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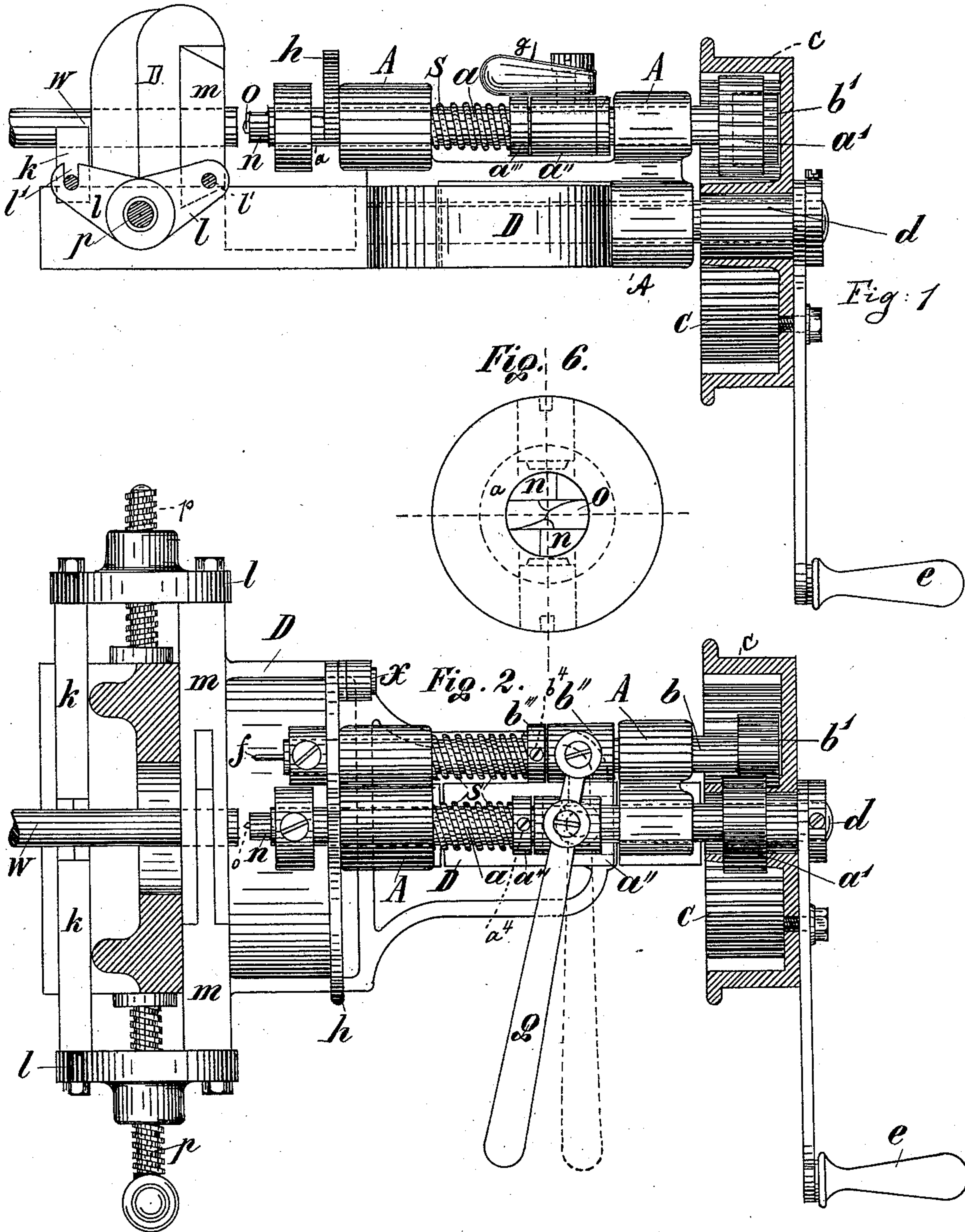
3 Sheets—Sheet 1.

G. WAGNER.

MACHINE FOR CENTERING AND COUNTERSINKING.

No. 427,811.

Patented May 13, 1890.



Witnesses:
W. Wagner.
A. J. Goughmans.

Inventor:
G. Wagner
by his attorneys
Roeder & Brien

(No Model.)

