

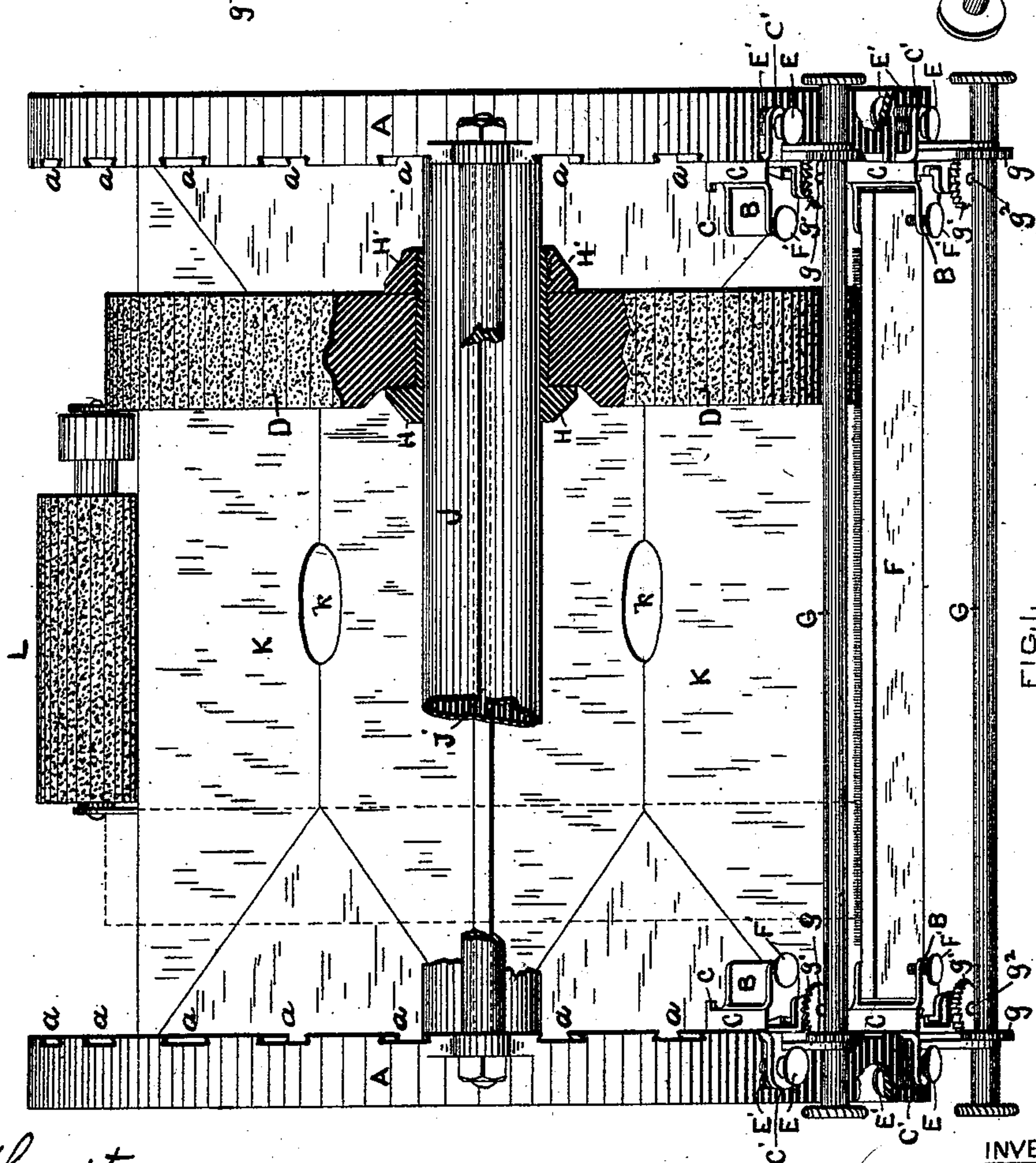
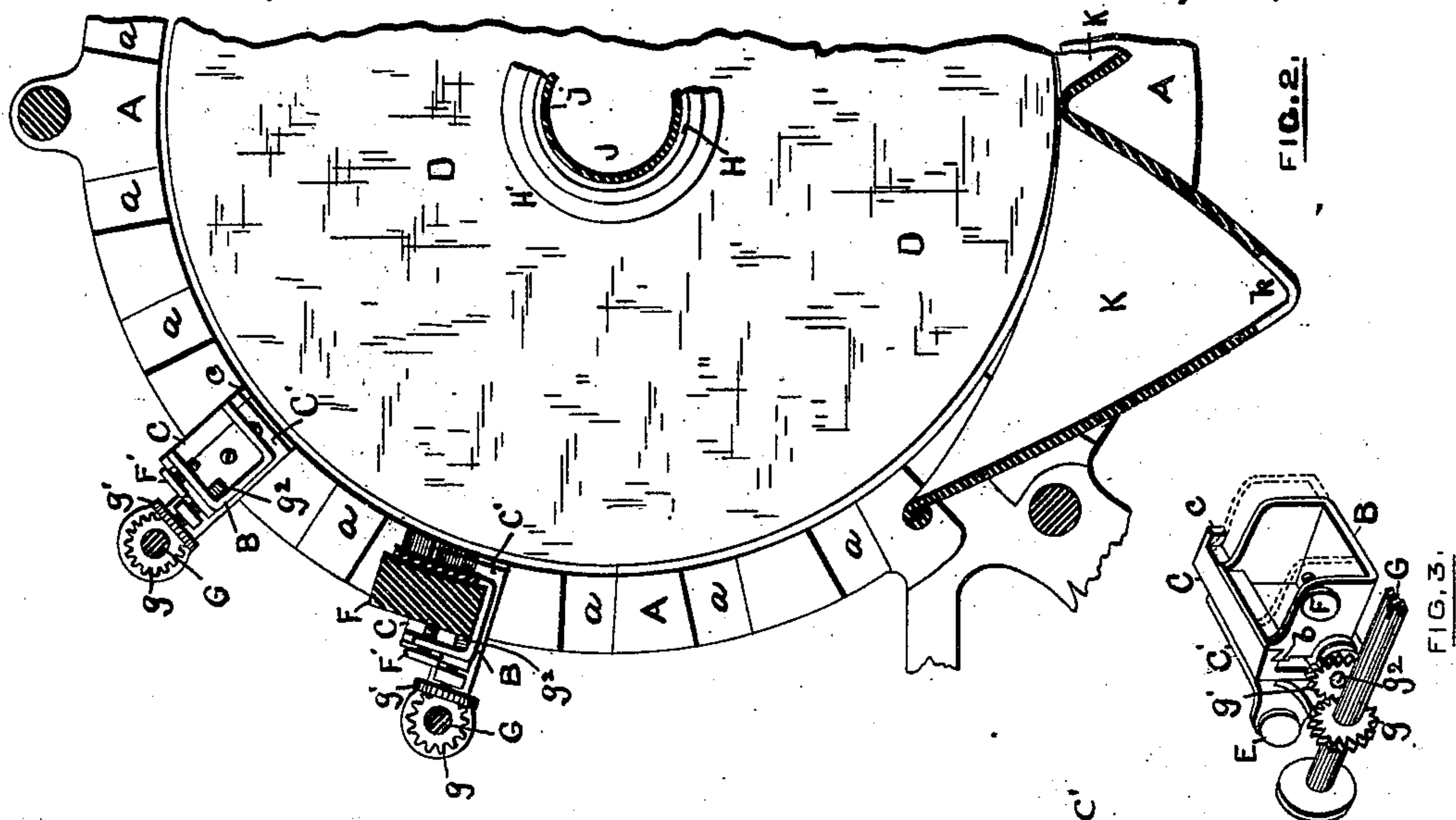
(No Model.)

