

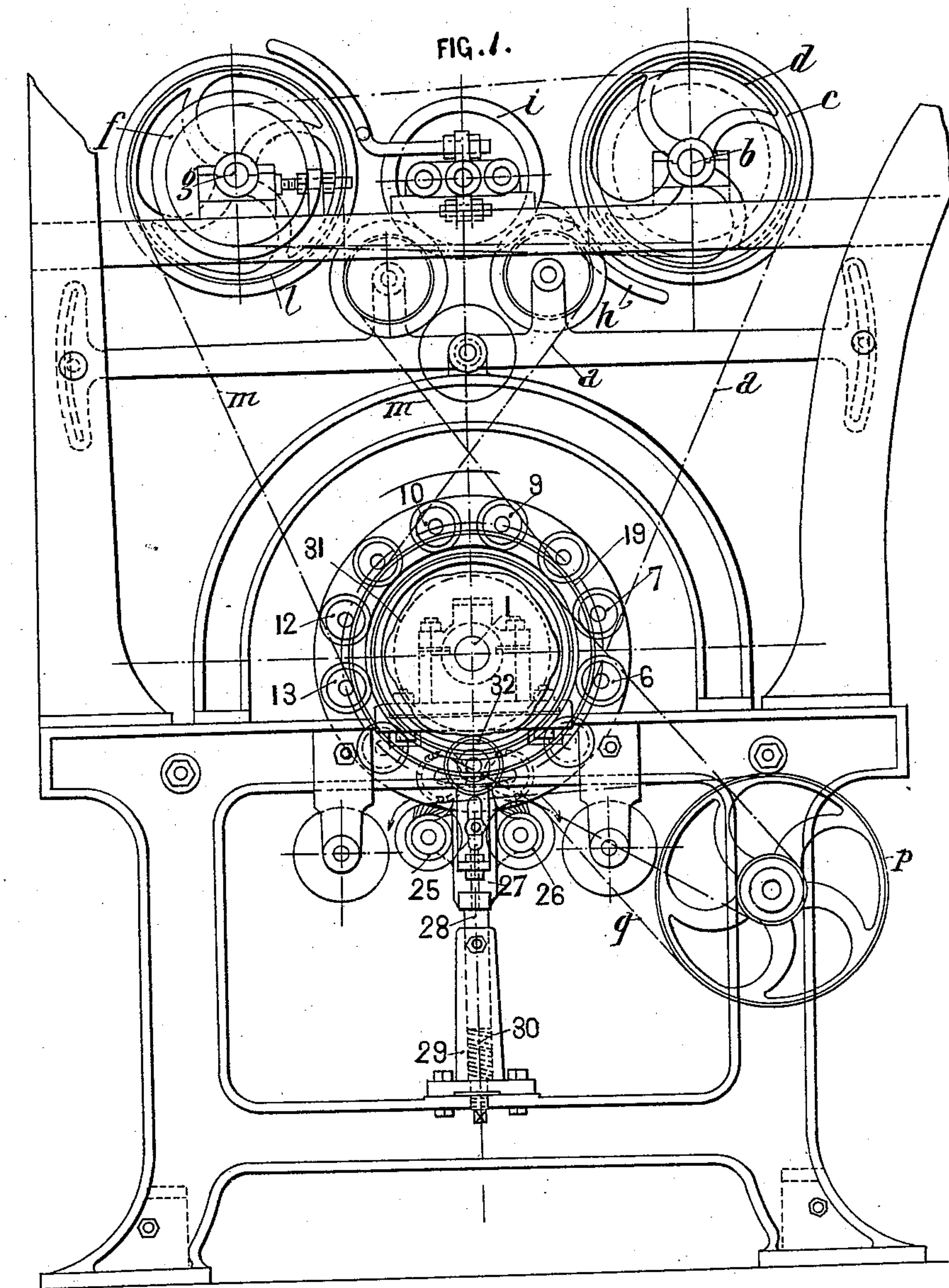
(No Model.)

2 Sheets—Sheet 1.

G. & H. BAUCHE.  
GIG MILL.

No. 532,940.

Patented Jan. 22, 1895.