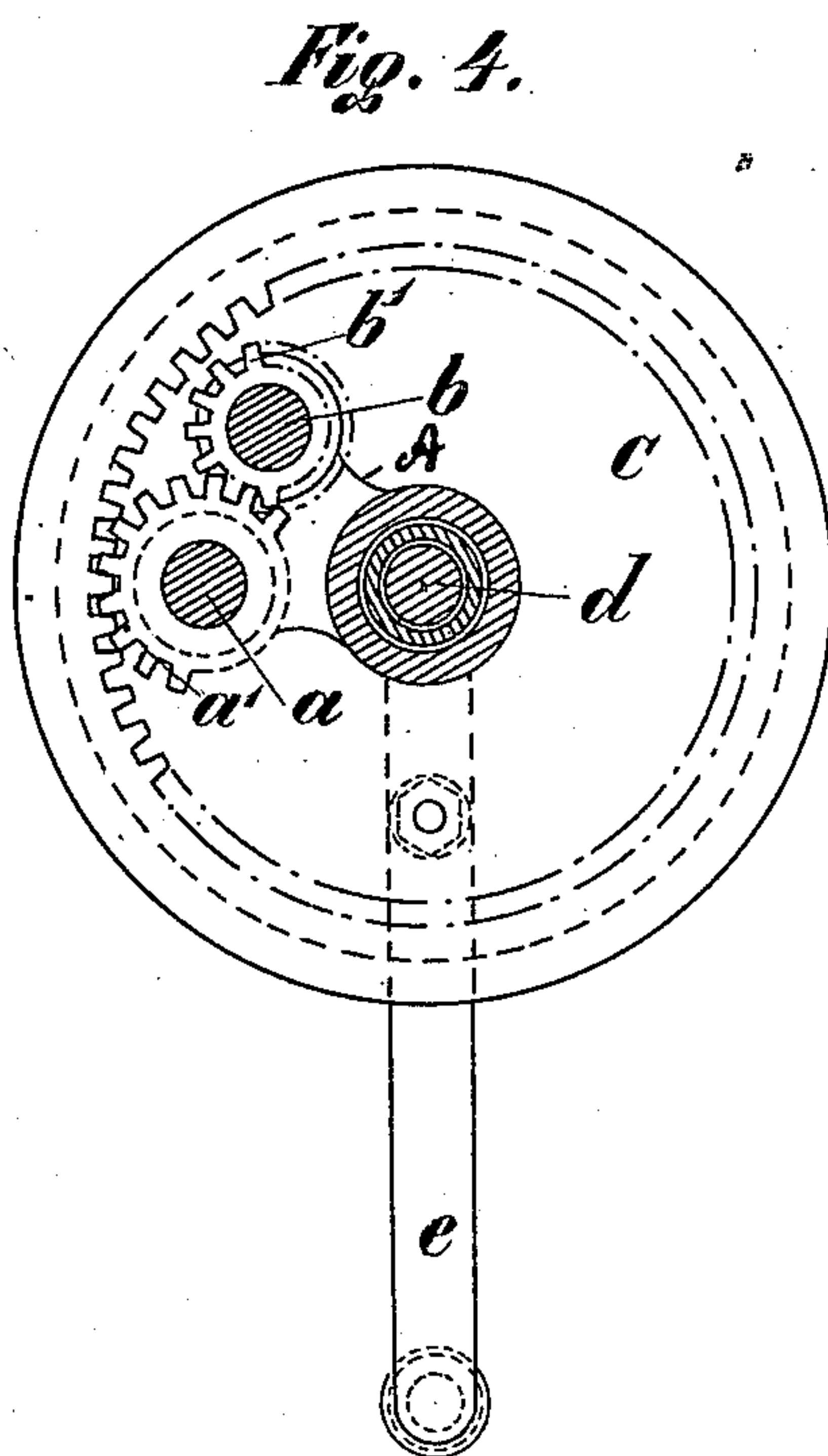
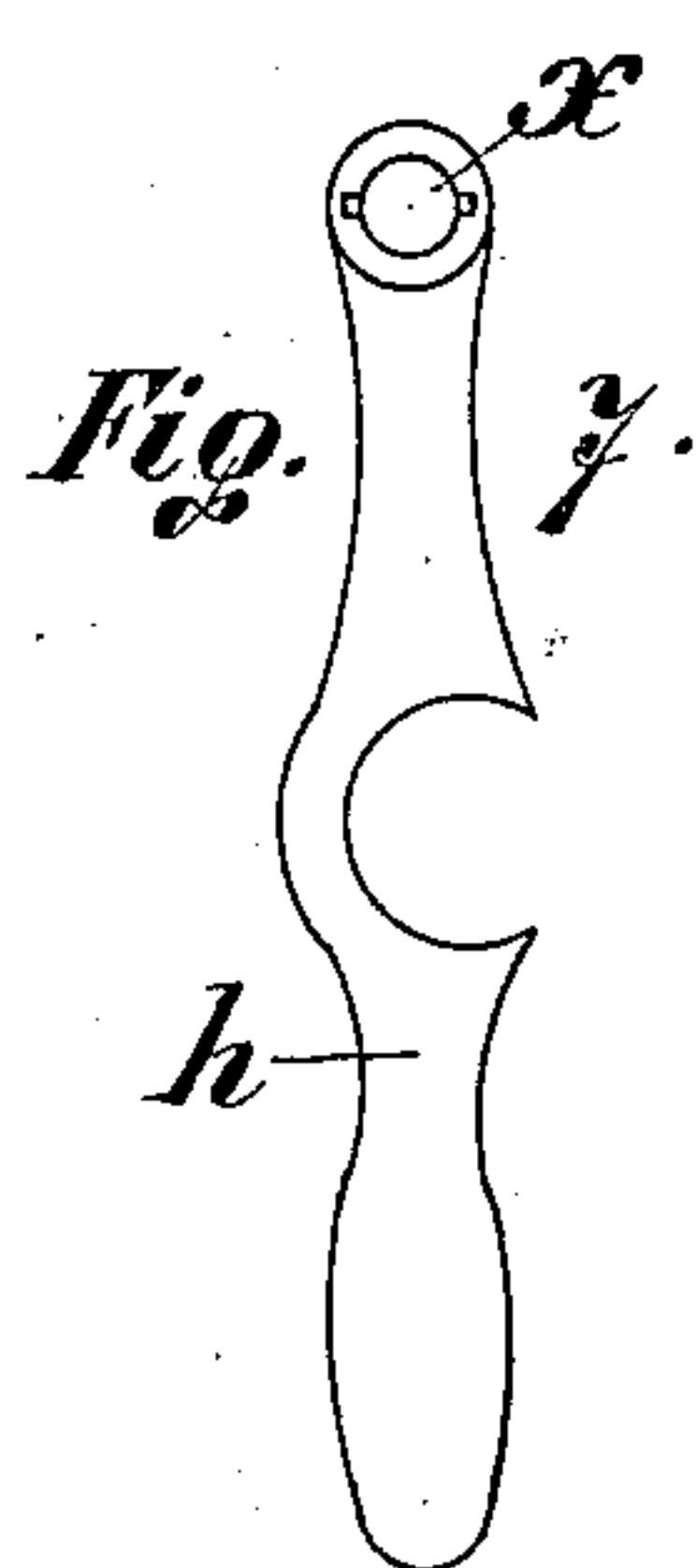
