b'$  with the flat cleaner and brushing mechanism shown in United States Patent No. 597,314, granted to Melvin H. Coffin January 11, 1898, for carding-machines. I find that by counterweighting the arm  $b'$  with the weight  $d$ , adjustably secured to the lever  $d'$ , the resistance required may be readily secured and the prompt action of the comb insured by the adjustment of the weight  $d$ .

I do not wish to confine myself to the exact construction of the comb-supports or the means for operating the comb, as the same may be altered without materially affecting the oblique movement of the comb during the first portion of each stroke.

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

1. A stripper mechanism having a comb-support pivotally connected with a rocking member, said member swinging on a point below the pivotal connection of the comb-support, and a link connection between the rocking member and the comb-support, whereby, for a limited part of the stroke of the comb, the comb-support may swing on its pivotal connection and then swing with the

rocking member, as and for the purpose described.

2. In a stripper mechanism for carding-machines, in combination, a rocking member, a comb-support pivotally connected with the rocking member, and means for limiting the movement of the comb-support on the rocking member, whereby the comb-support may swing on the rocking member, as described.

3. In a stripper mechanism for carding-machines, a comb-support having two pivotal points of support, means for limiting the movement of the comb on one of the points of support, and means for operating the comb, whereby the comb is moved diagonally from the normal path at each stroke, as described.

4. In a stripper mechanism for carding-machines, the combination with the comb  $b^3$ , and the supporting-arms  $b^2$ , of the arm  $b'$  pivotally supported on a fixed part of the machine, the bracket  $b^8$ , the link  $b^9$ , the bracket  $b^7$ , the supports  $b^4$  pivotally supported on the arm  $b'$  and connected with the arm  $b'$ , whereby the supports  $b^4$  may rock on the pivotal connection through part of each stroke, as described.

5. In a stripper mechanism for carding-machines, the combination with the arm  $b'$  pivotally supported on a fixed part of the machine, the pivotal center  $b^5$  on the arm, and the supports  $b^4$  pivoted on the center  $b^5$  and connected with the arm  $b'$  by a link connection, of the comb  $b^3$ , the arms  $b^2$  supporting the comb, and means for operating the comb; whereby the comb is moved diagonally toward and from the wires of the flats at the beginning of each stroke, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY A. OWEN.

Witnesses:

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B. M. SIMMS.