

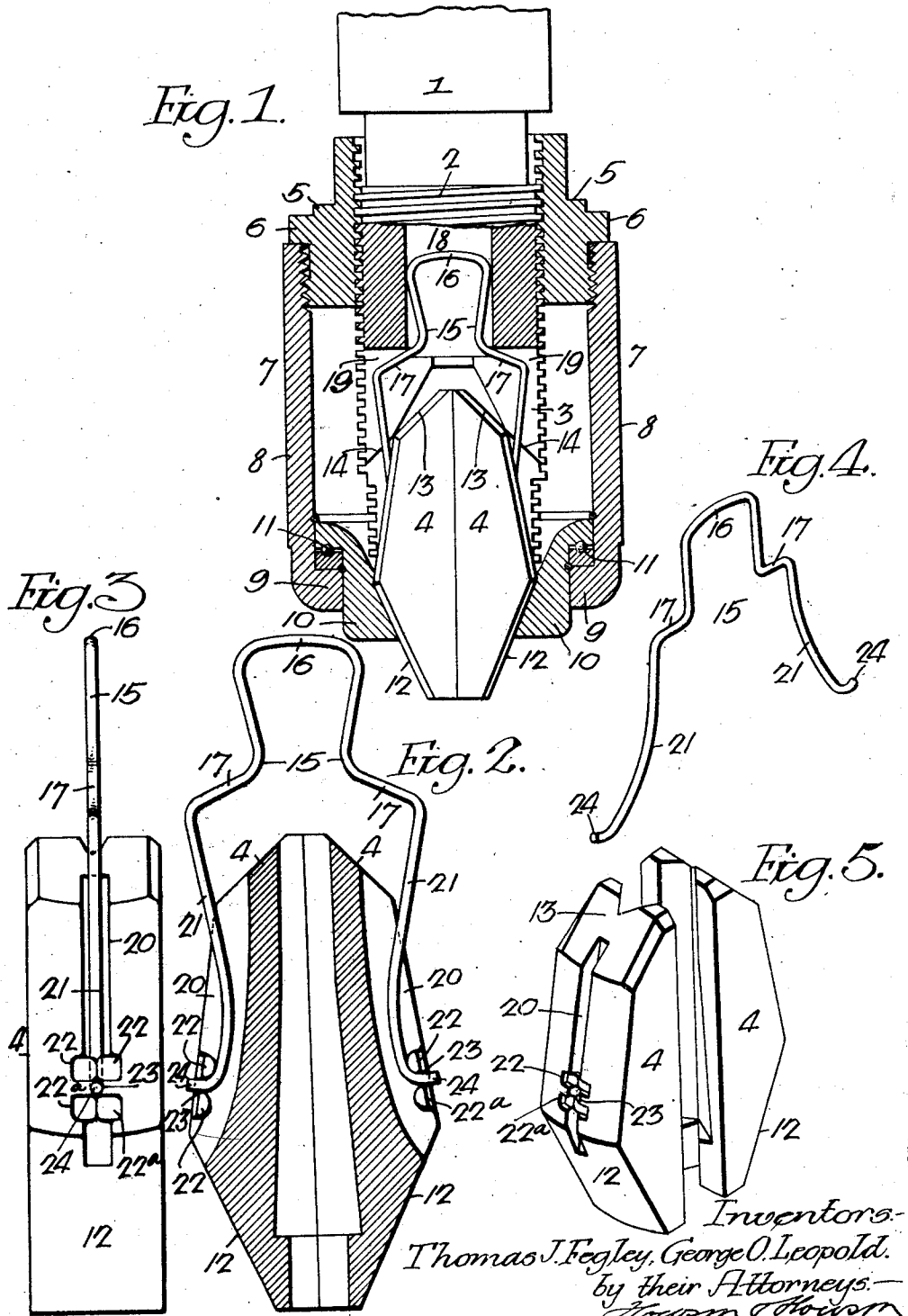
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CHUCK

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CHUCK.

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This invention relates to certain improvements in chucks for holding bits and drills to tools.

The object of the invention is to construct the jaws and the spring in such a manner that the ends of the spring are held rigidly to the jaws when the chuck is assembled. The construction, however, is such that the jaws can be easily detached from the spring when necessary.

In the accompanying drawings:

Fig. 1 is a sectional view of a chuck, illustrating our improvement;

Fig. 2 is a detached sectional view of the jaws, showing the spring connected thereto;

Fig. 3 is a side view of the jaws and spring shown in Fig. 2;

Fig. 4 is a detached perspective view of the spring; and

Fig. 5 is a detached perspective view of the two jaws.

Referring to the drawings, 1 is the body portion of a chuck having a screw thread 2 on its periphery. The chuck is slotted at 3 to receive the two jaws 4—4. These jaws are shaped as shown in Figs. 2 and 5. Mounted on the threaded portion of the body 1 is a sleeve 5 of a casing 7. This sleeve has an annular flange 6 and a screw thread 8 beyond the flange.

8 designates the shell of the casing. This shell is screw threaded at its inner end to engage the threaded portion of the sleeve 5. At the outer end of the shell 8 is an internal flange 9, which forms a bearing for a movable portion 10 of a ball bearing 11, in the present instance. The movable portion 10 has a conical opening. The inclined wall of this opening corresponds to the beveled end 12 of the jaws 4. The inner ends 13 of the jaws are beveled to fit the inclined portions 14 of the body 1.

By this construction, the jaws are capable of being moved towards each other. A spring 15 tends to separate the jaws and to hold them against their beveled bearings. The spring 15 is shaped as shown in Fig. 4. The inner end 16 of the spring is reduced in width and forms shoulders 17. The re-

duced portion fits the opening 18 in the body portion 1 and the shoulders 17 are located in the narrow slot 19 of the body portion.

By the arrangement hereinbefore described, the jaws are held parallel with the body portion in opening and closing. The back of each jaw has a longitudinal groove 20 therein and the portion 21 of the spring is adapted to the groove in the jaws.

In order to prevent the spring moving independently of the jaws, the groove is closed by upsetting the metal at points 22 and 22^a. These points are spaced apart in order to leave an opening 23 through which extends a hook portion 24 of the spring, as shown clearly in Figs. 2 and 3. The upsetting of the metal is such as to leave a space under the metal that is forced across the groove 20 so that the jaws can be hooked onto the spring or removed therefrom, when desired. When the spring is in position, the jaws are firmly connected to the ends of the spring.

We claim:

The combination in a chuck, of a body portion having an external screw-thread, and having a transverse slot at its outer end, the walls of the slot having inclined bearing portions, the body portion also having a central opening extending inwards from the slot; two jaws mounted in the slot, said jaws having beveled ends, the inner ends of the jaws arranged to slide on the inclined bearing portions of the body; a U-shaped spring having a reduced portion extending beyond the jaws and into the central opening, the arms of the spring having shoulders located in the inner portion of the transverse slot in the body and beyond the jaws and extending back of the jaws, said arms being connected to the jaws at their outer ends; a casing; a sleeve secured thereto, said sleeve being mounted on the threaded portion of the body; and a bearing carried by the casing and having a conical opening through which the beveled ends of the jaws extend.

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