

(No Model.)

J. SYKES.

APPARATUS FOR GRINDING THE CARDS OF CARDING ENGINES.

No. 398,806.

Patented Feb. 26, 1889.

Fig. 1.

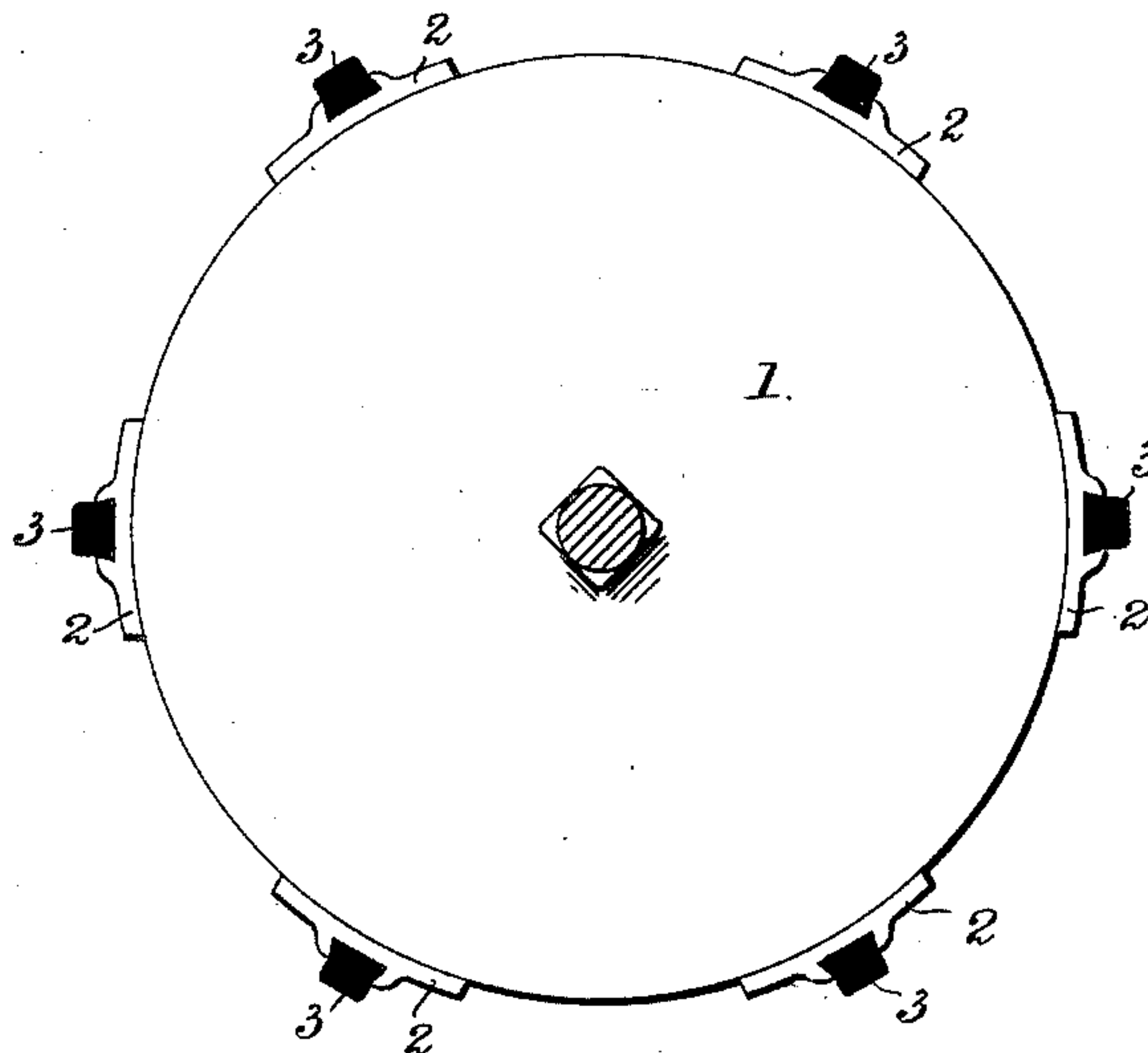


Fig. 2.

