(No Model.)

L. C. WETZEL.

DIE PLATE.

No. 481,450. Patented Aug. 23, 1892.

Fig. 1.

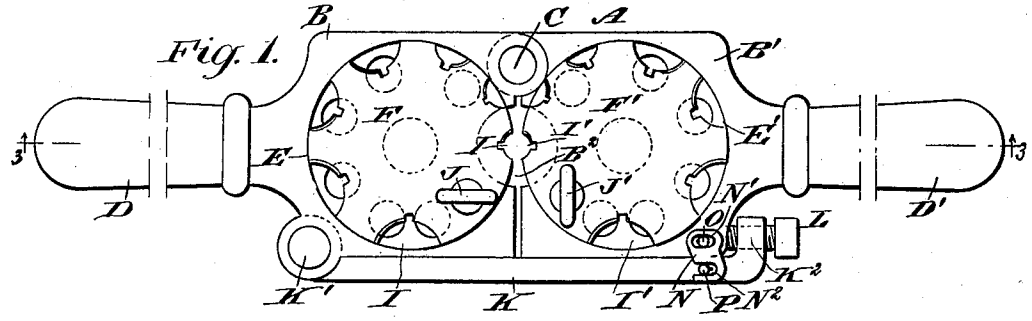


Fig. 2.

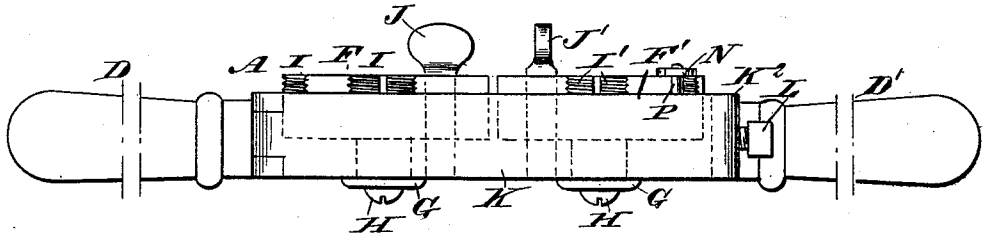


Fig. 3.

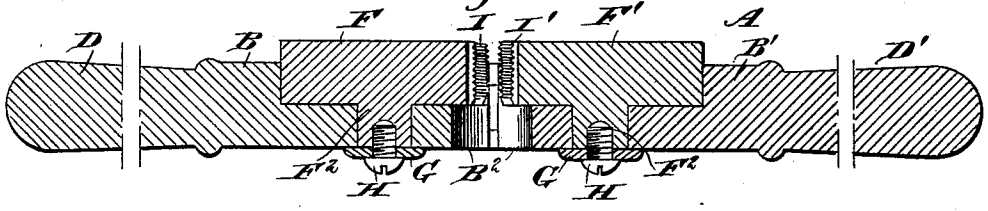
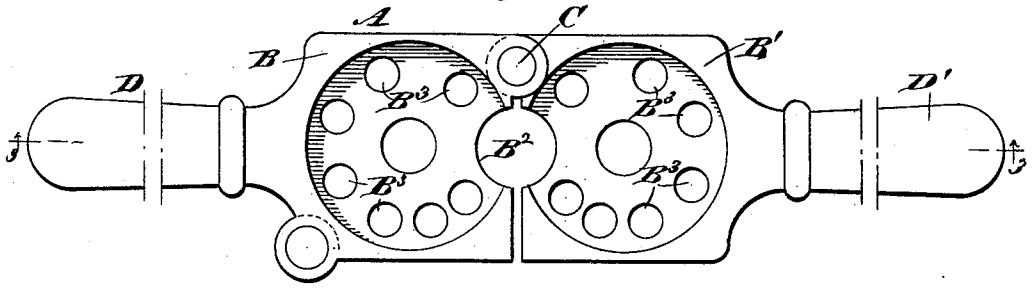


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEWIS CALVIN WETZEL, OF SCOTTDALE, PENNSYLVANIA.

DIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 481,450, dated August 23, 1892.

Application filed February 23, 1892. Serial No. 422,449. (No model.)

To all whom it may concern:

Be it known that I, LEWIS CALVIN WETZEL, of Scottdale, in the county of Westmoreland and State of Pennsylvania, have invented a new and Improved Die-Plate, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved die-plate which is simple and durable in construction, very effective in operation, and arranged to quickly and conveniently bring the desired-sized die into proper position for immediate use.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional side elevation of the same on the line 3 3 of Figs. 1 and 4, and Fig. 4 is a plan view of the stock.

The improved die-plate is provided with a die-stock A, made in two sections B and B′, hinged together at C at the rear side, as is plainly illustrated in Figs. 1 and 4. The sections B and B′ are formed with suitable handles D and D′, respectively, for conveniently manipulating the die-plate when using the same.

In the sections B and B′ are formed circular recesses E and E′, respectively, in which fit the dies F and F′, respectively, also made of circular shape and formed at their under sides with shafts F^2, fitting into corresponding recesses or bearings arranged in the sections B and B′.