B. S. ROY.

Machine for Grinding the Top Flats of Carding Engines.

No. 230,065.

Patented July 13, 1880.



WITNESSES.

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MACHINE FOR GRINDING THE TOP-FLATS OF CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 230,065, dated July 13, 1880.

Application filed April 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, BOZIL S. ROY, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Machines for Grinding the Top-Flats of Carding-Engines; and I do hereby declare that the following specification, taken in connection with the accompanying drawings, forming a part of the same, is a full, clear, and exact description thereof.

My invention relates to grinding the top-flats of carding-engines; and my improvements have for their object to provide a machine in which the whole set of top-flats belonging to a single carding-engine may be mounted and ground at the same time in a circle concentric with the periphery of the card-cylinder, to secure the independent adjustment of each flat with reference to the traversing rotary grinder and the removal of the same from said grinder in order that the other flats of the set may be properly adjusted, to provide for the simultaneous movement of the whole body of a flat to and from the grinder in place of adjusting each end separately, and, finally, to secure the removal from the machine of the refuse products of grinding by employing catch-basins and a suction-fan.

Referring to the drawings, Figure 1 represents a top view of a machine embodying my improvements. Fig. 2 shows a vertical transverse section of a portion of the same; and Fig. 3 represents, in perspective, the box for receiving and clamping one end of a flat and the mechanism for moving the said box to and from the rotary grinder.

