(No Model.)

F. S. PATTON.

SCREW CUTTING DIE STOCK.

No. 456,660. Patented July 28, 1891.

Fig. I.

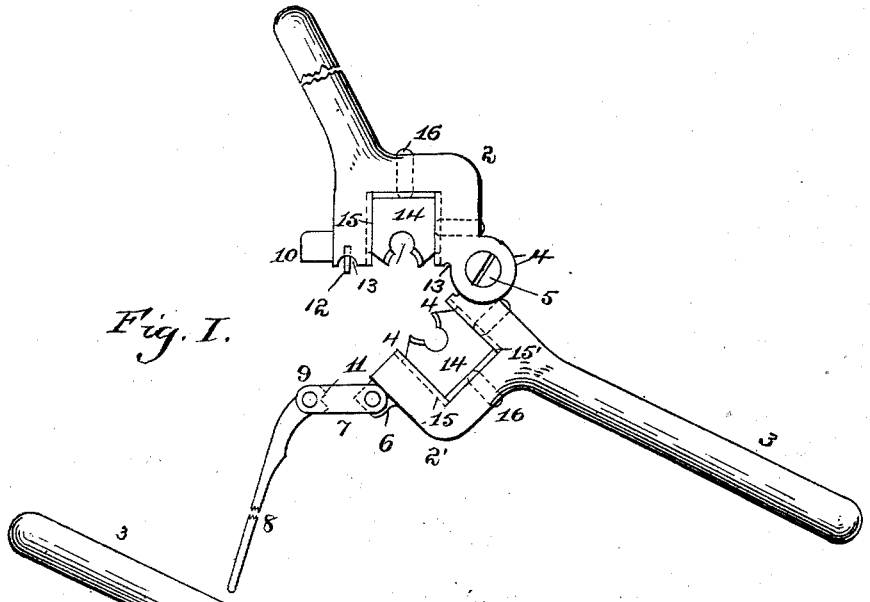


Fig. II.

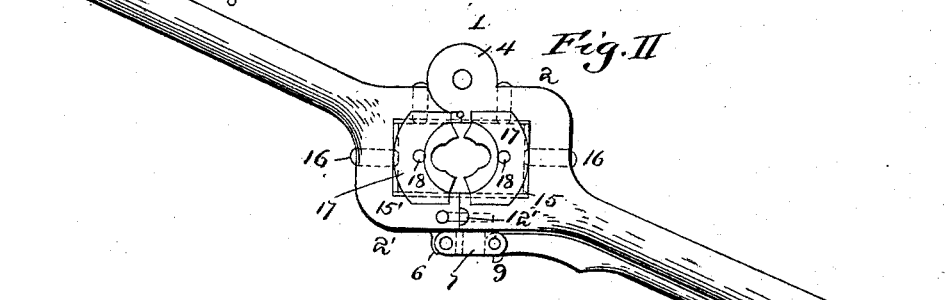


Fig. III.

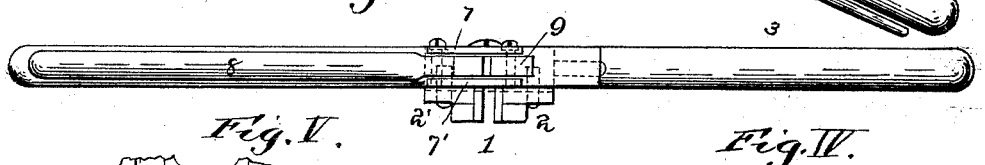


Fig. V.

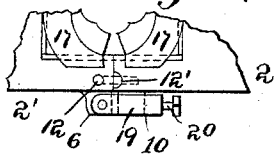
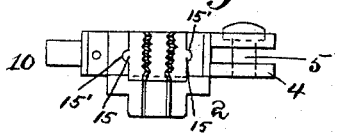


Fig. IV.



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UNITED STATES PATENT OFFICE.

FRANK S. PATTON, OF KANSAS CITY, MISSOURI.

SCREW-CUTTING DIE-STOCK.

