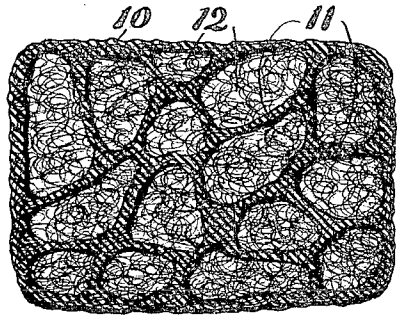
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METAL CLEANING AND POLISHING DEVICE

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JOHN A. VINCENT, OF SPRINGFIELD, ILLINOIS.

METAL CLEANING AND POLISHING DEVICE.

Application filed December 5, 1921. Serial No. 520,134.

To all whom it may concern:

Be it known that I, JOHN A. VINCENT, a citizen of the United States, residing at Springfield, Illinois, have invented a certain new and useful Improvement in Metal Cleaning and Polishing Devices, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to metal cleaning and polishing devices of the kind that are composed of an abrasive fibrous substance and a cleaning agent combined in the form of a pad or article that is intended to be rubbed over metal which it is desired to clean or clean and polish.

It has heretofore been attempted to produce a metal cleaning and polishing device, particularly adapted for use on aluminum, by impregnating a piece of steel wool with soap, thus forming a device which is intended to be moistened and then rubbed briskly over the metal to be cleaned. While a device of the character referred to forms a very efficient means for cleaning and polishing aluminum and other metals, it lacks one essential requisite of a commercially successful cleaning and polishing device that is intended to be used for scouring metal, namely, permanency of form or the ability to successfully withstand disintegration when subjected to a vigorous rubbing action or to moisture followed by a vigorous rubbing action.

The main object of my invention is to provide a device that will successfully clean and polish aluminum and other metals and which is of such construction that it will not crumble easily or disintegrate or break apart long before the end of its period of usefulness has been reached.

Another object is to provide a metal cleaning and polishing device of the kind that comprises a metallic abrasive substance which is of such construction that the metallic abradant will not cut the hand of the person using the device. Other objects and desirable features of my invention will be hereinafter pointed out.

To this end I have devised a device, which, in its simplest form, may be said to consist of a loose mass of metallic abrasive fibrous substance combined with an elastic binder in such a way as to form a soft, spongy pad which is intended to be used for scouring, cleaning or polishing surfaces by rubbing it briskly over the same. If desired, the pad may also contain a cleaning agent, such as soap or any of the substances from which soaps are made, and when the pad is constructed in this manner, it is moistened before being rubbed over the metal to be cleaned.

Various metallic abrasive fibrous substances may be used, but I prefer to use "commercial" steel wool, namely, steel wool which is manufactured for use as an abradant, owing to the fact that the strands or fibres of such steel wool are tempered, and have sharp cutting edges. Rubber, celluloid or gelatine of the kind that is used in the construction of printing rolls may be used as the elastic binder to elastically connect together the strands or fibres of the steel wool and prevent the steel wool from disintegrating rapidly when the pad is being used for the purpose for which it is designed. In constructing the pad I use a materially greater quantity of the steel wool than of the elastic binder, so as to produce a pad composed of a loose, soft, spongy mass of steel wool whose strands or fibres are loosely and elastically held together by an elastic binder which permeates the entire mass. If the pad contains a cleaning agent, soap, or any of the substances from which soaps are made, can be mixed with the mass of steel wool which constitutes the bulk or main body of the pad before said mass is pressed or molded into the form of a pad.

The preferable method of constructing the pad is to mold or press a mass of "commercial" steel wool into the form of a soft, spongy pad and thereafter treat said pad with an elastic binder, preferably by soaking it in rubber and subsequently curing the rubber in any suitable way, thereby producing a highly efficient metal cleaning device that can be held conveniently in the hand of the user, due to its soft, spongy nature, and which will not disintegrate readily when it is being used, due to the fact that the strands or fibres of the steel wool are elastically held together by small filaments of rubber which permeate the entire mass and extend around the fibres of the steel wool.

In the drawing there is shown, somewhat conventionally, a sectional view of a cleaning and polishing pad constructed in ac-

cordance with my invention. The rubber is indicated at 10, with filaments 11 permeating the steel wool, which is indicated at 12. Naturally in the actual device, the filaments will be much more numerous and smaller than those shown, as practically every strand of the wool will be coated with rubber. The inventive idea is, however, illustrated sufficiently.

To use the above device for cleaning and polishing aluminum and other metals the user holds the device in one hand and moistens it, generally by dipping it in water, and thereafter rubs the device briskly over the metal to be cleaned. When the device is provided with soap, the soap softens the dirt on the metal and the abrasive fibrous substance in the device removes the dirt and polishes the metal. The elastic binder prevents the device from disintegrating or breaking apart readily, and consequently, the device can be used for a long time, or until its maximum period of usefulness has been reached before it has to be discarded. The elastic binder, in addition to preventing disintegration of the steel wool, prevents the steel wool from cutting the hands of the user, and it also imparts sufficient flexibility to the device to insure its conforming accurately to the surface over which the device is rubbed. In my improved device no means is used for preventing the steel wool from rusting, as I have discovered that steel wool which is coated with rust is a superior abradant to steel wool that is free from rust. In order to take advantage of the increased abrasive qualities of rusted steel wool and still produce a device of attractive appearance, or at least of unobjectionable appearance, I prefer to use an elastic binder of rust color in constructing the device, thereby producing a device of approximately rust color whose appearance is not marred by any rust that accumulates on the steel wool after the device has been used.

Having thus described my invention, what I claim as new and desire to secure by Letters patent is:

1. A metal cleaning device consisting of a soft, spongy pad composed of a loose mass of abrasive metallic wool impregnated with an elastic binder which permeates said mass and elastically connects the strands or fibres of the same together.

2. A metal cleaning device consisting of a mass of abrasive steel wool pressed into the form of a spongy pad and impregnated with sufficient rubber to prevent said steel wool from disintegrating readily when the device is in use.

3. A metal cleaning device consisting of a soft, spongy pad composed of a loose mass of tempered steel wool whose fibres have sharp cutting edges, and a quantity of rubber mixed with said mass of steel wool and extending through the same so as to tend to prevent the pad from disintegrating when the device is in use.

4. A metal cleaning device consisting of a mass of abrasive metallic wool constructed in the form of a soft, spongy pad, an elastic binder composed of filaments of rubber which extend between and around the fibres or strands of the wool, and a cleaning agent combined with the substances that constitute the pad.

JOHN A. VINCENT.