No. 870,354. PATENTED NOV. 5, 1907.

H. M. FUNK.

# CENTERING DEVICE FOR TABLE LEG BLANKS.

APPLICATION FILED JAN. 30, 1907.

Fig. 1.

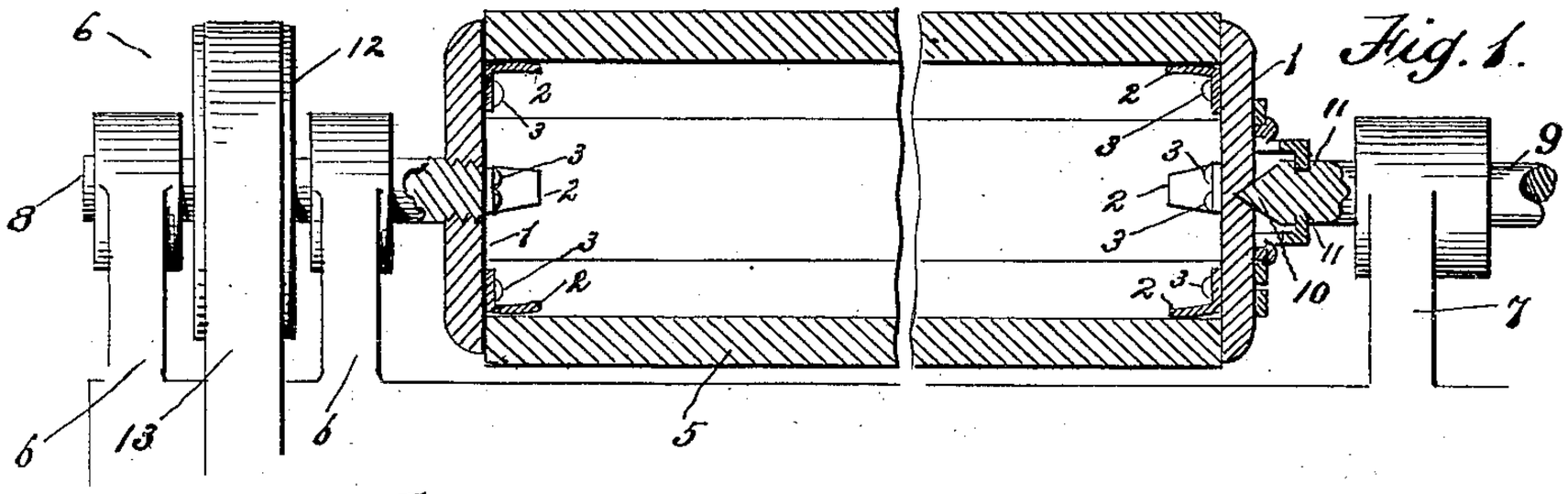



Fig. 2.

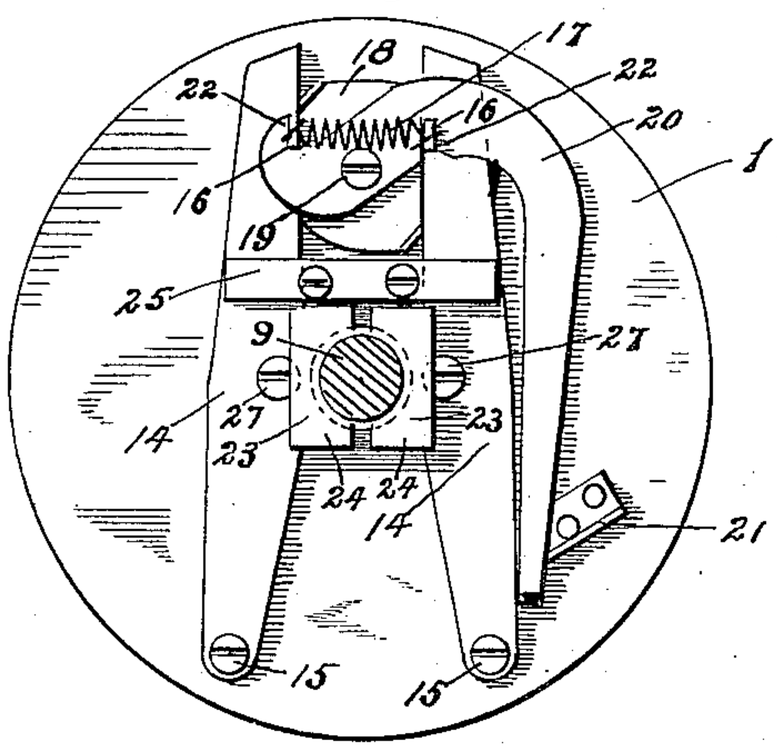



Fig. 3.

