

June 23, 1970

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3,516,159

TERMINAL SCRAPING TOOL

Filed Nov. 8, 1967

Fig. 1

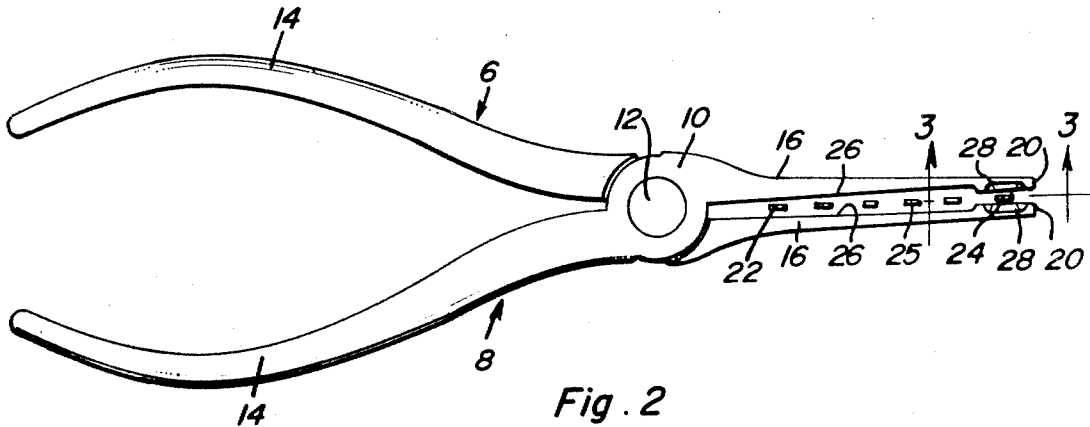


Fig. 2

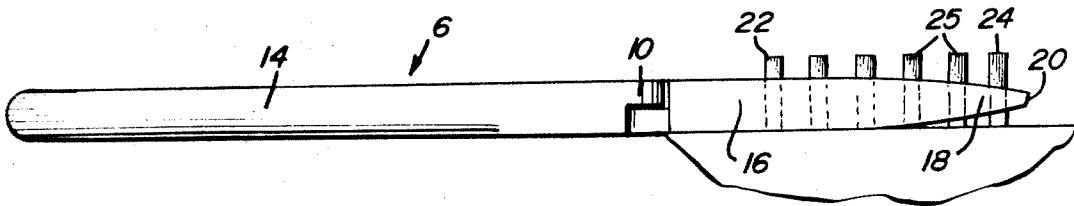


Fig. 3

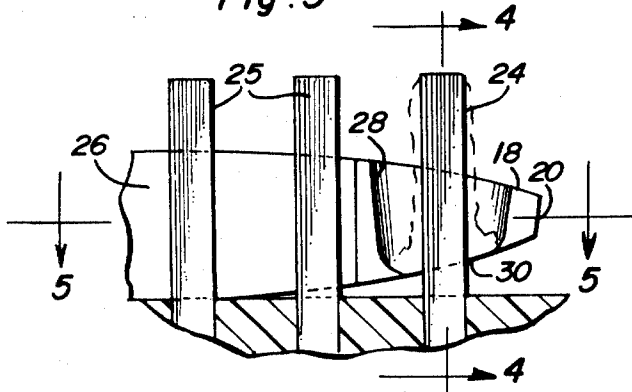


Fig. 4

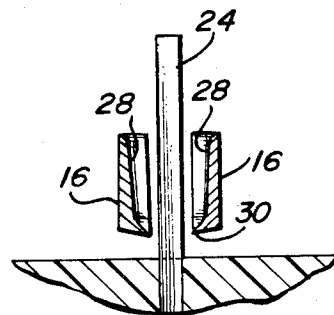
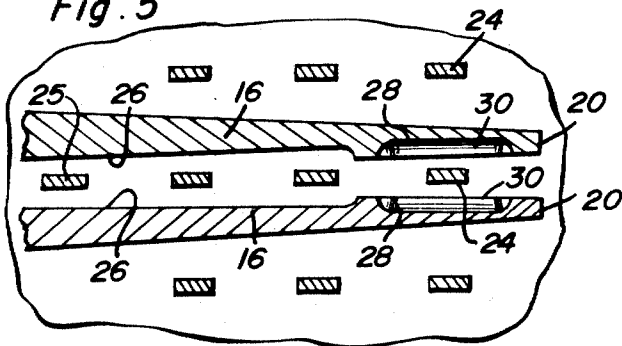


