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PARAFFIN TOOL OR KNIFE

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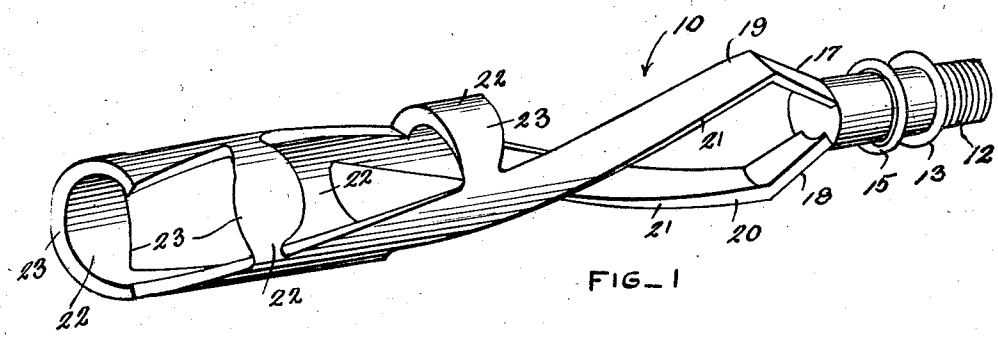

FIG_1

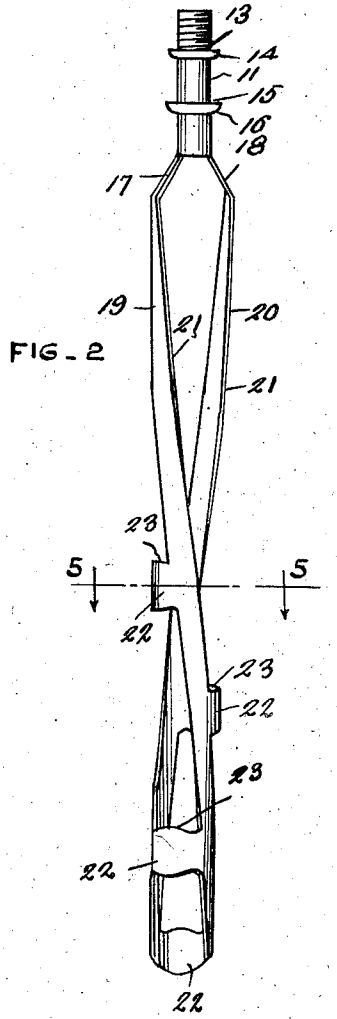

FIG_2

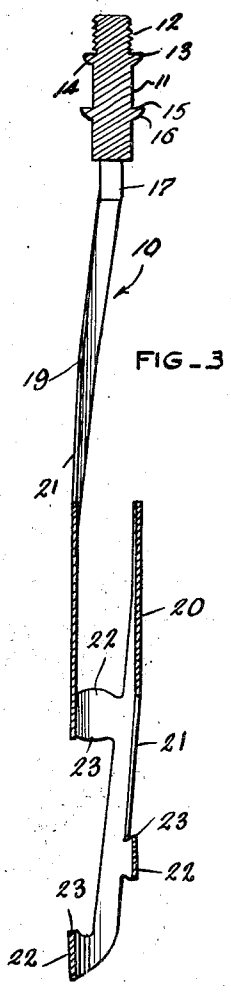

FIG_3

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PARAFFIN TOOL OR KNIFE

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Application February 25, 1955, Serial No. 490,589

1 Claim. (Cl. 166—176)

This invention relates to improvements in paraffin cleaning tools or knives that are adapted to clean paraffin and other residue from the tubing of oil wells.

An object of the invention is to provide a paraffin tool or knife that will efficiently and effectively clean the interior bore of well tubing.

Another object of the invention is to provide a paraffin tool or knife that is provided with a coupling end so that the tool or knife can be attached to a cable or drill rod so that the tool or knife can be lowered into the well tubing while the pressure is present in the well tubing.

The formation of the paraffin tool will cause the paraffin and residue to be loosened so that the oil will carry the paraffin and residue to the top of the well tubing where it can be disposed of, usually to a burning pit.

With the above and other objects and advantages in view the invention consists of the novel details of construction, arrangement and combination of parts more fully hereinafter described, claimed and illustrated in the accompanying drawing in which:

Fig. 1 is a perspective view of a paraffin tool or knife embodying the invention;

Fig. 2 is an elevational view of the tool of Fig. 1;

Fig. 3 is a longitudinal sectional view of the tool of Fig. 2;

Referring more in detail to the drawing wherein like parts are designated by like reference numerals the reference numeral **10** is used to designate a paraffin tool or knife embodying the invention.

The tool **10** comprises a stud **11** having a threaded end **12** whereby the tool **10** may be connected to a cable or drill rod for the operation of the tool as will be later described.

The stud **11** is provided with a circular flange **13** adjacent the termination of the threads and the flange is provided with a bevelled lower edge **14**.

A second circular flange **15** having a bevelled lower edge **16** is provided on the stud **11** intermediate of the first flange **13** and the end of the stud opposite to the threaded end thereof.

A pair of opposed outwardly diverging projections **17** and **18**, respectively, are provided on the unthreaded end of the stud **11** and the outermost ends of these projections are farther apart than the diameter of the stud **11**.

Depending from the outer ends of the projections **17** and **18** in axial alinement with the stud **11** and with each other are a pair of spiral blades **19** and **20**, respectively. The blades **19** and **20** have a spiral twist of 180 degrees from one end to the opposite end thereof.

The longitudinal edges **21** of both blades are sharpened and bevelled toward the inside thereof.

Four vertically spaced knives **22** are integrally connected at their opposite ends to the edges **21** of the blades **19** and **20**. Viewing Fig. 1, it will be seen that the knives **22** are so spaced that no two knives are in alinement with each other.

The lowermost knife **22** is at the lower end of the blades **19** and **20** and the remaining three knives are in vertical spaced relationship.

The knives **22** have arcuate shaped edges **23** that are also sharpened and bevelled toward the inside.

The transverse cross-sections of the blades **19** and **20** and the knives **22** are such that the tool is circular in formation along its length.

The tool, by means of the threaded end **12** of the stud **11**, may be connected to a cable or drill rod. Thus the tool can be lowered into the well tubing to cut paraffin and other residue from the internal bore of the well tubing.

Since the diameter of well tubing varies, the tool will be made in various sizes so that just sufficient clearance is provided between the tool and the wall of the well tubing to permit the insertion of the tool into the well tubing. As the tool is lowered into the tubing, the sharpened edges of the blades **19** and **20** and knives **22** will cut or scrape the paraffin from the walls of the tubing.

There has thus been provided a paraffin cleaning tool that is efficient and effective in operation and it is believed that the construction and operation of the invention will be apparent to those skilled in the art.

It is also to be understood that changes in the minor details of construction, arrangement and combination of parts may be resorted to provided they fall within the spirit of the invention and the scope of the appended claim.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

A paraffin cleaning tool for well tubing comprising a coupling stud, a pair of spiral blades dependently connected to said stud, and a plurality of vertically spaced knives integrally interconnecting said blades, said blades having a spiral twist of 180° for their entire length, said tool being of circular cross section, and said blades and knives having the inner faces of their edge portions inwardly beveled.

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