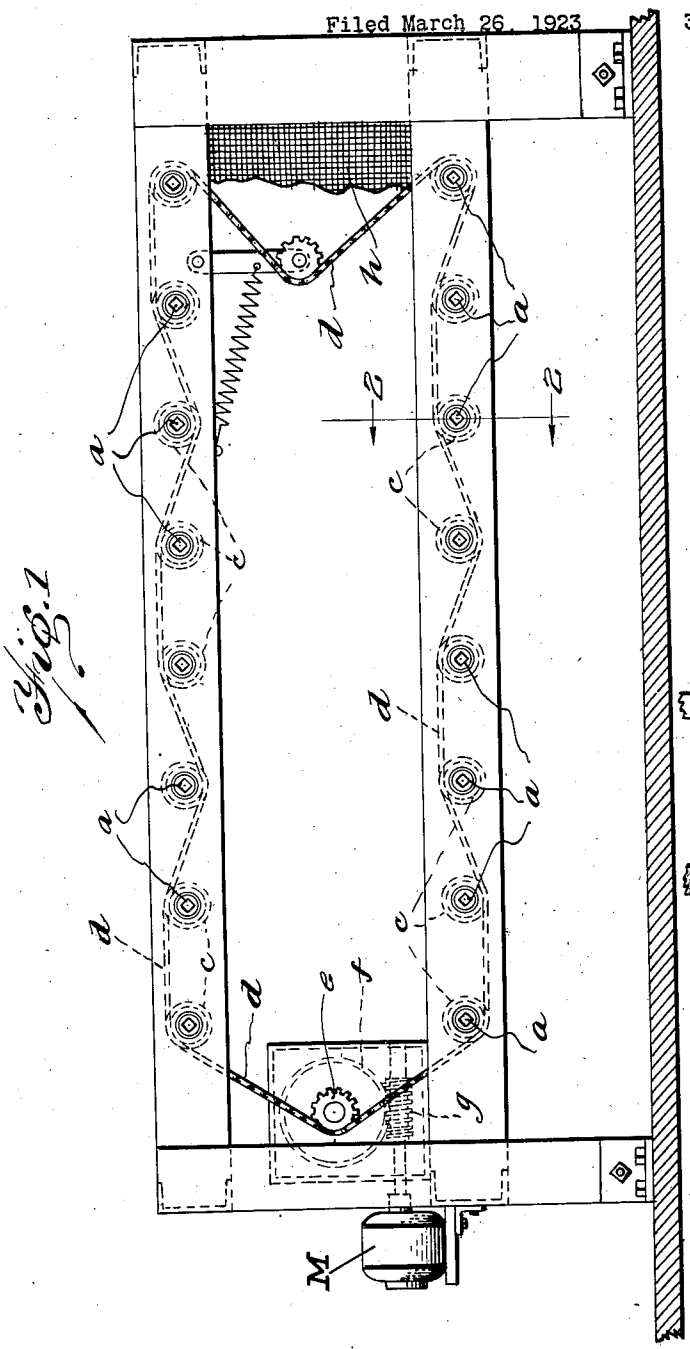
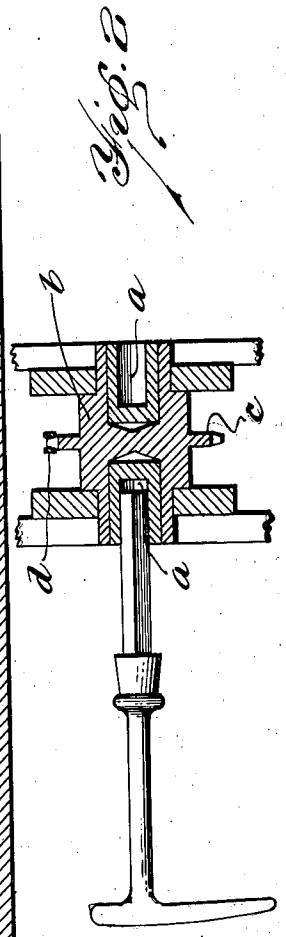
June 30, 1925. 1,544,184