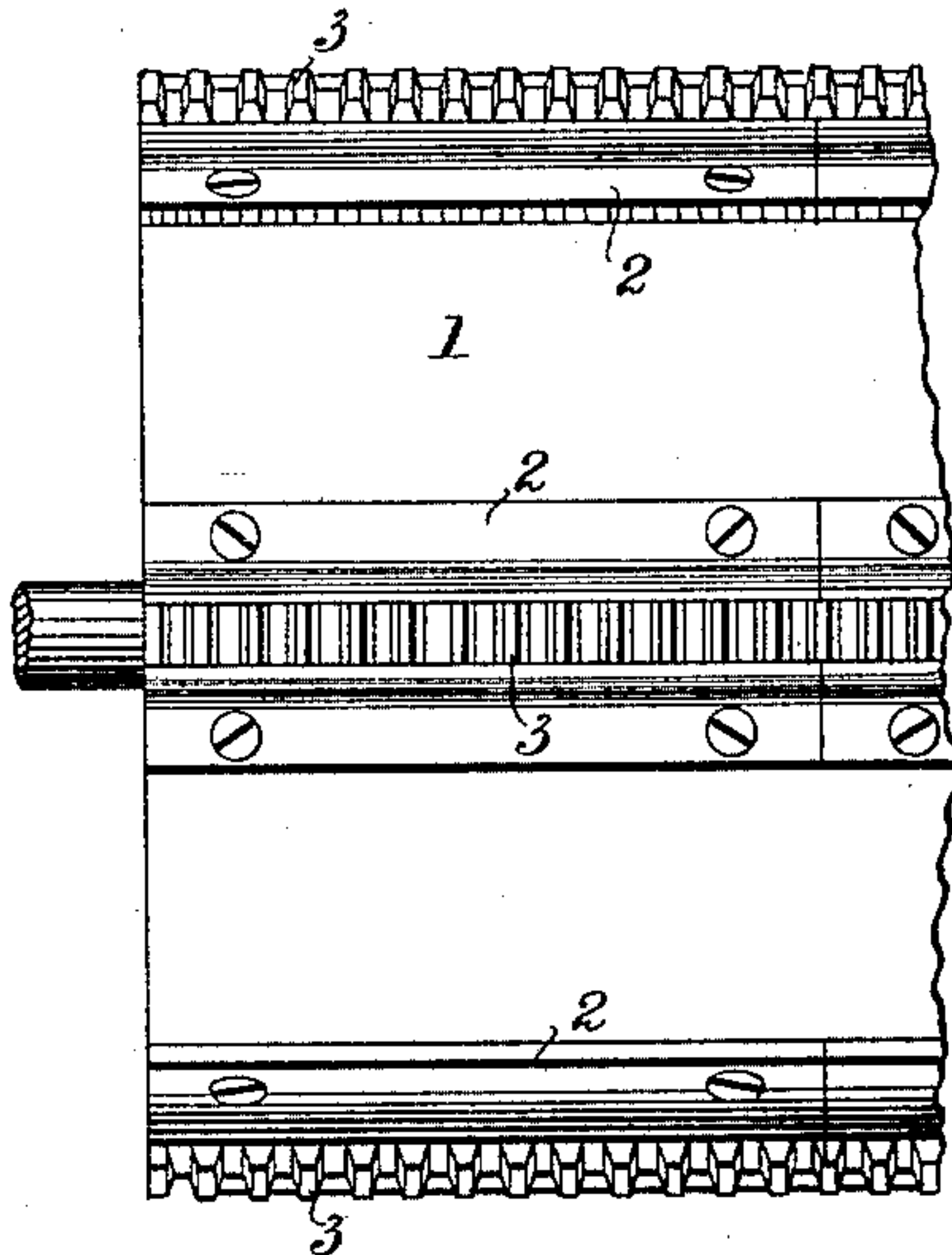


Fig. 4.