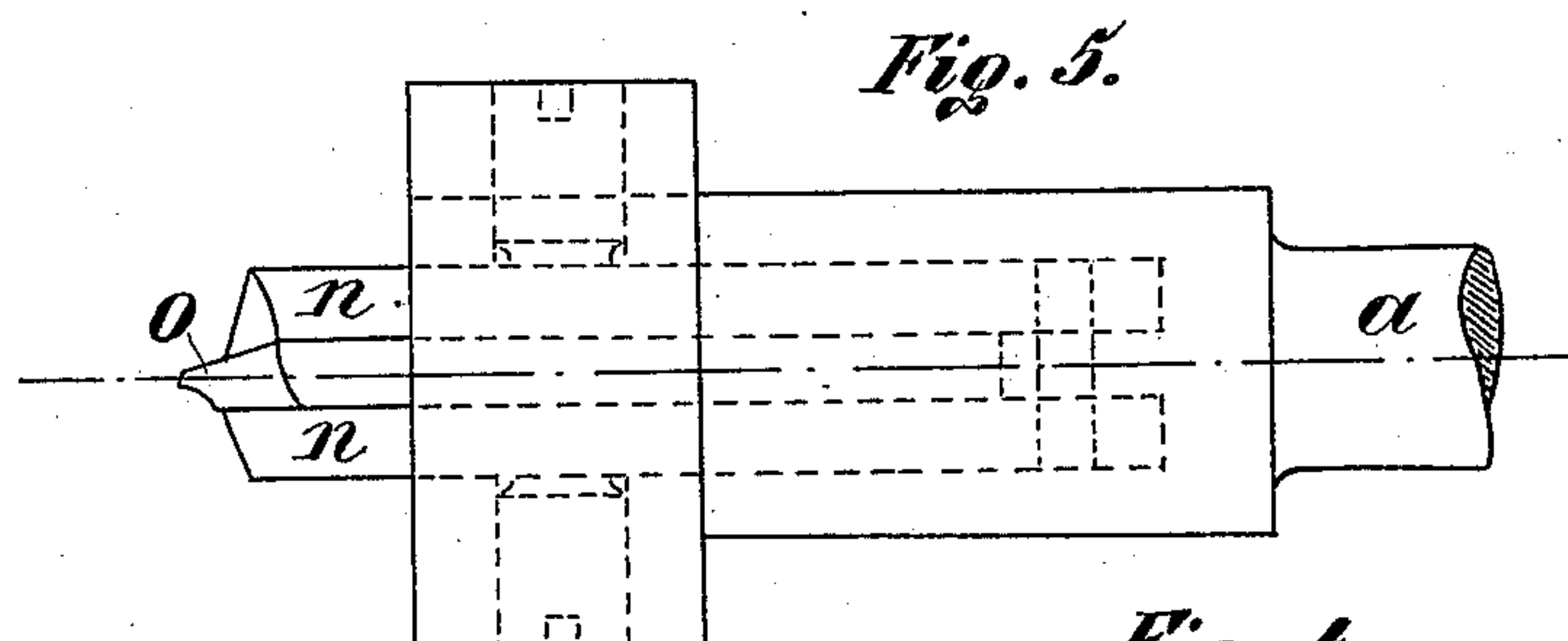