Fig. 5



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3,516,159

TERMINAL SCRAPING TOOL

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Filed Nov. 8, 1967, Ser. No. 681,368

Int. Cl. B27g 17/04

U.S. Cl. 30—169

5 Claims

ABSTRACT OF THE DISCLOSURE

A tool which enables a user to dispense with makeshift terminal scraping implements when called upon to periodically scrape and clean block connectors or terminals on the main terminal block in a dial telephone system and where the automatic equipment is operatively connected to cables leading to the individual telephone outlets. The tool includes a pair of lever units pivotally connected at their crossed median portions. The lever units define a pair of handles on one side of the pivotal connection and a pair of elongated jaws on the other side. The jaws carry confronting scraping edges at their terminal ends and have spaced apart inner surfaces between said ends and said pivotal connection for straddling one or more terminals in a group to scrape a distant terminal. The problem posed is capable of efficient solution by using the herein disclosed pliers.

This invention relates to a manually usable resourceful tool which is expressly designed and structurally implemented to effectually serve the needs of a user when he is called upon to cope with the perplexing and time and labor consuming task of scraping and cleaning the exterior surfaces of each of the in-line coplanar terminals on the main terminal block in a dial telephone system currently in use.

In keeping with prevailing practice, the above-mentioned terminals are customarily individually heated with a soldering iron to melt the accumulated deposit whereupon the latter is dislodged and scraped off with the aid of a pair of needle-nosed pliers or any other makeshift tool which is available. Needle-nose pliers are quite ineffective because once the foremost or first terminal is taken care of it becomes an obstacle and interferes with and prevents the jaws of the pliers from closing sufficiently to scrape the next terminal and on to the rear terminal. Scraping and cleaning tools have been devised and offered for use by prior patentees but are used for individual terminal cleaning such as, for example, Seguin's scraping tool, Pat. 2,125,653; and McClanahan's cleaning tool, Pat. 2,888,700. The fact that the tool herein under advisement is precision made to act on telephone connection terminals on the main frame which are in a row, puts the instant tool in a category by itself, as will be self-evident when it is compared with prior art tools and implements. Then, too, the tool revealed permits a user to pursue the usual procedural steps wherein the terminals are heated to loosen the lead. In fact, the leading or tip ends of the jaws have knife-like scraping edges or blades and lead trapping recesses or pockets which conjointly scoop in the loosened material as the jaws are forcibly maneuvered in an upward scraping manner on diametrically opposite sides of each selectively straddled and scraped terminal.

The tool herein comprehended enables the user to systematically and conveniently scrape and clean each of the six terminals without encountering the usual perplexing difficulties. It can be placed across each terminal and, because of the attenuated amply long tapering jaws, the rearmost terminal can be reached and effectually scraped with minimal difficulty. Accordingly, a tool

devised and used as herein covered will well serve the particular purposes for which it has been perfected and serviceably used.

Briefly, the preferred embodiment herein shown and described is characterized by a pair of lever units having corresponding median portions crossing each other and pivotally joined together, having companion portions located and projecting beyond one side of the pivotal connection and fashioned into and providing a pair of openable and closable handles, and also having portions projecting beyond the diametrically opposite other side of said pivotal connection and fashioned into and providing a pair of elongated jaws, said jaws being of a length capable of simultaneously straddling a plurality of said terminals and having opposed surfaces which are designed and adapted to act on and scrape and clean at least one of said terminals.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a top plan view of a terminal scraping tool constructed in accordance with the principles of the present invention and showing the manner in which it can be and is satisfactorily used.

FIG. 2 is a view in side elevation of the same.

FIG. 3 is an enlarged detail view with parts in section and elevation and showing one of the jaws fragmentarily and taken on the plane of the section line 3—3 of FIG. 1.

FIG. 4 is a view at right angles taken on the plane of the vertical section line 4—4 of FIG. 3.

And FIG. 5 is a view showing both jaws and how they are constructed and utilized and which is taken approximately on the plane of the horizontal section line 5—5 of FIG. 3.