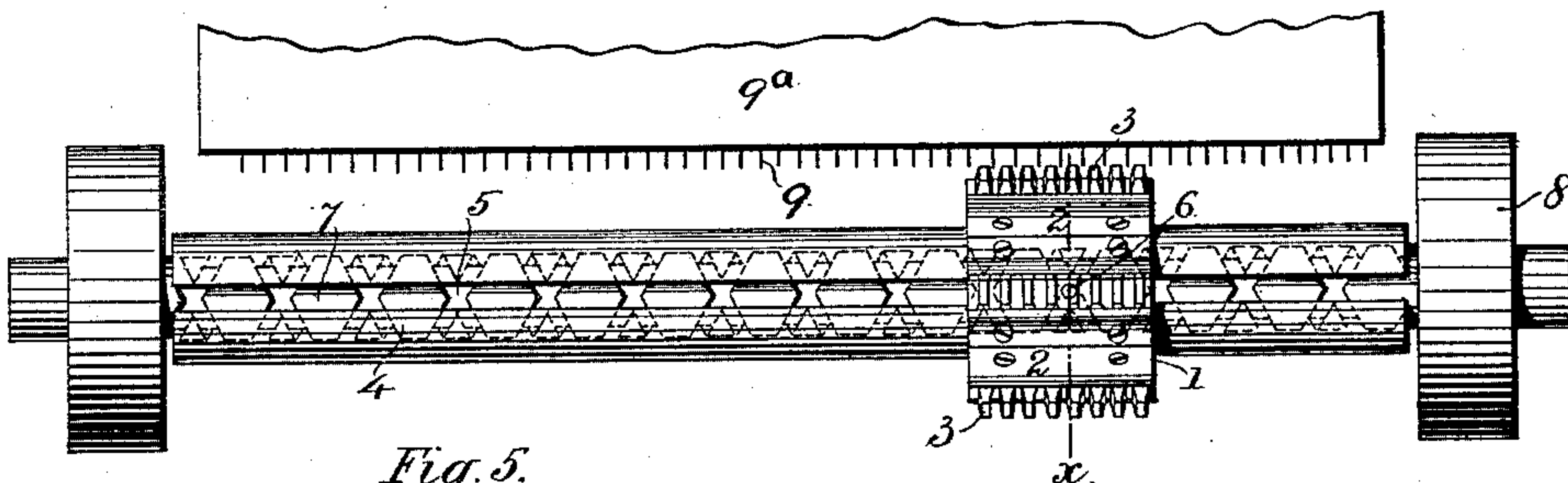


Fig. 5.