W. SCHNELL

METHOD OF COATING AUTOMOBILE DOOR HANDLES

Filed March 26, 1923 3 Sheets-Sheet 1





Inventor

William Schnell

By Stuart C. Barnes

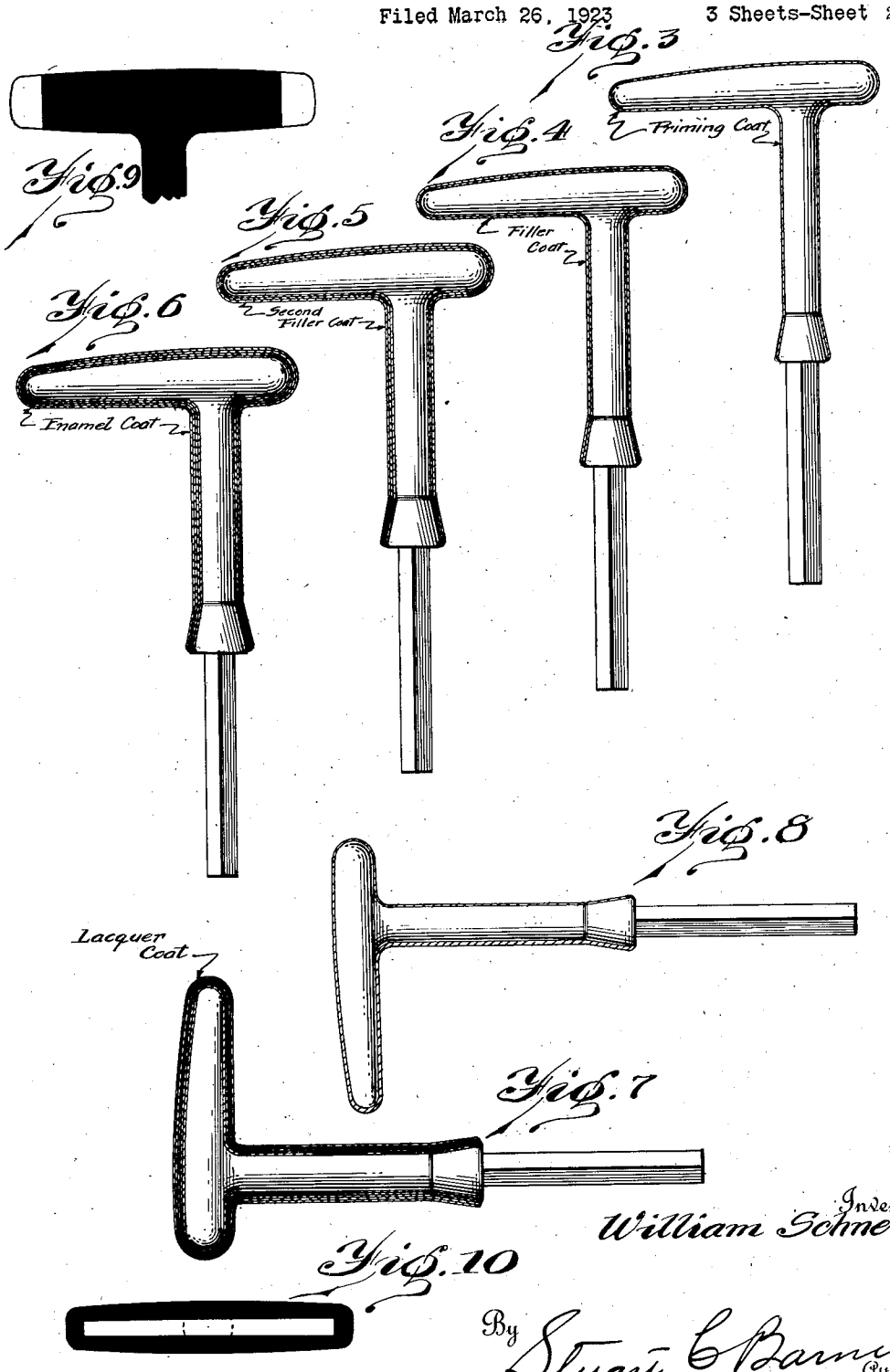
Attorney

June 30, 1925. 1,544,184

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METHOD OF COATING AUTOMOBILE DOOR HANDLES

Filed March 26, 1923 3 Sheets-Sheet 2



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METHOD OF COATING AUTOMOBILE DOOR HANDLES

