

J. M. CARPENTER.
DIE HOLDER.
APPLICATION FILED DEC. 4, 1914.

1,155,211.

Patented Sept. 28, 1915.

Fig. 1.

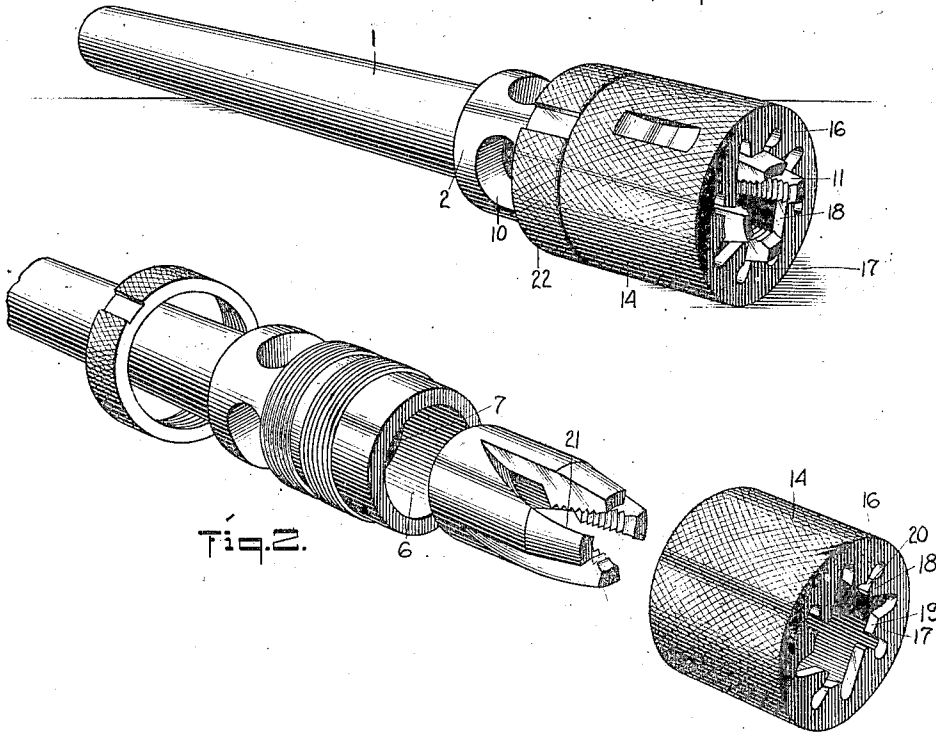


Fig. 2.

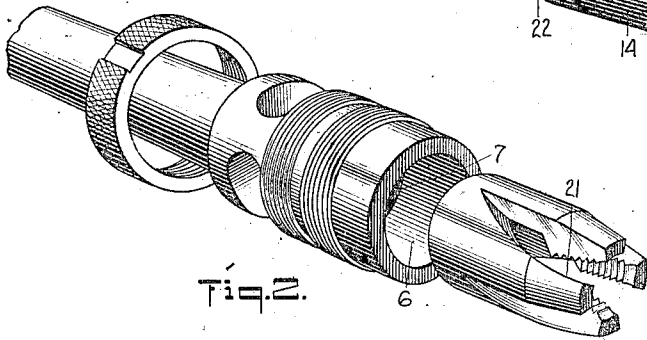


Fig. 3.

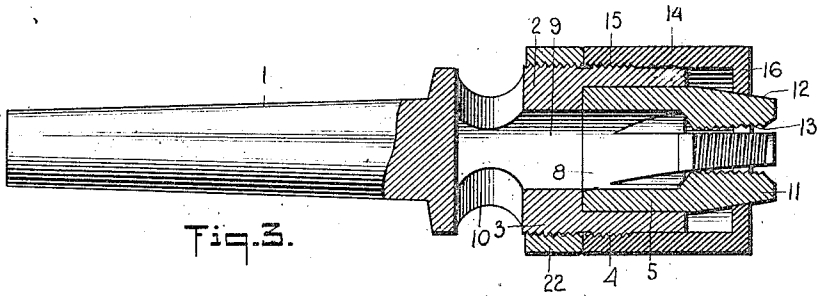
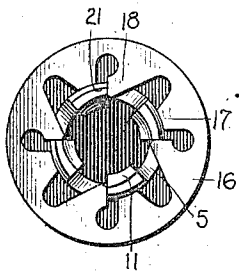


Fig. 4.



WITNESSES

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DIE-HOLDER.

1,155,211.

Specification of Letters Patent.

Patented Sept. 28, 1915.

Application filed December 4, 1914. Serial No. 875,425.

To all whom it may concern:

Be it known that I, JAMES M. CARPENTER, a citizen of the United States, and a resident of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and Improved Die-Holder, of which the following is a full, clear, and exact description.

This invention relates to improvements in die holders, and has for an object to provide an improved construction and arrangement which will hold a spring or pronged die in working position without causing or allowing any distortion of the prongs.

Another object of the invention is to provide a holder which will cause a spring or pronged die to act perfectly and consequently cut a perfect thread.

A further object of the invention is to provide a holder for a pronged die which will hold the prongs against springing to one side, and will admit of an adjustment of the prongs so as to vary the diameter of the die.

In the accompanying drawings—Figure 1 is a perspective view of an embodiment of the invention ready for use; Fig. 2 is a view of the structure shown in Fig. 1, the various parts being separated for the purpose of illustration; Fig. 3 is a longitudinal vertical section through the structures shown in Fig. 1; Fig. 4 is an end view of the structure shown in Fig. 1.