Witnesses  
G. W. Rea,  
Thos. A. Green

Inventors  
Gustave Bauche and  
Henry Bauche  
By James L. Norris.  
Att'y

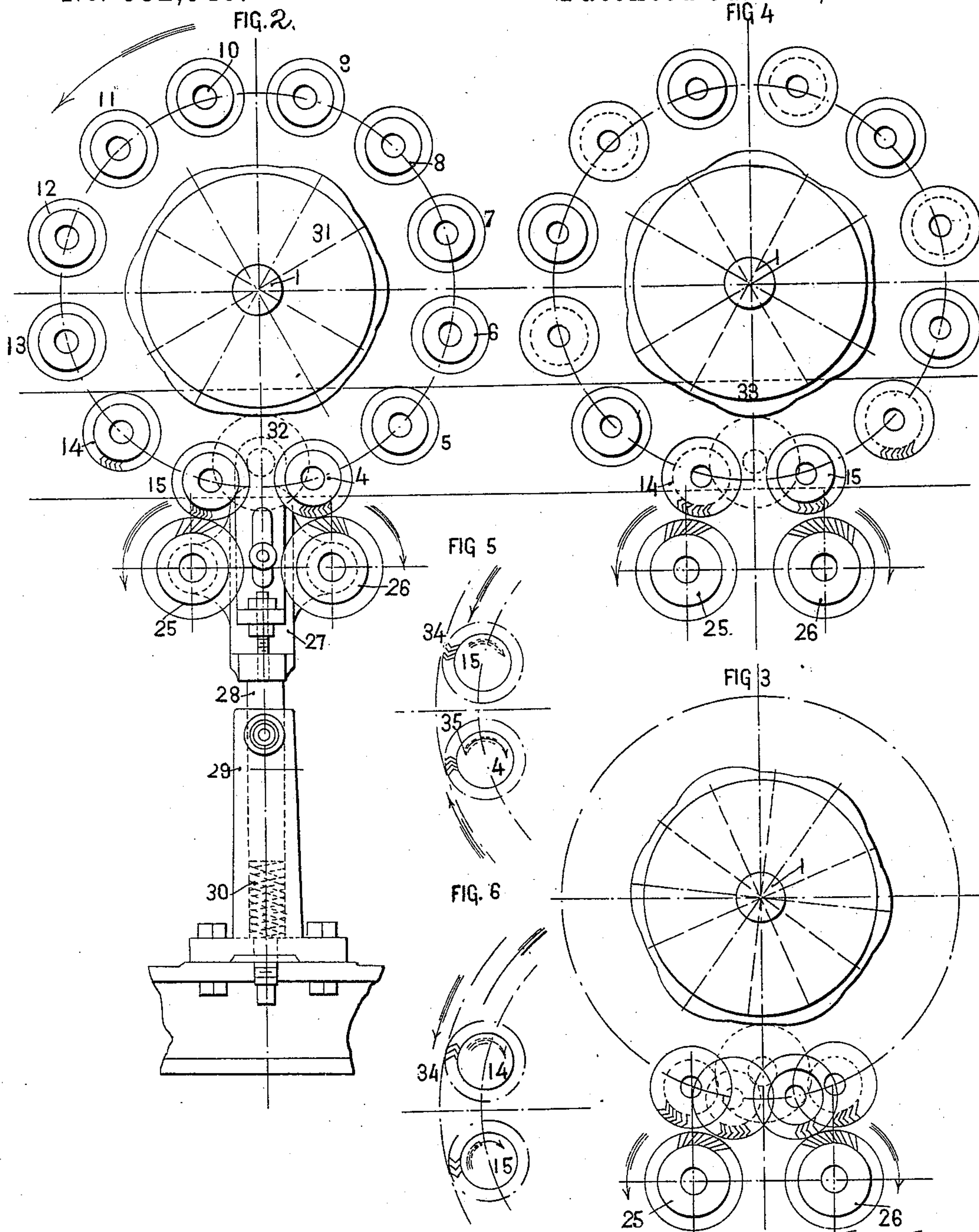
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# UNITED STATES PATENT OFFICE.

GUSTAVE BAUCHE AND HENRY BAUCHE, OF PARIS, FRANCE.

## GIG-MILL.

SPECIFICATION forming part of Letters Patent No. 532,940, dated January 22, 1895.

Application filed March 22, 1894. Serial No. 504,626. (No model.)

*To all whom it may concern:*

Be it known that we, GUSTAVE BAUCHE and HENRY BAUCHE, citizens of France, and residents of Paris, in the Department of the Seine, France, have invented a new and useful Improvement in Gig-Mills, of which the following is a specification.

This invention relates to improvements in machinery or apparatus for teaseling or dressing textile fabrics, and consists in the novel mechanism hereinafter described and specifically defined in the claim following the description.

The acting devices or rollers are arranged around a shaft in the form of a drum or cage and are driven collectively by the said shaft either in the direction in which the fabric is traversed or in the reverse direction, each acting device or card roller also receiving rotary motion by means hereinafter described. The card teeth on the alternate acting devices or rollers are inclined in opposite directions. On the shaft which supports the drum or cage formed by the series of card rollers are mounted cam disks whereby an oscillating movement is communicated to slides carrying clearer cylinders or devices for clearing waste from the card rollers or devices which clearers are thereby moved so as to come in contact intermittently with the card rollers.

In order that our said invention may be fully understood we shall now proceed more particularly to describe the same and for that purpose shall refer to the several figures and letters on the annexed drawings, the same letters and numerals of reference indicating corresponding parts in all the figures.