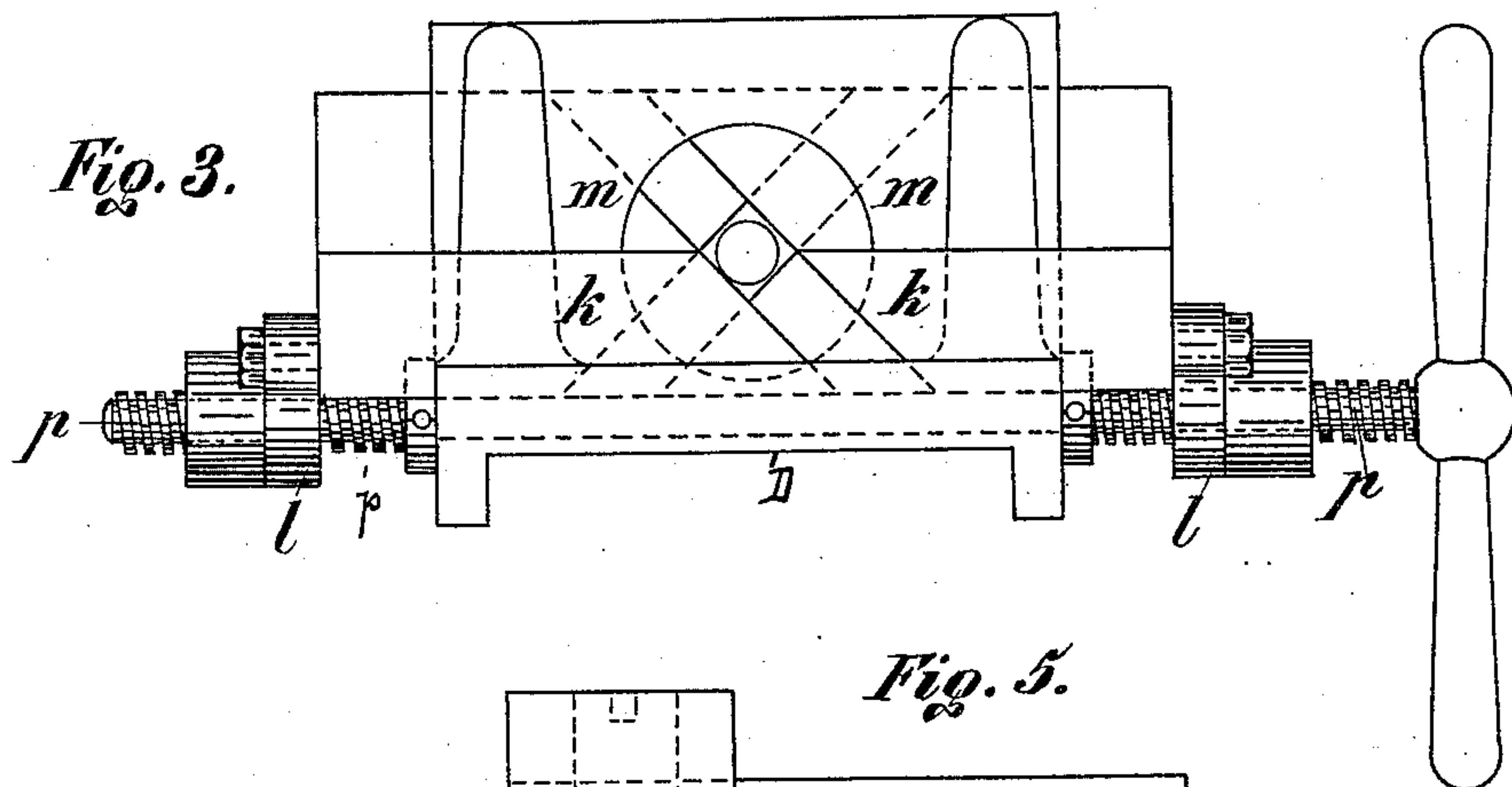
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MACHINE FOR CENTERING AND COUNTERSINKING.