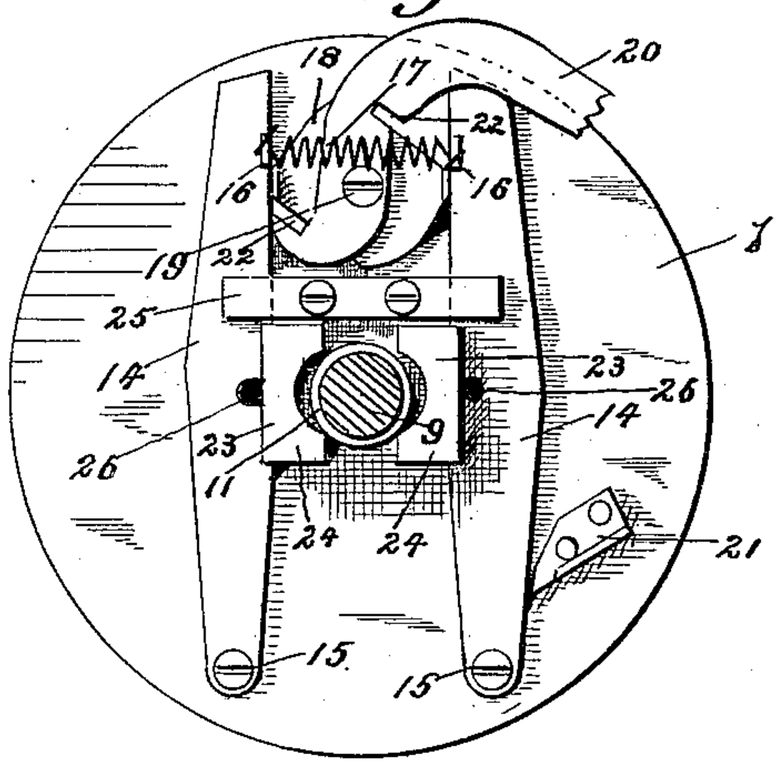



Fig. 4.

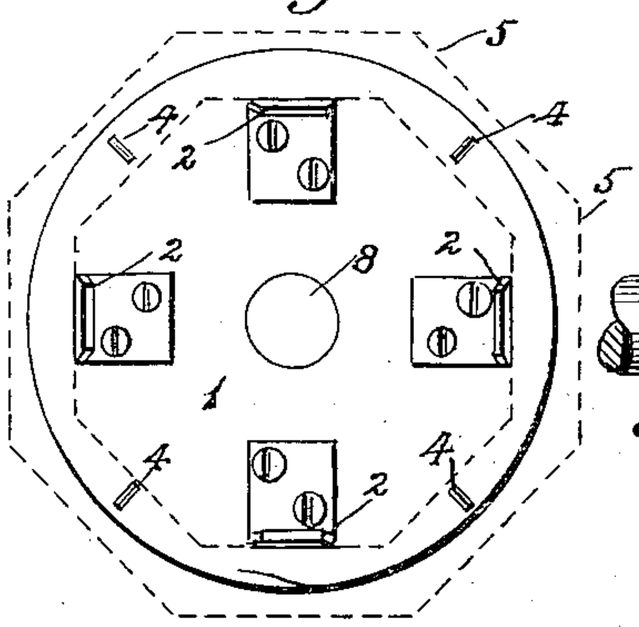



Fig. 7.

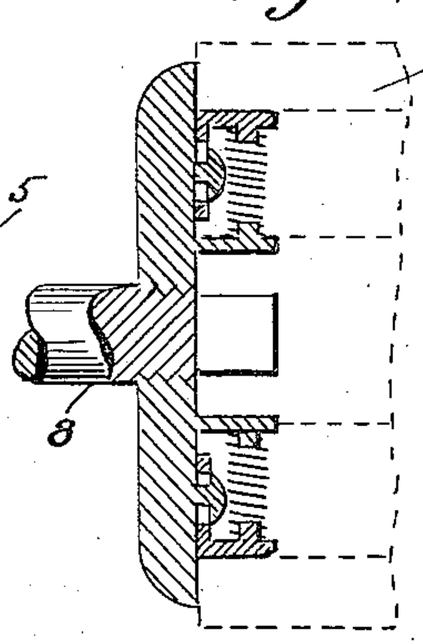



Fig. 6.

