C. Dreher,

Screw-Cutting Die,

No. 50,808. Patented Nov. 7, 1865.

Witnesses.

Wm. Treurn

Chas. Fusch

Fig. 3.

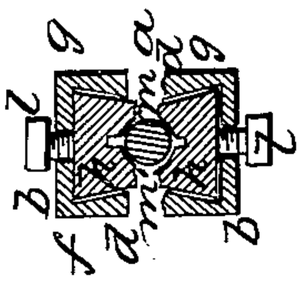


Fig. 1.

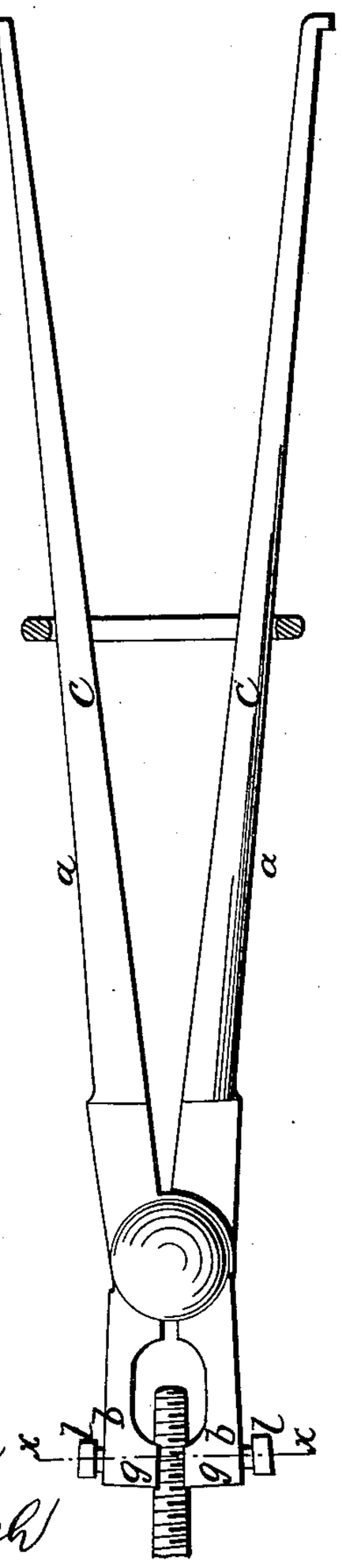
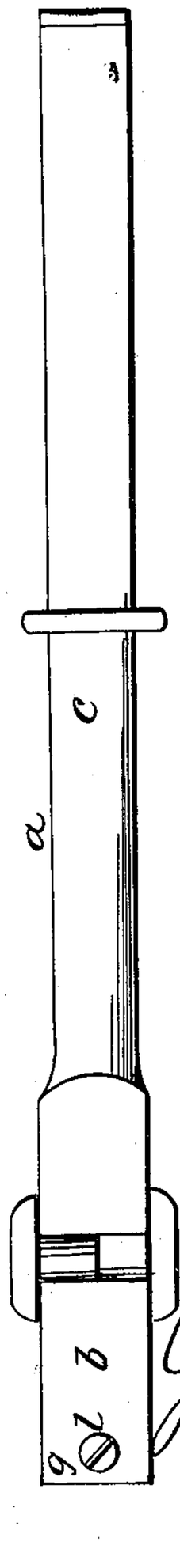


Fig. 2.



Inventor.

C. Dreher

By Munn & Co

Attys.

UNITED STATES PATENT OFFICE.

CASPAR DREHER, OF DETROIT, MICHIGAN.

SCREW-THREAD-CUTTING TOOL.

Specification forming part of Letters Patent No. **50,808**, dated November 7, 1865.

To all whom it may concern:

Be it known that I, CASPAR DREHER, of Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Screw-Thread-Cutting Tool; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

In the manufacture of wagons and carriages it often happens that the threads of the bolts or clips used are spoiled or in a measure destroyed by driving them in or out of their seats, thus rendering them unfit to hold the nut; and especially is this the case in the repairing of wagons or carriages—as, for instance, in resetting axles, removing braces, &c.

