Sept. 18, 1923. 1,468,446

H. E. GRAHAM

APPARATUS FOR MARKING SIGN PAINTERS' CLOTH

Filed April 13, 1922

Fig. 1

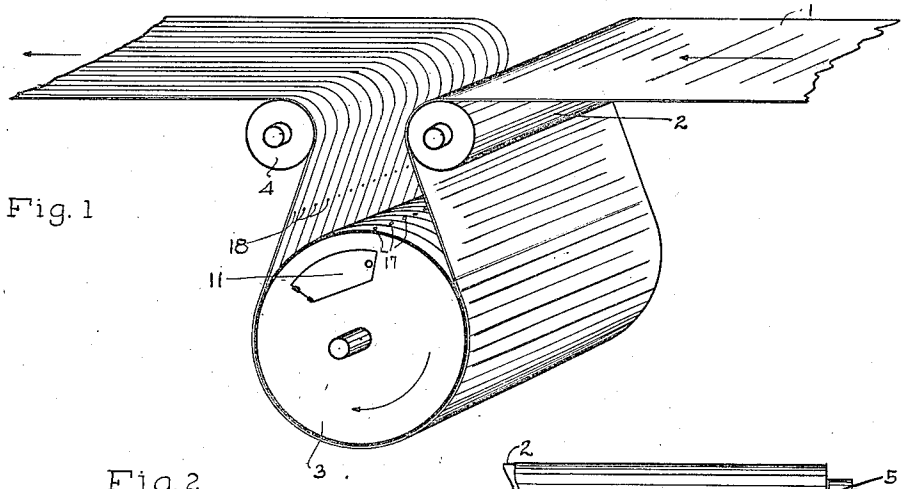



Fig. 2

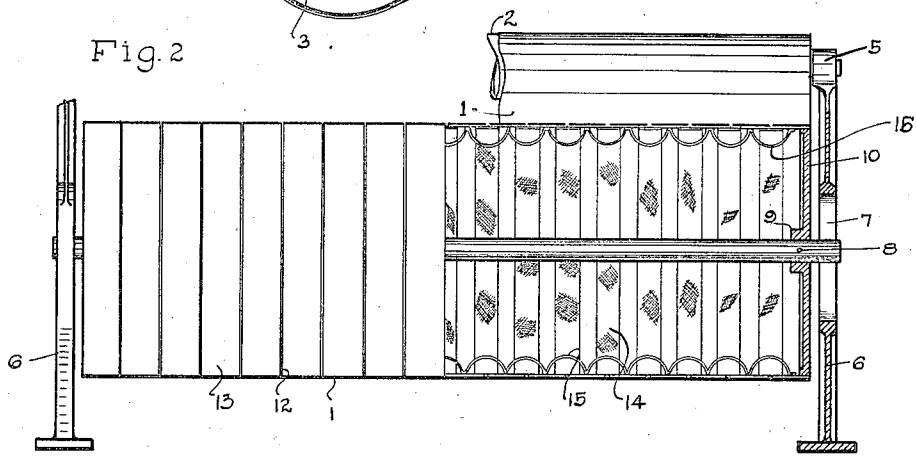



Fig. 3

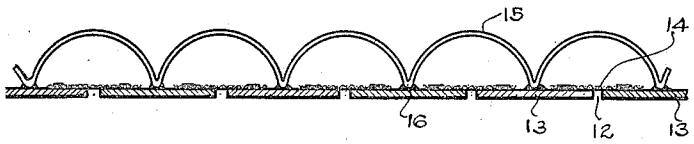



Fig. 4

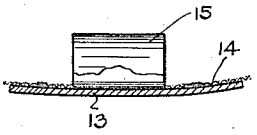
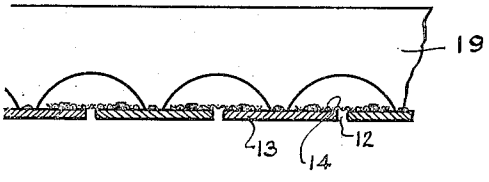



Fig. 5




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By

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Patented Sept. 18, 1923. 1,468,446

# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR MARKING SIGN-PAINTERS' CLOTH.

Application filed April 13, 1922. Serial No. 552,298.

*To all whom it may concern:*

Be it known that I, HOWELL E. GRAHAM, a citizen of the United States of America, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Apparatus for Marking Sign-Painters' Cloth, of which the following is a specification.

