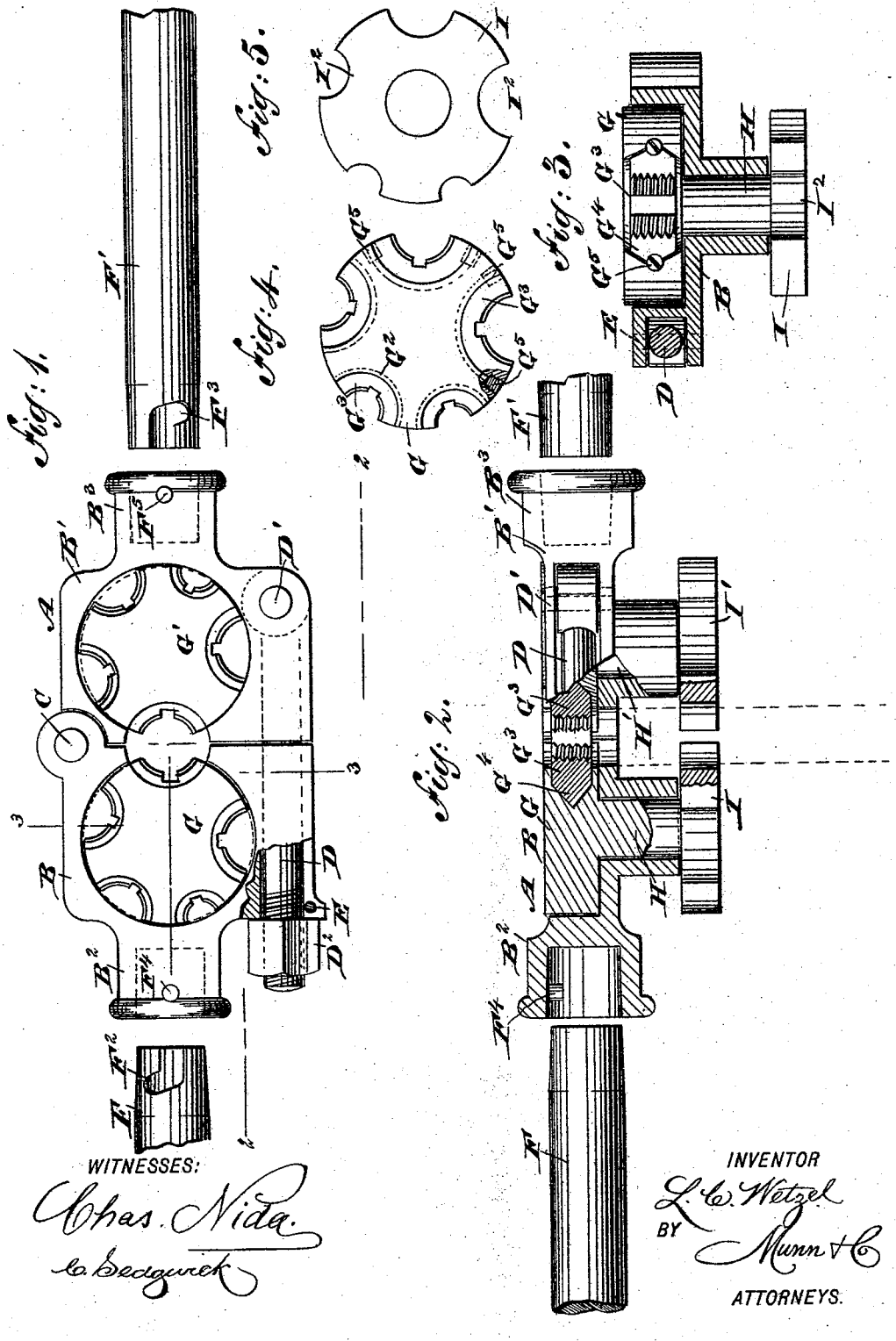
(No Model.)

L. C. WETZEL.

DIE PLATE.

No. 498,595. Patented May 30, 1893.



WITNESSES:
Chas. Nida.
C. Sedgwick

INVENTOR
L. C. Wetzel
BY
Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEWIS CALVIN WETZEL, OF BELLEFONTE, PENNSYLVANIA.

DIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 498,595, dated May 30, 1893.

Application filed May 23, 1892. Serial No. 433,939. (No model.)

To all whom it may concern:

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

The invention relates to die plates such as shown and described in the application for Letters Patent of the United States, Serial No. 422,449, filed by me February 23, 1892.

The object of the present invention is to provide a new and improved die plate, which permits of quickly and conveniently changing the revoluble dies for different sized work, and removing the individual cutters of each die plate if worn out or broken, without disturbing the rest.

The invention consists of a die stock provided with revoluble dies, each carrying independent cutters.

