June 11, 1940. B. L. SMITH 2,203,752

PLATEN AND METHOD OF MANUFACTURING THE SAME

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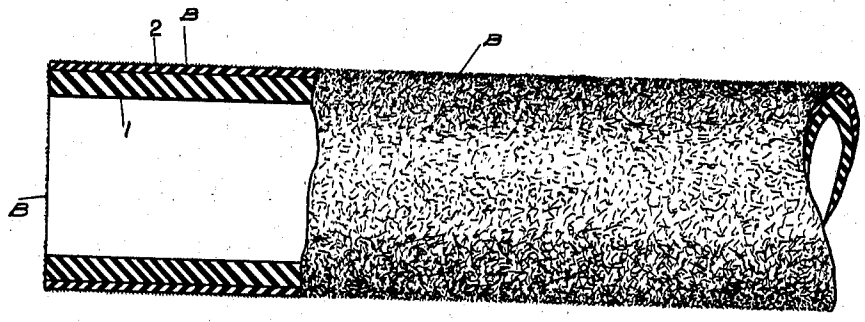

Fig. I

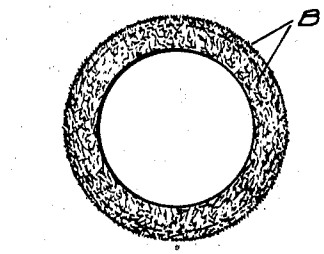

Fig. II

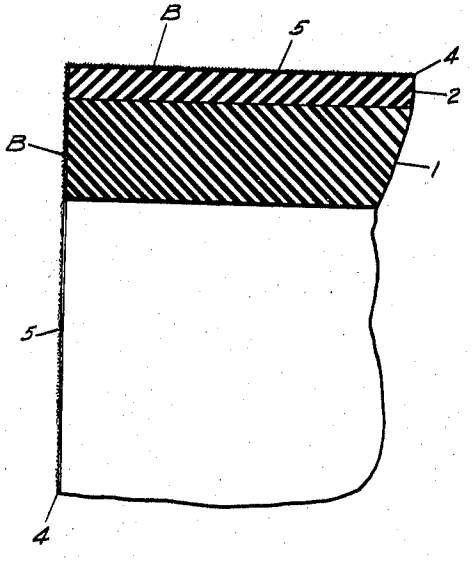

Fig. III

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PLATEN AND METHOD OF MANUFACTURING THE SAME

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Application November 12, 1938, Serial No. 240,077

5 Claims. (Cl. 197—147)

This invention is of an improvement in platens for writing machines, figuring machines and the like, the said improvement consisting in applying to such platens an entirely new writing surface, having many advantages over current practice.

An object of the present invention is to eliminate noise to a greater degree than has been heretofore possible.

A further object is a writing surface for a platen that has superior traction when new, with respect to paper used, which traction surface does not become measurably impaired in quality over a long continued period of use.

Still another object is a writing surface that by the manner of its application protects the rubber of the platen from oxidization, indenting and other deterioration due to age and use.

The foregoing and other objects which will be apparent from the disclosure, constitute the purposes of the present invention.

I have illustrated my novel platen by a drawing that accompanies and forms a part of this application, showing a typical typewriter platen which is described in detail, but I do not intend the description as a limitation of my invention, the scope of which is to be ascertained by the claims that follow the descriptive part of this specification. This is in part the same as my application, Serial No. 208,098, filed May 16, 1938, which I have found necessary to drop for lack of proper disclosure.

In the drawing—

Fig. I is a broken part of a conventional typewriter platen of tubular form, with one end sectioned;

Fig. II is an end view of the left hand end of Fig. I; and

Fig. III is an enlarged view of the upper left hand portion of Fig. I, in an attempt to more clearly illustrate the suedetted surface of the perimeter and ends.

Further describing the drawing—

The body of the platen is of "rubber" as herein described, showing two concentric tubes of differing resiliency, 1 and 2, as is well known. The uneven line constituting the boundaries marked B represent the actual surface, but with the roughness greatly exaggerated due to the limitations of pen and ink to show a bed of exceedingly fine fibers as described. The large Fig. II has been made to show a light dotted line, representing cement 4, with fibers having one portion thereof embedded therein, yet again the size of the fiber and the thickness of the layer of cement is much too great, due to the thickness of line required in an india ink drawing. 5 indicates the fibers.

