Jan. 7, 1969 A. S. VINOGRADOV ET AL 3,419,940

CARD FLAT STRIPPER

Filed Nov. 9, 1966 Sheet 1 of 2

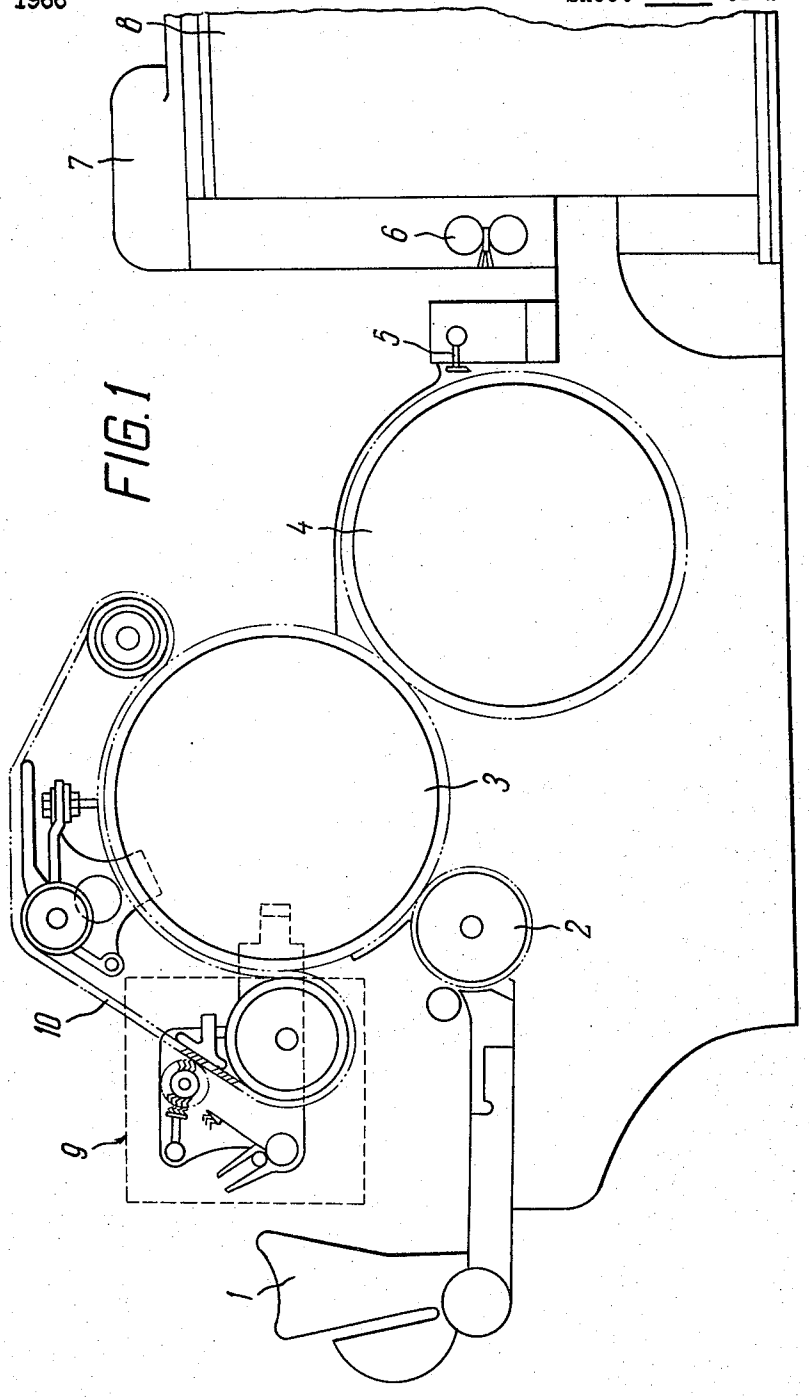


FIG. 1

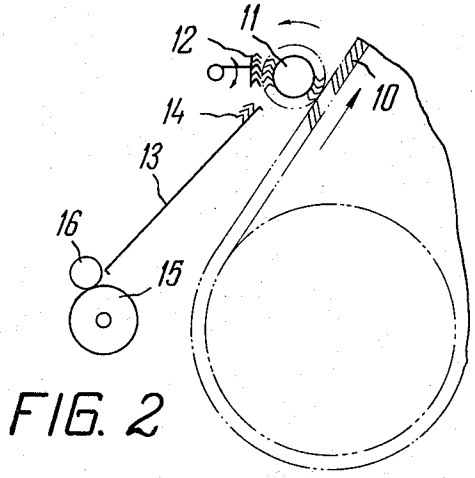


FIG. 2

FIG. 3

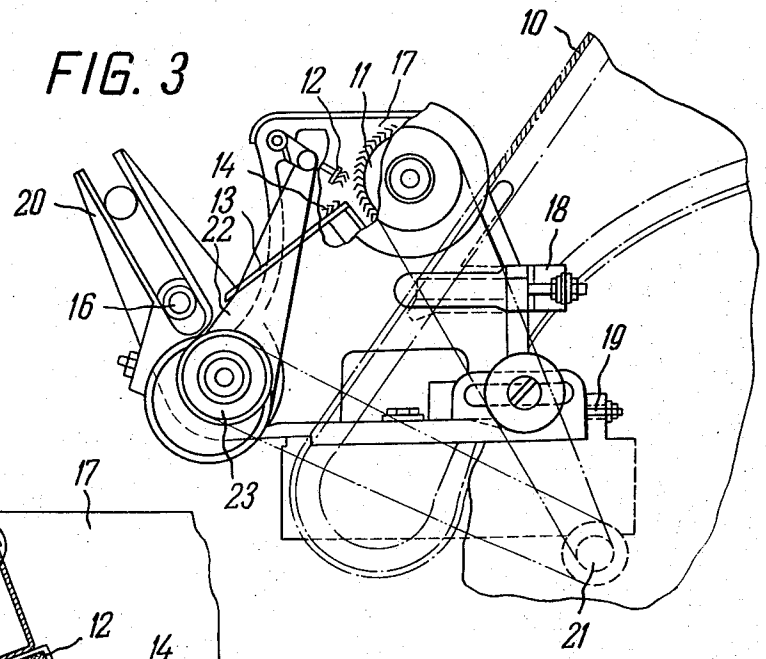
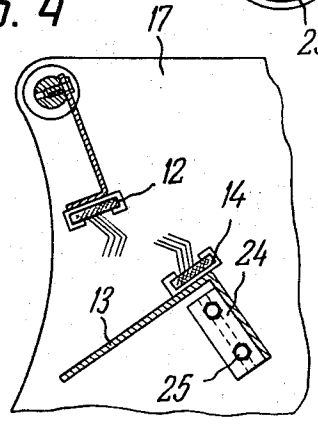


FIG. 4



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CARD FLAT STRIPPER

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U.S. Cl. 19—111 6 Claims
Int. Cl. D01g 15/76

ABSTRACT OF THE DISCLOSURE

A card flat stripper in which strips are removed from a flat by a rotating needle roller, the strips in turn being removed from the needle roller by an oscillating comb which cooperates with a needle plate mounted on a trough to transfer its strips to the needle plate when the comb is in its extreme bottom position, which causes deposit of the strips into the trough upon successive strokes of the comb. The strips are advanced in the trough and are removed at its lower end by being wound on a roller.

The present invention relates to flat cards, and more particularly to flat strippers.

Known in the prior art are flat strippers, in which the flat strips are removed by an oscillating comb from a rotating needle roller used for cleaning the flats from strips, and the removed strips are eliminated from the trough by means of rollers (see, for example, Patent No. 175,851, class 76b 1601, issued in U.S.S.R.).

The disadvantage of the heretofore known devices for flat stripping lies in the complexity of their design and the complicated adjustment of needle rollers and the oscillating comb position.

An object of the present invention is the provision of a flat stripper of simple design reliable in operation, and easily adjusted.

In conformity with the above and other objects, the present flat stripper provides for the removal of flat strips from a rotating needle roller by means of an oscillating comb, the said roller effecting cleaning of the flats from strips. The elimination of removed strips from a trough is effected by rollers. According to the invention, the stripper is equipped with a needle plate arranged under the comb, the said plate removing the strips from the comb at the moment when the latter is in extreme bottom position.

It is expedient to attach the needle plate on the trough so as to provide for the possibility of adjusting its position relative to the comb.

The proposed flat stripper ensures a high grade of flat cleaning, and moreover is simple for manufacturing, reliable in operation and does not require constant maintenance.

