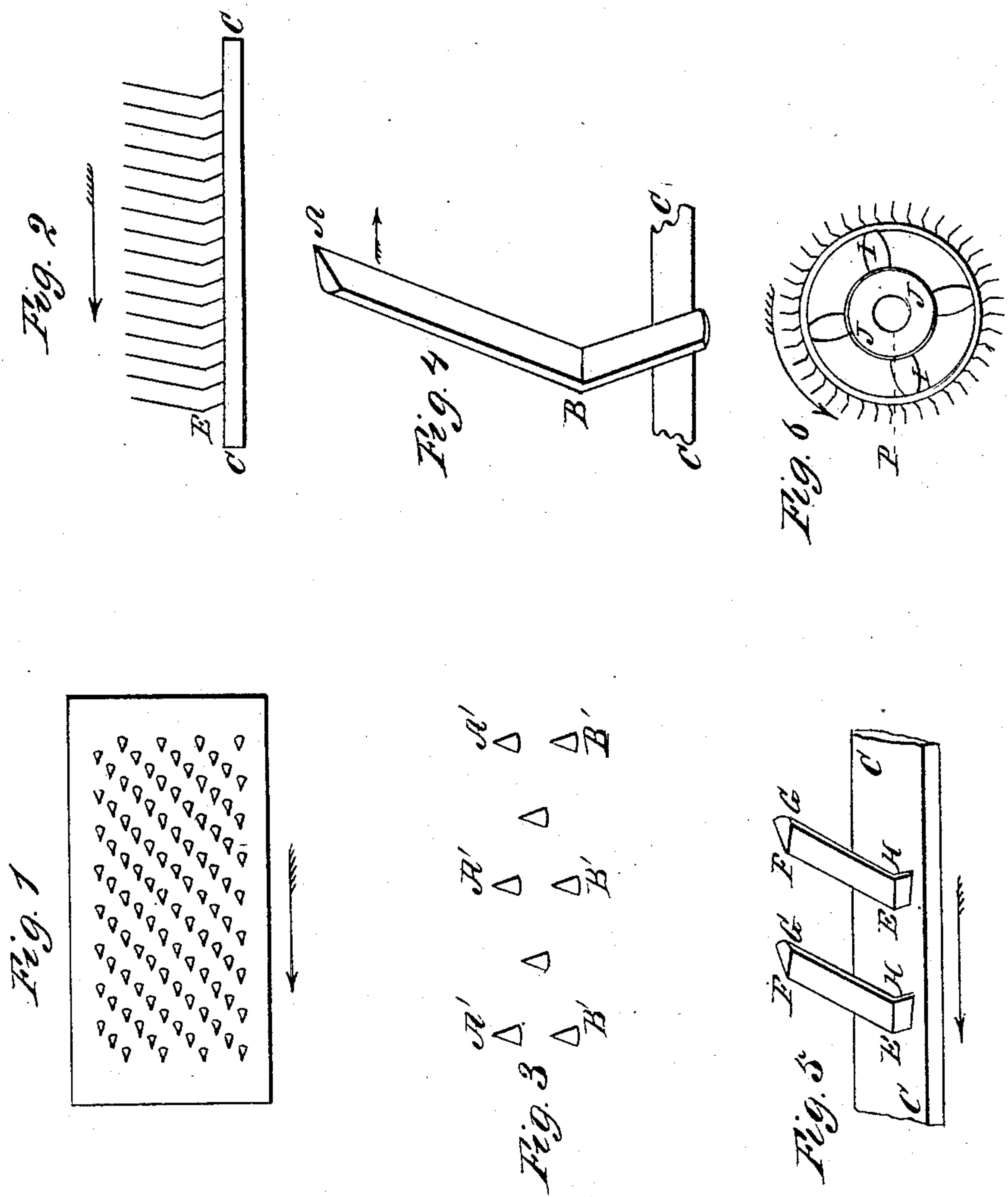


R. KITSON.
Card Grinder.

No. 8,512.

Patented Nov. 11, 1851.



UNITED STATES PATENT OFFICE.

RICHARD KITSON, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN CARD-GRINDERS.

Specification forming part of Letters Patent No. 8,512, dated November 11, 1851.

To all whom it may concern:

Be it known that I, RICHARD KITSON, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Card-Grinders; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I is a top view of the ends of the teeth of the grinder. Fig. II is a side view of the same; Fig. III, ends of sectorial card-teeth magnified; Fig. IV, side view of the same; Fig. V, perspective view of the teeth of the grinder; Fig. VI, end view of a cylindrical grinder.

My improvements in sharpening or pointing the teeth of cards that are used for combing or carding wool, cotton, or other fibrous substances consists, principally, of certain differences in the shape and position of the teeth of a card, by which it is made to act as a tool or implement for sharpening or grinding the teeth of the operating-cards, by the use of which I am able to produce a sharper and more uniform point than has been obtained by grinding with emery in the manner usually practiced.

Fig. III shows the shape of the ends of those card-teeth that are commonly termed "sectorial card-teeth," this shape of the cross-section of the wire being given to it for the purpose of securing a sharp point, as seen at A in the side view, Fig. IV. The bend or angle at B is termed the "heel" of the tooth, and it will be observed that on the prominent side the tooth is broader, as at B', Fig. III, than it is at A' upon the opposite edge of the tooth.

The description above given applies to all sectorial card-teeth heretofore made—that is to say, the broad edge of the tooth is upon the prominent side, while the angular edge is upon the opposite side or internal angle of the tooth.

In my improved grinder or sharpener I make the angular or knife edge upon the prominent side of the tooth, the broad edge being opposite to it, as seen in Fig. V. The teeth are set in the leather C, Figs. II and V, in the usual manner, the "crown" of the tooth being below the leather and the bend

or heel E just above its upper surface. The sharp or angular edge of the tooth is seen at E F upon the prominent side of the tooth, the opposite side H G being made sufficiently broad to give the requisite strength to the tooth. A fillet or sheet of the card, with the teeth thus formed and set, is wound upon a roller or cylinder I, Fig. VI, which is fitted with a suitable pulley J, by which the cylinder is turned in the direction of the arrow, thus presenting the prominent or knife edge in advance of the opposite or broad edge of the teeth. The boxes in which the axle P of the grinding-cylinder turns are placed at such a distance from the surface of the card that is to be ground as to allow the sharp edges of the teeth of the grinder to penetrate between the teeth of the card. The teeth of the grinder as it revolves come in contact with the sides of the teeth of the card, the points of which are abraded and sharpened by the friction of the one upon the other.

In some cases a sheet of the grinder-cloth is fastened to a board having a plane surface, and is applied to the card that is to be ground, in the manner usually practiced with the emery-strickle.

When new cards are to be ground, or those in which the teeth have become, by use, of different lengths, they are to be faced down with an emery-grinder in the usual manner to give them a uniform length. The grinder or sharpener herein described is then applied to the card, which at once removes the barb or beard left by the emery-grinder, and by its continued operation the points are sharpened.

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

An instrument for grinding or sharpening wool, cotton, or other cards made with sectorial card-teeth, which are so bent at the heel as to make the sharp edge more prominent than its opposite and broad edge, together with its application to the card that is to be ground, in such a direction as to cause the sharp edge of the teeth of the grinder to be first presented to and enter among the teeth of the card.

RICHARD KITSON. [L. S.]

In presence of—

FRANCIS L. BATCHELDER,
JOHN M. BATCHELDER.