I prefer to use the standard two layer platen as shown, having a cushion layer 1 inside and a harder layer 2 outside, rather than a platen the rubber portion of which is the same throughout, though this is preferential only.

The word rubber as employed herein is intended to include natural and synthetic rubber as well as all compositions having the well known characteristics of rubber compositions.

In manufacturing a rubber platen, the last step is to mount the article on a mandrel and carefully grind the outside to size.

I take the freshly ground platen and apply a coating of rubber cement, or other suitable cementitious material, over the entire external surface, including the ends as well as the perimeter.

While the cement is still soft, I apply very short fibers of animal or vegetable origin known as flock, though this name is rather too broad as it includes refuse that has been ground up. The type of material I use is that obtained from shearing the nap of fabrics, especially pile fabrics; or the desired grade of material may be obtained directly from natural or synthetic fibers by processing. I have found short fibers from "rayon" very satisfactory.

The application of the fibers to the soft cement is done by rolling the platen on a bed of the material or preferably by an air blast carrying large quantities of the material since better adhesion appears to result.

When the cement has taken up the ultimate quantity of fiber that will adhere, it is cured by permitting the solvent of the cement to evaporate. When liquid rubber cement is used, that portion of it remaining after curing is rubber, practically unchanged as to quality from the rubber which was originally dissolved to make the cement, viz. a rather soft, tough, rubber of high purity. I am not limited to rubber cement, however, as other cementitious materials having the desired adhesive quality with respect to rubber, are probably equally good.

When thoroughly cured, the platen is brushed to remove all fibers that are not firmly adherent to the platen surface, which leaves a suedetted surface resembling fine, hard, close grained felt, but with a notably less amount of fiber ends on the surface.

The cover has great wearing quality, is absorbent of noise, is highly tractive to paper used as in a typewriter and protects the surface of

the platen against indentation and direct atmosphere contact. The quality of rubber remaining in the cement layer after curing as an exceedingly thin coating, is apparently less affected by "aging" than the grade of rubber that must be used in the platen structure proper.

Since, as is well known, fibers of the sort described and used take dyes well, platens of any desirable color may be produced, both for appearance and to identify the different grades of platen materials. To realize all of the possible advantages of my surface, I coat the exposed ends of the platen as well as the perimeter.

It is characteristic of these improved platens that none of the original rubber surface of the platen proper or of the set and stiffened cement, will be visible on the surface of the platen if cement of proper consistency is used. The cement must be highly viscous but liquid enough to be self-leveling.

Having fully described my improved platen and the steps expedient to follow in making it, what I claim as new and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a platen for a writing machine comprising a body of resilient material so formed as to have at least one uniform writing sub-surface, a thin layer of cementitious material on said sub-surface and a dense, closely laid layer of fibrous flock-like material adherent to and partly embedded in said cement in such manner that the sub-surface and cement layer is completely covered by fibers.

2. A platen for a writing machine comprising a body member that is provided with a resilient writing sub-surface, a layer of cementitious material spread evenly on said sub-surface and a dense coating of flock adherent to said cementitious material and partly embedded therein in such manner that a felt-like writing surface is provided without any of the cementitious material or of the sub-surface being exposed.

3. A platen for a writing machine comprising a body of rubber that is provided with a uniformly cylindrical external surface, a uniform thin coating of rubber cement on said external surface and a uniform coating of short fibers of wool or the like having one portion of each fiber embedded in the coating of rubber cement and another portion unattached and free to constitute a felt-like external writing surface.

4. The method of making a platen for a writing machine which consists of forming a body with a uniformly cylindrical external surface, uniformly coating said external surface with soft cement, applying fibrous flock to said cement coating while the same is soft until the entire writing surface has taken all of the flock that can be made to cohere therewith, drying the cement and removing the surplus unattached fibers of flock.

5. The method of building up a writing surface on a platen for a writing machine or the like, which consists of making a resilient body member and providing it with a uniformly cylindrical writing sub-surface, grinding said sub-surface, applying a thin layer of liquid cement to the same in viscous liquid form and immediately applying as much fibrous flock-like material as the cement will take, curing the cement and dislodging all fibers from the surface that are not held by the cement.

BURNS LYMAN SMITH.