A better understanding of the objects and advantages of the present invention will be obtained from a consideration of the following description of an exemplary embodiment of a stripper of this kind with reference to the accompanying drawings, in which:

FIG. 1 is a side elevation view diagrammatically illustrating the flat stripper according to the invention;

FIG. 2 is a schematic diagram of the flat stripper according to the invention;

FIG. 3 is a side view of the flat stripper according to the invention;

FIG. 4 shows the trough complete with a stationary needle plate.

The flat stripper **10** in installed on a card comprising a feeding unit **1** (FIG. 1), a taker-in **2**, a main cylinder **3**, a doffer **4**, a doffing comb **5**, delivery rollers **6**, and a coiler **7** for coiling the sliver in container **8**.

The stripper **9** consists of a needle roller **11** (FIG. 2), a comb **12** and trough **13** upon which a needle plate **14** is attached.

The trough **13** is arranged under the comb **12**, and is inclined relative to rollers **15** and **16**, one of which i.e. roller **15** is a driving roller, while on the other i.e. the top roller **16**, the strips are wound.

The needle roller **11**, the comb **12**, roller **15** and trough **13** are mounted on brackets **17** (FIG. 3) provided with an adjusting device **18** for setting the reach between the flats **10** and needle roller **11**. The pins **19** are intended for tensioning the chain of the flats **10**.

The roller **16** upon which the strips are wound freely runs in grooves provided in brackets **20** and rests on the driving roller **15**.

The needle roller is rotated from the card driving shaft **21**.

The comb **12** effects an oscillatory movement which is imparted by the lever **22** eccentrically fitted on the shaft of the driving roller **15**.

The roller **15** is actuated by sprocket **23** from the card driving shaft **21**.

For adjusting the position of the needle plate **14** relative to the comb **12**, the trough is provided with plates **24** (FIG. 4) having holes for bolts **25**, which allows shifting of the trough **13** upwards and downwards along grooves in brackets **17**. After the required reach is adjusted, the trough **13** is fixed in place by means of bolts **25**.

The flat stripper operates in the following manner:

The needle roller **11** rotating in the sense of the movement of flats **10** carries into effect cleaning of the flats.

The oscillating comb **12** removes with its needles the flat strips from the needle roller **11** and moving into extreme bottom position transfers the flat strips onto the needles of the stationary needle plate **14**. Upon repeated strokes of the comb **12** into extreme bottom position, the flat strips are ejected by the comb **12** into the trough **13** and forwarded along the trough to the rollers **15** and **16**.

The surface of the roller **16** is highly adhesive with regard to fibers, and upon rotation of this roller, the flat strips are wound upon it.

For the description of this exemplary embodiment of the present invention a concise terminology is used in order to give a clear idea of the invention. However, the invention is not limited to the terms used in the description, and it should be stated that each term envelops all equivalent elements operating in a similar manner and used for the same purposes.

This invention has been described in compliance with a preferred embodiment thereof, and it is to be understood that modification and variations may be resorted to without departing from the spirit and scope of the invention that those skilled in this particular art will readily understand.

These modifications and variations are within the idea and scope of this invention if included in the claims appended hereinafter.

What is claimed is:

1. In a card, a device for stripping flats comprising a rotatable needle roller adapted for stripping an advancing flat, said needle roller being rotated in a direction such that the roller travels in the same direction as the flat where it is in contact therewith, an oscillating comb positioned adjacent the needle roller for removing from said needle roller the strips which have been stripped from the flat, a trough positioned beneath the oscillating comb, a needle plate fixed on said trough and positioned rela-

tive to the oscillating comb for removing the strips from the comb when the comb is in its extreme bottom position, said needle plate being positioned on said trough for successively depositing the strips into the trough upon successive strokes of the comb, roller means for removing the strips from said trough, and means supporting the trough and the needle plate thereon for adjustment relative to the path of travel of the oscillating comb.

2. A device as claimed in claim **1** wherein said oscillating comb comprises a comb member, a shaft on which the comb member is fixed, and means for pivotably moving the shaft about a pivot axis which is spaced from the comb member.

3. A device as claimed in claim **2** wherein said roller means comprises first and second rotatable rollers at the lower-most end of the trough, the strips being wound on one of the rollers.

4. A device as claimed in claim **3** wherein said one of the rollers has an adhesive surface.

5. A device as claimed in claim **1** wherein said means for adjustment of the needle plate comprises adjustable fasteners.

6. A device as claimed in claim **5** wherein said trough has elongated holes in which the fasteners are received.

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