

(No Model.)

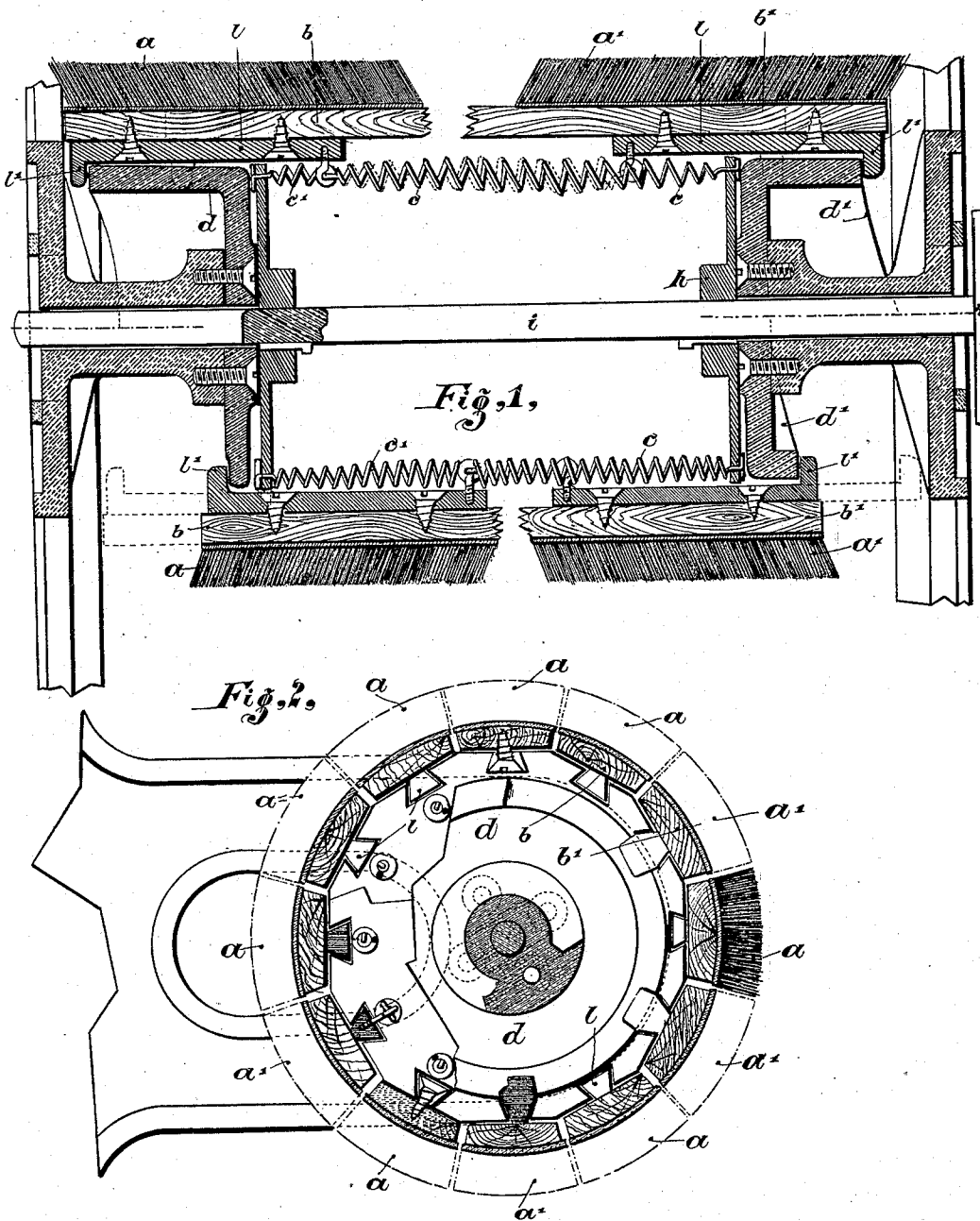
2 Sheets—Sheet 1.

E. SCHWEINEFLEISCH.

APPARATUS FOR STRIPPING OR CLEANING NAPPING MACHINES.

No. 580,733.

Patented Apr. 13, 1897.