SPECIFICATION forming part of Letters Patent No. 456,660, dated July 28, 1891.

Application filed December 26, 1890. Serial No. 375,860. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. PATTON, a citizen of the United States, and a resident of Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Screw-Cutting Die-Stocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in screw-cutting die-stocks; and it has for its object to provide a simple and easily-operated stock which can be removed from the screw or bolt at any stage of the operation of cutting a thread without requiring the die to be run back over the thread, thus saving time and preventing the thread from being mutilated. A further object of my invention is to provide a die-stock consisting of two members hinged together and adapted to be closed and secured to form a practically-solid stock, and a further object is to provide suitable means for adjusting and guiding or bracing the dies and means for obtaining a firm and perfect joint when the members are closed.

With these ends in view my invention consists of a die-stock composed of two members hinged together, each member being provided with a laterally-projecting handle, by means of which the stock is operated. Pivoted on a lug on the front of one member are two links, which are also pivotally secured to a cam-lever, and these links, when the members of the stock are closed, are arranged to fit over a lug on the front edge of the other member and to be drawn tightly over said lug by operating the cam-lever, thus bringing the two members closer together and securing a firm and rigid stock. Close to the hinge are suitable clearance-holes to prevent the hinge becoming inoperative because of the accumulation of dirt, &c., therein, and in front of the dies, in one of the opposing faces of the members, is a dowel-pin adapted to enter a hole in the other member, said dowel-pin being surrounded with a clearance-hole for the purpose of obviating clogging. Suitably secured in the members of the stock by means of binding-screws is a sectional die-plate, the sections of which are provided with annular ribs on the three blank sides, which ribs are arranged to slide in corresponding annular grooves in the sides of the stock, and these annular ribs are indented at the points where the binding-screws are arranged to bear against them to facilitate the screws in securing the dies firmly in place. Fastened to each of the dies on one side thereof by suitable screws is a flat guide or brace, which may be of any desirable shape and which extends slightly over the edge of the stock, against which it bears when secured to the dies. These guides or braces are adapted to be adjusted with the dies and can be readily and quickly removed when it is desired to cut a thread close up to the head of a bolt or any other similar projection.

To enable others to clearly understand my invention, I have illustrated the same in the accompanying drawings, in which—

Figure I is a plan view of the die-stock with the guides or braces removed. Fig. II is a plan view of the die-stock with the guides or braces arranged in position. Fig. III is a side elevation of the parts shown in Fig. II. Fig. IV is a detail sectional view taken on the line *x x* of Fig. II, and Fig. V is a detail view showing a modified form of the devices for clamping the members together.

Referring to the drawings, in which like numerals of reference denote corresponding parts in all the figures, 1 designates the improved stock, which consists of the two members 2 2′, each of which is provided with a handle 3, which is made integral with the member from which it projects, and these handles are preferably arranged opposite each other at diagonally-opposite corners of the members of the stock. The members 2 2′ are provided with the projections 4 4, which are pivotally joined together by the pivot-pin 5, thus forming a hinge which projects or extends out of line with the members and allows them to be opened and thrown clear of the bolt or screw on which the thread is being cut.

Pivotally secured on either side of the lug 6, which projects from one of the members 2′, are two links 7 7′ of equal length, which have their other ends pivotally secured to a lever 8 of any desired length. This lever 8 has a cam 9, which is arranged to bear against the

lug 10 on the other member 2 of the stock after the links 7 7′ have been adjusted over the same, and when said lever is depressed the links are drawn more tightly together, and thus closely adjust the members of the stock and form a rigid solid stock. The lever 8 is arranged to lie close to one of the handles 3, by which means the operator can hold both the lever 8 and the handle 3 in one hand and keep the stock from becoming loose and the dies inoperative. On the upper side of the cam-surface of this lever 8 is a projecting lug 11, which is arranged to bear against the lug 10 when the lever is raised to assist the latter in removing the links 7 7′ from said lug 10. This is a desirable feature of my invention to save time and facilitate the operation of the implement, as the links are sometimes drawn extremely tight over the lug 10 in order to secure the stock and dies on a bolt, and it is obvious that if the lever is roughly jerked about there will be great danger of mutilating the thread which has been cut and also of ruining the dies.