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Fig. 11

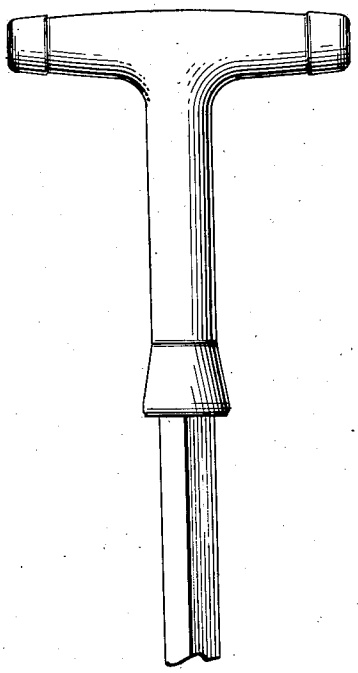


Fig. 12

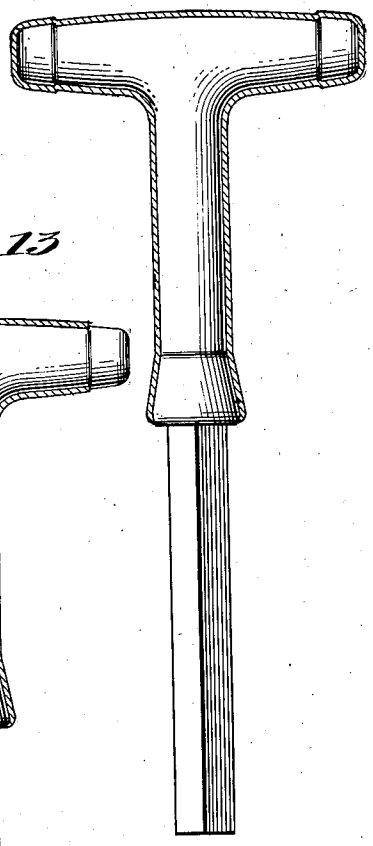


Fig. 13

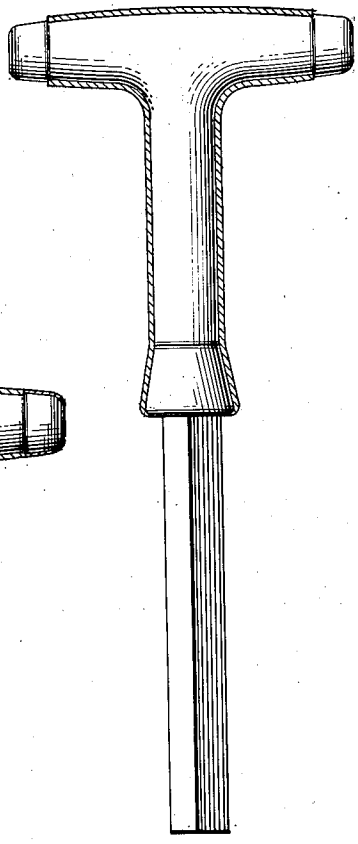
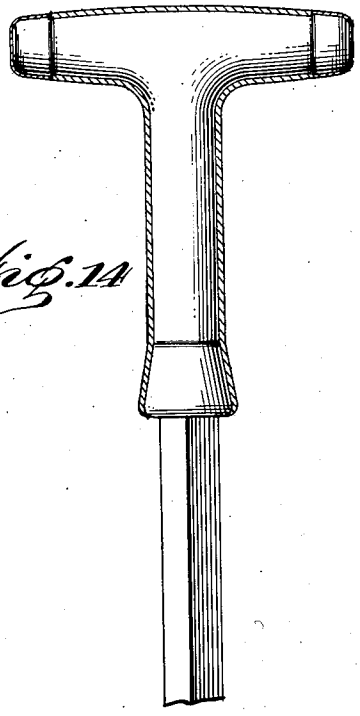


Fig. 14



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Patented June 30, 1925. 1,544,184

UNITED STATES PATENT OFFICE.