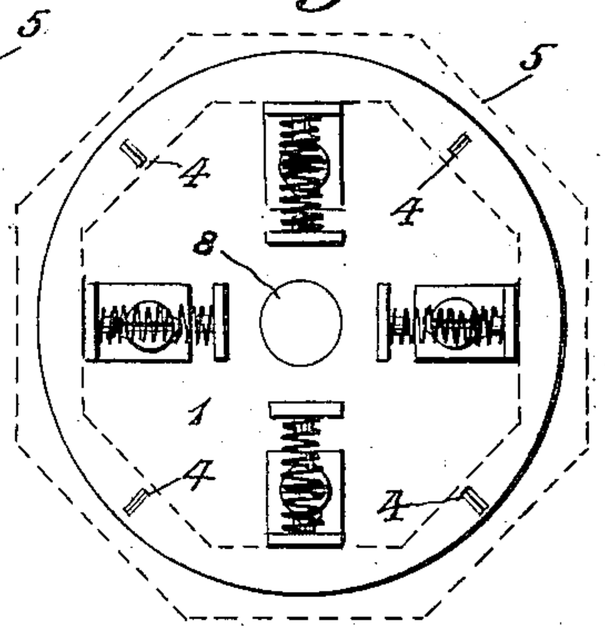
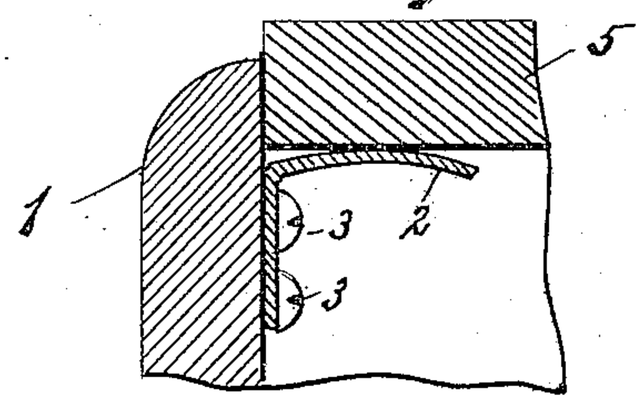



Fig. 5.

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# UNITED STATES PATENT OFFICE.

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## CENTERING DEVICE FOR TABLE-LEG BLANKS.

No. 870,354. Specification of Letters Patent. Patented Nov. 5, 1907.

Application filed January 30, 1907. Serial No. 354,787.

*To all whom it may concern:*

Be it known that I, HENRY M. FUNK, a citizen of the United States, residing at Hanover, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Centering Devices for Table-Leg Blanks, of which the following is a specification.

My invention, while broadly relating to machines which possess the general characteristics of a lathe, that is to say, machines whereby parts of furniture, or analogous articles, are tooled, or turned to any desired shape, or form, is yet more particularly designed for, and adapted to be used in connection with machines which contemplate solely, the tooling, or turning of table legs of that peculiar class known to the art as "pillow table legs," and in the formation of which a number of independent strips, or pieces of lumber, properly jointed, are glued, or otherwise secured together, to form a block of sufficient size to meet the needs of the leg desired, prior to being placed in the machine for the purpose of being shaped, or tooled.

The blanks when constructed as above described, are generally octagonal in cross section, that is, have eight sides, and eight angles, and, as the said blanks, as a rule, in diameter exceed six inches and are built up of strips which usually range from seven eighths of an inch, to one and one fourth inches in thickness, according to the particular contour of outline the finished leg is to possess, it naturally follows that the centers of said blanks are hollow and are in outline like to the outer surface of the blank, and that consequently the proper "centering" of a blank, so constructed and shaped, in the machine by which it is to be tooled, or turned, is an operation which requires both care and judgment.

The method of centering blanks, as now followed, consists in forcing a block of wood into each of the hollow ends of the blank, and thereafter finding the center of said blocks, that the mandrel and center spur of the machine may be properly placed upon, and secured to the blank which is to be tooled. The method of centering, above noted, is by no means a thoroughly satisfactory one, for the reason, among others, that the blank is not always properly centered, and because of this fact, and for the purpose of providing a device, by which a pillow blank may be instantly, and accurately placed in a machine for tooling, my invention has been made, and consists essentially in a device, or devices, having a construction and an arrangement of parts substantially as hereinafter described and illustrated in the accompanying drawings, wherein:

Figure 1. is a vertical longitudinal section taken through devices embodying my invention and a pillow leg blank held thereby in position for tooling. Fig. 2. is an enlarged elevation of my improved pillow block centering device as it appears when in place upon the end of such a block and clamped to the center spur of the tooling machine, or lathe in which the block is to be turned, or tooled. Fig. 3. is a similar end elevation of the centering showing the clamping device opened to release the center spur of the tooling machine, or lathe. Fig. 4. is a transverse sectional view taken through the pillow block on the line *x*. *x*. of Fig. 1. to more clearly show the position of the centering springs and spurs of my device, as they appear, when in use. Fig. 5. illustrates, in an enlarged detail view the means whereby the pillow block is centered by my device, and further illustrates a locking device upon the head, and Figs. 6. and 7. illustrate in an elevation, and a transverse sectional view respectively, a modified form of my improved centering device.