Witnesses:  
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By James L. Norring.  
Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

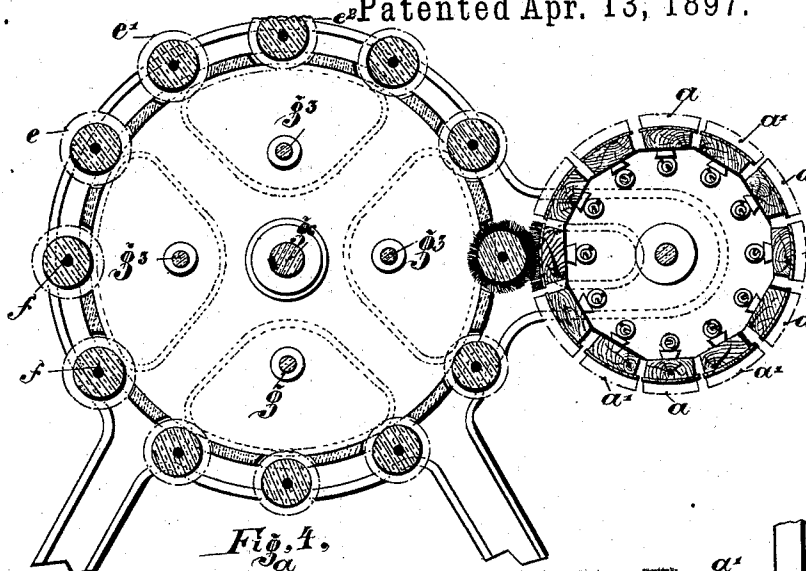
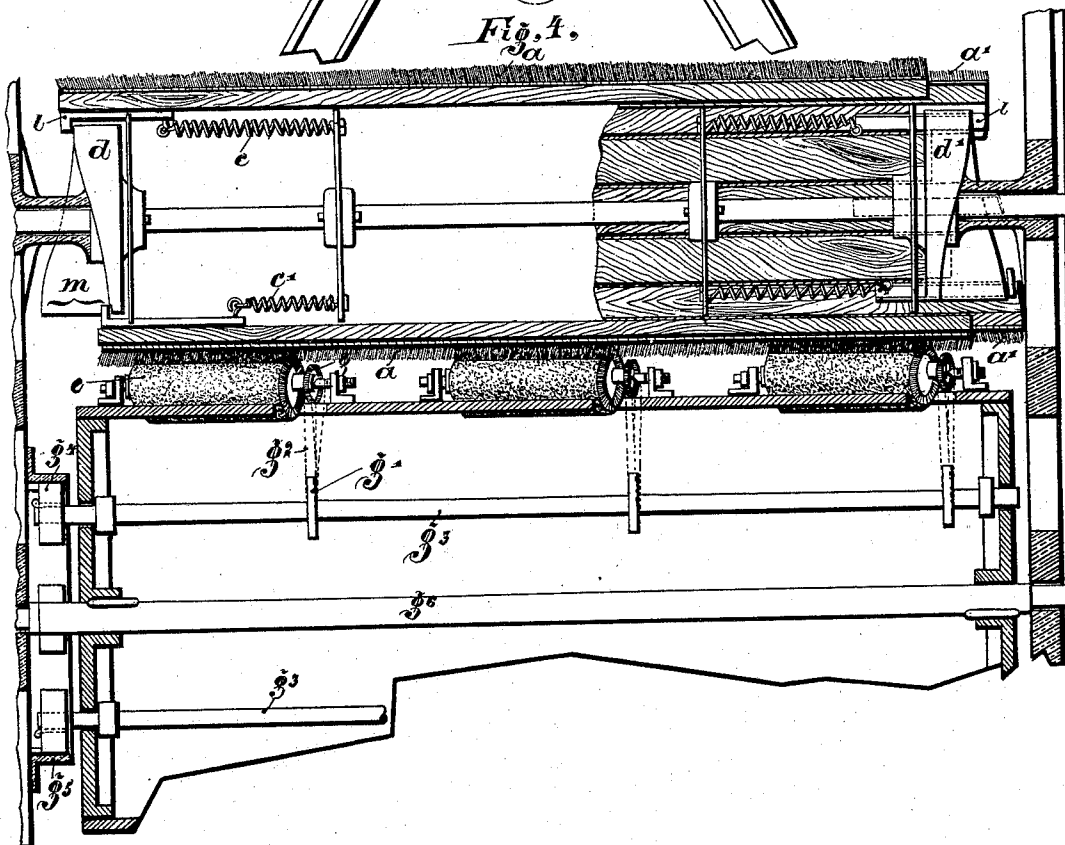


Fig. 4.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ERNST SCHWEINEFLEISCH, OF MÜHLHAUSEN, GERMANY.

