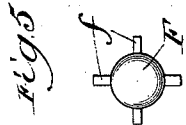
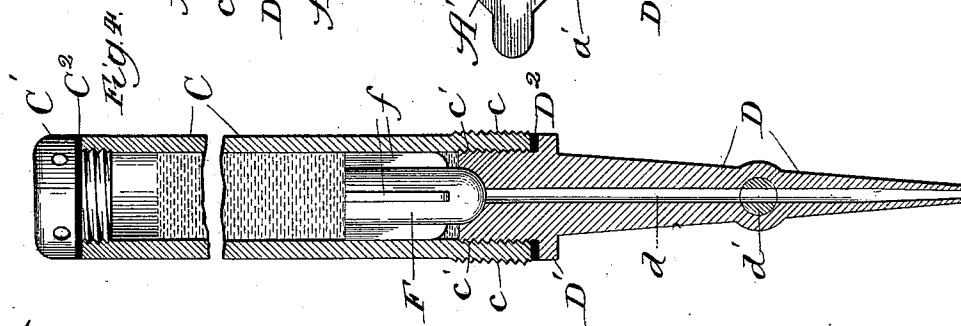
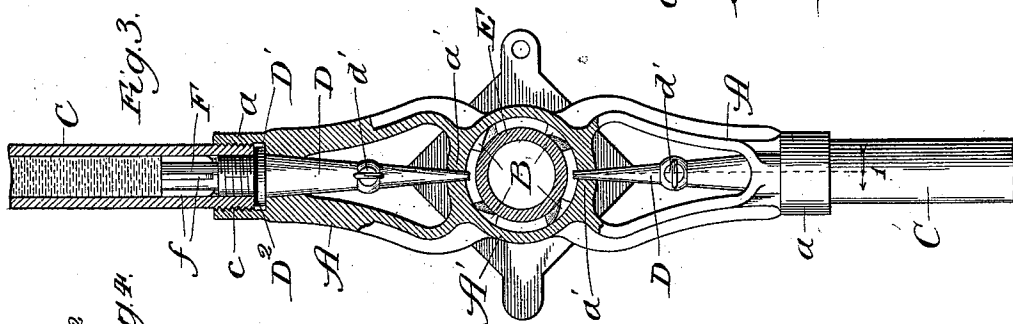
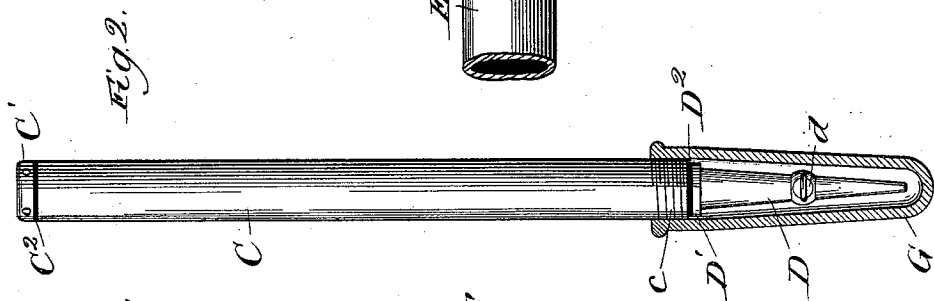
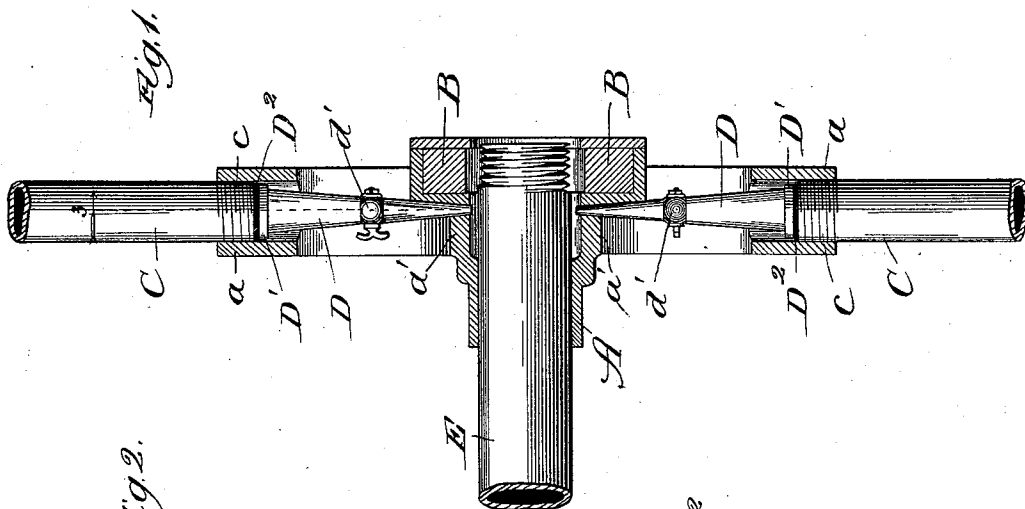


(No Model.)

