Oct. 26, 1948. F. D. PABIS 2,452,259

ELECTRIC BURNING-IN KNIFE

Filed Nov. 15, 1946

FIG 1

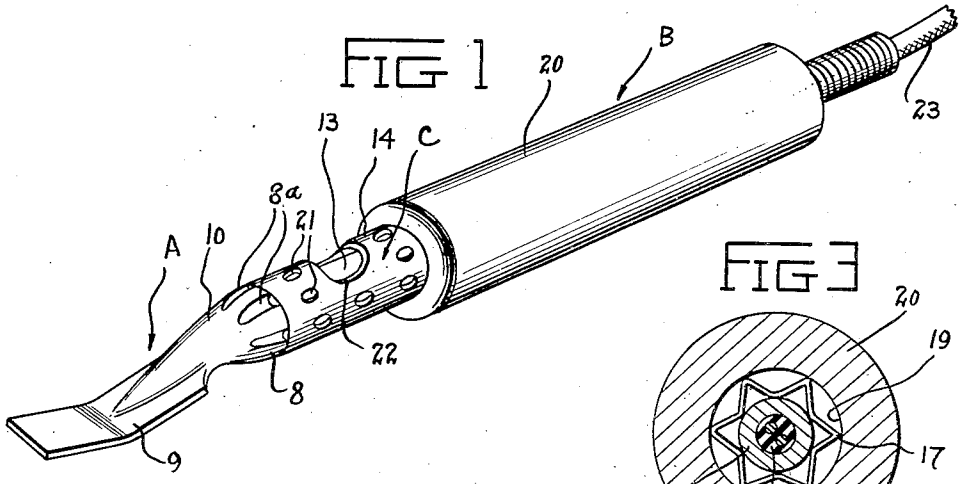



FIG 3




FIG 2

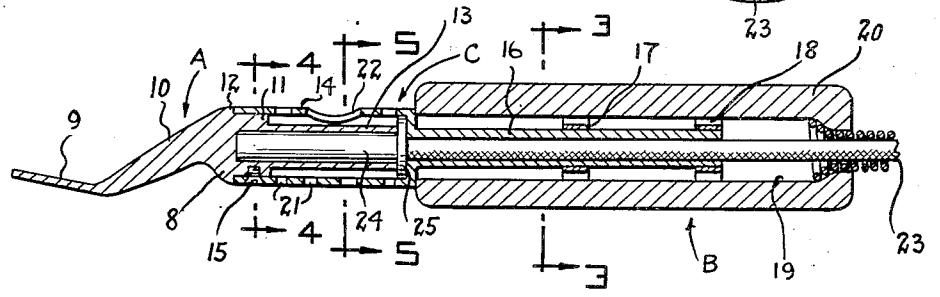



FIG 4

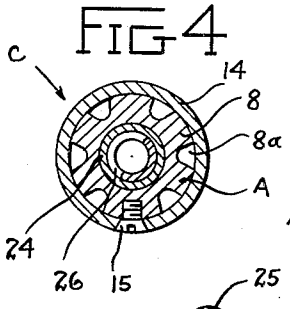



FIG 5

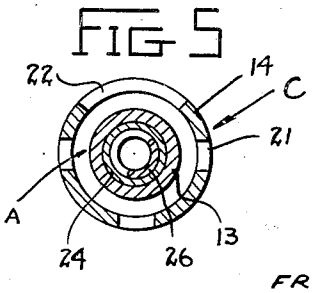



FIG 6




*Inventor*

FRANK D. PABIS

By Clarence A. O'Brien and Harvey B. Jacobson

*Attorneys*

Patented Oct. 26, 1948

2,452,259

# UNITED STATES PATENT OFFICE

2,452,259

## ELECTRIC BURNING-IN KNIFE

Frank D. Pabis, Amsterdam, N. Y.

Application November 15, 1946, Serial No. 709,958

3 Claims. (Cl. 219—21)

1

The present invention relates to a novel and improved electrically heated burning-in knife which is expressly, but not necessarily, adapted to effectively and adequately melt stick shellac, commonly known as wood cement, and to permit proper utilization of same in wood filling operations and the like.

Due to the nature of the conditions met in this line of endeavor and because of the character of so-called knives employed, excessive heat is developed in the area in which the knife is employed and thus, as is obvious, makes the handling of the tool unhandy and interferes with expedient usage of same. The purpose of the present invention is to provide a tool of the type under advisement in which the parts are such as to provide for adequate circulation of air in and around the tool part, whereby to render same susceptible of adequate and easy handling.

More specifically, the invention has to do with the structural formation and styling of the co-acting parts, whereby to provide an efficient tool which aptly fulfills the requirements of the results wanted, the structure thus employed being possessed of requisite simplicity and reliability.