APPARATUS FOR STRIPPING OR CLEANING NAPPING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 580,733, dated April 13, 1897.

Application filed July 20, 1896. Serial No. 599,904. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST SCHWEINEFLEISCH, fabric-finisher, a subject of the King of Prussia, German Emperor, residing at Mühlhausen, in the Kingdom of Prussia and German Empire, have invented new and useful Improvements in Apparatus for Stripping or Cleaning Napping-Machines, of which the following is a specification.

My invention relates to apparatus for cleaning napping-machines; and it has for its object to strip the fluff out of the teazels in such a manner that the natural roughness of the teazels shall not be injuriously affected or the teeth of the card-clothing or artificial teazels be bent or deformed thereby. A stripping apparatus according to this invention comprises a drum adapted to revolve with a peripheral velocity equal or corresponding to that of the teazels to be cleaned and carrying a series of bars which are provided with stripping-clothing and are suitably guided so that they can be moved longitudinally as regards the drum by means of curved guides or cams fixed to the framing at the ends of the drum and be afterward quickly brought back to their normal positions by means of springs that have been strained by the previous longitudinal movement of said bars, the arrangement being such that the stripping-teeth of the bars are caused to pass through the spaces between the teeth of the teazels, and as they are rearwardly inclined they will thereby throw out the fluff that has been combed out by the napping-teeth.

I will describe the apparatus as arranged for stripping a napping-machine fitted with artificial teazels arranged obliquely to one another and at a slight inclination to the axis of the main napping-drum. For completely stripping such a machine it is necessary that the clothing of the stripping-drum should have a velocity corresponding to the velocity of the artificial teazels, in order that the several teeth of the card-clothing of the stripping-drum shall pass through the spaces between the teeth of the artificial teazels, and the direction of rotation of the stripping-drum must be such that the paths described by a

row of teeth of the stripping-drum and the artificial teazels during their rotation shall be alike or correspond.

In the accompanying drawings, Figure 1 shows in longitudinal vertical section, taken in different planes at opposite ends, a stripping apparatus constructed according to this invention. Fig. 2 is a vertical cross-section of the stripping apparatus. Fig. 3 is a vertical cross-section showing the stripping apparatus combined with a napping-machine, and Fig. 4 is a part horizontal section thereof.

*a* is the stripping-clothing, made with long teeth and fixed on the bars *b*, which form the periphery of the stripping-drum *h*. These bars are each so mounted on the stripping-drum that as the drum revolves they are moved by a cam *d* automatically and longitudinally to the teazels to be cleaned and against the action of a spring *c*, which when a bar *b* is released by the said cam *d* causes the stripping-clothing *a* to move back automatically in such a manner that the rearwardly-inclined stripping-teeth enter in between the card-teeth of the artificial teazels *e* and strip the fluff from out thereof without injuriously affecting the teazels.

The artificial teazels of the napping-machine may, as in the examples shown, be driven by means of toothed wheels or pinions *g*, *g'*, and *g<sup>2</sup>* from intermediate shafts *g<sup>3</sup>*, which are driven in a suitable manner from the main shaft *g<sup>6</sup>*.

In the example shown each shaft *g<sup>3</sup>* is mounted in the end walls of the napping-drum upon which the teazels *e* are mounted and is driven by a toothed wheel *g<sup>4</sup>*, that gears with a fixed internally-toothed ring *g<sup>5</sup>*, round which the wheel *g<sup>4</sup>* is carried, and thereby rotated by the motion of the said drum. Every two successive rows of artificial teazels *e'* *e<sup>2</sup>*, Fig. 3, are arranged obliquely to each other on the periphery of the napping-drum.