As shown in Figs. 1 and 2, A A represent the circular ends of the frame of the machine, which ends are of such a diameter that when the top-flats are properly mounted therein the said flats will be in the circumference of a circle of the same diameter as when mounted in the carding-engine. The inner faces of the ends A A are provided with dovetail grooves *a*, for receiving the requisite number of pairs of boxes B to hold the whole set of top-flats belonging to a single carding-engine. Only two pairs of these boxes B are shown in the drawings; but it is to be understood that each groove is supplied with a box.

The boxes B are mounted on the frame in

the following manner: Each box is provided with a dovetail spline, *b*, Fig. 3, which occupies a dovetail slot in a base member, C, so that the box may slide thereon, and the member C is provided with a back plate, C', which occupies the groove *a*. The member C is provided with a stop, *c*, to limit the inward movement of the box B, and said member is properly adjusted with reference to the plane of the face of the rotary grinder D by means of two set-screws, E E', the former passing through the bent end of the plate C' and entering the frame end A, and the latter passing radially outward through the frame end alone and bearing against said bent end of the plate C', as shown in Fig. 1.

Each top-flat F is secured in a pair of boxes, B, by means of set-screws F', as shown in Figs. 1 and 2; and the said flat and its boxes are moved to and from the grinder D, for the purpose of adjustment, by means of a shaft, G, which carries gears *g g*, meshing with gears *g' g'* upon screws *g² g²*, (shown in Fig. 2,) which screws are journaled in brackets attached to the members C, and enter the boxes B, respectively.

The grinder D is a pulley having an abrasive face or a solid emery-wheel, as shown in Figs. 1 and 2. The grinder D is mounted on a flanged sleeve, H, and is clamped to said sleeve by means of a nut, H'. The sleeve H surrounds a tubular shaft, J, having a longitudinal slot, *j*, and is provided with a stud passing through said slot to engage an endless chain or screw, (not shown in the drawings,) which causes the grinder to traverse the shaft J during its revolution in a well-known manner.

For removing the dust or refuse products of grinding, the machine is supplied with catch-basins K, which are attached to the lower portion of the frame ends, and have discharge-orifices *k*, connected with a suction-fan. The machine is also supplied with a small emery-wheel or grinder, L, Fig. 1, for the convenience of grinding hand-cards.

The operation of the machine is substantially as follows: The several pairs of boxes B having been mounted on the frame ends in approximate position, a top-flat is secured in a pair of said boxes by means of the screws F'. The shaft G is then turned until the boxes B

come in contact with the stops *c* on the members *C*. Then said boxes and their flat are advanced to the grinder *D* a sufficient amount to properly dress the card-teeth on said flat, and the flat is made parallel with the axis of the shaft *J* by means of the screws *E*. The screws *E'* are then advanced to engage the bent ends of the members *C* and hold the said members in their adjusted positions. The shaft *G* is now turned to remove the flat from the grinder *D*, and the remaining flats of a set are separately adjusted to the grinder and removed therefrom in a similar manner. All the shafts *G* are then turned to bring the card-teeth of the flats into contact with the grinder *D*, and the dressing of the teeth proceeds in the usual manner. The teeth having been sufficiently dressed, the flats are withdrawn from contact with the grinder by revolving the shafts *G*, and are removed from the machine, when their teeth will be found to be dressed on the arc of a circle concentric with the periphery of the card-cylinder.

During the process of grinding the dust falls into the catch-basin *K*, and is removed by the suction-fans above referred to.

From the foregoing description it will be seen that all the top-flats belonging to a single carding-engine can be ground at the same time

on a circle concentric with the periphery of the card-cylinder with which they are intended to work; that each flat can be independently adjusted to and from the grinder and be made parallel to the axis of traverse of said grinder; that the whole body of a flat can be moved to and from the grinder by revolving a shaft, *G*, and that the dust produced by grinding is drawn away from the machine and the teeth of the cards left clean.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a machine for grinding the top-flats of carding-engines, the combination of a traversing grinding-wheel of the same diameter as the cylinder of the carding-engine, a skeleton-frame corresponding with the size of the frame of the carding-engine, and a series of top-flat holders attached to said skeleton-frame, and incapable of vibration thereon, but adjustable bodily in a direction radial to the grinding-wheel, whereby a whole set of top-flats can be ground at one time on a circle concentric with the periphery of the cylinder of the carding-engine, substantially as set forth.

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Witnesses:

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