United States Patent

Kern

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[54] **TRANSFER TOOL**

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[52] **U.S. Cl.**.....**81/9.2**, 401/292

[51] **Int. Cl.**.....**B41b 1/00**, B41c 1/06

[58] **Field of Search**.....81/9.2; 30/164.9, 366; 35/66; 401/292

[56] **References Cited**

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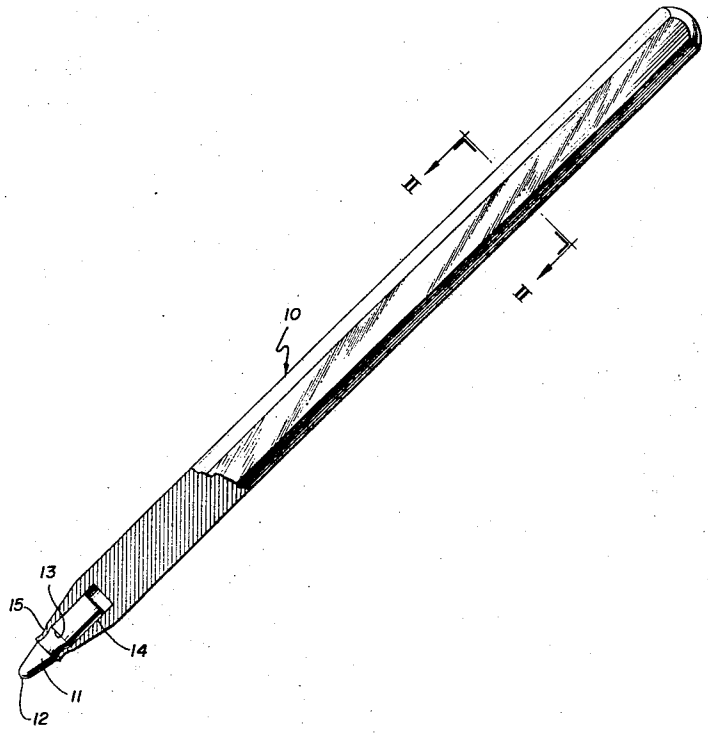
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[57] **ABSTRACT**

A hand tool for use in presenting a smooth, self-lubricating, relatively friction-free surface to a workpiece to effect transfer of material without damaging either the workpiece or the transfer medium. The tool comprises an elongated handle having connected at one end thereof an operating tip formed of polytetrafluoroethylene.

3 Claims, 2 Drawing Figures



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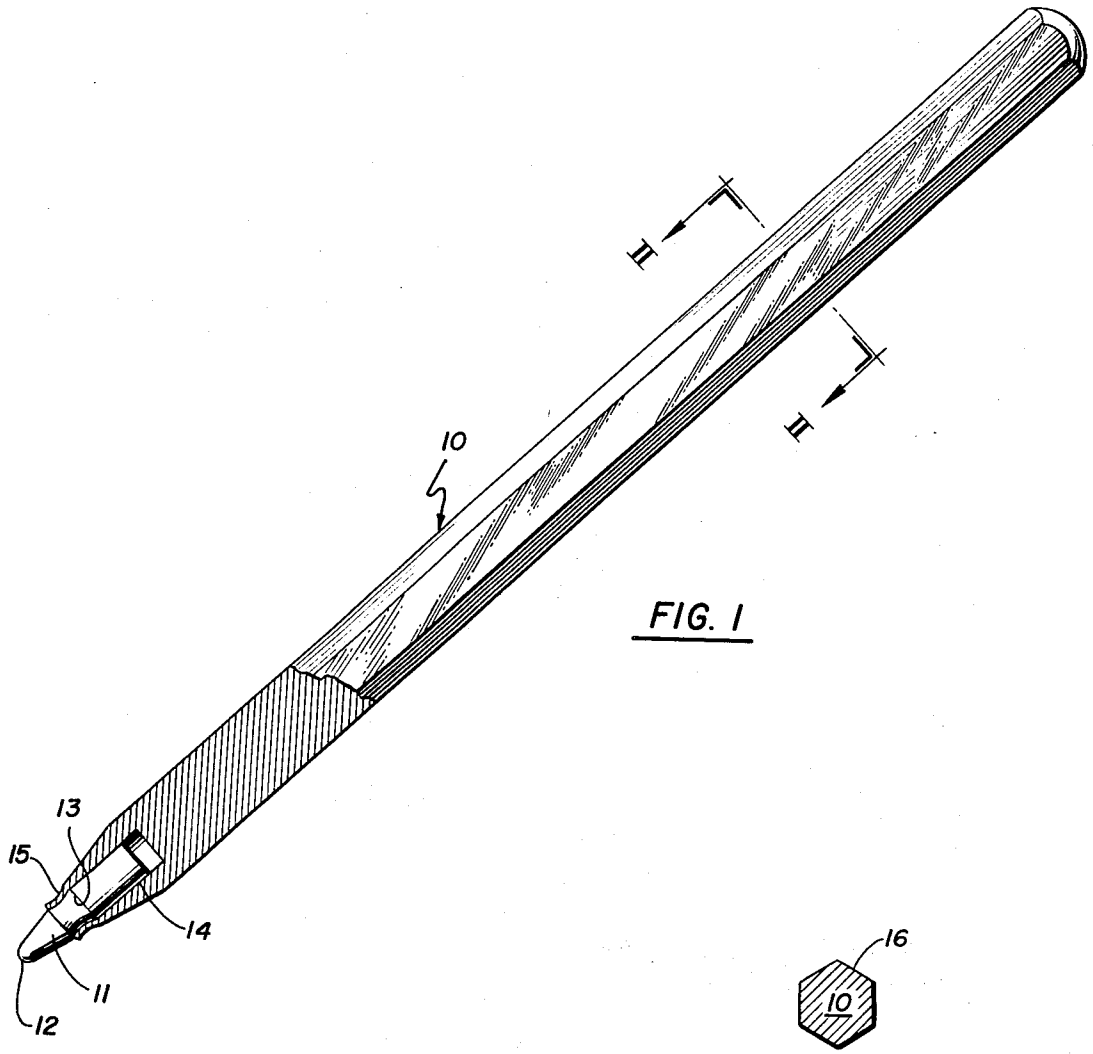