A. ELMENDORF.
AUTOMATIC OILER FOR SCREW CUTTING DIES.

No. 543,001.

Patented July 23, 1895.



Witnesses:
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Lute J. Alter

Inventor:
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Att'y. "

UNITED STATES PATENT OFFICE.

ALBERT ELMENDORF, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CLINTON WEEKS, OF SAME PLACE.

AUTOMATIC OILER FOR SCREW-CUTTING DIES.

SPECIFICATION forming part of Letters Patent No. 543,001, dated July 23, 1895.

Application filed November 14, 1894. Serial No. 528,823. (No model.)

To all whom it may concern:

Be it known that I, ALBERT ELMENDORF, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented a new and useful Automatic Oiler for Screw-Cutting Dies, of which the following is a specification.

The object of my invention is to provide a simple, economical, and efficient means for automatically supplying the necessary amount of oil to dies during the operation of cutting. It is now the practice to feed or squirt the oil upon the dies and pipe from an ordinary oil-can, but this method is open to many serious objections readily apparent to those skilled in the art, chief among many, the great waste of oil and the necessary stopping of the dies at intervals to allow of the application of such oil. Furthermore, in addition to the above objections, the usual oil-can which is carried in the kits is liable to become broken or damaged, thus either depriving the operator of his oil-supply or permitting extreme waste thereof in feeding when the can is used.

In order to obviate the above-mentioned objections and secure many practical and advantageous results, I provide an oil-reservoir forming preferably a component part of the tool itself when in use and capable of automatically supplying the requisite amount of oil during the working of the cutting-dies, thereby preventing an interruption of the operation of cutting and securing a uniform and practically-continuous supply of oil at the proper points. When the tools are packed in kits there is absolutely no liability of breakage or injury to the reservoir to cause leakage, and an ample and ready supply of oil is therefore always assured; and my invention consists in the features and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view, partly in elevation, taken through line 1 of Fig. 3, showing a stock and die with my device attached; Fig. 2, an elevation of one of the handles or arms with the protecting-cap in section; Fig. 3, a sectional view taken on line 3 of Fig. 1; Fig. 4, an enlarged sectional view of the oil-chamber or reservoir and nozzle, and Fig. 5 a bot-

tom plan of the loose valve within the oil-chamber.

The stock A, bushing or leader A', and the dies B and adjacent parts are made in the usual and well-known manner, and therefore do not require and will not receive any detailed description.

I prefer to use the ordinary arms or handles C C as a component part of my device, which, it will be understood, may be located in or attached to either or both handles, and therefore a description of the device upon one handle will apply to and suffice for both.

The handle C is hollow and preferably cylindrical and provided with a removable cap C', screwing therein upon a suitable gasket C² in order to form a tight joint. The other end of the handle is open and is provided with external screw-threads c, adapted to engage internal screw-threads in the butt-end a of the stock. The open end or bore of the handle is provided for a suitable distance with internal screw-threads c', which receive the corresponding threads of a nozzle D, which is thereby adapted to be removably secured to the handle. This nozzle is provided, preferably, with a circumferential flange or shoulder D', against which and an interposed suitable gasket D² the end of the handle is adapted to be screwed and a tight joint thereby secured. A passage or channel d extends longitudinally through the nozzle and is provided with an ordinary stop-cock d', whereby a regulated passage is provided communicating with the interior of the handle. The nozzle extends toward the center of the stock through the wall a' of the leader and adjacent to the pipe E and the cutting-dies at the proper point for the application of oil.

For a purpose hereinafter to be explained I prefer to employ a suitable weighted valve F, which is preferably, though not necessarily, provided with wings or feathers f, in order that the same may be perfectly centered in its travel in the tube or handle, and also to allow a portion of the oil to pass it in its movement. As shown in Fig. 4, the end of the valve may be rounded or convex and adapted to fit in a concave socket or seat at the head of the passage in the nozzle. If desired, however, the end of the valve and its seat may

be made flat, but the form shown will be found quite successful in practice.