WILLIAM SCHNELL, OF DETROIT, MICHIGAN, ASSIGNOR TO SHEPARD ART METAL COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

METHOD OF COATING AUTOMOBILE DOOR HANDLES.

Application filed March 26, 1923. Serial No. 627,617.

To all whom it may concern:

Be it known that I, WILLIAM SCHNELL, citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Methods of Coating Automobile Door Handles, of which the following is a specification.

This invention relates to the method of coating automobile door handles with enamels. Heretofore it has been customary to coat them with a rubber compound by a moulding and vulcanizing operation. However, this is relatively expensive. The purpose of my method is to afford a cheaper and more expeditious way of applying a coating material which is preferably a pyroxylin or celluloid compound.

In the drawings:

Fig. 1 is a front elevation of a machine for evenly distributing and drying the coats.

Fig. 2 is a section taken on the line 2—2 of Fig. 1.

Figs. 3 to 7 inclusive are views of the handle illustrating the coats that are applied.

Fig. 8 is a detail of the handle showing how the material into which the handle is dipped runs to one side and how by rotating the handle as shown in Fig. 1, an even distribution is secured.

Figs. 9 and 10 show two modifications which involve a process for removing a portion of the grip and nickel plating the same.

Figs. 11 to 14 inclusive, are views illustrating how a handle, which is part enameled and part plated, is made.

In the manufacturing of door handles for automobile bodies, heretofore it has been almost the universal custom to use nickel plated handles. These however, because of their bright color are often too prominent on a car and furthermore, they soon begin to tarnish and lose their luster. A variation from this handle has been a handle covered with a moulded and vulcanized rubber compound, which has been used on more expensive cars. This handle is relatively expensive as the moulding and vulcanizing operation is necessarily an expensive one. It is the object of the present invention to afford a handle having the characteristics of such a handle but which is very much cheaper to make than the rubber coated handle.

The workman takes the handle and dips it into a bath of viscous and sticky enamel bath of celluloid or pyroxylin compound dissolved in suitable solvents; I prefer to use "Pyraline" a preparation put out by the E. I. du Pont de Nemours Co., of Wilmington, Delaware.

The handle is then inserted in one of the sockets *a* of the machine shown in Fig. 1. This socket is detailed in Fig. 2, and is simply a squared opening in a sleeve fitted into the hub *b* of the sprocket *c*, rotated by the continuous chain *d* that is driven by the driving sprocket wheel *e*, mounted on the same shaft as the worm wheel *f*, which is in turn driven by the worm *g* attached to the motor M. Preferably, the front of this machine is covered over with a wire mesh *h* to make it safe for the workman so that there is no danger of catching his fingers or clothing in the operating parts. This chain is driven continuously at a relatively low speed. The handle is then slowly turned over or rotated upon its axis. The liquid coating will run down the one side as shown in Fig. 8, but as the handle is continuously rotated this will be evened out and as the coating dries and hardens, the same will be evenly distributed over the entire surface of the grip.

The first coating is known as the "priming coat." After the same has been evenly distributed and sufficiently dried, the handle is removed from the socket and is dipped into a second pan of "filler coat" which is preferably ⅓ celluloid or "Pyraline" with ⅔ zinc dissolved in suitable solvents, and black dye added. These coatings are relatively viscous, sticky coatings so that the coat runs with difficulty and consequently it does not readily drip off—in fact, there is practically no drip at all to it when the same is rotated in the manner I have described. After the handle is removed from the bath of the filler coating, the same is placed in one of the sockets already described, and turned in the same manner until the coating is evenly distributed and substantially dry.

This operation is again repeated to afford

a "second filler coat" of the same material, the distributing and drying operation is repeated.