One phase of the invention has to do with the special head employed, this being provided with an appropriately shaped blade carried by a shank, said shank being formed with a shoulder portion and an axial reduced socket, the socket being adapted to accommodate an insertible and removable electric heating element.

Another phase of the invention has to do with a suitably insulated hollow handle mounted on and spaced from a tubular shank, the latter forming a part of a special adaptor unit and said unit including a perforated cylindrical shell to fit on and accommodate the specially formed shank portion of said head unit.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a perspective view of a tool or so-called burning-in knife constructed in accordance with the principles of the present invention;

Figure 2 is a central longitudinal sectional view through the same;

Figures 3, 4 and 5 are cross sectional views, on enlarged scales, taken on the planes of the lines 3—3, 4—4 and 5—5 respectively; and,

2

Figure 6 is a perspective view of a washer used in the completed assemblage.

Referring now to the drawings by distinguishing reference numerals, it will be observed, in an overall inspection of the drawings, that the completed tool is characterized essentially by a head unit A, a handle or hand-grip B, and an intervening coupling adaptor C associated with and connecting parts or units A and B.

The unit A comprises a head proper 8 with a suitably shaped blade 9 connected thereto by way of the integral tang 10. The head is provided, to the right in the drawing, with a shank including an annular mount 11 and a stop shoulder 12, and an axially elongated reduced socket 13.

The unit C which is a combined adaptor and coupling, comprises a cylinder 14 which telescopically receives the socket 13 and has one end fitted over the annular mount 11 and against the stop shoulder 12, being held in place by a set-screw 15. This cylinder is provided at its right-hand end with an elongated tubular shank 16, said shank being provided with star-like spacers 17 and 18, fitting in the central bore 19 and surrounding the shank, the parts co-acting in a manner to thus properly mount and space the insulated hand-grip 20, as shown. Referring again to the coupling or cylinder 14, it will be observed that this is provided with a plurality of air circulating perforations 21 and with a large air circulating hole 22 on one side. The current conducting cord is denoted at 23 and is provided with a conventional electrical heating element 24 fitting snugly in the socket 13, an insulation washer being shown at 25. In Figures 4 and 5 I have shown the heating coil 26 in the shell of the heating element 24.

It is obvious, that the parts A, B and C are so designed and so co-act with each other as to promote free air circulation and to thus keep the tool, as a unit, substantially cool, as compared to similar tools of the same category, whereby to promote easy and practical handling. All of the parts are of the utmost simplicity, design, this in a manner to facilitate assembling and disassembling, according to the requirements of the occasion met.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and

rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

The head 10 is also formed with a plurality of surface grooves 8a which function to better aerate and cool down the adjacent parts.

I claim:

1. In a burning-in hand tool of the class described, an electrically heated head unit including a body portion provided on one side with an integral axially positioned and elongated socket, and provided on an opposite side with a projecting tang terminating in a laterally offset flat blade, a heating element mounted in said elongated socket, a coupling unit attached at one end to said head unit and partially enclosing and surrounding, in spaced relation, said elongated socket, said portion of the coupling unit being provided with a multiplicity of perforations for free circulation of cooling air, said coupling unit being further provided with a reduced elongated tubular shank of a diameter matching that of the socket and in axial alignment with the socket, said shank being adapted to accommodate a cord with which the electric heating element is provided, and openwork spacing spiders on said shank adapted to accommodate a centrally bored hand-grip.

2. A burning-in hand tool of the class described comprising a one-piece electrically heated head unit including a fluted solid body portion having an angularly disposed projecting tang at one end terminating in a flat offset blade and provided at the opposite end with a reduced shank forming a shoulder and a reduced elongated axially projecting socket adapted to accommodate an electric heating element, and a coupling and handle attaching unit embodying a cylindrical portion secured on said shank and abutting said shoulder and concentrically surrounding said socket and including a reduced tubular handle supporting shank.



3. The structure specified in claim 2 wherein a heating unit is mounted in said socket, said heating unit having a current supply cord, said cord extending through said tubular shank, the tubular shank at its point of juncture with said cylindrical portion providing a shoulder, said shoulder assisting in holding the heating unit in the socket and also providing a stop for one end of a hand-grip, and openwork spiders mounted on said shank and adapted to accommodate and support a hand-grip.

FRANK D. PABIS.


REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 1,656,256 | Wilson | Jan. 17, 1928 |
| 1,905,987 | Lane | Apr. 25, 1933 |
| 1,909,061 | Lindholm | May 16, 1933 |
| 1,961,496 | Holmes | June 5, 1934 |
| 2,031,532 | Goldman | Feb. 18, 1936 |
| 2,224,585 | Abbott | Dec. 10, 1940 |
| 2,243,549 | Yocom | May 27, 1941 |
| 2,257,376 | Grey | Sept. 30, 1941 |