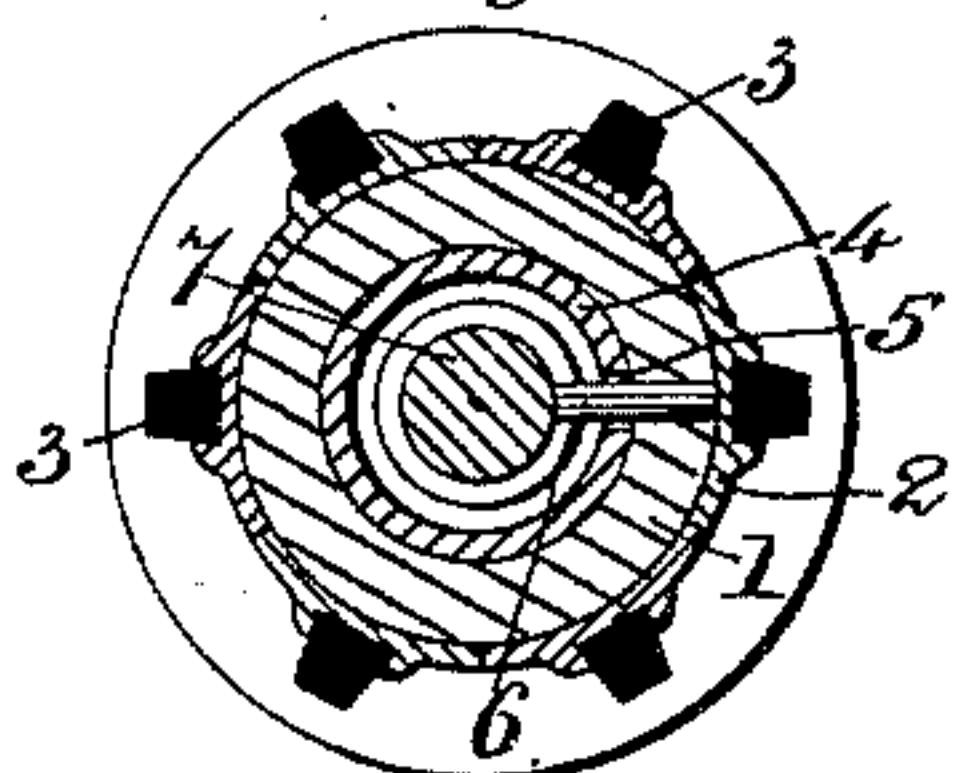


Fig. 3.



Fig. 7.



Fig. 6.

