SCRAPER FOR FOUNTAIN BLADES

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Fig. 1.

Fig. 2.

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This invention relates to a new and improved cleaning implement.

One of the objects of this invention is to provide a simple and expedient means of removing accumulated encrusted ink, adhesive, or other forms of coating substance from fountain blade edges of machinery applying said substances in some stage of a process.

Another object of this invention is to provide an inexpensive tool for removing aforementioned accumulated encrusted ink, adhesive, or other substance.

Another object is to provide a means of removing an accumulation of thickened ink or other substance from machinery which applies said substance without the necessity of dismantling part of said machinery for cleaning purposes.

These and other objects are attained by the means described herein and illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of the cleaning implement.

Fig. 2 is a side view, partly in cross-section, of the ink fountain portion of a printing press, showing application of the cleaning implement.

Because of the construction of certain types of printing presses, it has been difficult in the past to remove accumulated thickened, dried, or encrusted ink from the edge of the bottom plate or blade of the ink reservoir without dismantling the reservoir section or other parts of the printing press, a process involving a great deal of time with consequent loss of production. The same is true of other types of equipment, such as machines which apply adhesives, varnishes, and other coatings of various kinds and which require cleaning from time to time.

With the present invention these cleaning operations, which are necessary at frequent intervals, have been very greatly simplified, as illustrated in Fig. 2, where the application of the cleaning implement is shown in cross section.

The cleaning implement, as shown in Fig. 1, is made from a curved sheet of metal perforated at 4 and 5, and having a forward edge thereof provided with serrations or teeth 6 forming cutting or scraping points across the edge of the tool. These teeth or serrations will be beveled at an angle to conform sufficiently with the angle created between the face of roll 9 and the edge 10 of plate 12 in Fig. 2, in order to produce a clean scraping operation. The serrated edge of the tool preferably is somewhat greater in length than the opposite or rear edge 7 for the purpose of saving metal and reducing weight. The apertures 4 and 5, suitably spaced along the longitudinal axis of the tool, are simply grips in which the tips of the thumb and finger may be partially introduced, to grasp the tool when in use. The margins of the apertures 4 and 5 may be embossed or flanged, if desired, as shown at 8 in Fig. 2. The length of the tool may conveniently approximate half the circumference of the roll 9, the arcuacy of the tool also corresponding substantially with the curvature of the roll 9.

In Fig. 2, the ink roll 9 is a long steel roller of a printing press, the function of said roll being to pick up liquid ink 10 from reservoir 11, and to transfer a film of ink thus picked up to an adjacent roll which in turn applies it directly or indirectly to the type, plates or other object to be coated. The ink reservoir 11 is applied in leakproof relationship to the ends of the steel roll 9, and the reservoir has a bottom plate 12 with an edge 16 which lightly contacts the steel roll 9 lengthwise thereof from end to end. The thickness of the ink film delivered to roll 9 may be governed by adjusting reservoir bottom plate or blade 12 to and from the ink roll 9. The adjusting means may comprise simply a row of adjusting screws 14 threaded through openings in the support 15. Bracket 18, which is attached to the printing press frame 17, supports the ink reservoir or fountain.

In the operation of a printing press the ink roll 9 is revolved in the direction of the arrow, causing the roll to pass through the reservoir or fountain of ink 10. The face of said roll delivers a film of ink the thickness of which is controlled at 16 by the aforementioned adjusting means. After a printing press is thus operated for a period of time, it is to be appreciated that a certain amount of ink will escape from the reservoir and cling to the butt edge 18 of the bottom plate or blade 12 and become caked or encrusted thereon. In time this accumulation of dried or caked ink on edge 18 will prevent an even distribution of ink to the ink roll, thus creating a series of rings of thin ink on the ink roll, said rings of ink being too thin for uniform printing results. In the past, when this condition was created by the accumulation of encrusted ink on the reservoir blade edge 18, it was necessary to dismantle the reservoir or fountain mechanism in order to remove these encrustations, because the limited space between roll 9 and frame 17 made it virtually impossible to gain access to edge 18 for cleaning purposes. These dismantling operations caused the shutdown of the equipment for unduly long periods of time. Now, with the present invention, when thickened ink accumulates on edge 16 of blade 12, so
as to interfere with the proper delivery of ink to the ink roll, the press operator merely picks up one of the cleaning implements such as 3, and applies it manually to the steel roll as indicated on Fig. 2, and by means of the finger grips 4 and 5 he is able to shift the tool longitudinally of the roll, with the teeth or serrations 6 in scraping contact with the edge 18 of blade or plate 12. One or two sweeps of the tool along said edge will remove all dried ink or accumulated ink therefrom, an operation requiring only a minimum loss of production time.

