

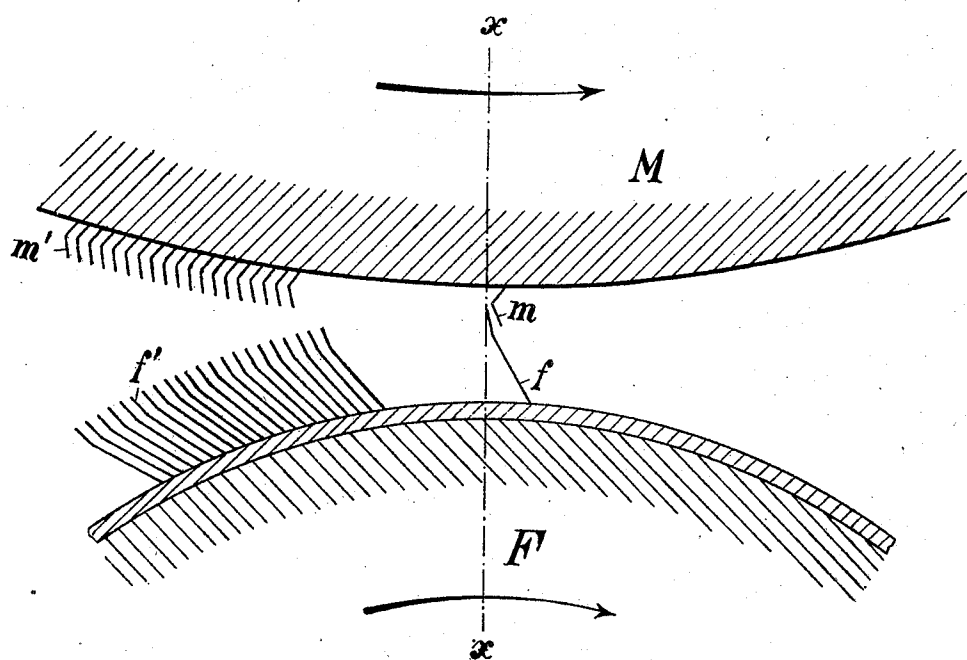
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E. THIELMANN.

CARD CLOTHING FOR FANCY ROLLERS OF CARDING MACHINES.

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Witnesses.

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UNITED STATES PATENT OFFICE.

EWALD THIELMANN, OF AUGSBURG, GERMANY.

CARD-CLOTHING FOR FANCY-ROLLERS OF CARDING-MACHINES.

No. 795,946.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EWALD THIELMANN, a subject of the German Emperor, residing at Augsburg, in the Kingdom of Bavaria and Empire of Germany, have invented certain new and useful Improvements in Card-Clothing for the Fancy-Rollers of Carding-Machines, of which the following is a specification.

In carding-machines the fancy-roller is that roller, rotating with great speed, arranged near to the part of the main cylinder where the fleece is removed from the cylinder. As is well known, this removal is accomplished by the doffing-cylinder. For the purpose of causing a very quick and complete removal by means of the doffing-cylinder the fleece has to be previously lifted to the surface of the cylinder-clothing. This preparing work is done by the fancy-roller. My invention relates solely to the card-clothing of the latter. The other rollers of the carding-machine are provided with a card-clothing of a wholly different kind and do not form a part of my invention. This explanation may suffice for precisely pointing out the roller of the carding-machine herein referred to.

My new card-clothing hereinafter described differs from those hitherto known in that the inner longer part of the carding-teeth is inclined opposite to the direction of rotation of the roller, while this outer shorter part is less inclined backward; but this outer shorter part is not bent forward enough to make it incline in the direction of rotation of the roller, but still has a slight backward inclination.

In the annexed drawing a portion of the drum or main cylinder circumference M and part of that of the fancy-roller F is shown. A number of teeth m' of the main cylinder's clothing and a series of teeth f' of the fancy-roller circumference are represented. These teeth are usually fastened all around to the circumference of both cylinder M and roller F. For the purpose of minute explanation of the manner in which the teeth of the latter are to cooperate single teeth m and f are shown at the part where the two rollers M and F oppose each other. The arrows indicate in what direction the latter, M and F, rotate, the main cylinder M having a much larger diameter than the fancy-roller F. However, the latter makes a much greater number of revolutions per minute than the main cylinder M, so that the teeth f penetrating into the teeth m move faster than the teeth m .

The purpose of the teeth f is to loosen the fibers resting on the teeth m and remove them to the foremost points of the teeth m , so that they may be easily lifted off from there by means of another roller, called the "doffer," which is not represented in the drawing, being well known to those skilled in the art. For the purpose of readily accomplishing this work and in a very perfect manner the teeth f of the fancy-roller F must be very elastic. This is attained by bending the lower longer part, the so-called "foot," of the tooth backward, as indicated in the drawing—*i. e.*, when a line $x x$ is drawn connecting the centers of the two rollers M and F the inner longer part of the tooth f must be inclined very much backward in regard to this line $x x$; but the front shorter point of the tooth must not have precisely the same direction as the back or inner part, but must be less inclined backward, so that its direction approaches that of the line $X X$; but the size of the bend of the point toward the foot is allowed to amount only to that shown in the drawing, and it at all times must not be so great as to cause the point of the foot to be inclined forward in the direction of rotation of the fancy-roller F. For the purpose of pointing out this feature the tooth m is referred to, its point being bent considerably toward the foot, so that it is inclined very much forward in the direction of rotation of the cylinder or roller M. Consequently such a position the point of the tooth f should not have.

I am well aware that roller-cards with teeth bent to form angles are already known; but these known angular teeth must not be confused with the teeth of the present invention, for their elbow or bend is not quite close to the point of the tooth, as herein shown; but their lower foot part is shorter and the upper end part longer or both parts are of same length as in tooth m , so that the bend is situated at the middle of the tooth. Such teeth, and in fact all similar teeth with elbows or bends at a considerable distance from their points and having the outer ends extending in a different direction from that specified for the teeth in this invention, cannot work perfectly, because the teeth will not be sufficiently elastic and because the points or outer ends thereof cannot loosen the fibers on the teeth of the main cylinder, but can only press the fibers more tightly into the teeth of the main cylinder or would tear such fibers out of said teeth if provided with the outer ends

or points inclined forward, (similarly to the teeth *m* of the main cylinder.)

Having now fully described my invention, I declare that what I claim is—

Card-clothing for fancy-rollers in carding-machines having teeth with an elbow or bend which divides the latter into two unequal parts so that the lower foot part of the tooth is much longer than its upper part, the elbow or bend forming a very obtuse angle, the lower longer foot part of the tooth being inclined backward in regard to the direction of rotation of the fancy-roller and the upper shorter part more nearly approaching the di-

rection of the radius of the fancy-roller, the elbow or bend being so slight that the short part of the tooth is not inclined in the direction of rotation of the fancy-roller but is inclined backward at a less angle than the foot part, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EWALD THIELMANN.

Witnesses:

M. MAYRHOFER,

M. SEIDL.