No. 427,811.

Patented May 13, 1890.



Witnesses:

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(No Model.)

3 Sheets—Sheet 3.

G. WAGNER.

MACHINE FOR CENTERING AND COUNTERSINKING.

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Patented May 13, 1890.

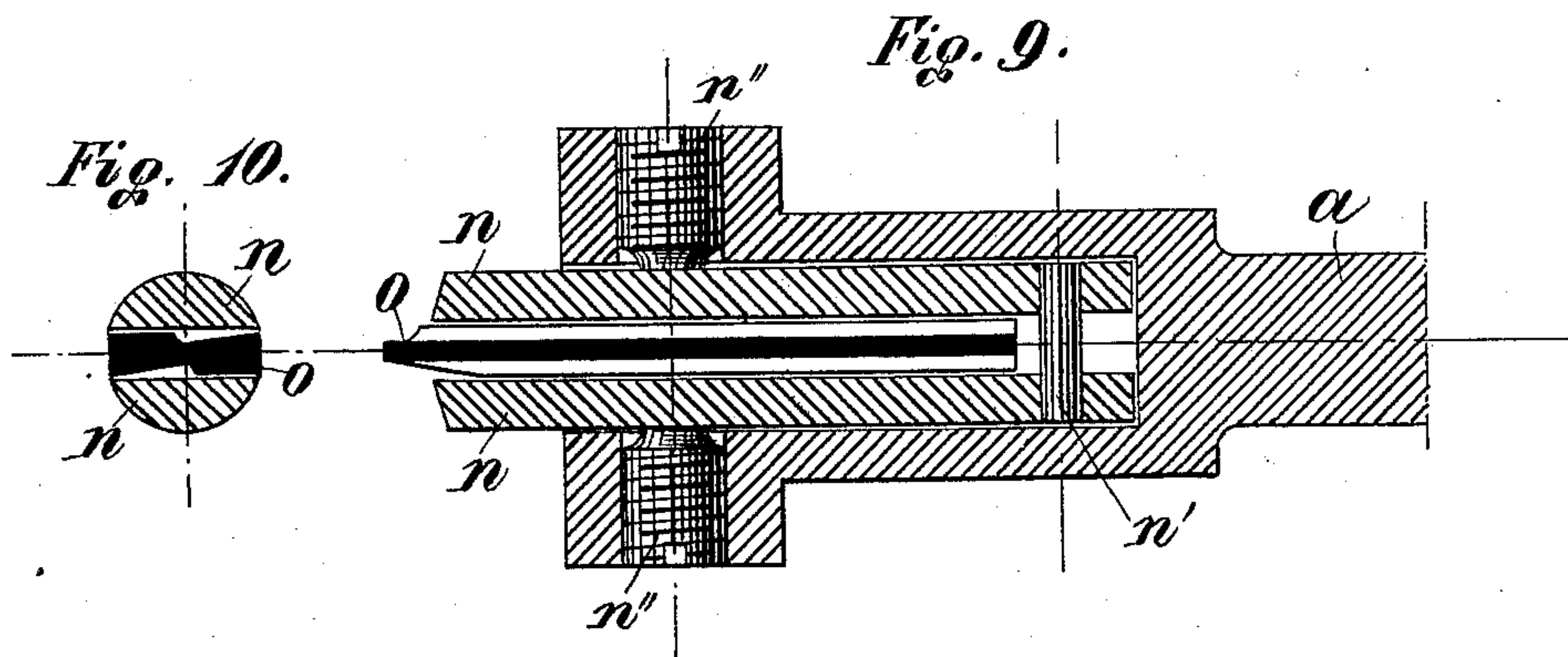
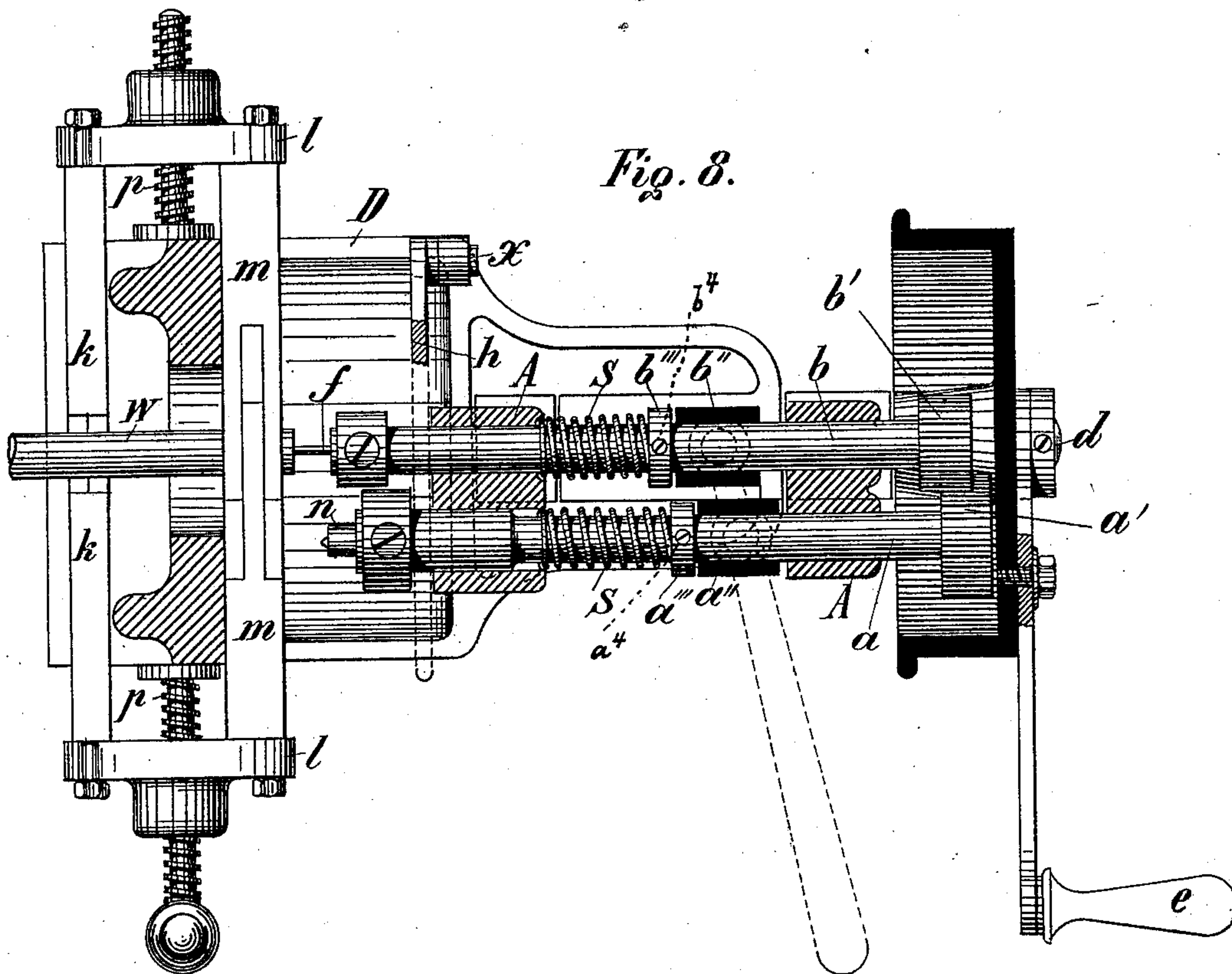
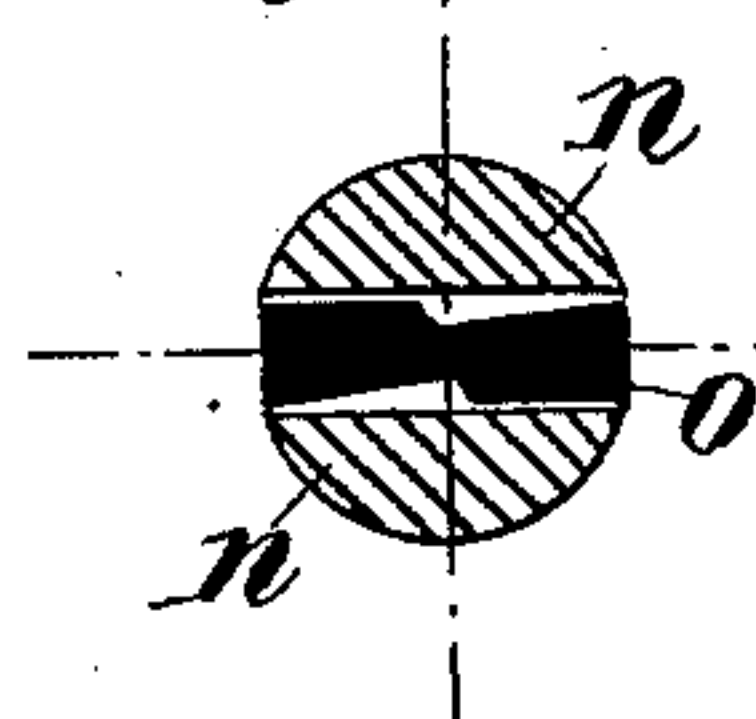