In order to hold the dies F and F′ in position in the sections B and B′ and at the same time permit the dies to revolve, washers G are provided, fitting on the under sides of the shafts F^2 and abutting against the under sides of the sections B and B′. A screw H passes through each of the washers and screws into the respective shaft F^2, so as to hold the washer in place to prevent accidental displacement of the respective die F or F′.

In the peripheries of the circular dies F and F′ are formed recesses I and I′, respectively, having threads, so as to form cutters, the two dies being provided with correspondingly-sized recesses I and I′ and corresponding threads therein, so that when the dies are turned the opposite or registering recesses I and I′ form a circular cutter for the desired size of bolt to be cut. By this arrangement the desired number of different-sized cutters may be arranged on the two disks, the latter, however, have to be turned to bring the corresponding-sized recesses into register at the joint of the two sections B and B′, as will be readily understood by reference to Figs. 1 and 3.

Directly below the registering recesses I and I′ of the two dies F and F′ is formed an enlarged opening B^2 in the adjacent edges of the two sections B and B′, so that the bolt to be cut can readily pass through the said aperture to be engaged by the cutter.

In order to fasten the dies F and F′ in the proper place after two correspondingly-sized recesses have been brought into register with each other, pins J and J′ are employed, extending vertically through the dies F and F′ and engaging a corresponding aperture B^3, formed in the sections B and B′, as is plainly shown in Fig. 4.

When it is desired to change the position of the dies F and F′, so as to bring a different-sized cutter over the central aperture B^2, then the operator withdraws the pins J and J′ from the corresponding apertures B^3 in the sections B and B′ and then turns the dies until they reach the desired position. At that time the pins J and J′ register with the corresponding apertures B^3. The pins are then pressed downward, so as to engage the corresponding apertures B^3 to lock the dies in place. The pins J and J′ are formed at their upper ends with suitable handles for conveniently inserting or withdrawing the pins, as above described, and for moving or turning the dies on their shafts F^2.

In order to lock the two sections B and B′ of the die-stock in position when the sections are closed, a locking-bar K is provided, pivoted at K′ to the front edge of the section B, the said bar extending over the front edge of the two sections and being formed at its free end with an inwardly-projecting lug K^2, in which

screws a set-screw L, adapted to abut against one end of the section B′. By screwing up the set-screw L when the bar K is in place and the sections are closed the latter are securely held in a closed and locked position.

In order to lock the bar K in place, a catch N is provided, formed with an elongated slot N′, engaged by a pin O, projecting from the top of the section B′. The pin O forms a pivot for the catch N and permits the latter to have a slight longitudinal movement, so as to engage with its hook end N^2 a pin P, projecting from the top of the locking-bar K.

As shown in Fig. 1, the two dies F and F′ are formed with six different-sized cutters, so that the die-plate can be readily utilized for cutting threads on six different-sized bolts.

It is understood that the dies F and F′ are turned on their shafts F^2, as above described, so as to bring the corresponding-sized recesses into proper register over the aperture B. When this is done, the dies are locked in place by the pins J and J′, and the die-plate is then used in the usual manner for the thread, the bolt being engaged first by the opening B^2 and then by the threads in the registering recesses I and I′. When the thread has been cut, the operator swings the catch N rearward, so as to disengage the pin P, and by then loosening the set-screw L the bar K is swung outward to permit of opening the sections B and B′ of the stock A, the said sections swinging on the pivot C, and thus disengaging the dies F and F′ from the threaded bolt. The sections B and B′ are then again closed and locked in position by the bar K, the latter being fastened in place by the catch N. Another bolt of the same size can then be cut in the manner above described.

It will be seen that this die-plate is very simple and durable in construction and combines a series of different-sized cutters in one and the same tool. It will further be seen that the die-stock can be readily opened after a thread is cut to disengage the dies from the threaded bolt.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a die-plate, the combination, with the stock A, formed of two sections B B′, hinged together at one side and provided with the circular recesses E E′, handles D D′, and opening B^2 in the adjacent edges of the sections, of the dies F F′, fitting in the recesses E E′ and provided with shafts F^2, mounted in bearings in the said sections, and with the threaded recesses I I′, means for locking the dies in position in said recesses, and the bar K, hinged to one section and having its free end detachably secured to the other section, substantially as described.

2. In a die-plate, the combination, with the stock A, formed of two sections B B′, hinged together at one side and provided with the circular recesses E E′, apertures B^3, handles D D′, and opening B^2 in the adjacent edges of the sections, of the dies F F′, fitting the recesses E E′ and provided with shafts F^2, fitting in bearings in the said sections, and with the threaded recesses I I′ in their peripheries, the pins J J′, extending through the dies and engaging the apertures B^3 of the sections, the bar K, hinged to one section and provided with an inwardly-projecting lug, and a set-screw and catch for locking the free end of the bar to the other section, substantially as herein shown and described.

LEWIS CALVIN WETZEL.

Witnesses:
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