Sept. 23, 1941. K. SCHUBERT 2,256,852

APPARATUS FOR FEEDING CLOTH SAMPLES FROM A SUPPLY THEREOF IN A MAGAZINE

Filed March 19, 1940

Fig. 1

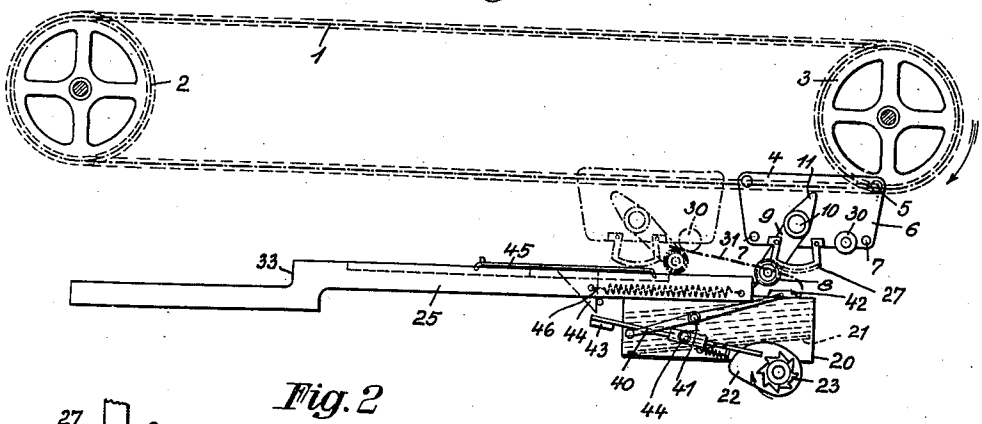


Fig. 2

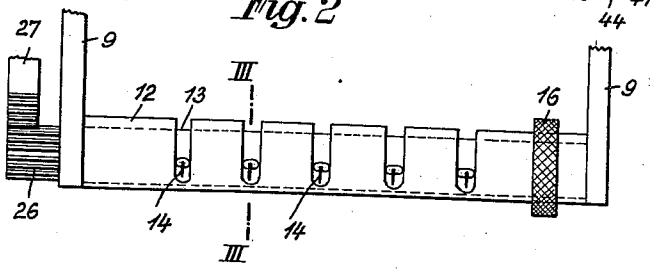
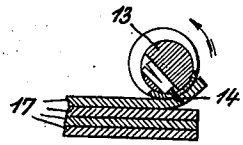


Fig. 3



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APPARATUS FOR FEEDING CLOTH SAMPLES FROM A SUPPLY THEREOF IN A MAGAZINE

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1 Claim. (Cl. 216—52)

The invention relates to an apparatus for automatically sticking on cards samples of cloth and especially for the production of sample cards for thick or rough cloth, such as cloths for overcoats. Machines have become known by means of which sample cards are made by pressing a sample card, which has already been gummed, against magazines containing the samples. This machine is not suitable for thick and rough cloths because the individual samples stick the one on the other. These machines work economically only, when on each sample card a great number of samples have to be stuck which for thicker cloth is often not desired.

The invention provides an apparatus by means of which it is possible to take from the magazines in a simple and reliable manner actually one or several samples of thick, hairy or rough woven material and to stick them automatically on the sample card or to unite them otherwise with the card. Contrary to the apparatus of known type the sample is removed from the magazine not by a rubber-coated ram but by a gripping device which takes the sample from the magazine by means of individual prongs arranged one at the side of the other and spreads the same out flatly at the point to which the sample card is conveyed. Other features of the invention will be hereinafter explained with the aid of the diagrammatical drawing in which an embodiment of the invention is illustrated.

Fig. 1 shows the general construction of the apparatus,

Fig. 2 shows the gripping device on larger scale,

Fig. 3 is a section on line III—III of Fig. 2.

An endless conveying device, for instance a chain 1, passes, as shown in Fig. 1, over two wheels 2, 3. The chain 1 or one of the wheels 2, 3 is driven by hand or mechanically. It is suitable to provide two parallelly extending chains, for which consequently four wheels 2, 3 are required which are keyed pairwise on the axles.

