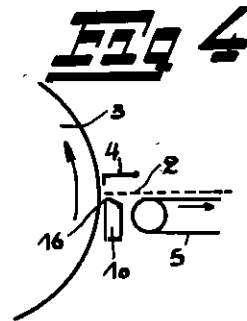
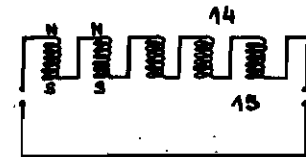
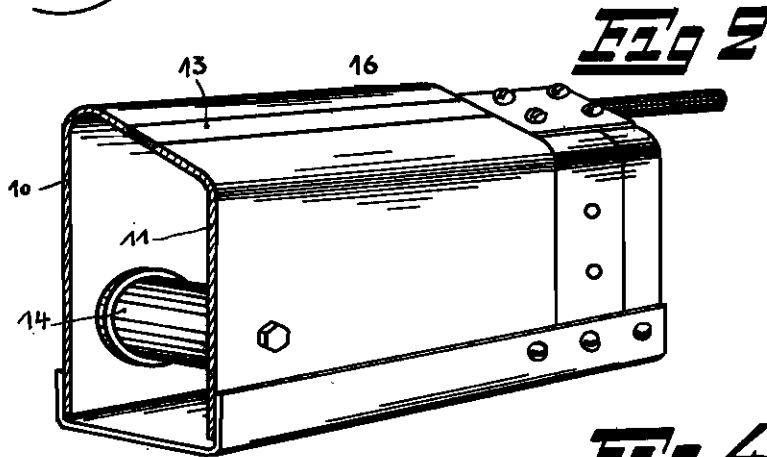
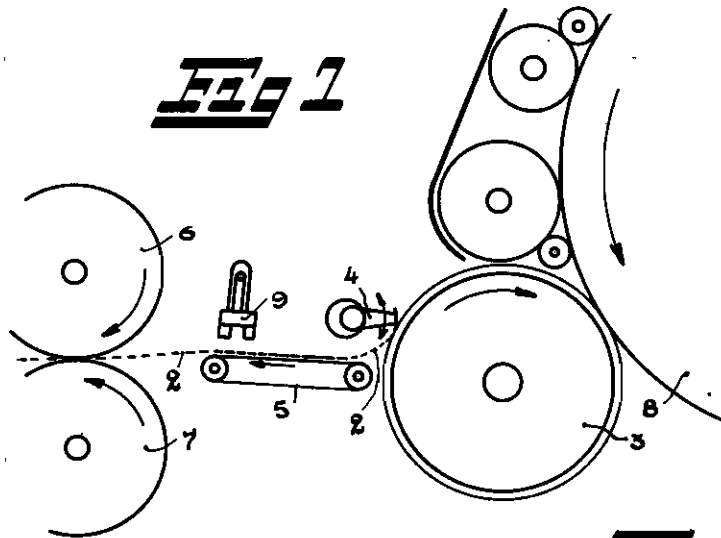


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METHOD OF AND ARRANGEMENT FOR EXTRACTING METAL
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METHOD OF AND ARRANGEMENT FOR EXTRACTING METAL BODIES FROM WEBS OF TEXTILES MATERIALS

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In the treatment of textile materials by means of cards, it frequently happens that the web of textile material contains foreign bodies, in particular metal bodies, such as card teeth. The presence of these foreign bodies considerably interferes with the working to which the web is subsequently subjected and in particular when the actual card is followed by an arrangement intended to eliminate by calendaring the impurities such as hard ends, loose fibres and the like, which the aforesaid web may contain.

The calendaring of the web is carried out through the intermediary of two ground rollers called calender cylinders, between which the web passes.

The metal bodies, which are of harder composition than the ground rollers, score these rollers and gradually reduce their efficacy. It is then necessary to have these rollers ground, in order to restore thereto the qualities necessary for the work which they are to accomplish, which entails a loss of time and money and a loss of output, since the removal of the calender rollers necessitates temporarily placing the machine out of service.

In order to overcome this disadvantage, it is proposed in accordance with the invention to submit the web of textile material to a magnetic action before its introduction between the calender rollers, this magnetic action having the effect of freeing the web from any metal impurity which may impair the operation of the said rollers.

Further features of the invention will appear from the following description.

The accompanying drawing shows by way of example an arrangement for carrying the method into effect.

Figure 1 is a diagrammatic profile view of the rear part of a carding machine provided with an arrangement for calendaring the web of textile material and with an arrangement having a magnetic action;

Figure 2 is a view in perspective, partly broken away, of a particular form of the magnetic separator;

Figure 3 is a diagrammatic view of the winding with which the said separator is provided;

Figure 4 shows the application of the said separator to a carding installation.

The web 2 (shown in dotted lines) according to the invention, which is composed of textile materials passing over the drum 8, is fed on to the card comb 3 and is detached from the latter by the action of the comb 4, to which a constant

oscillatory movement is imparted. When the web leaves the card comb 3, it is brought on to an endless belt 5 or any other similar device, whence it passes between the calendaring rollers 6 and 7. Since the web 2 frequently contains card teeth removed from the carding devices (drum, comb and the like), these card teeth score the calender rollers in passing therebetween and rapidly render them unserviceable.

In order to prevent this disadvantage, it is proposed according to the invention to mount over the entire width of and below the textile web, between the comb 3 and the calender rollers 6 and 7, a magnet 9, by the action of which the aforesaid web is freed from any metal bodies. This magnet 9 may be constituted by an electromagnet fed either with direct or alternating current, or it may be constituted by a permanent magnet.

Any desired regulating system may also be provided for the vertical adjustment of the magnetic source. A cleaner for removing the metal bodies which have been extracted from the web by the aforesaid magnetic source may also be connected to the arrangement.

The magnetic separator shown in Figure 2 comprises a casing, the side walls 10 and 11 of which are constituted by a sheet of soft steel about 3 mm. thick. These two sheets disposed obliquely with respect to one another, so as to form a kind of inclined plane, are connected together by a zone 13 of a non-magnetic alloy, commencing at a distance of about 15 mm. from the edge of the said inclined plane. The aforesaid zone extends over a length of about 10 mm. and its composition is, for example, the following:

	Per cent
Lead -----	50
Tin -----	49
5% phosphor-tin -----	1

Inside the said casing is disposed a series winding 14 (see also Figure 3) provided with a circuit breaker 15 and fed, for example, at 12 volts.

This magnetic separator is disposed (see Figure 3) in the neighbourhood of the comb 4 in such manner that its face 10 is situated at about 25 mm. from the periphery of the card comb 3. In addition, this separator is so mounted that its rounded edge 16 is situated in the neighbourhood of the web 2 of textile material, but without the latter touching the said edge.

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