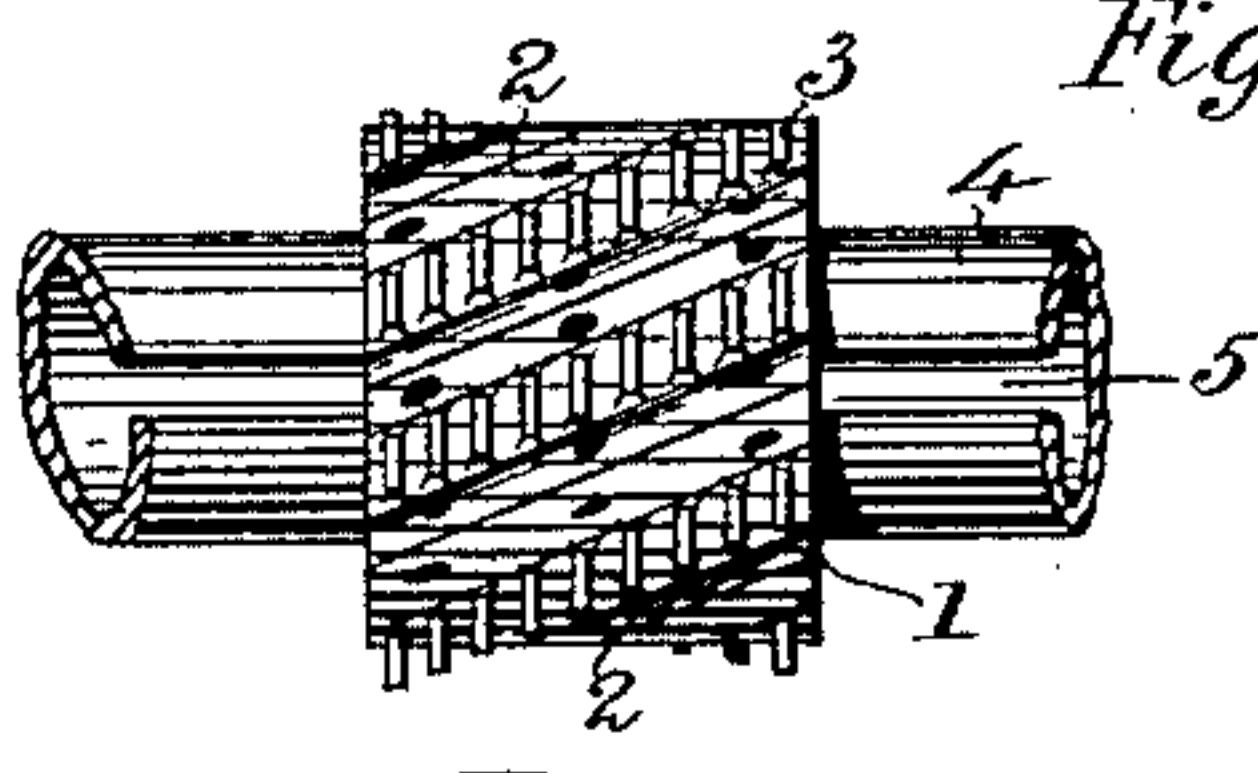
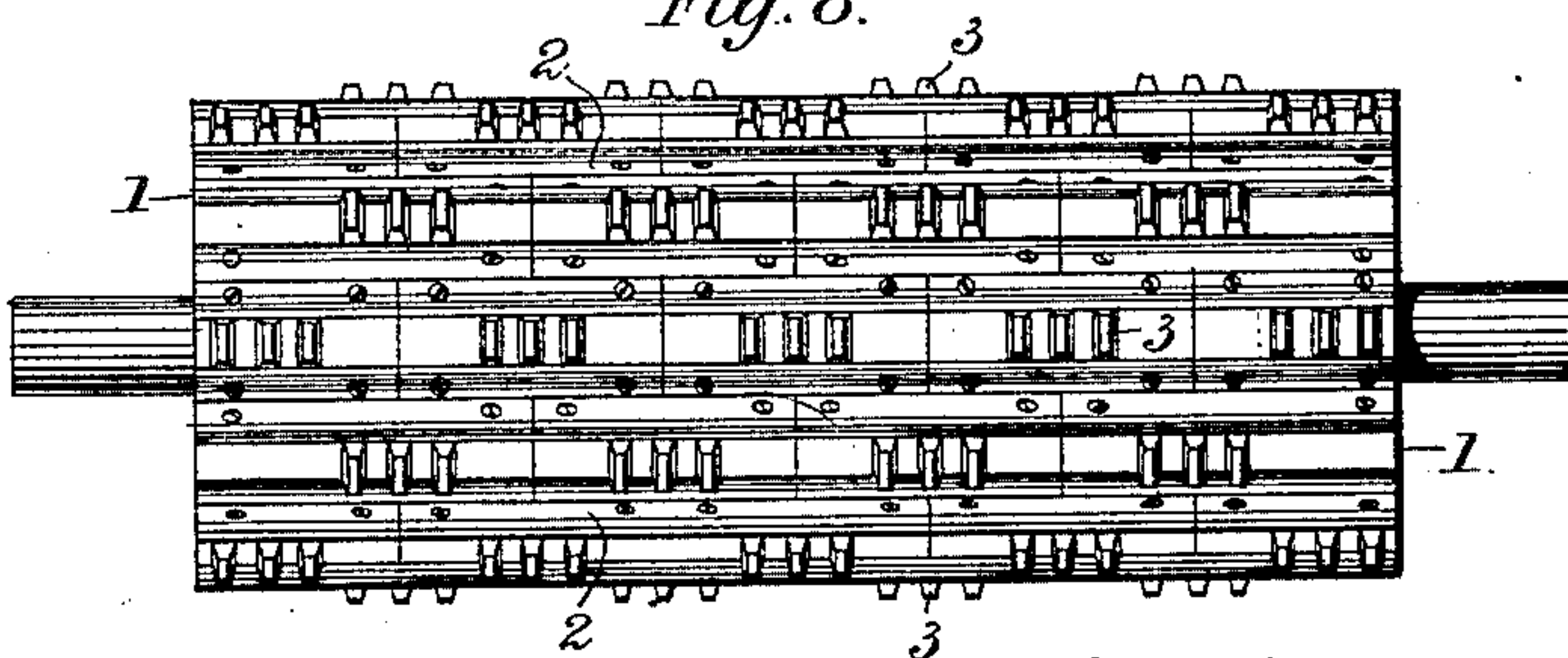


Fig. 8.



Witnesses.

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APPARATUS FOR GRINDING THE CARDS OF CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 398,806, dated February 26, 1889.

Application filed July 17, 1888. Serial No. 280,160. (No model.)

To all whom it may concern:

Be it known that I, JOHN SYKES, a subject of Her Majesty the Queen of Great Britain, residing at Lindley, near Huddersfield, in the county of York, England, have invented a new and useful Improvement in Apparatus for Grinding the Cards of Carding-Engines, of which the following is a specification.

