April 13, 1965 P. BALABAN 3,177,512

TYPE CLEANING DEVICE

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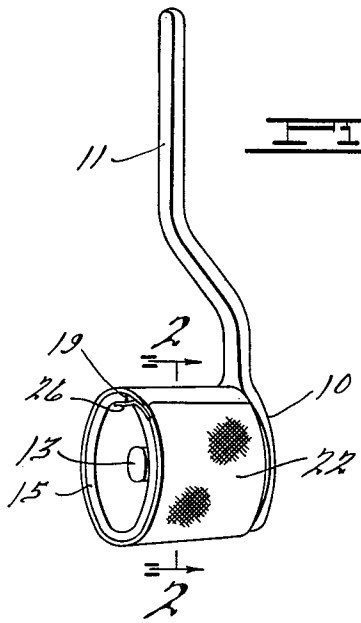


FIG. 1.

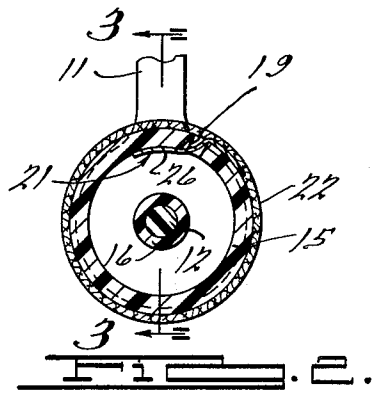


FIG. 2.

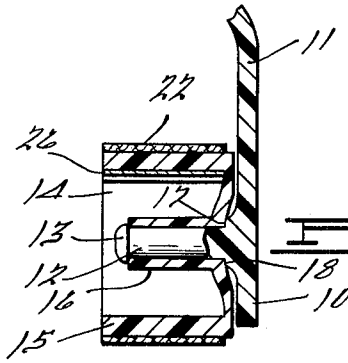
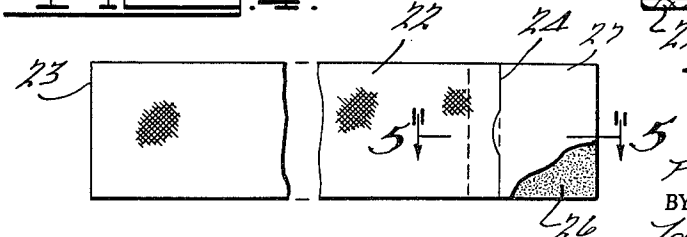


FIG. 3.

FIG. 4.



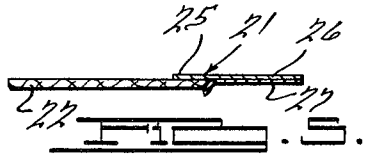


FIG. 5.

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TYPE CLEANING DEVICE

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This invention relates to cleaning devices, and particularly to a rotatable type cleaning device having a renewable tacky peripheral layer thereon.

Difficulty has been experienced in finding suitable means for cleaning the type of a typewriter, the letters of which become loaded with particles and ink from the ribbon when struck thereby, and for cleaning similar elements.

The present invention embodies a roller having a renewable surface of tacky material which adheres to and removes the lint and particles of material from the face of the type. The device embodies a handle having a stub shaft extending therefrom on which a cylindrical body is rotatably supported. The body has a transverse slot therein for receiving one end of the tape which is wound thereon. The tape which encompasses the roller has a tacky surface and an extending portion with an adhesive face. The adhesive face projects through the slot of the roller and secures the tacky strip on the outer periphery thereof. One end of the tacky strip is secured to the adhesive strip to which the opposite end is secured when the ends are in abutted relation. The adhesive strip joins the abutted ends of the tacky strip together in cylinder form and retains it fixed to the surface of the roller. By grasping the handle and running the roller over the type or other element, any particles in the recesses thereof are picked up by the tacky surface and are removed therefrom. The type or other element is maintained clean by the use of the roller and a perfect impression is obtained thereafter on the paper when the type is imprinted thereon through the printing ribbon.

Accordingly, the main objects of the invention are: to provide a cleaning device having a cylindrical tacky surface which removes lint and particles which accumulate in recesses of an element; to provide a handle with a protruding stub shaft on which a hollow roller having a center sleeve is rotatably supported for applying a tacky surface to type face for removing particles therefrom; to provide a handle having a laterally extending stub shaft with an enlarged head over which a flexible sleeve at the center of a roller is forced and retained for rotation on the shaft to have a tacky surface thereon pick up particles of material collected on the face of elements which are cleaned thereby, and, in general, to provide a cleaning device which is simple in construction, positive in operation and economical of manufacture.

Other objects and features of novelty of the invention will be specifically pointed out or will become apparent when referring, for a better understanding of the invention, to the following description taken in conjunction with the accompanying drawing, wherein:

FIGURE 1 is a perspective view of a type cleaning device embodying features of the present invention;

FIG. 2 is an enlarged sectional view of the structure illustrated in FIG. 1, taken on the line 2—2 thereof;

FIG. 3 is a sectional view of the structure illustrated in FIG. 2, taken on the line 3—3 thereof;

FIG. 4 is a broken plan view of a tacky strip which is applied to the periphery of the roller of the device of FIG. 1; and

FIG. 5 is a broken sectional view of the structure illustrated in FIG. 4, taken on the line 5—5 thereof.

