

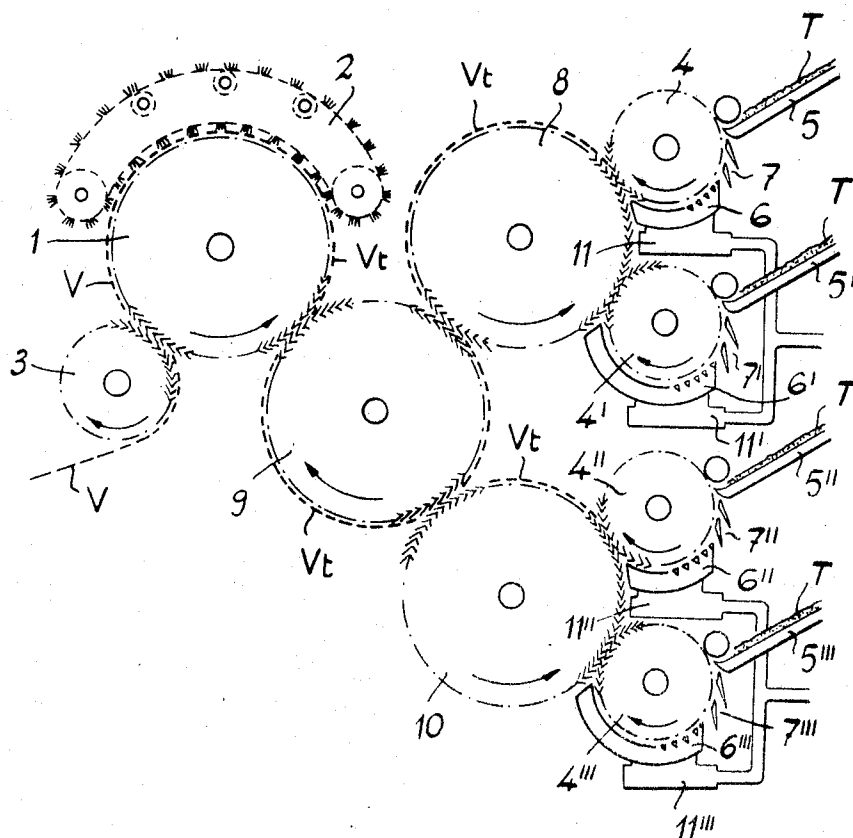
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3,512,217

TEXTILE CARDING MACHINERY

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3,512,217

TEXTILE CARDING MACHINERY

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1 Claim

ABSTRACT OF THE DISCLOSURE

In a textile carding machine there is provided a plurality of vertically spaced and aligned taker-ins that are grouped in a plurality of pairs. A feed table, or taker-in grid and a plurality of mote knives cooperate with each one of the taker-ins. A vacuum channel is positioned directly below each of the taker-in grids, the vacuum channel under the grids of each pair of taker-ins having a common connection to a remote source of vacuum. A first and second carrying roller are positioned downstream of and common to a respective pair of taker-ins and an intermediate carrying roller is positioned downstream of and common to the first and second carrying rollers. There is also provided a main card cylinder associated with and positioned downstream of the intermediate carrying roller. Revolving flats cooperate with the main card cylinder and a doffer roller is positioned downstream of and in cooperation with the main card cylinder.

This invention relates to a method for producing very high amounts of cotton or like fibres card web, with a very high cleaning degree, and to a card engine for carrying such method into practice.

As well known, the yield of carded product depends, in the conventional cards, on the cleaning degree which is to be attained in same product. Also known is that the yield of a card depends on the efficiency of card component by which the cleaning of fibres, or better said of fibre web is performed, and that is called usually a taker-in, while all other conventional components of a carding engine, as e.g. the main cylinder, the flats and the workers have all an efficiency much higher than that of a taker-in.