In order to bring the members of the stock into proper alignment when they are clamped together, I provide a dowel-pin 12 on one of the members, which is adapted to enter a hole 12′ on the opposing face of the other member. Surrounding this dowel-pin and in the corners at the hinge which joins the members together are suitable clearance-holes 13, which are provided to receive the dirt, &c., which collects in crevices in devices of this description and prevents the members from coming into proper alignment and forming a solid stock.

14 14 are the dies, which are made of the ordinary form and configuration, each of which has an annular rib 15 on its three plain sides, which ribs are arranged to fit in corresponding recesses or grooves 15′ on the corresponding sides of the members of the stock when the dies have been placed in position. These dies are securely held in place by means of suitable screws 16, which pass through the members 2 2′ and bear against the annular ribs 15, which ribs have a slight indentation where the point of the screw touches them in order to hold the dies firm and steady and prevent them from slipping.

Secured to each of the die-plates 14 14 by suitable screws 18 18 are guides or braces 17 17, which are of any desirable form and shape; but they do not extend over the cutting-edge of the dies in order to avoid interference with the operation of the tool. The ends of these guides extend over the edge of the members of the stock and are adapted to bear against said members and brace the dies and guide them when in operation. As the guides are secured to the dies and slide on the edges of the members, it is obvious that they are adjustable with the dies when the dies are adjusted by the screws 16. This construction of the guides separate from the dies and adjustable therewith presents many advantages over the ordinary form and construction, where the dies and guides are made integral with each other, because in this case it is necessary, in order to cut close up to the head of a bolt or other obstruction, to remove the implement from the operating bolt or screw and invert the same or place it on the bolt or screw upside down and work it backward, which is liable to injure the thread on both the screw and dies; but in my device the guides can be readily removed with but very little loss of time without removing the implement from the bolt, and it can also be operated close up to the head or other obstruction.

The practical operation of my device is obvious from the foregoing description. It will be readily seen that it is only necessary to adjust the dies in the stock and fasten the same on the bolt or screw which is to be cut by means of the links 7 7′ and lever 8, after which the handles are turned as in the ordinary cutters. In this connection I am aware that changes may be made in the devices forming a part of my improved stock, and in Fig. V, I have shown a modified form of the means of clamping the two members together, which consists of a clevis 19, pivoted on the lug 6 and provided with a set-screw 20 to clamp it tightly on the lug 10 after it has been placed over said lug.

I am aware that changes in the form and proportion of parts and details of construction can be made without departing from the spirit or sacrificing the advantages of my invention, and I therefore reserve the right to make such changes as fall within the scope of my invention.

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

1. In a stock for screw-cutting dies, the two members pivoted together on one side, in combination with the dies secured in said members, the parallel links pivoted to one of the members and adapted to fit over a lug on the other member, and the lever pivoted to the free ends of the links and arranged to bear against the lug on the other member to lock both members together, substantially as described.

2. In a stock for screw-cutting dies, the two members pivoted together on one side, the dies adjustably secured in said members, the parallel links pivoted to one of the members and adapted to fit over a lug on the other member and a lever pivoted to the free end of the links and having a cam-surface, and an upwardly-projecting lug on said surface adapted to engage with the lug on the other member, whereby the links can be fitted over said lug and readily released therefrom, substantially as described.

3. In a stock for screw-cutting dies, the combination of the two members pivoted together on one side thereof, the dies adjustably secured in said members, and the guides secured

to the dies on the outer sides thereof and extending over the edges of the members, substantially as described.

4. The stock for screw-cutting dies, consisting of the two members pivotally secured together, the dies adjustably secured in said members, the links and lever for clamping said members together, the dowel-pin for bringing the members into proper alignment, and the clearance-holes, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK S. PATTON.

Witnesses:
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WILLIAM HARMON.