The invention also 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, with the handles shown detached and parts in section. Fig. 2 is a sectional side elevation of the same, on the line 2—2 in Fig. 1. Fig. 3 is a transverse section of the same on the line 3—3 in Fig. 1. Fig. 4 is a plan view of one of the revoluble dies; and Fig. 5 is a plan view of one of the guide disks.

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 end, and adapted to be locked in place at the front end by means of a bolt D pivoted at D′ to the section B′ and adapted to pass into longitudinally extending grooves formed in the front edges of the sections B and B′. On the outer end of the bolt D screws a nut D^2 abutting against one end of the section B, so that when the nut is screwed up, after the sections B and B′ are closed, the latter are securely locked in place by the bolt D.

In order to prevent displacement of the bolt D a pin E is inserted in front of the bolt in the section B, as will be readily understood by reference to Figs. 1 and 3. On the ends of the sections B and B′ are formed sockets B^2 and B^3 respectively, adapted to be engaged by the ends of the handles F and F′ respectively, preferably made hollow, and formed with L-shaped slots F^2 and F^3 respectively, adapted to engage pins or lugs F^4 and F^5 respectively, secured in the sockets B^2 and B^3, so that when the handles F and F′ are inserted in the sockets and given a turn, the said pins or lugs F^4 and F^5 pass into the inner ends of the slots F^2 and F^3 and thereby lock the said handles in place on the die stock A.

In the tops of the sections B and B′ are formed circular recesses in which fit the dies G and G′ respectively, also made circular in shape and formed in their periphery with semi-circular recesses G^2 adapted to be engaged by the cutters G^3, each formed in its rim with a double bevel G^4 engaging a corresponding groove in the back of the recess G^2. Set screws G^5 screw partly into the ends of the cutters G^3 and in the periphery of the circular die, so as to lock the cutters in place, it being understood that an up and down movement of the cutters is provided by the bevels G^4 engaging the corresponding groove in the die. As will be seen by reference to Fig. 4, each of the revoluble dies G or G′ is provided with a number of cutters of different sizes for cutting threads on different sized bolts, it being understood that the corresponding cutters, when brought opposite each other in the two sections B and B′, serve to engage the bolt, or other article on which the thread is to be cut, at the opposite sides. In order to permit the article to be threaded to be engaged by the corresponding cutters of the two revoluble dies G and G′, recesses are formed on the adjacent edges of the two sections B and B′, the said recesses being somewhat larger in size than the two largest cutters on the two dies. The dies G and G′ are provided at their under sides with shafts H and H′ respectively, mounted to turn in suitable bearings formed in the plate sections B and B′ respectively, the lower ends of the said shafts carrying guide disks I, I′ respectively, each formed in its periphery with a semi-circular recess I^2 registering with the corresponding cutter arranged above, in the die G or G′ respectively.

The recesses I^2 in the guide disks I, I', are of different sizes according to the work to be done and according to the size of the cutters G^3 held in the dies G and G', the size also corresponding to the outside diameter of the article to be threaded. Thus, when the two dies G and G' are turned so as to bring their corresponding cutters in a central position, as shown in Fig. 1, then the corresponding sized recesses I^2 in the guide disks I and I' register with the said cutters, at the same time forming a guide for the article passed through the said recesses to the cutters G^3 of the dies G and G'. It will be seen that by this arrangement no special fastening device whatever is required for the dies G and G', as the latter cannot turn as long as the article is engaged in the recesses I^2 of the guide disks I and I'.

By making the individual cutters removable in the dies G and G', the operator can conveniently change any one of the cutters in case it is worn out or broken without disturbing the other cutters in the same plate.

It will further be seen that the sections B and B' can be conveniently opened by removing the pin E and loosening the nut D^2 for conveniently getting at the dies and their cutters.

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

1. A die plate provided with revoluble dies each provided in its periphery with cutters, and guide disks carried by the said dies and formed in their peripheries with recesses registering with the said cutters, substantially as shown and described.

2. In a die plate, the combination with a die stock made of two sections hinged together, of revoluble dies held in said sections and each provided in its periphery with different sized removable cutters, and guide disks secured on the shafts of the said dies and formed in their peripheries with recesses in alignment with the cutters in the dies, substantially as shown and described.

3. A die plate, provided with a revoluble die formed in its periphery with semi-circular recesses each having a V-shaped groove in its back, and cutters adapted to engage the said recesses and each formed with a double beveled rim fitting into a correspondingly shaped groove in the recess, substantially as shown and described.

4. A die plate, provided with a revoluble die formed in its periphery with semi-circular recesses, each having a V-shaped groove in its back, cutters adapted to engage the said recesses and each formed with a double beveled rim fitting into the correspondingly shaped groove in the recess, and set screws screwing partly in the said die and partly in the said cutter at the ends thereof, substantially as shown and described.

LEWIS CALVIN WETZEL.

Witnesses:
WM. HOWLEY,
W. K. LUDWIG.