Referring to the accompanying drawings by numerals, 1 indicates a shank of any kind which merges into the body 2 of the holder. The body 2 is provided with a section 3 of threads, for instance arranged as left hand threads, and a section 4 arranged as right hand threads. These threads are of course reversed where the pronged die 5 is a left hand die. The body 2 is also formed with a socket 6 having a bottom 7 against which the rear end of the die 5 presses when the device is in operation. From Fig. 3 it will be noted that the die 5 is provided with a comparatively large bore 8 merging into a bore 9 in the body 2, said bore 9 merging also into suitable openings 10. The die 5 is provided with a plurality of prongs 11 which have beveled upper surfaces 12, and which are provided with teeth 13 acting as cutting threads when the die is in use. Preferably the prongs 11 are thicker than the remaining part of the die, as shown in Fig. 3. As shown more clearly in Fig. 3,

the prongs 11 are comparatively long so that the same may be readily adjusted so as to present different diameters, this adjustment being of course comparatively small, but sufficient for the purposes intended. In addition to springing radially the prongs 11 also spring to a limited extent spirally, or in a rotary direction and thereby cause the threads to be somewhat imperfect. In order to obviate this sleeve 14 is provided which is formed with a threaded portion 15 engaging the threaded section 4, whereby the sleeve may be adjusted longitudinally of the body 2 as well as the die 5 for contracting or releasing the prongs 11 as desired. The end or face 16 of sleeve 14 is provided with a plurality of what may be termed radial cams 17, and a plurality of dogs or stops 18. The cams 17 are provided with beveled faces 19 for engaging the beveled faces 12 of the respective prongs 11, there being one cam 17 for each prong.

When the sleeve 14 is in proper operative position as shown in Fig. 3, the ends of the prongs 11 project an appreciable distance beyond face 16 and thereby allow the chips or shavings to drop downwardly outside of the sleeve. Each of the dogs 18 is provided with a face 20 set at a proper angle for preventing any twisting action of the prongs. By using the dogs 18 and the cam 17 the prongs 11 may be contracted whenever desired and continually prevented from moving or being twisted spirally. When it is desired to contract the prongs 11 the lock nut 22 is unscrewed so that the same will move toward the shank 1 and then sleeve 14 will be screwed until prongs 11 have been properly contracted after which the lock nut 22 will be turned until the same bears tightly against sleeve 14 as shown in Fig. 3.

I claim—

1. In a device of the character described, the combination with a pronged die, of a holder therefor, said holder being provided with a body and with a sleeve, said sleeve being arranged with dogs engaging the prongs of said die for preventing a circular distortion of the prongs of the die.

2. In a device of the character described, the combination with a pronged die, of a holder therefor including a body, and a sleeve, said sleeve being provided with means engaging the outer ends of the prongs of said die for preventing any torque of the prongs.

3. In a device of the character described, the combination with a pronged die, of a holder provided with a body for receiving said die and a sleeve and engaging the prongs of the die, said sleeve being formed with means for moving radially inwardly said prongs, and means for preventing any torsional movement of said prongs.

4. In a device of the character described, the combination with a die having prongs, of a holder for said die, said holder being provided with a body and a sleeve removably connected with said body, said sleeve having means arranged to engage one face of each of said prongs for preventing any torsional movement thereof.

5. In a device of the character described, the combination with a pronged die, of a holder therefor provided with a socket for receiving part of said die, said holder having a pair of threaded sections, said threaded sections being arranged with threads of opposite pitch, a lock nut arranged on one of said threaded sections, and a sleeve arranged to engage the other of said threaded sections, said sleeve also being adapted to engage said die, the parts engaging said die being adapted to prevent any torsional movement of the prongs of said die.

6. In a device of the character described, the combination with a pronged die, of a holder therefor, a sleeve mounted on said holder and a locking member for said sleeve for locking the same in any desired position, said sleeve being formed with beveled portions adapted to engage the prongs of said die and move the same radially inwardly, and means arranged on said sleeve adjacent said beveled portions co-acting with the beveled portions for preventing any independent displacement of the prongs in a circular direction.

7. In a device of the character described, the combination with a die having prongs, of a holder provided with a portion for receiving one end of said die, and an adjustable sleeve, the prongs of said die having beveled upper surfaces, said sleeve being formed with an inclined plane for each of said prongs, said inclined plane being designed to act on said beveled surfaces so that when said sleeve is properly adjusted the inclined planes will cause the prongs to move radially inwardly, and a dog engaging each

of the prongs for resisting any side bowing movement thereof.

8. In a device of the character described, the combination with a die formed with prongs and each of said prongs having a beveled upper surface, of a holder formed with a socket for receiving part of said die and an adjustable sleeve being formed with members having inclined planes and stops or dogs, said members acting against the upper surface of said prongs for moving the prongs radially inwardly and the stops or dogs against the sides of the respective prongs for preventing any independent rotary movement of the prongs.

9. In a die holder of the character described, a body adapted to receive a pronged tool, and a sleeve engaging said holder and fitting over part of said tool, said sleeve being formed with a plurality of dogs engaging the rear surface of each of the prongs of said tool for preventing any circular distortion of the prongs.

10. In a tool holder of the character described, a body adapted to receive a pronged tool, and a sleeve engaging said holder and fitting over part of said tool, said sleeve being provided with means for contracting the prongs of said tool and a dog for each of the prongs of said tool, said dogs being arranged to engage the rear face of each of said prongs for preventing a circular distortion of the prongs.

11. In a tool holder of the character described, a body adapted to receive a pronged tool, and a sleeve engaging said holder, said sleeve fitting over part of said tool and being provided with an end, said end being cut so as to produce projections extending radially inwardly and dogs extending at a tangent, said projections being shorter than said dogs whereby the prongs of said tool may extend beyond said end and may be arranged so that the projections will engage the periphery of the prongs while the dogs engage the rear side wall thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES M. CARPENTER.

Witnesses:

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PHILIP D. ROLLHAUS.