As shown in FIG. 1 the pliers-type tool lends itself to manual application and use. Broadly it comprises a pair of companion or complementary lever units one of which is denoted at 6 and the other one at 8. Median portions 10 of the respective lever units 6 and 8 are crossed and pivotally connected as at 12 in overlapping relationship. The portions of the lever units to the left of the pivotal connection 12 are coplanar and fashioned into customary longitudinally bowed openable and closable handles 14. The portions of the units which project to the right of the pivotal connection project in opposed coplanar relationship beyond the pivotal connection and are fashioned into duplicate relatively long jaws 16. It will be noted that the free end portions 18 are gradually and progressively reduced in cross-section and terminate in piloting tips 20. These jaws are of an intentional length capable of simultaneously straddling all six of the aforementioned terminals, one end terminal being denoted at 22, the other end terminal at 24 and the intervening terminals at 25. These thus reduced and elongated jaws are designated as narrow-nosed and have inward substantially planar lengthwise main jaw surfaces which are denoted at 26. The free leading end portions of the inward surfaces of the respective jaws are provided with duplicate suitably elongated recesses 28, said recesses opening through the upper marginal edges of the respective jaws in the manner shown in FIG. 4. The bottom edge portion of each recess is provided with a longitudinal knife-like scraping edge, these edges being in coplanar opposed relationship as shown in FIG. 4 and being denoted at 30. The edge portions 30 are designed and adapted to abut each other when the jaws 16 are tightly closed (not shown). When in use the edges are adapted to abut diametrically opposite sides of the terminal which is being acted upon in the manner illus-

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trated in FIG. 4. It is reiterated that the scraping edges are commensurate in length with each other and also with the respectively cooperating recesses and terminate at their forward or leading ends just inwardly of the piloting nose portions 20. It will be evident that the edges 30 in conjunction with the recesses 28 define lead trapping recesses or pockets which conjointly scoop in the loosened material as the jaws are forcibly moved in an upward scraping manner against diametrically opposite sides of the straddled terminal as is evident, it is believed, from the views of the drawing particularly FIGS. 3, 4 and 5.

FIGS. 1 and 2 show the general manner in which the tool enables a worker to apply the same and to satisfactorily achieve the selective scraping and cleaning step desired. These views taken on conjunction with the enlarged views FIGS. 3 to 5 inclusive and considered in conjunction with the preceding description will enable the reader to obtain a clear and comprehensive understanding of the construction of the tool and the efficient and acceptable manner in which it can be used.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. A manually usable pliers-type tool designed and adapted to scrape and clean seated accumulated lead deposits from the exterior surfaces of any one of a selected group of like rectangular flat-faced terminals oriented in spaced apart row alignment comprising: a pair of complementary lever units having corresponding median portions crossing each other and pivotally connected together, rearward companion portions located and projecting beyond one side of the pivotal connection and fashioned into and providing a pair of openable and closable handles and also having forward portions projecting beyond the diametrically opposite other side of said pivotal connection and fashioned into and providing a pair of elongated duplicate jaws, said jaws being of a length that they are adapted to simultaneously straddle all of said terminals and having opposed inward lengthwise surfaces which are substantially planar and range from said pivotal connection to points rearwardly inwardly of the free terminal ends of said jaws, pre-

scribed inward surface portions of said jaws between said terminal ends and planar surfaces having coordinating longitudinal knife-like scraping edges, said edges being identical, confronting each other, projecting beyond the respective planar surfaces and being adapted to abut diametrically opposite flat sides of a selected terminal when said edges are being used, and said planar surfaces being spaced apart a prescribed distance by the abutting knife-like edges even when said handles and coacting jaws are fully squeezed to assume closed positions.

2. The tool defined in and according to claim 1, and wherein that portion of each jaw face which is proximal to and aligned with a cooperating scraping edge has a longitudinal recess commensurate in length with the length of its coordinating scraping edge.

3. The tool defined in and according to claim 1, and wherein that portion of each jaw face which is proximal to a cooperating scraping edge has a recess commensurate in length with its coordinating scraping edge, said knife-like scraping edges being located at the bottommost portion of each oriented and coordinating recess, and the upper portions of said recesses opening through coacting upper edge portions of said jaws.

4. The tool defined in and according to claim 3, and wherein the free leading end portions of said jaws containing said recesses and scraping edges are progressively gradually decreased in transverse cross-section and are upwardly rockable, whereby to provide tapering tool-end piloting, manipulating, and fulcruming nose portions.

5. The tool defined in and according to claim 4, and wherein said recesses and their complementary scraping edges are commensurate in length with each other and terminate at their forward ends inwardly of the terminating ends of said nose portions.

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U.S. Cl. X.R.

81-5.1