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L. H. ERIKSEN

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PIPE CLEANER

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FIG. 1.

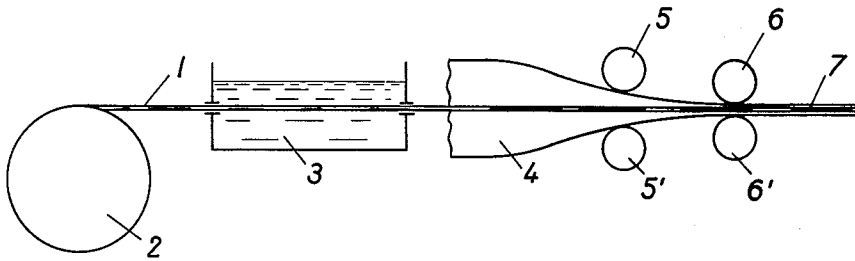
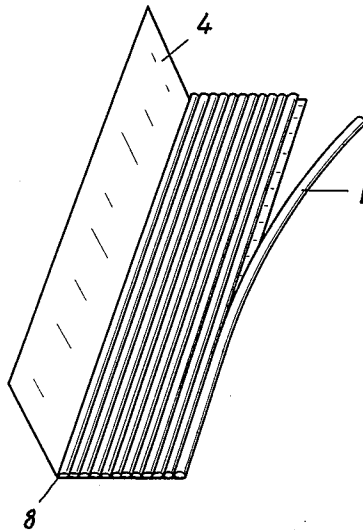


FIG. 2.



INVENTOR

L. H. Eriksen

By Watson, Cole, Hindle + Watson

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PIPE CLEANER

Leif Hakon Eriksen, Oslo, Norway

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1 Claim. (Cl. 206—56)

The present invention relates to a method for production of pipe cleaners made of string, preferably paper string.

According to the invention, the pipe cleaners are produced thereby that a string is provided with a layer or coating of an adhesive agent, for instance artificial resin and thereafter brought between two paper strips or other suitable webs of fibrous material which on the side facing the string is loose fibrous, so that a part of the fibres sticks to the string when the paper strips are pressed against the same. The paper strips may be of the so-called chrome paper or be of a comparatively loose blotting paper with a smooth rear side. It is also possible to use a harder paper which is couched with loose fibres or to which fibres may be glued.

By this process a pipe cleaner is obtained which owing to the fibres adhering to the same is very efficient. The adhesive coating further has the effect of making the string stiffer, so that it easily can be inserted in the pipe stem.

At the production, a greater number, for instance ten or twelve strings are passed parallel and close to one another through a bath of artificial resin or another adhesive agent or are in other ways provided with an adhesive coating, for instance by spraying. The strings thereafter are passed between two pressure rollers, between which also the said paper strips or the like are passed, one on each side of the strings, so that some of the fibres are glued to the same, whereupon the strings and paper strips which then are glued together are conveyed to a cutter in which they are cut in suitable lengths. If desired, the two paper strips may consist of a broader strip bent about its longitudinal centre line and which by means of suitable guiding means are led in proper shape between the rollers.

In this way a number of pipe cleaners are obtained from which the cleaners may be torn out sideways one by one. When all cleaners are torn out, the paper strips which still will be provided with comparatively soft fibres, will be well suited for polishing of a pipe.

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Referring to the drawing, Figure 1 illustrates diagrammatically a vertical sectional view of an arrangement for the production of the pipe cleaners according to the invention, and Figure 2 illustrates the cleaner assembly.

5 In Figure 1, 1 indicates one of a number of parallelly fed strings, for instance twelve, supplied from a reel 2. The strings are passed through a bath 3 containing an adhesive agent, whereupon a broad strip or web 4 of paper or other suitable fibrous material is guided to the strings by means of rollers or other suitable guiding means 5, 5', so as to be bent about a longitudinal centre line 8 with one flap placed against the upper and one flap against the lower side of the strings 1. The strings and web thereafter are passed jointly between pressing rollers 6 and 6'. After having thus been glued together as indicated by 7, the strings and web may be cut in lengths suitable for use.

Figure 2 illustrates a preferred form of a pipe cleaner assembly as delivered by the arrangement shown in Figure 1, ready for use. For the sake of demonstration, one flap of the web 4 is here shown bent back about the line 8, so as to illustrate the parallel position of the strings 1 adhering to the other flap of the web, one string 1 being shown as partly released. As will appear, the cleaner assembly with the two parts of the web glued on to either side of the strings will, when delivered for use, be in the shape of a book, from which each string forming a pipe cleaner can be torn out separately from between the web flaps.

I claim:

As an article of manufacture, a package of pipe cleaner strings comprising a plurality of parallel, closely side-by-side disposed strings arranged between two substantially parallel webs of fibrous material presenting substantially loose fibers on the side facing the said strings, said strings being detachably connected to each other and to said webs by the said loose fibers presented by the webs and adhesively secured to the said strings.

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