The gripping device consists of two side plates 6 fixed at 4 and 5 on the chain and connected the one with the other by spacing bolts 7. The gripper proper 8 is oscillatably mounted by means of two arms 9 so that it can oscillate about its pivot bolt 10, the gripper terminating in a nose 11. This gripper is constructed as follows: As shown in Fig. 2, a sleeve 12 extends between the two arms 9, and a gripper comb 13 is eccentrically mounted in this sleeve. The gripper comb comprises a number of pointed needle-like prongs 14 arranged at a distance from the axis of the comb 13 so that they extend not radially but at an acute angle relative to the wall of sleeve 12, as shown in Fig. 3. By turning a knob 16, the length of the needles 14 projecting from sleeve 12 can be changed so that it is possible to adapt the apparatus to the actual thickness and of the cloth. Fig. 3 illustrates diagrammatically how by turning the gripper in the direction of the arrow the needles 14 stick into the uppermost sample of the pile of samples 17 and lift this sample off the pile.

The magazine holding the cloth samples, designated in Fig. 1 by 20, is closed by a bottom plate 21 which can be adjusted in position by turning in the direction of the arrow an eccentric arm 22 by means of a ratchet wheel 23.

The proceeding for taking a pile of samples off the pile of samples is as follows:

The plates 6 of the gripping device are held, by any suitable means, so that they can yield in the position shown and get above the magazine 20. When the plates 6 are conveyed the arms 9 strike against the end of a bar 25 and are oscillated towards the right about the pivot bolt 10. The gripper, consisting of sleeve 12 and comb 13 as shown in Fig. 2, is oscillatably mounted on the pivot bolt in the arms 9, and on one end of sleeve 12 a pinion 26 is mounted which meshes with a toothed segment 27 which in turn is fixed on the side plates 6. If therefore the arms 9 oscillate in right hand direction under the influence of the gripping device moving towards the left the gripper comb 13 must turn at the same time. The magazine 20 containing the samples is located at such a height that when the comb 13 is turned the needles 14 penetrate into the uppermost sample so that this sample is curved at the rear end, as shown in Fig. 3. When the plates 6 continue to move towards the left the comb continues further to oscillate to the right until it strikes against a stop 30 whereby the taken up sample is clamped between comb and stop and securely held, as shown in Fig. 1 in dot dash lines.

The gripper continuing its movement pulls behind it the sample 31 so that it is stretched on bar 25. The bar 25 has a step 33 so that at this point the oscillatable lever 9 is no longer supported and drops back into its initial position in releasing the cloth sample. The sample is then spread on a table and can be connected with the card, for instance stuck on the same.

In order to ensure, that always a cloth sample is presented to the gripper although the pile of samples becomes continually lower, it is necessary to lift the magazine or the bottom plate of

the same in accordance with the thickness of every cloth sample. For this purpose the following device is provided:

A feeling lever **40**, pivotable about pivot pin **41**, carries at its end resting on the pile of samples a transverse piece **42** and at its other end a feed rod **43**. This feed rod **43** is pivotable about **44** and also shiftable in longitudinal direction. If the transverse bar **42** descends in accordance with the number of samples removed from the magazine rod **43** is lifted so that it gets into the horizontal path of a stop **44** rigidly connected with a support **45** moved towards the left by means of the travelling gripping device.

This support **45** has always the tendency to move to the right under the action of a spring **46**. The return movement is effected by means not shown in the drawing. If so many samples have been taken from the magazine **20** that rod **43** has been lifted sufficiently by the lever **42**, the nose **44** strikes against rod **43** and pushes the same back so that the ratchet wheel **23** is rotated and by the same the eccentric arm **22** oscillated, that is, the bottom plate **21** is lifted.

Instead of a single magazine several magazines may be provided arranged in a row in order to be able to stick on several samples at the same time.

I claim:

Apparatus for sticking on cards samples of cloth each sample to be lifted from the pile of samples by means of needles and then stuck on the card, comprising in combination with a continuously circulating conveying chain, a gripper comb, a carrier comprising two similar plates fixed one on each side of the chain one plate opposite the other, a toothed segment fixed on the lower end of the front plate, a transverse pin in said plates above the lower ends of the plates, two-armed levers oscillatably mounted one on each end of said transverse pin, a transverse shaft fixed in the lower ends of said oscillatable levers, a pinion on the outer end of said shaft adapted to engage with the teeth of said toothed segment, a roller mounted on said front plate of the holder behind said toothed segment, a bar carrying a plate for the cards arranged below the holder, so that one of its ends forms an abutment for the oscillatable arms on said holder, and a magazine with samples arranged under said bar, so that two thirds of its upper face are covered by said bar.

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