Again the handle is dipped into an "enamel coat," (⅓ zinc and ⅔ celluloid dissolved with solvents and black dye) dried and distributed in the same manner; and finally the handle is dipped in the "lacquer coat" (celluloid dissolved—"Pyraline" and black dye). The final coating is distributed and dried in the manner hereinbefore described.

The exact number of coatings above described may be varied and also the composition of the substances used. Any quick drying, relatively viscous lacquer or enamel or japan may be used. As I have already stated, I find the most suitable for this purpose is a "Pyraline" enamel, or a celluloid liquified by adding suitable solvents.

In actually carrying out my method, I employ a plurality of machines such as shown in Fig. 1. An operator at this machine dips the handles only in one bath; they are then put into the sockets and allowed to turn until properly distributed and dried; thereupon they are all removed from the sockets into a tray and conveyed to the next operator, who gives them a bath of the next coat and has a machine of his own into which he places the handles for distributing and drying the coating.

Still another method of practising my invention by an automatic machine for dipping these handles is described and claimed in my copending application No. 628,420, wherein the handles are dipped automatically by the machine and rotated automatically as they travel away from the machine.

After the grip portion of the handle has been completely enameled, portions of the same may be stripped off with a knife. For instance, on some handles the ends are stripped as in Fig. 9; on other handles a strip through the center is removed, as appears in Fig. 10. Referring to Figs. 11 to 14, inclusive, it will be seen how this is done. Preferably, the portion to be stripped is made slightly bossed, or higher than the remaining portion. This is shown in Fig. 11. In Fig. 12, the handle is shown after it has been given the several enamel baths already described. In Fig. 13 the handle is shown after it has been stripped on the bossed ends of the enamel. The bossing of the ends enables the stripper to cut off the enamel at the proper places, as the boss serves as a guide. In Fig. 14, the handle is shown after the ends have been nickel plated.

There are two ways of effecting the nickel plating. For instance, the handle may be completely nickel plated and polished before the same is enameled. After it has been dipped in the enamel, allowed to dry and stripped, the handle is completed. The way shown in Figs. 11 to 14 inclusive, is to first dip the handle as shown in Fig. 12, then peel off the enamel along the bossed portions as shown in Fig. 14, and finally nickel plate and buff the stripped portions as shown in Fig. 14.

The handle treated in this way is relatively cheap to manufacture, as the dipping operations can be much more quickly and cheaply effected than a vulcanizing and moulding operation. Furthermore, we find that the celluloid and enamel wears better than the rubber compound. Finally, we find that it is practical to strip enamel of this kind before it is unduly hardened without cracking the adjoining portions. Hence, it is possible by the use of bosses such as I have shown to quickly and easily strip a portion of the handle to afford the plated portion. These plated portions give the handle life that it would not otherwise have by contrasting bright portions with black portions.

"Enamel" is used in the claims in a broad significance of any suitable varnish, lacquer, liquid celluloid compound, japan or similar material with or without pigment.

In the claims it has been necessary to state the electroplating after the enameling, but I want it understood that this covers the equivalent, to wit: electroplating before the enameling.

What I claim is:

1. The method of finishing door handles which comprises the dipping of the grip portion of the handle in enamel and permitting the same to dry, the stripping of a portion of enamel off, and the plating of such exposed portions.

2. The method of finishing door handles, which comprises the dipping of the handles in several coatings of sticky, viscous enamel, the even distributing of the coating of enamel and permitting the coating to dry, the stripping of portions of the coating off the handle, and the plating of such exposed portions.

3. The method of manufacturing door handles, comprising the fashioning of a handle with some of the portions bossed, the covering of the handle with an enamel coating, the stripping of the bossed portions, and the plating of such bossed portions.

4. The method of manufacturing door handles, which comprises the fashioning of a handle with designated bossed portions, the dipping of the handle in several coatings of sticky, viscous enamel, the even distribution of the coating of the enamel and drying of such coating, the stripping of the bossed portions, and the plating of such bossed portions.

In testimony whereof I affix my signature.

WILLIAM SCHNELL.