FIG. 1

FIG. 2

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TRANSFER TOOL

BACKGROUND OF THE INVENTION

This invention relates to hand operated tools and, more particularly, to hand operated tools for effecting transfer of material from one surface to another, or for effecting a change in the physical character of a surface as by scribing and the like.

Heretofore, transfer tools and hand scribers have generally employed an operating surface of metal. Since metal has a relatively high coefficient of sliding friction, a degree of objectionable surface abrasion has resulted. Further, such metal tools are subject to nicking which, in turn, causes further objectionable surface abrasion. When such tools are made of glass, they are subject to being easily broken if dropped.

In the transfer of designs or lettering from one surface to another, any roughness of the surface of the transfer tool could result in damage to the material being transferred, or in uneven transfer producing an undesirable effect. In the case of clothing patterns having a transferable coating, roughness in the transfer tool could additionally result in damage to the pattern.

SUMMARY OF THE INVENTION

The present invention provides a transfer tool which is easily manufactured, durable, not easily subject to nicking and which has a relatively low coefficient of sliding friction. This is accomplished by providing a transfer tool having a lightweight handle and an operating tip formed of polytetrafluorethylene. Because of the inherent nature of polytetrafluoroethylene which renders it highly resistant to adhesive bonding, the operating tip is mechanically connected to the tool handle. While both the tool handle and the operating tip could be formed from a unitary piece of polytetrafluoroethylene, this is not economically feasible due to the relatively high cost of the material, and lack of stiffness of the polyester.

BRIEF DESCRIPTION OF THE DRAWING

Other objects and features of the invention will become more apparent by reference to the accompanying drawing of which:

FIG. **1** is a plan view, partly in section, of the transfer tool of the present invention; and

FIG. **2** is a cross-sectional view of the transfer tool taken along the lines II—II of FIG. **1**, showing one configuration of the handle.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawing, there is depicted a transfer

tool according to the present invention which comprises a handle **10** and an operating tip **11**. The operating tip **11** has a point **12** shaped to the desired curvature for the operation to be performed thereby. The operating tip **11** has a recess **13** around the periphery thereof. The handle **10** has an annular recess **14** in the end thereof, and the operating tip **11** is disposed in this recess. The sides of the handle **11** are deformed at **15** to coincide with the recess **13** in the operating tip **11** and positively lock the operating tip **11** in place in the handle **10**.

The operating tip **11** is formed of polytetrafluoroethylene. Fillers such as sand and the like can be incorporated into the polytetrafluoroethylene to reduce the cost of the finished tip. The fillers should not exceed about 50 percent by weight or the inherent properties of self-lubricating, self-cleaning, low friction and the like of polytetrafluoroethylene will be lessened. The handle **10** can be formed of metal, preferably aluminum because of its light weight, low cost, and machineability. The handle could also be formed of a suitable plastic material extruded around the operating tip. Suitable plastics would be polypropylene, polystyrene, polyoxymethylene, nylon, and the like.

The shape of the handle **10** can be varied to suit the use of the tool. As illustrated, the handle **10** has a flat surface **16** for ease of operation. Such a surface also prevents the tool from rolling when not in use. It could have a plurality of flat surfaces, a series of coaxial grooves spaced along the surface thereof, or the like to aid in gripping the tool.

It will be obvious to those skilled in the art that changes and modifications may be made without departing from this invention in its broadest aspects and, therefore, the aim of the appended claims is to cover all such changes and modifications as in the true spirit and scope of this invention.

I claim:

1. A transfer tool having an elongated handle, an annular recess in one end of said handle, an operating tip formed of polytetrafluoroethylene disposed within said recess, said operating tip having a recess about the peripheral surface thereof, said handle having within said recess an annular protuberance which engages with the annular recess of said operating tip to lock said operating tip within said handle.

2. The transfer tool of claim **1**, in which the handle has at least one flattened side portion.

3. A transfer tool, comprising

a. an elongated handle having a longitudinal recess at one end, and

b. an operating tip located in the recess and extending therefrom, the tip being formed of a slippery polymer plastic.

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