To restore the threads thus injured a "screw-plate," so termed, has heretofore been used; but in most cases it could not be applied, especially if two bolts were near to each other, and with clips it was impossible to apply it, it being always necessary to remove the latter, as well as oftentimes the bolts, when desired to restore their threads, the disadvantages and inconveniences of which are well known; and furthermore, it may here be remarked that it is sometimes impossible to withdraw the bolts or clips, and, as the screw-plate cannot be applied to them when in their places, it necessitates and requires the expenditure of a considerable length of time and labor to restore their threads with an ordinary file, which has heretofore been the tool or implement, in addition to the screw-plate, that has been used for the purpose of restoring the screw-threads. By the present invention, however, each and every one of the troubles and disadvantages above mentioned are obviated; it consisting in either inserting within or attaching to each of the inner faces or surfaces of two jaws, made of cast-iron or other suitable metal and susceptible of being opened and closed at pleasure, and directly opposite each other, either at the sides or ends thereof, a steel die, having its inner surface or face partially cut out in a circular shape and provided with a series of screw-threads of corresponding size and pitch to those of the bolts or clips that it is intended to restore or cut, which dies may be either attached to the jaws in such manner as to be easily and readily detached at pleasure, so as to allow dies having different sizes of screw-threads to be inserted at pleasure, or not, according as may be deemed the most desirable, the former being by far the most preferable, as one pair of jaws are sufficient, with a set of dies, for all ordinary sizes of wagon bolts and clips.

In accompanying plate of drawings my improved screw-thread-cutting tool is illustrated, Figure 1 being a side view of a pair of tongs having my improvement inserted within its jaws; Fig. 2, a view of one edge of the same; and Figure 3, a transverse section through the jaws, taken in the plane of the line *x x*, Fig. 1.

a a in the drawings represent a pair of tongs, hinged and operating in the usual manner, and having two short jaws, *b b*, which, by moving the handles *c c* to or from each other, are closed or opened. In groove *f* of each outer end, *g*, of these jaws and upon their inner contiguous faces or surfaces, *d d*, I insert a similar steel die, *h*, made so as to tightly fit within said groove, where it is securely held by a set-screw, *l*, of the jaw. The contact-surfaces of these dies *h* are made of a similar slightly concave form, and with a screw-thread, *m*, in the direction of its length, so that by tightly holding the end of the bolt or clip the screw-thread of which is to be restored between the sides and then turning the tongs to the right or left, as may be requisite, the thread of the same will be restored as desired, and as is evident without further explanation, it being only necessary that the size and pitch of the screw-threads of the dies should correspond to those of the threads upon the bolt or clip.

By unscrewing the set-screws *l* the dies can be removed and those having a different size and pitch of screw-threads inserted, thus rendering the tool readily adapted to any size of screw-threads of bolts and clips, according as may be necessary.

From the above description of my improved screw-cutting tool it is manifest that it can be applied with the utmost facility and ease to bolts or clips of wagons or carriages for the restoration of their screw-threads injured by driving them into their places or by any other

means, without necessarily removing them, and whether situated close together or not, the advantages and importance of which are too self-evident to require any particular enumeration herein.

In lieu of arranging the dies at the outer ends of the jaws they can be as well arranged upon their sides; and, furthermore, in lieu of inserting them in the jaws they can be attached directly to and upon the surfaces of the same; but I prefer the mode described; and, also, it is not necessary that they should be susceptible of removal, although it is the most advantageous and economical.

Although I have herein particularly described my improved tool as adapted for cutting of screws upon carriage and wagon bolts or clips, it is evident it can be as well applied to bolts used for other purposes, and that therefore I do not intend to limit myself to any one application of it.

I claim as new and desire to secure by Letters Patent—

As an article of manufacture, a tongs whose jaws are provided with dies and set-screws, substantially as described and represented.

CASPAR DREHER.

Witnesses:

CHRIST. NIEDERMULLER,

KARL ZEHMEMANN.