My invention relates to an apparatus for the marking of sign painters' cloth in such manner as to provide a cloth having sufficiently visible lines provided thereon to avoid the necessity of the sign painter laying out the lines on the cloth preparatory to lettering or painting the sign.

Heretofore it has been sought in many ways to furnish sign painters with cloth with suitably spaced longitudinal lines but no practical method or apparatus has been as yet devised for marking the lines in such manner that they would serve their purpose and yet be so easily removed after the work was completed that they would not in any manner deface or detract from the appearance of the finished sign.

I have conceived the idea that these lines can be practically and successfully laid on the cloth by dredging lines of coloring matter thereon, the coloring matter being laid on so lightly that it can be dusted off after the completion of the sign and which yet leaves marks sufficiently durable and visible to enable the cloth to be preliminarily marked, then bolted and later torn off to lengths.

My present invention is concerned more particularly with the apparatus which I consider best suited by dredging action for applying these marking lines to the cloth. In its preferred embodiment, it comprises a drum containing colored material such as charcoal and provided with suitably spaced circumferential slots covered with wire gauze or the like through which the coloring matter is applied with a dredging action to the cloth passing around the drum. It will be understood however that I claim as my invention the utilization of an appropriate means for applying the marks by dredging action to the cloth.

My invention further comprises the novel details of construction and arrangements of parts illustrated in the accompanying drawings, described in detail in the specification following, and pointed out in the appended claims, it being understood that the detail construction shown may be widely modified to meet varying operating conditions without departing from the substance of my invention.

According to the drawings:—

Fig. 1 is a perspective view of a marking apparatus showing a strip of sign painters' cloth being passed around the same and marked thereby, all supporting bearings being omitted.

Fig. 2 is an end elevation of the marking apparatus with the main drum shown partly in cross section and the upper rolls broken away.

Fig. 3 is a longitudinal cross-sectional view through the drum showing one of the internal connecting and breaking strips in side elevation.

Fig. 4 is an end elevation of Fig. 3.

Fig. 5 illustrates a modified type of stay and brake plate for the drum sections.

Similar reference numerals refer to similar parts throughout the drawings.

In the embodiment illustrated, I show a strip of sign painters' cloth 1 passed over a guide roller 2 and about a marking drum 3, and then about a second guide roller 4 whence the marked cloth passes to use or to be rewound in a bolt. These guide rollers 2 and 4 are mounted in bearings 5 at the top of the side frames 6. These frames are adapted to be bolted or attached to the floor and are provided with vertically elongated slots 7 which receive a center shaft 8 passing through the drum 3 and suitably keyed in bosses 9 on metallic heads 10 of the drum. The bearings 5 are carried by vertical extensions at each side of each frame 6, the top of the frame between the extensions coming below a filling door 11 in either or both heads 10 when such doors are moved to their uppermost position. By this means the drum can be suitably charged with charcoal or other material which, when abraded by the rolling action in the drum, will furnish the marking material which will be applied by dredging action to the cloth 1 by means which will now be described.

The drum is formed with a series of spaced circumferential slots 12, these slots being preferably continuous and provided by forming the drum of a series of cylindrical imperforate sections 13 which are connected together along their adjacent edges by strips of wire gauze or hardware cloth 14

suitably soldered or secured to the cylinders 13. To further brace the cylindrical sections 13 together without interrupting the continuity of the slots 12, I provide the drum with any desired number of stay strips formed by a metal strip 15 bent in fluted form, as shown more clearly in Fig. 3. The bases 16 of the flutes or arches are arranged to engage the cylinders 13 near their centers and to be brazed or soldered thereto, the stay plate, by means of its arches projecting into the drum, forms breaking or abrading projections which engage the charcoal or marking material therein and cause its disintegration to furnish the cloth marking material. The roughened surface of the woven wire or hardware cloth 14 also serves to abrade the marking material. Though I have shown only two of these connecting stay plates 15 in the drawings, it is to be understood that any desired number of such plates may be employed as various operating conditions may find necessary.