Fig. 10.



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UNITED STATES PATENT OFFICE.

GUSTAV WAGNER, OF METZINGEN, WÜRTENBERG, GERMANY.

MACHINE FOR CENTERING AND COUNTERSINKING.

SPECIFICATION forming part of Letters Patent No. 427,811, dated May 13, 1890.

Application filed September 24, 1889. Serial No. 324,979. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV WAGNER, of Metzingen, Würtemberg, Germany, have invented an Improved Machine for Centering and Countersinking, of which the following is a specification.

This invention relates to an improved machine for centering and countersinking; and it consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional side view of my improved machine; Fig. 2, a sectional top view with spindle *a* centered; Fig. 3, an end view of the machine; Fig. 4, an end view of the driving-pulley; Fig. 5, a side view, and Fig. 6 an end view, of spindle *a* on an enlarged scale; Fig. 7, a side view of lever *h*; Fig. 8, a sectional top view of the machine with spindle *b* centered. Fig. 9 is a longitudinal section of the working end of spindle *a*; Fig. 10, a cross-section thereof.

The letters *a b* represent two spindles provided at their rear ends with gear-wheels *a' b'*, meshing into each other and supported in suitable brackets *A A*. These brackets are centered and free to turn upon a shaft *d*, supported in a frame *D* of the machine. To the shaft *d* is keyed a pulley *c*, around which a driving-belt may be placed, or the shaft may be turned by means of a crank-handle *e*, secured to the pulley.

The pulley *c* is provided on its inner side with teeth, which are engaged by the gear-wheel *a'*. The wheel *b'* is of smaller diameter than wheel *a'*, so as to give to spindle *b* a greater speed than is imparted to spindle *a*. The spindle *b* carries a centering-tool *f*, and the spindle *a* the countersinking-tools *n* and *o*.

Either of the spindles *a b* may be centered or brought into line with the work *W* by a partial revolution of pulley *c*. The revolution of the pulley will be transmitted by gear-wheel *a'* to the spindle *a*, and if the spindle *a* is to be centered the pulley is revolved until such shaft is in line with the work. If the spindle *b* is to be centered, the pulley *c* is revolved to bring such spindle in line with the work, the spindle *b* receiving its motion through pulley *c* and gear-wheels *a' b'*. The

gearing mechanism of the spindles is best seen in Fig. 4.

The spindles *a* and *b* are surrounded by loose sleeves *a''* and *b''*, to both of which a lever *g* is pivoted, so that either pivot may be used as a fulcrum. The sleeves *a'' b''* abut, respectively, against collars *a''' b'''*, keyed by screws *a⁴ b⁴* to spindles *a b*. At the other side of these collars spiral springs *S* are placed around the spindles *a b*.

h is a lever pivoted to the frame of the machine at *x*, and provided with a notch that embraces that one of the spindles *a b* which has been centered after such spindle has been pushed outward toward the work.

The spindles are provided with an enlargement at the right side of lever *h*, Fig. 1, and thus the lever holds the spindle to the work and prevents it from being drawn back by the spring. To push the spindle that has been centered toward the work, the lever *g* is turned either toward the right or left. It is turned toward the left when the spindle *a* is centered, Fig. 2. In this case the lever *g* turns on its pivotal connection with sleeve *b''* and pushes the sleeve *a''* against collar *a'''*. The collar compresses the spring on spindle *a* and pushes the spindle toward the work when it is locked in place by lever *h*, as described. Upon the release of the spindle *a* from lever *h* the spring *S* on spindle *a* brings the parts back into their normal position of rest.

If the spindle *b* is to be put into engagement with the work, the lever *g* is swung toward the right, Fig. 8, to turn on its pivotal connection with sleeve *a''* and push the spindle *b* outward in the same manner as has been described in relation to spindle *a*.

The centering-tool *f* is of the usual construction.

The countersinking-tool is composed of two cutters *n n*, fitted into a bore at the end of spindle *a*. The cutters *n* are connected at their rear end by a pin *n'*. Clamping-screws *n''* crowd the cutters *n* against a central cutter *o*, placed between them, and thus these screws serve to hold all the cutters in place. By this arrangement the cutters can be readily removed and ground. The shaft, spindle, or

other work W is held to the frame by means of jaw-nippers *m m*, fitted into each other and moved toward each other between frames *l l* by a spindle *p*, having right and left 5 handed threads.

The work W receives a second support by cross-bars *k*, attached to the frames *l l*, which may easily be removed, if the nature of the work requires it, through an opening *l'* in the 10 frame *l*.

What I claim is—

1. The combination of pulley *c*, with internal teeth, spindles *a* and *b*, with wheels *a' b'*, supported in frames A A, placed upon the 15 pulley-shaft *d*, and the lever *g*, substantially as specified.

2. The combination of the movable cross-bar *k* with the frames *l l*, spindle *p*, and jaw-nippers *m m*, substantially as specified.

3. The combination of the cutters *n n* and 20 central pointed cutter *o*, forming the counter-sinking-tool, substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscrib- 25 ing witnesses.

GUSTAV WAGNER.

Witnesses:

FR. HENNING,
ALBERT HÖRZ.