It is therefore obvious that, in point of fact, the feed of fibre web to operating components of a card could be greatly increased over that heretofore possible in the present stand of technique, and this is just the main object of this invention, which also aims to ensure a steady satisfactory cleaning degree of product.

A card for carrying the method according to the invention into practice is essentially characterized in that it comprises at least two taker-ins, to each of which a separate fibre web is fed, being such rollers associated and cooperating with corresponding card web carrying rollers, whereafter the cleaned card web is fed to conventional card devices.

Should in such a card each taker-in be operated at a rate equal to that of the single taker-in with which the conventional cards are fitted, then a card throughput (with the usual cleaning degree of web) which is a multiple of that of conventional cards, would be obtained.

An embodiment form of a card, by which the multiple feed carding procedure, intended to increase the card

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throughput, can be carried into practice, is diagrammatically shown, as a not restrictive example, in the single figure of accompanying drawing.

The card as shown in same drawing, comprises four conventional taker-ins 4, by which the fibre web is fed to card main cylinder 1, that cooperates with the conventional revolving flats 2 and with the also conventional delivery roller 3, being each of said four units made-up by a taker-in 4, with the related feed table 5, 5', 5'', 5''' and taker-in grid 6 and mote knives 7, 7', 7'', 7''', all of the already known, conventional design.

A plurality, (e.g. two 4-4', or three 4-4'-4'', or four 4-4'-4''-4''' or more) of said takers-ins, can be provided, according to carding engine sizes, and to potential carding capacity thereof. Four taker-ins 4-4'-4''-4''' are provided in the example as shown in the drawing.

Said taker-ins are suitably positioned, on the carding engine, in respect of one, or more revolving carrying rollers, by which the fibre webs V_i, having the conventional cleaning degree, and obtained by the action of different taker-ins 4, 4' etc., are withdrawn.

Each revolving carrying roller is followed by an intermediate carrying roller 9, by which the fibre web V_i is delivered to card main cylinder 1 that cooperates with the revolving flats 2, where the fibre web V_i is converted into a card web V, which successively, after having been acted upon by the conventional combing and calendaring units, is on turn converted into rovings, that are collected into cans, according to the already known technique.

When the carding engine is fitted with three, or four taker-ins 4, 4', 4'' and 4''' as shown in the drawing), a third carrying roller 10 similar to rollers 8 and 9 is provided.

Since, owing to installation requirements, said taker-ins are to be placed superposed and vertically aligned, with a convenient spacing therebetween, a vacuum channel is provided below the taker-in grid 6, 6', 6'', 6''' of each of said taker-ins, and in communication therewith 11, 11', 11'', 11''' to carry the fly, wastes and foreign bodies out of carding room, being such channels connected with a suitable vacuum source.

What I claim is:

1. Apparatus of the class described comprising:

- (a) a plurality of vertically spaced and aligned taker-ins, said taker-ins being grouped in a plurality of pairs;
- (b) a feed table, a taker-in grid and a plurality of mote knives cooperating with each one of said taker-ins;
- (c) a vacuum channel positioned directly below each of said taker-in grids, the vacuum channel under the grids of each pair of taker-ins having a common connection to a remote vacuum source;
- (d) a first and second carrying roller positioned downstream of and common to a respective pair of taker-ins;
- (e) an intermediate carrying roller positioned downstream of and common to said first and second carrying rollers;
- (f) a main card cylinder associated with and positioned downstream of said intermediate carrying roller;

- (g) revolving flats cooperating with said main card cylinder; and
 (h) a doffer roller positioned downstream of and co-operating with said main card cylinder.

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DORSEY NEWTON, Primary Examiner

U.S. Cl. X.R.

19—107, 145.7

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,512,217

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Ezio Bettoni

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

In the heading to the printed specification, line 5, "June 13, 1967" should read -- January 13, 1967 --.

Signed and sealed this 12th day of January 1971.

(SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer

WILLIAM E. SCHUYLER, JR.

Commissioner of Patents