In operation, having charged the drum with charcoal or like marking material, the fabric to be marked is passed over the roller 2 and around the drum and over the roller 4 and drawn taut, so that the drum 3 is supported in the bite of the fabric and is rotated thereby as the fabric is drawn out. This results in the drum being rotated as the cloth is drawn and as it rotates the abraded marking material is deposited or dredged through the annular slots 12 and is laid in stripes or marking lines upon the cloth. It is to be noted that there is no scraping or rubbing action between the drum and the cloth as the two turn together, and after the cloth takes position against the drum it does not change its relative position until the marking material has been applied and it is gradually stripped from the drum free of any relative circumferential movement. This leaves the lines deposited very lightly on the marked cloth but they are sufficient to guide the sign painter in applying and laying in the sign, and when the sign is completed all of the marking material can be readily dusted off the cloth leaving it unmarked.

As a means for further increasing the usefulness of this marking appliance, I design it to have a circumference equal to a standard unit of measure, preferably one yard, and I provide lengthwise of the drum a series of small holes 17 which will place on the cloth between the longitudinal lines at every yard interval a series of dots 18 which mark the finished strip to indicate yard lengths.

In Fig. 5 I show a modified stay formed by a metal bar 19 notched along one edge to bridge the slots 12 and being suitably soldered or welded along its notched edge to the drum sections 13. This affords a better means for breaking up the charcoal. I prefer to leave the slots 12 uninterrupted but obviously the brace plates may interrupt same for such short intervals as will not affect the serviceability of the resultant lines.

I have not claimed in this application the marked sign painters' cloth as an article of manufacture, as the same forms the subject matter of a pending application of even date herewith, Serial No. 552,299.

Though I have described with great particularity the details of the embodiment of the invention herein shown, it is not to be construed that I am limited thereto, as changes in arrangement and substitution of equivalents may be made by those skilled in the art without departing from the invention as defined in the appended claims.

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

1. An apparatus for marking sign painters' cloth, comprising guides for the cloth, an apparatus containing pulverized marking material and having a multiplicity of suitably spaced apertures, and means to cause said material to be dredged in lines upon the cloth passing thereunder.

2. An apparatus for marking sign painters' cloth, comprising a drum adapted to contain marking material and provided with circumferential suitably spaced slots, and means to pass the material to be marked about said drum for the deposit on the cloth of stripes of marking material dredged through said slots.

3. An apparatus for marking sign painters' cloth, comprising guide rollers for the cloth, a marking drum adapted to be supported in the bite of the cloth passing over said rollers, said drum being adapted to contain pulverized marking material and having circumferential slots for the deposit of said marking material in stripes on the cloth passing about the drum.

4. In a marking apparatus for sign painters' cloth, guides for the cloth to be marked, a marking drum adapted to be supported by a bite of the cloth passing over said guide rollers and rotated by the cloth as it is drawn out, said drum comprising a series of circumferential slots, and means to introduce a marking material into the drum.

5. In a marking apparatus for sign painters' cloth, guides for the cloth to be marked, a marking drum adapted to be supported by a bite of the cloth passing over said guide rollers and rotated by the cloth as it is drawn out, said drum comprising a series of circumferential slots covered by perforated material, and means to introduce a marking material into the drum.

6. A marking drum for sign painters' cloth, comprising a series of spaced circumferential slots in parallel planes at right angles to the axis of the drum, foraminous material connecting the drum sections,

and means for the introduction of cloth marking material into the drum.

7. A marking drum for sign painters' cloth having a series of equi-distantly spaced circumferential slots in parallel planes at right angles to the axis of the drum, foraminous material covering the drum slots, means for the introduction of cloth marking material into the drum, and longitudinal arched braces also connecting the drum sections and bridging the slots.

8. An apparatus for marking sign painters' cloth, comprising a frame, spaced guide rollers mounted in the top of the frame, and a marking drum having a central shaft working freely in vertical slots in the frame, said drum comprising heads fast to said shaft and intermediate alternating imperforate and perforate body portions, said portions lying in planes at right angles to the drum shaft.

9. A marking drum for sign painters' cloth formed by alternate circumferential annuli of perforate and imperforate material all lying in a plane at right angles to the drum axis, end closures, means to hold said annuli in assembled position, and means to introduce marking material into the drum.

10. A marking drum for sign painters' cloth formed by alternate circumferential annuli of perforate and imperforate material all lying in a plane at right angles to the drum axis, end closures, means to hold said annuli in assembled position, and means to introduce marking material into the drum, said perforate annuli being narrow and formed of fine wire mesh screen.

In testimony whereof I affix my signature.

HOWELL E. GRAHAM.

Witness:
NOMIE WELSH.