Aug. 6, 1940. K. J. SCHMITT 2,210,343

DRAWING-OFF DEVICE FOR COMBING MACHINES

Filed Aug. 14, 1937

Fig. 1

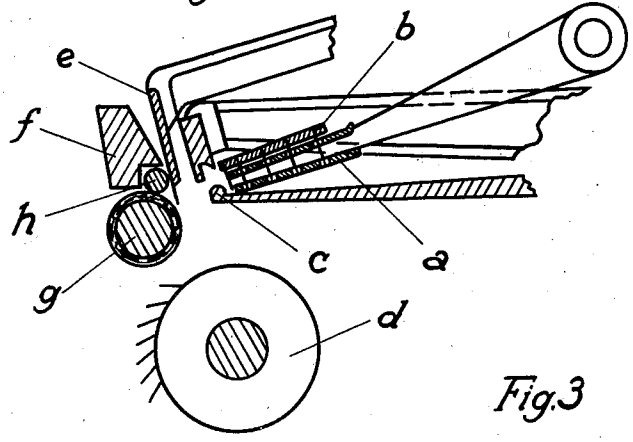


Fig. 2

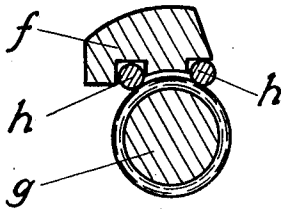


Fig. 3

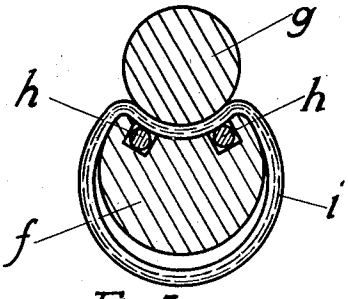


Fig. 4

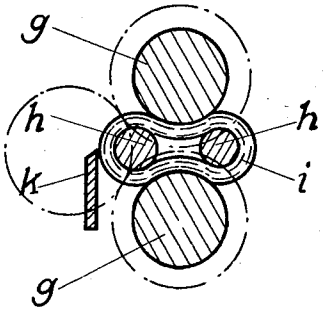
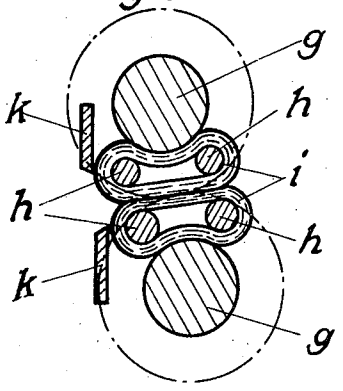


Fig. 5



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DRAWING-OFF DEVICE FOR COMBING MACHINES

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2 Claims. (Cl. 19—116)

The invention relates to drawing-off devices for "Heilmann" combing machines.

In drawing-off devices of this kind the tendency is to bring the nipping point of the drawing-off means as close as possible to the top comb or to the supplying point, in order to restrict to the shortest possible length that portion of the combed fibre tuft which remains between top comb and nipping point during the drawing-off. With this object in view numerous constructions have been proposed including the arrangement of a stationary block or web opposite the drawing-off roller and providing this block or web with a lip engaging partly over the roller. In another construction the drawing-off rollers are arranged in recesses in a plate, while in a third construction the plane of the pair of fluted rollers is displaced from the vertical and an endless belt is provided to run between them.

The construction according to this invention attains this object in a particularly advantageous manner by the employment of one or more auxiliary rollers of relatively small diameter in association with and between the usual drawing-off elements (pair of rollers or web and roller) and small roller or rollers being arranged laterally of the vertical axial plane of the usual detaching roller or rollers and the auxiliary roller, or one of these auxiliary rollers being located between this plane and the upper comb. Endless belt devices may further be provided and arranged to run over the auxiliary rollers. By this means the distance between the nip of the drawing-off device and the top comb is reduced to a minimum.

An embodiment of the invention is illustrated, by way of example, in the accompanying drawing in which:

Fig. 1 shows in side elevation a feeding device with drawing-off device.

Figs. 2 to 5 show each a different form of construction of the drawing-off device.

In Fig. 1 *a* designates the feeding grid with the feeding comb *b*, adapted to be lifted and lowered, and *c* the nipper shown in open position and designed to clamp the delivered fibre tuft. The top comb *e* is arranged in front of the nipper *c* and the circular comb *d* below the same. The drawing-off device consists of a stationary block or web *f* and of a driven roller *g*. The block or web *f* has on the drawing-off side a longitudinal groove in which a roller *h* of small diameter is located. This groove has a vertical side wall forming with the underside of the web a sharp edge in close proximity to the surface of the roller in counter-direction to that in which the roller rotates. This sharp edge serves for stripping any fibres which may adhere to the surface of the roller and tend to wind around the same. As can be seen, the nipping point of the drawing-off device can be brought very close to the top comb *e* by means of the roller *h*. The drawing-off of the fibres is facilitated and any accumulation of fibres in front of the web is avoided. In the form of construction shown in Fig. 2 two additional rollers *h* are mounted in grooves of the web *f*, each groove having a sharp edge in close proximity to the surface of the roller in counter-direction to that in which the rollers rotate. These edges prevent fibres from wrapping around the rollers.

For completely avoiding the winding danger for the additional rollers *h* it is advisable to employ endless leather belts as shown in Figs. 3 to 5. According to Fig. 3, in which the stationary web *f* is arranged underneath the drawing-off rollers *g*, an endless leather belt *i* is placed loosely around the web and the additional rollers *h* and this belt is caused to circulate by frictional contact with the roller *g*. As shown in Fig. 4 a second drawing-off roller *g* is provided instead of the stationary web, the additional rollers *h* are arranged one at either side of the axial plane of drawing-off rollers *g*, *g*, and serve for guiding an endless belt *i* which is caused to circulate over the rollers *h* by the frictional contact with the drawing-off rollers *g* which are positively driven.

The fibres are drawn in between the upper roller *g* and the endless belt *i* placed on the rollers *h*.

For securing the endless belt in the correct position or for avoiding displacement and formation of folds therein, a guide abutment *k* is arranged at the delivery end of the belt.

The form of construction shown in Fig. 5, differs from that shown in Fig. 4 merely therein that two pairs of additional rollers are provided, one roller of each pair being located on each side of the plane in which the axes of the rollers *g* are located. An endless belt *i* runs over each pair of rollers *h* and bears against one of the rollers *g*, being frictionally driven thereby. In this instance the fibres are drawn in between the two belts *i* at the delivery end of which two guide abutments *k* are provided, one for each belt *i*.

I claim:

1. A drawing-off device for "Heilmann" combing machines comprising in combination a drawing-off roller, a stationary web opposite said

drawing-off roller and having two longitudinal grooves one on each side of the vertical axial plane of said roller, a pair of additional rollers located one in each of said longitudinal grooves, and an endless leather band passed around said web and pressed against said additional rollers by said drawing-off roller.

2. A drawing-off device for "Heilmann" combing machines comprising in combination, a drawing-off roller, a stationary web opposite said drawing-off roller having two longitudinal grooves, one on each side of the vertical axle plane of said roller, a pair of additional rollers located one in each of said longitudinal grooves and an endless leather belt having a run passed between the drawing-off roller and said stationary web and pressed against said additional rollers by said drawing-off roller.

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