When the arms or handles are unscrewed from the stock the nozzle and concomitant parts are also removed (see Fig. 2) and the cock properly turned. In order to prevent damage to the nozzle I prefer to screw upon the handle a suitable protection-cap G. It will be understood, however, that the nozzle may be cast integral with the body of the stock or so arranged and constructed as to be removably secured therein and there allowed to remain when the handles are removed, in which case ordinary screw-caps may be screwed upon the open end of the handle to prevent the escape of oil. I therefore do not intend to be understood as limiting myself to the specific construction shown in the drawings which is merely for the purpose of convenient illustration and description.

My device, being constructed as above set forth, operates as follows: The handles may be filled or charged with the usual oil either from the nozzle end or from the opposite end after removing the screw-cap. The handles are then screwed into the butt end of the stock in the usual manner and the nozzle will then project and open near the pipe and cutting-dies, as shown in Figs. 1 and 3. The weight of the oil in that handle whose nozzle is downward will force a stream thereof from the nozzle upon the pipe, which flow will be augmented by the weight of the valve descending through force of gravity to the bottom of the handle or oil-reservoir. A greater portion of the oil, of course, will pass by and get above the valve, but a sufficient quantity will be forced out of the nozzle by the combined action of the valve and the gravity or head of the oil itself. When in the rotation of the handles the position of this particular handle has been changed approximately one hundred and eighty degrees, the valve will have fallen to the outer or opposite end of the handle and be ready to again force oil from the nozzle.

In the drawings I have shown a nozzle attached to each handle, although it will be understood that it may be applied to but one of them, or, if desired, to both, and one used at a time, as indicated in the drawings, wherein the stop-cock is shown as closing the passage in one of the nozzles. In this manner I am enabled to obtain an automatic regulated flow of oil, which is applied at the proper place, thereby avoiding the laborious and expensive method of feeding the same with an ordinary oil-can, and also preventing the interruption of the operation of cutting and the consequent loss of valuable time. Moreover, the handles themselves may be charged with oil and carried in the kits as an oil-supply with other tools with absolutely no danger whatever of damage thereto, and thereby dispensing with the usual oil-can; or the handles may take the place of the can and the oil discharged therefrom by simply opening the cock or oth-

erwise, although I prefer to have the oil fed automatically; and, furthermore, my device may be applied economically and advantageously with only trivial changes to the many stocks and dies now in use.

It is obvious that my invention is applicable not only to ordinary screw-cutting dies, but in general to all similar devices employed for the purpose of cutting or otherwise working upon metallic or other hard substances in any manner where a flow of oil or other liquid is necessary to the operation—as, for instance, pipe-cutters and many other similar tools. I therefore do not limit the scope of my invention to its application to screw-cutting dies, which application I have selected simply for convenience in illustration and description, and consequently when I use the term “cutting-dies” I mean and include cutters in a general sense.

Although I have described more or less precise forms and details of construction, I do not intend to be understood as limiting myself thereto, as I contemplate changes in form, proportion of parts, and substitution of equivalents as circumstances may suggest or render expedient; nor do I limit myself to the application of the invention to any particular form of stock and die, as the necessary mechanical changes may be readily made in my device in order to adapt it to any and all circumstances without departing from the spirit of my invention; and, furthermore, I contemplate using my invention wherever applicable. Finally, I wish it understood that it is not necessary to use the arms or handles themselves as oil chambers or reservoirs, as other means for holding the oil may be arranged upon the tool, although I prefer the construction shown in the drawings and above set forth.

I claim—

1. An automatic oiler for cutting dies and the like comprising an oil reservoir arranged upon the tool, means for conducting the oil from the reservoir to the dies and a winged valve adapted to travel up and down in the reservoir as the dies are rotated whereby oil is fed automatically to the dies.

2. An automatic oiler for cutting dies comprising a hollow cylindrical oil chamber forming the handle of the tool and open only at that end which is removably secured in the stock, means for conducting the oil from the chamber to the dies and a loose winged valve adapted to travel in said chamber and thereby force the requisite amount of oil therefrom as the tool is operated.

3. In combination with the stock of a cutting die a hollow handle closed at one end and having its opposite end adapted to be attached to said stock a nozzle D screwing into the open end of said handle and provided with a passage or channel *d* communicating with the interior of the handle, said nozzle extending to a point adjacent to the cutting dies, and a valve F having feathers *f* and adapted to travel within the handle.

4. In an oiler for a cutting tool, the combination with an oil reservoir arranged upon the tool, means for conveying the oil therefrom to the dies, a loose weight adapted to
- 5 travel up and down in the oil chamber as the dies are rotated and having a base of smaller diameter than the reservoir, said reservoir being provided at its inner end adjacent to the stock of the tool with a socket or seat adapted to receive such base whereby as the weight descends its lower portion will enter said socket and force the oil therefrom upon the dies.

ALBERT ELMENDORF.

Witnesses:

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