

No. 671,629.

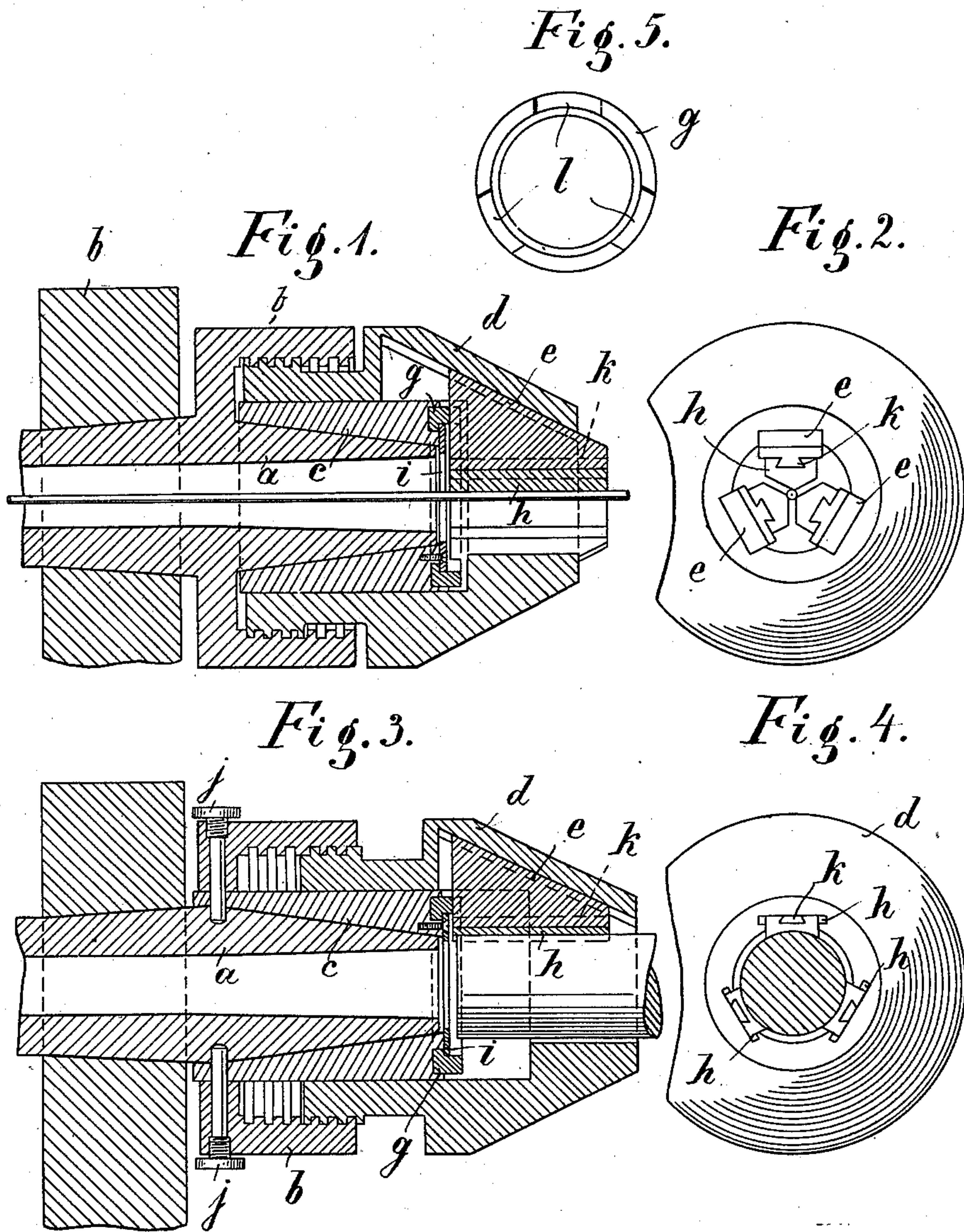
Patented Apr. 9, 1901.

F. MENDE.

CHUCK FOR MANDRELS OF TURNING LATHES.

(Application filed July 10, 1900.)

(No Model.)



Witnesses -  
Henry S. Merton.  
Harry E. Babcock.

