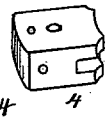
(No Model.)

S. NACHTIGAL.

CHUCK.

No. 538,082. Patented Apr. 23, 1895.

Fig. 5.



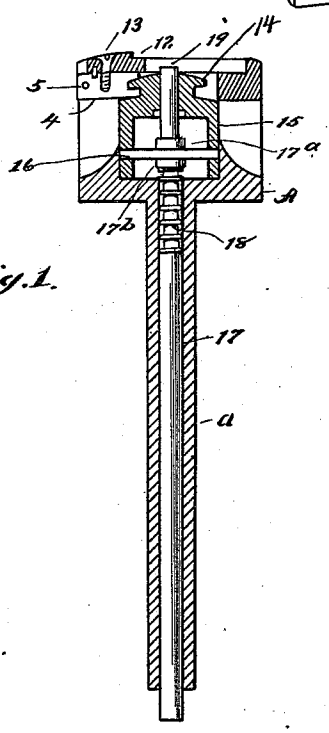


Fig. 1.

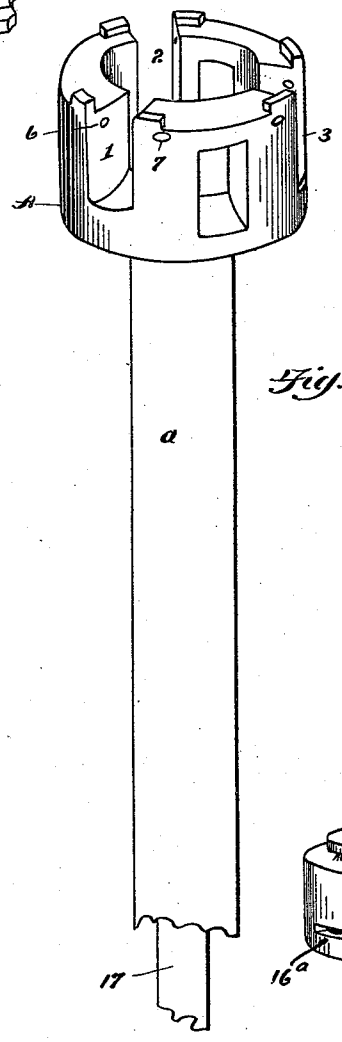


Fig. 3.

Fig. 2.

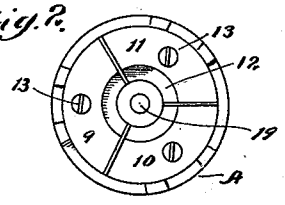
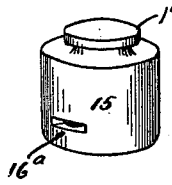


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

STEPHAN NACHTIGAL, OF DETROIT, MICHIGAN, ASSIGNOR TO ANTON LANGE, OF SAME PLACE.

CHUCK.

SPECIFICATION forming part of Letters Patent No. 538,082, dated April 23, 1895.

Application filed January 21, 1895. Serial No. 535,622. (No model.)

To all whom it may concern:

Be it known that I, STEPHAN NACHTIGAL, a citizen of Germany, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Chucks; and I 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to chucks, and has for its object an improvement in that class of chucks which are especially intended to be used for the purpose of holding the buttons or other similar small flat round disks to be treated by a cutting tool.

In the drawings, Figure 1 shows in section the chuck, with one jaw shown in position. Fig. 2 is an end elevation of the chuck. Fig. 3 is a perspective on a large scale of the chuck frame with the jaws removed. Fig. 4 shows the jaw actuator on an enlarged scale. Fig. 5 shows a part of the jaw.

The chuck consists of a head A, to which is connected the stem *a*, by means of which it is held in bearings, or in any suitable rotating device. The head is provided with three or more radial slots, 1, 2, and 3, and in each of these slots is held a jaw piece 4. The jaw piece is held in place in the slot by a pin 5 which passes through the jaw piece 4 and projects at either side in the form of a trunnion, the projecting part of the pin engaging within the holes 6 and 7 in the walls at either side of the slot 1, the other jaws being held in a precisely similar way, each in its own slot. At the forward end of each jaw 4 is a plate, and of these plates there are as many as there are slots. As shown in the drawings, there are three of them, each one occupying about a third of the area of the circle which forms the end of the head A. The central part of the face formed by these three pieces is cut out to receive the disk to be treated, the walls of the central hole being formed with a step or ledge 12 on which the disk to be treated rests while it is gripped and held in place by that portion of the wall which rises parallel with the axis of the chuck and beyond the ledge.

Each one of the pieces 9, 10 and 11 is held to the hinge piece to which it belongs (to the piece 4, or the pieces similar to it) by a screw 13. At the inner side of each of the pieces 4 is a groove into which is received the flange 14 on the end of an actuator 15. The actuator is held by a key 16, that passes through the opening 16^a, and straddles the rod between the two collars 17^a 17^b, one of which, 17^a, is secured to the rod, and the other, 17^b, being loose thereon. The rod 17 is concentric with and located within the tubular stem *a* of the chuck. At one part the rod 17 is reduced in diameter, and around the reduced part is a spiral spring 18, so arranged as to normally retract the rod 17 and draw its forward end 19 back from the plane of the ledges 12; but it can be forced by the operator against the tension of the spring forward a distance sufficient to force the disk or button out from the jaws which are first spread slightly by the engagement between the flange 14 and the edge of the groove in the piece 4. By pushing the actuator 15 and the rod forward, the jaws are slightly opened and the button or disk is expelled.

To place the button or disk in position to be held, the jaws are slightly spread by pushing the actuator upward, not enough, however, to cause the end 19 to rise to the plane of the ledges 12. The button or disk is then placed in position, and the rod or actuator, retracted by the spring 18, engages with the groove on the opposite side, and rocking the jaws around the pins 5, contracts the jaws slightly and grasps the button firmly.

What I claim as novel is—

1. A disk holding chuck, comprising a holding head, rocking jaws pivoted in said head at one end and having their free ends grooved, a jaw actuator having a flange formed thereon adapted to engage with said grooves, means secured to said rocking jaws whereby said disks are held, means for operating said jaw actuator, and an expelling rod adapted to expel the disk after said jaws have been expanded, substantially as described.

2. In a disk holding chuck, the combination of a holding head having radial slots formed therein and a tubular stem formed integral therewith, rocking jaws pivoted at one end in

said radial slots and having their free ends grooved, a jaw actuator loosely engaged within said supporting head and having a flange formed integral therewith adapted to engage in said grooves, a rod carried within said tubular stem and adapted to expel said disk, and means engaging said rod and jaw actuator whereby said rod is allowed to move for a limited space independent of said actuator, substantially as described.

3. In a disk holding chuck, the combination of a holding head, rocking jaws adapted to grasp and hold said disk, an actuator loosely engaged within said holding head, adapted to actuate said jaws in both directions, a rod adapted to operate said actuator, and means engaging with said rod and actuator whereby said rod is allowed to move for a limited space independent of said actuator, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

STEPHAN NACHTIGAL.

Witnesses:
J. M. CLOUGH,
C. F. BURTON.