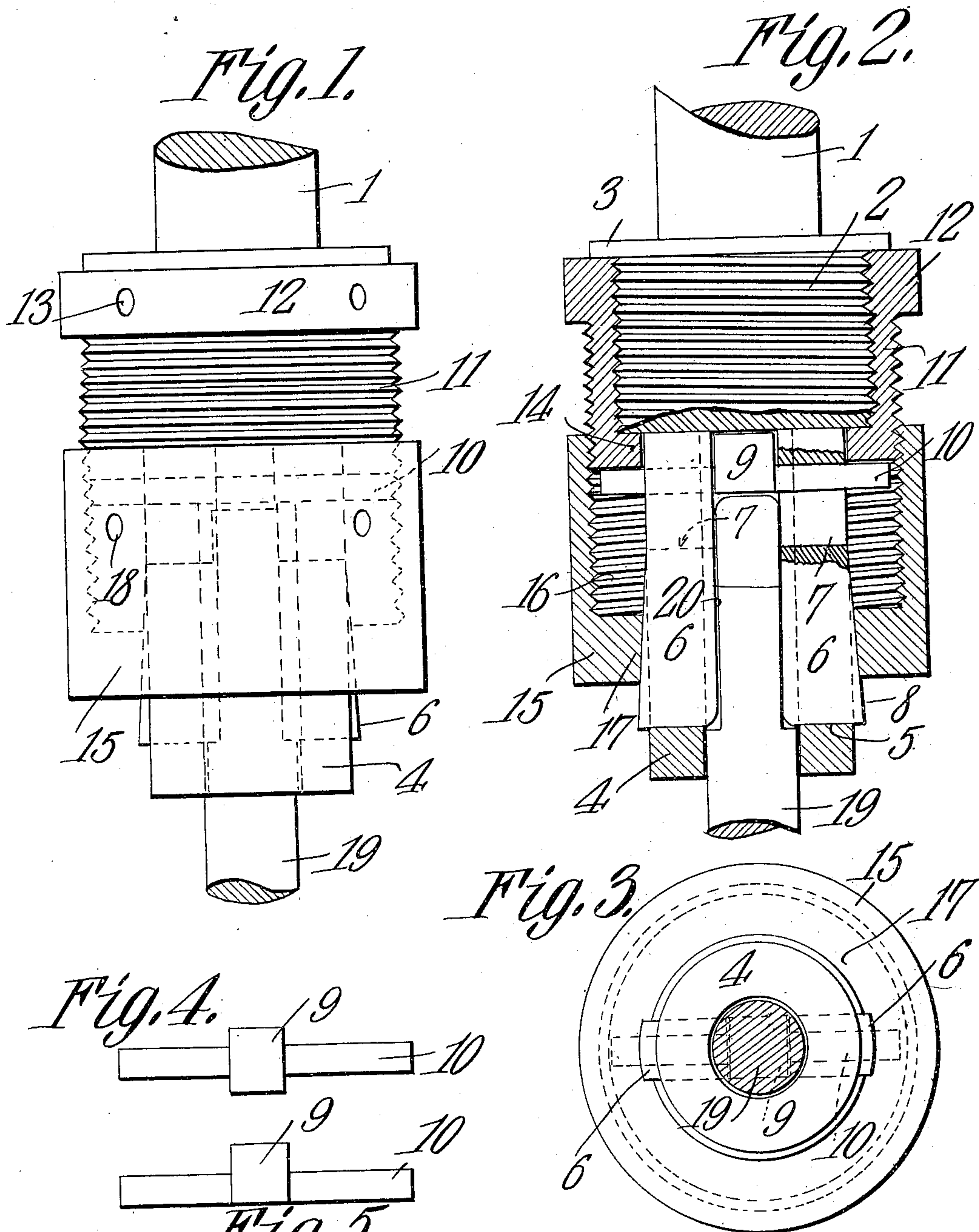


No. 891,014.

PATENTED JUNE 16, 1908.

X. ST. PIERRE.  
CHUCK.

APPLICATION FILED JUNE 6, 1907.



WITNESSES:

*E. J. Stewart*  
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# UNITED STATES PATENT OFFICE.

XAVIER ST. PIERRE, OF RUBY, MONTANA.

CHUCK.

No. 891,014.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed June 6, 1907. Serial No. 377,647.

*To all whom it may concern:*

Be it known that I, XAVIER ST. PIERRE, a subject of the King of England, residing at Ruby, in the county of Madison and State of Montana, have invented a new and useful Chuck, of which the following is a specification.

This invention relates to chucks of that character designed for holding bits and drills, the same being more particularly designed for machine work.

The object of the invention is to provide simple and efficient means whereby a drill or other similar tool can be securely fastened within the chuck without danger of accidental displacement.