Inventor  
Ferdinand Mende  
by *[Signature]*



# UNITED STATES PATENT OFFICE.

FERDINAND MENDE, OF BERLIN, GERMANY.

## CHUCK FOR MANDRELS OF TURNING-LATHES.

SPECIFICATION forming part of Letters Patent No. 671,629, dated April 9, 1901.

Application filed July 10, 1900. Serial No. 23,074. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND MENDE, topographer, a subject of the German Emperor, residing at 59 Bremerstrasse, Berlin, in the  
5 Empire of Germany, have invented Improvements in Chucks for the Mandrels of Turning-Lathes, Drilling-Machines, and the Like, of which the following is a specification.

The object of my invention is an improvement in the chucks of the mandrels of turning-lathes, drilling-machines, and the like in order to enable the central fixing of metal parts and drills of various diameters.

In the drawings two forms of the device  
15 are represented.

Figure 1 represents a central longitudinal section of the chuck and the turning-lathe mandrel with the device for central fixing. Fig. 2 is a front view of Fig. 1. Fig. 3 is a  
20 central longitudinal section of a modified form of construction, showing the chuck with the central-fixing device adapted to the mandrel of a turning-lathe of ordinary construction. Fig. 4 is a front view of Fig. 3. Fig.  
25 5 represents a detail view.

In Figs. 1 and 2 the parts are represented in the position they assume when a shaft of small diameter is held therein, and in Figs. 3 and 4 in the position when a shaft of larger  
30 diameter is fixed.

The device represented in Figs. 1 and 2 consists of the conical end of a mandrel *a* and of a sleeve-like internally-screw-threaded socket or collar *b*, integral therewith. The cone *a*  
35 is surrounded by a cylinder *c*. The cap *d* is provided on its outer surface with a worm which engages the thread of the socket or collar *b*, and the said cap *d* is by this means, as well as by the cylinder *c*, guided in such a  
40 manner as to be concentric with the mandrel *a*. The screw-threads of parts *b* and *d* are subjected to equal wear, and their accuracy is therefore not diminished, and the friction between the cylinder *c* and the cap *d* is reduced to a minimum. On the other hand,  
45 through being directly connected with the mandrel *a* the socket or collar *b* imparts to the chuck great power of resistance to lateral pressure or impact. By this combination of  
50 circumstances lasting accuracy of the ma-

chine is insured. The same is the case when the device is employed in connection with a face-plate or a drilling-machine or the like. By means of the cap *d* the cheeks or bearers  
55 *e* are radially adjusted and are provided, in order to enable working with diameters of the greatest possible difference, with dove-tailed projections *k* for the additional face-blocks *h*, which are differently shaped for the various diameters, Figs. 2 and 4. The  
60 cheeks *e* are supported by a movable ring *g*, provided with grooves *l*, into which the cheeks *e* fit. The ring *g* is held to the cylinder *c* by means of a ring *i*.

In the form of construction represented in  
65 Figs. 3 and 4 the collar *b* is not integral with the mandrel *a*, but is fixed to the latter by means of screw-bolts. One or more such screw-bolts *j* pass through the cylinder *c* and the collar *b*.  
70

In fitting the device together the cheeks *e* are inserted simultaneously into the grooves in the cap *d* and the grooves of the ring *g* after said ring has been fastened to the cylinder *c* by means of the ring *i*. The whole is  
75 then pushed onto the cone *a* and fixed by the screw-bolts *j*. Each revolution of the cap *d* to the right moves the cheeks *e* so as to close, and each revolution to the left so as to open.

What I claim as my invention, and desire  
80 to secure by Letters Patent, is—

The combination in a chuck for turning-lathes, drilling-machines, and the like, a mandrel, a screw-threaded sleeve turning with the mandrel, a conical sleeve provided with  
85 interior grooves and having a screw-threaded connection with said screw-threaded sleeve, and cheeks or jaws fitting and sliding within the said grooves, the said mandrel being also provided with a conical surface and a sleeve  
90 *c* surrounding said conical surface for preventing the rearward movement of the cheeks or jaws, substantially as set forth.

Signed this 25th day of June, 1900, at Magdeburg, Germany.

FERDINAND MENDE.

Witnesses:

GEORGE H. MURPHY,  
CARL OSTERMANN.