Figure 1 is an end elevation of our improved machine; Figs. 2, 3, and 4 detail views, showing the clearing mechanism, and Figs. 5 and 6 diagrammatic views illustrating the action of the card rollers on the fabric.

The shaft 1 carrying the carding drum receives motion from any suitable motor. The drum consists of disks in which are mounted an even number of rollers or cylinders provided with card teeth. In the drawings is shown a drum with twelve card rollers or devices 4 to 15 but any other even number may be employed. As shown in Figs. 2, 3 and 4 the card teeth on the rollers alternately in-

cline in opposite directions. This arrangement has for its object to cause the cylinders to act upon the fabric alternately in opposite directions so that the pile or nap raised by one card roller may be depressed by the succeeding roller and so on. This part of the machine however is not novel.

In Fig. 5 of the drawings the fabric 34 is traversed in the opposite direction to that in which the drum is rotated. The teeth of the card rollers 4, 6, 8, 10, 12 and 14 being all inclined in the same direction and these teeth being in contact with the fabric 34 the said six rollers are rotated by the fabric in one and the same direction as shown by the dotted arrow on the roller 4.

The action of the clearer devices or cylinders is shown more particularly in Figs. 2, 3 and 4 of the drawings. Two clearer cylinders or rollers 25 and 26 are mounted in the same horizontal plane below the card rollers and parallel therewith. The bearings of the shafts carrying these cylinders are mounted on each side of the machine in a slide plate 27, the rods 28 of which can be moved vertically in supports 29, springs 30 tending always to raise the said rods and consequently the clearer cylinders 25 and 26. Cam disks 31 are secured upon and revolve with the shaft 1 and are held in constant contact with the rollers 32 secured to the slide plate 27 by the springs 30. The cams turning simultaneously with the group of card rollers cause the clearer cylinders to take up the different positions shown in Figs. 2, 3, and 4 relative to the card rollers. The clearer cylinders 25 and 26 are caused to revolve in opposite directions by means of a pulley *p* and belt *q*, the said pulley *p* deriving motion from the shaft 1 or from any other source. These cylinders are provided with card teeth inclined in opposite directions.

In Fig. 2 the roller 32 is represented in contact with a concentric portion of the cam disk 31, this being the highest position of the said slide plates 27 and consequently of the clearer cylinders 25 and 26. So long as the roller 32 is in contact with this concentric surface of the cam disk the two clearer rollers are caused to act upon the card rollers the clearer rollers having their teeth suitably inclined so as to remove any waste or fluff adhering to the



cards. The card rollers 5, 7, 9, 11, 13 and 15 are cleaned by the cylinder 25 and the card rollers 4, 6, 8, 10, 12 and 14 are acted upon by the cylinder 26. The teeth of the card rollers are prevented from being damaged while passing over the clearing cylinders by cam projections 33 on the cam disks 31 which, at certain intervals, act on the rollers 32 on the slides 27 and depress the clearing cylinders 25 and 26 out of contact with the card rollers 4 to 15 as shown in Fig. 4.

The slight vertical movements which are communicated to the slides 27 by the action of the cam disks 31 on the rollers 32 do not prevent the continuous action of the pulley *p*, and belt *q*.

The fabric 34 may be brought in contact with the carding drum by any suitable means and may be caused to move in a direction opposite to that of the said drum as shown in Fig. 5, or in the same direction as shown in Fig. 6, the speed of the fabric being always slow compared with the peripheral speed of the drum. As shown in Fig. 5 for instance the carding roller 4 is made to turn in the direction of the arrow 35 by the teeth penetrating the fabric and the movement of this roller is transmitted to the adjacent roller 15 by the spur wheels 18 and 21 as hereinbefore explained.

Although the teeth of the card rollers 5, 7, 9, 11, 13 and 15 rotate in the same direction as the movement of the fabric the speed at which they move round the axis 1 being much higher than that of the fabric they cause a drawing of the pile in the reverse direction

to that produced by the rollers 4, 6, 8, 10, 12 and 14, the card teeth of which incline in the opposite direction. In cases where the movements of the fabric and the drum 3 are in the same direction as indicated by the arrows (Fig. 6) the card rollers 4, 6, 8, 10, 12 and 14 derive movement from the fabric owing to the difference of speed of the fabric and drum, and similar effects to those above mentioned are produced.

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 is—

The combination with the carding drum having an even number of napping rolls, the teeth of which incline alternately in opposite directions, of cleaning rolls or cylinders arranged in a horizontal plane, slide plates arranged beneath the drum and provided with bearings within which the cleaning rolls are journaled, springs normally raising said slide plates, and cam disks on the shaft of the carding drum acting upon rolls on the slide plates to cause the cleaning rolls to approach and recede from the drum, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

GUSTAVE BAUCHE.  
HENRY BAUCHE.

Witnesses:

CLYDE SHROPSHIRE,  
W. JENE.