This invention relates to apparatus for grinding or cutting the teeth of cards of carding-engines to what is known as the "needle-point;" and it consists, briefly, in employing a grinding-roller having on the periphery thereof a series of readily-removable spaced toothed strips of emery or metal, which in passing through the teeth of the cards of the cylinder or doffer grind the sides and in part the back of the teeth from the point toward the bend in a more effective manner than by the ordinary grinding-roller, a further advantage being that any one of the strips can be readily replaced when worn.

To clearly explain the nature of my invention, reference is made to the accompanying drawings, in which—

Figure 1 is an end elevation of a grinding-roller having the removable strips applied thereto. Fig. 2 is a front elevation of a portion of said roller. Fig. 3 shows one of the grinding-strips detached from the roller. Fig. 4 shows a form of short grinding-roller mounted upon a traversing device with a part of a doffer or cylinder. Fig. 5 is a section on the line *x*, Fig. 4. Fig. 6 shows a similar roller to Fig. 4, but with strips having slanting teeth, said strips being also placed on the roller at an angle. Fig. 7 shows, on a larger scale, one of the last-mentioned strips detached. Fig. 8 is a front elevation of a grinding-roller somewhat similar to that shown in Figs. 1 and 2, but having the teeth on the strips differently arranged.

Upon the roller 1, which is of wood or metal, I attach, by screwing or otherwise, metal holders 2, having dovetailed grooves therein, in which are held strips 3, of consolidated emery or of metal—such as steel or copper—having the serrations or teeth cut, cast, or molded on them, as shown. These can be driven out

endwise when worn and replaced by new ones. They may be arranged on the rollers, as shown in Figs. 1, 2, 4, and 5, or the teeth may be formed at intervals only on the strips, which are then arranged as shown in Fig. 8, where, as will be seen, the teeth of one strip alternate with the teeth of the next.

If the teeth of the strips are set upon a slant, as shown in Figs. 6 and 7, they may be placed upon a roller in the manner shown in the former figure—that is, at an angle. It is necessary, however, here that the strip and the holders 2 should have a slight twist given to them, so as to pad or fit to the face of the roller. This angular setting of the teeth may be used either upon the short traversing roller shown in Fig. 6 or upon the roller shown in Figs. 1 and 2, which is adapted for grinding the whole of the teeth upon the cards of the cylinder or doffer at once. Whatever arrangements of strips are employed, however, it is essential that there should be blank spaces between them, as the teeth of the strip then operate intermittently upon the card-teeth and effect a more perfect grinding.

As shown in Figs. 4, 5, and 6, the strips and holders 2 are arranged upon a short roller, 1, mounted on what is well known as the "Horsfall" grinder traveling device, consisting of a cylinder, 4, having a slot, 5, therein, through which passes the pin 6, one end of which is affixed to the roller 1, the other entering the right and left hand grooves of the shaft or worm 7. Motion imparted to this worm from the pulley 8 causes the roller 1 to be traversed backward and forward upon the cylinder 4 from end to end of same, so that the teeth therein grind the teeth of the cylinder or doffer 9, as the case may be, to the fineness of point required, which may be regulated according to the distance the grinding-teeth pass in between the teeth of the cards.

Where the grinding-strips are of metal, I prefer to roughen the sides of the teeth thereof; or, if preferable, the metal teeth may be coated with emery or similar abrading substance.

I am aware that grinding-rollers, of consolidated emery or emery-coated, having a series

of circumferential V-shaped grooves thereon have been used or suggested for grinding cards, and to such I lay no claim; but

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

In an apparatus for grinding card-teeth, a grinding-roller carrying readily-removable and suitably-spaced toothed grinding-strips, substantially as and for the purpose described.

In testimony whereof I have hereunto set to my hand in the presence of two subscribing witnesses.

JOHN SYKES.

Witnesses:

WALTER BRIERLEY,
E. A. JOHNSON.