The present invention will also serve a useful purpose in cleaning edge 18 of accumulated ink when it becomes necessary to change the ink in the reservoir from one color or grade to another color or grade, thus obviating the possibility of accumulated ink of one color on edge 18 mixing with ink of another color in reservoir 11. Thus it will be seen that it is not necessary to dismantle the reservoir or fountain when changing inks in order to clean the reservoir, thereby saving a great deal of valuable time.

The straight edge 7 of the cleaning implement 3 may also be used for cleaning purposes, as for instance, in removing thickened ink from the upper face or surface of blade 12. Likewise, the edges 19 and 20, Fig. 1, may be utilized for cleaning purposes, each of said edges being on a flat plane and at right angles to the curved surfaces of the implement. By placing the implement 3 on its side on a flat surface such as the upper surface of blade 12, with edge 19 or 20 in contact with said flat surface, a scraping or cleaning operation may be performed by merely pushing the cleaning implement back and forth over the surface to be scraped or cleaned. Edges 19 and 20 will effectively remove accumulated encrustations of ink or other matter from the ink roll 9 by sliding the cleaning implement longitudinally of said ink roll, when the implement 3 is in the position shown in Fig. 2.

This cleaning implement 3 is normally removed from the ink roll 9 when the press is in operation, and placed within easy access of the press operator, to be used when required.

This new and improved cleaning implement may also be used in removing encrustations from the reservoir blades or plates of other machines such as those which apply adhesives, varnishes or other coating substances in a manner similar to that of the printing press illustrated in Fig. 2 of the accompanying drawings.

It is to be understood that the tool or implement 3 may be furnished with finger grips or handle means of a type other than is illustrated upon the drawing, and that various other modifications and changes in structural details may be made, within the scope of the appended claims without departing from the spirit of the invention. For example, the body of the tool or implement might be formed from a material other than metal, with a serrated edge portion of metal fixed thereto.

What is claimed is:

1. As a new article of manufacture, a fountain blade edge cleaning tool comprising a curved elongate body portion arched lengthwise thereof to substantially embrace part of the periphery of a fountain roller, said body portion including a forward cutting edge materially shorter than the length of the roller and arranged transversely of the major axis of the body portion, said cutting edge comprising a straight line of cutting teeth, each of said teeth being beveled to conform with an angular relationship of the fountain blade edge to the fountain roller, and finger grip means on the body portion to facilitate shifting of the tool along the length of such roller.

2. As a new article of manufacture, a fountain blade edge cleaning tool comprising a curved elongate body portion arched lengthwise thereof to substantially embrace part of the periphery of a fountain roller, said body portion including a forward cutting edge materially shorter than the length of the roller and arranged transversely of the major axis of the body portion, said cutting edge comprising a straight line of cutting teeth, at least some of said teeth being beveled to conform with an angular relationship of the fountain blade edge to the fountain roller, and finger grip means on the body portion to facilitate shifting of the tool along the length of such roller.

3. As a new article of manufacture, a fountain blade edge cleaning tool comprising a curved elongate body portion arched lengthwise thereof to substantially embrace part of the periphery of a fountain roller, said body portion including a forward cutting edge materially shorter than the length of the roller and arranged transversely of the major axis of the body portion, and finger grip means on the body portion to facilitate shifting of the tool bodily along the length of the roller, said grip means being in the form of spaced openings in the body portion.

4. As a new article of manufacture, a fountain blade edge cleaning tool comprising a curved elongate body portion arched lengthwise thereof to substantially embrace part of the periphery of a fountain roller, said body portion including a forward cutting edge materially shorter than the length of the roller and arranged transversely of the major axis of the body portion and comprising a line of cutting teeth at least some of which are beveled to conform to the fountain blade edge bevel.

5. As a new article of manufacture, a fountain blade edge cleaning tool comprising a curved elongate body portion arched lengthwise thereof to substantially embrace part of the periphery of a fountain roller, said body portion including a serrated cutting edge materially shorter than the length of the roller and arranged transversely of the major axis of the body portion, the serrations providing a line of cutting teeth of which at least some are beveled to conform with an angular relationship of the fountain blade edge to the fountain roller, and finger grip means on the body portion to facilitate shifting of the tool bodily along the length of the roller, said grip means being in the form of spaced openings in the body portion.

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