In the figures, a disk portion **10** at the end of a handle **11** has a stub shaft **12** extending outwardly therefrom. The stub shaft has a slightly enlarged head **13** for locking a roller **14** thereon. The disk, handle and stub shaft are a unit which is preferably molded from metal, plastic or other material in a die having a recess of like form. The roller **14** is hollow having a peripheral wall **15** and a centrally disposed sleeve **16** joined by a web at one end. The plastic material of the roller is of a flexible type, such as polyethylene, polypropylene and the like, which permits the sleeve to expand over the head **13** when forced onto the stub shaft **12**. The head locks the roller on the stub shaft against outward movement. A shoulder **17** at the inner end of the stub shaft **12** is abutted by a corner **18** at the inner end of the sleeve **16**. The roller **14** is freely rotatable on the stub shaft **12** after being assembled thereon.

The peripheral wall **15** has a slot **19** thereacross through which an end of an adhesive strip **21** secured to one end of a tacky strip **22** extends for engaging the inner peripheral wall of the roller to which it adheres. The strip **22** is then wound around the outer surface of the wall **15** and abutted against the end adhered to the strip **21** to which it is secured.

The tacky strip **22** is illustrated in FIGS. 4 and 5 as having ends **23** and **24** the length therebetween being equal to the peripheral length of the outer surface of the wall **15** of the roller. The adhesive strip **21** is secured to the undersurface of the strip **22** adjacent to the end **24** leaving the extending end **26** covered by a removable protecting layer **27**. The layer **27** is removed when the tape is to be employed so that a portion of the end **26** may extend through the slot **19** in engagement with the inner surface in a manner to have the other portion thereof facing upwardly on the outer surface of the roller adjacent to the slot **19**. The end **23** of the strip **22** engages the upwardly facing portion of the strip **21** when abutted against the end **24**. The strip **22** is maintained in cylindrical form on the surface of the wall **15** secured against rotation thereon by the portion of the strip **21** adhered to the inner surface of the wall of the roller.

When the strip **22** has been applied to the outer surface of the wall **15** of the roller **14**, it is moved over the face of the type by the manipulation of the handle **11** advancing the roller thereof. A slight pressure on the roller urges the tacky material of the strip **22** downwardly thereof so as to extend in areas downwardly from the top thereof into contact with any foreign particles which may have collected on the type face or other elements having recesses therein. The tacky material on the face **22** is of substantial depth and of such a nature as to be usable repeatedly without leaving any residue upon the face of an element being cleaned. The material in the recesses of the element is picked up by the tacky surface and removed therefrom. Only after extensive use will it be necessary to remove the strip **22** and apply a fresh strip to the roller by a simple operation which is performed in a very short time.

What is claimed is:

1. In a device for cleaning the type face of a typewriter, an element having a body from which a stub shaft extends in one direction and a handle extends in another direction, said stub shaft having an enlarged integral end thereon, a roller having a slotted peripheral wall, a single end wall and a central flexible sleeve extending within said peripheral wall from said end wall, said sleeve extending over the stub shaft for rotation thereon and secured by said enlarged end, said sleeve being adapted to be flexed when passed over the head of said stub shaft, and a strip of material having a main portion of tacky material and an edgewise projecting adhesive edge portion, said edge portion extending through the slot of the peripheral wall and adhering to an inner portion of the roller and having

a portion which secures the opposite end of the strip to the adjacent end thereof when in engagement with the outer peripheral surface of the roller.

2. In a device for cleaning the type face of a typewriter, an element having a body from which a stub shaft extends in one direction and a handle extends in another direction, a roller having a slotted peripheral wall, a single end wall and a central sleeve extending within said peripheral wall from said end wall, and a strip of material having a main portion of tacky material and an edgewise projecting adhesive edge portion, said edge portion extending through the slot of the peripheral wall and adhering to an inner portion of the roller and another portion which secures the opposite end of the strip to the adjacent end thereof when in engagement with the outer peripheral surface of the roller, said stub shaft having an integral enlarged head on its outer end and said roller being made from a flexible plastic material and extending over said stub shaft to permit rotation thereon, said sleeve being adapted to be flexed when passed over the head and to be locked on the shaft by said head.

3. A length of strip material adapted to be applied to the outer periphery of a roller having a slot therein, said strip comprising a main body portion equal to the length of the outer peripheral dimension of the roller, the outer surface of said main body portion being formed of a tacky first material, and an adhesive end section having an outer surface thereof formed of an adhesive second material, said end section having one portion projecting from one end of the strip in position to engage the other end thereof and another portion in position to engage an inner surface of a roller, said tacky material being thicker than said adhesive material.

4. A length of strip material adapted to be applied to the outer periphery of a roller having a slot therein, said strip comprising a main body portion equal to the length of the outer peripheral dimension of the roller, the outer surface of said main body portion being formed of a tacky first material, and an adhesive end section having an outer surface thereof formed of an adhesive second material, said end section having one portion projecting from one end of the strip in position to secure the other end of the strip and another portion in position to be secured to an inner surface of the roller, said tacky material being thicker than said adhesive material and the adhesive end section having a protective layer of removable material thereon.

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