In the example shown the stripping-drum *h* is provided with two series of stripper-bars—viz., *b* *b'*—arranged alternately around the drum, the teeth of the card-clothing *a* on one series of bars inclining backwardly in an opposite direction to that of the clothing *a'* on the other series of bars. Each bar *b* *b'* is

fixed upon a carriage or slide *l*, which is in the form of a bar, arranged to slide endwise in a guideway in the drum *h* and connected to one end of a spring *c* or *c'*, located within the stripping-drum *h*, and the other end of which is fixed to the end wall of the drum. The outer end of each slide-bar *l* is provided with a projection *l'*, arranged to slide against the edge or surface of a cam *d* or *d'*, fixed on the framing of the stripper-drum *h* and arranged in a circular manner at the ends of said drum. This drum *h* is rotated in the opposite direction to the napping-drum in such a manner that the circumferential velocity of the stripping-clothing *a a'* is the same as that of the teasels *e*. For this purpose a pulley on the shaft *i* of the stripping-drum may be driven from a pulley on the shaft *g* of the napping-drum through a crossed belt or otherwise.

By the construction described when the stripping-drum *h* rotates the rotary motion causes the carriages or slide-bars *l*, and with them the bars *b b'* and stripping-clothing *a a'*, to move longitudinally on the drum, these parts being drawn outward from the drum in one direction or the other by the cams *d* against the action of the springs *c*. Each cam *d* has an abruptly-declining edge *m*, so that when the projection *l'* of a carriage or slide-bar *l* arrives thereat the corresponding spring *c* or *c'* will cause the carriage or slide *l*, and consequently, also, the corresponding bar *b*, to move back suddenly, and the stripping-clothing *a* thereof to pass through the spaces between the teeth of the corresponding teazel *e*. As the teeth of the stripping-clothing *a* have a backward inclination the spaces between the teeth of the teasels *e* will be cleaned without the extracted fluff entering the said stripping-clothing.

As the teeth of the stripper-clothing *a* are inclined in an opposite direction to the teeth of the stripping-clothing *a'* the bars *b b'* are so arranged that the clothing *a* of one bar—viz., *b*—cleans when moving in one direction—viz., from left to right in Fig. 1—while the clothing *a'* of the next following bar *b'* cleans when moving in the reverse direction—viz., from right to left in Fig. 1. It is for this reason that cams *d d'* are provided at both ends of the drum *h* and that there are two sets of springs—viz., *c c'*—acting in opposite directions, so that the clothing *a'* of the bars *b'* will traverse the spaces between the teeth

of the teasels *e* in the direction contrary to that of the clothing *a* of the bars *b*.

The bars *b b'*, which are arranged side by side around the stripping-drum, are thus caused to act alternately in a regular and continuous manner, the clothing of one bar cleaning when moving in one direction and the clothing of the next following bar cleaning when moving in the opposite direction. By this means the artificial teasels *e* can be cleaned without damage to their teeth and without the fluff being taken up by the stripping-teeth of the cleaning apparatus.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In apparatus for stripping or cleaning napping-machines, the combination of a rotary drum carrying a number of longitudinally-movable bars that are provided with stripper-clothing having inclined teeth, means for guiding said bars, so that they can be moved longitudinally as regards the drum, stationary cams to cause a movement of said bars in one direction, and springs which, when the said bars are released, serve to bring them quickly back again in such a manner that the teeth of the stripping-clothing on each bar in succession are caused to pass through the spaces between the teeth of the teasels of the napping-machine and thereby throw out the fluff held by such teeth, substantially as described.

2. The combination with a napping-machine provided with teasels arranged around the napping-drum in longitudinal rows each adjacent two of which are inclined to one another, of stripping apparatus comprising a rotary drum carrying a number of longitudinally-movable bars *b b'* provided with stripping-clothing *a a'* arranged to act alternately in opposite directions and the peripheral velocity of which corresponds to that of the teasels to be stripped or cleaned, and means for moving said bars longitudinally, substantially as described.

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

ERNST SCHWEINEFLEISCH.

Witnesses:

I. TEICHMANN,  
FANIE MOORE.