A still further object is to provide novel means whereby the tool can be forced from the chuck should the same become tightly wedged therein. Heretofore it has been extremely difficult to remove tools from chuck heads should they become wedged therein it usually being necessary to provide a mandrel or other means for driving it from the chuck. In the present instance, however, very simple means are employed whereby the tool can be removed in the event of its becoming wedged.

A still further object is to provide a novel arrangement of jaws for binding upon the tool, said jaws being so disposed as to positively prevent the tool from being accidentally withdrawn from the chuck.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is an elevation of the chuck, a portion of the tool being shown in position therein. Fig. 2 is a section through the chuck. Fig. 3 is an end view thereof. Figs. 4 and 5 are plan and side views respectively of the cross head of the ejector.

Referring to the figures by characters of reference, 1 is the shank of the chuck, the same being provided with a screw threaded head 2 formed at one end with an annular flange 3 while at its other end is a reduced tubular extension 4 provided with longitudinal slots 5 in opposite portions thereof. Loosely mounted within each of these slots is a jaw 6 and each of these jaws has a longitudinal slot 7 therein extending for a portion

of the length thereof and located adjacent the inner end of the jaw. The outer face of each jaw is preferably inclined from one end of the slot to the outer end of the jaw as shown at 8.

A block 9, which is preferably rectangular, is loosely mounted within the tubular extension and has oppositely extending arms 10 which project loosely through the slots 7 and lap one end of a nut 11 which is externally screw threaded and which is designed to screw upon the head 2. This nut is provided at one end with an annular flange 12 which may be angular so as to be engaged by a suitable wrench or, as shown in Fig. 1, this flange may be provided with a series of openings 13 to receive a suitable tool whereby the nut can be easily rotated. The other end of the nut has an inwardly extending flange 14 designed to lap the end of the head 2 and to surround and fit closely to the extension 4. This flange is designed to bear against the ends of arms 10. Another nut 15 surrounds the tubular extension 4 and is interiorly screw threaded as at 16 and is designed to engage the exterior threads upon the nut 11. The nut has an inwardly extending flange 17 at that end thereof nearest the outer end of the extension 4 and the inner face of this flange is inclined so as to conform with the inclined faces 8 of jaws 6. Openings 18 may be provided within the nut 15 so as to facilitate the rotation of the nut by the insertion thereof of a suitable tool.

The bit or other tool to be used in connection with the chuck has been indicated at 19 and that end thereof to be inserted into the chuck has its opposite portions flattened as shown at 20, said flattened faces diverging toward the end of the bit as indicated in Fig. 2. When it is desired to use the chuck the nut 15 is screwed against the flange 12 of nut 11 and the jaws 6 will therefore be free to move apart sufficiently to permit the insertion of the reduced end of a tool 19 into the extensions 4 and between the jaws. After the tool has been placed in position the nut 15 is screwed downward so as to bear against the inclined faces of the jaws and said jaws will be forced inward against the flattened faces of the tool as shown in Fig. 2. Said tool and nut will therefore be held securely in the chuck and can not be accidentally withdrawn therefrom. When it is desired to remove the tool the nut 15 is again screwed toward the flange 12 so as to release the jaws 6.



Should it be impossible to then withdraw the tool from the extension 4 because of its frictional engagement therewith its extraction can be quickly effected by screwing the nut 5 11 downward on the head 2. This will cause the arms 10 and block 9 to move downward within the extension 4 and slots 7 and said block will press upon the end of the tool with sufficient force to eject it from the chuck. It 10 will be seen that the device is very simple, durable and efficient in construction and will be found of considerable utility when holding large drills and other similar metal working tools.

15 As shown particularly in Fig. 2 the outer adjoining corners of the jaw 6 are rounded so that the insertion of the tool 19 therebetween is facilitated. The upper end of the tool is also preferably rounded for the same 20 purpose.

What is claimed is:

1. In a chuck the combination with a head having a slotted tubular extension for the reception of a tapered bit; of oppositely dis-

posed jaws loosely mounted within the slot, 25 means adjustably connected to the head for binding the jaws upon a tool frictionally engaging the extension, and means movably mounted within and between the jaws for ejecting a tool frictionally engaging the ex- 30 tension.

2. In a chuck the combination with a head having a slotted tubular tool receiving extension; of oppositely disposed slotted jaws loosely mounted within the slots, an ejecting 35 device interposed between and extending loosely through the jaws, means adjustably mounted upon the head for actuating the ejector device, and means adjustably mounted upon the first mentioned means for actu- 40 ating the jaws.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

XAVIER ST. PIERRE.

Witnesses:

P. O. JOHNSON,  
E. P. REDFERN.