Referring to the drawings, wherein similar numerals of reference denote similar parts in the several figures of such drawings, 1, designates a circular centering head which may be formed of any suitable material, preferably metal, and provided upon one side with means for centering the pillow block, such means, in the present instance, consisting in projecting leaf springs 2, which are securely fastened to the head by screws 3, at points adapted to engage the inner surfaces of the pillow block blanks, at the opposite ends thereof, see Fig. 1.

I preferably provide each head 1, with four springs, 2, see Fig. 4, and I so place the said springs that they shall bear against the inner surface of the blank at points opposite each other, see said Fig. 4, thus accurately centering the blank as will be readily understood. I further provide the head 1, upon the side containing the springs 2, with projecting spurs 4, which, when the head is placed in position upon a pillow block blank, is pressed into such blank, thus holding said blank from movement independent of the head, as well as insuring synchronous rotation of head and blank, as will be readily seen.

For convenience of description I will hereinafter designate the pillow block blank by the numeral 5.

By reference to the drawing Fig. 1. it will be seen that in practice each end of the blank 5. is provided with a centering head, and that therefore the proper position of such blank, as regards cutting, or tooling devices, is absolutely determined and assured.

The tooling machine in which the blanks 5 are to be cut into the shape desired, forms no part of my invention, or of this specification, save only such part thereof as forms the support of, or carries and turns the head or heads, and its or their connected blank 5. and with these facts in view I will now describe parts of Fig. 1. which properly pertain solely to the tooling machine, in said Fig. 1 numerals 6, and 7, designate respectively the head and tail stocks of a tooling machine, the former 6, supporting a spindle 8, to which one of the cen-

tering heads 1, is secured, preferably by a screw connection, as shown, while the latter of such supports 7, is provided with a center 9, connected to be moved longitudinally by devices not shown herein, and further provided, near its forward cone shaped end 10, with an encircling groove 11, which co-acts with a locking device carried by one of the heads 1, and presently to be described, to hold said head in rotatable connection with the center 9, and against displacement from the center should the blank 5. through any means, be thrown from the heads while being tooled.

A pulley 12, fast upon the spindle 8, is rotated from a motor, (not shown herein) through a belt 13, as shown.

To insure that the head 1, upon the center 9, of the tail stock 7. shall at all times, (and particularly in the event of the accidental displacement of the blank 5, from the heads when being tooled,) remain in proper connection with the center pin 9, I provide such head 1, with a locking device, having jaws that engage the groove 11, of said center 9, see Fig. 1. and thus hold such head in proper place.

The locking device above noted consists essentially in levers 14, which are hinged to the head 1, near one side edge of said head at 15, and extend thence, upon opposite sides of the center 9, to or nearly to the opposite side edge of said head, and are, near their free ends, each provided with an outwardly projecting lug 16, apertured to receive each an end of a spring 17, that extends between said lugs 16 to draw the levers 14 together when released from outward pressure by a cam 18, which is pivoted at 19 to the head 1, and is provided with an actuating arm 20, that is curved to extend to a securing clip 21, near the pivotal point of one of the levers 14, see Fig. 2.

I preferably provide the actuating arm 20, near the cam 18, with indents 22, that engage the lugs 16, to hold the levers 14, locked together, see Fig. 2.

I provide the levers 14, at the center of the head 1, each with outwardly projecting portions 23, which, near their outer ends, are bent toward each other to form jaws 24, that are cut away upon their ends to embrace the center 9, within a groove 11, which extends about such center 9, as hereinbefore described, and thus hold the head in rotatable connection with the center 9, as noted hereinbefore.

A clip 25, secured to the head to extend above the levers 14, near the center of the head, holds said levers securely in place upon the head; I further provide each of the levers 14, at a point adjacent to the center, with a slot 26, through which a stud 27, extends to, and into the head 1, which stud is provided with a head that bears upon the lever 14, at the sides of the slot 25, and thus operates to aid the clip 25, in holding the levers 14, in place.

The parts comprising the locking device, and last above described, are clearly illustrated in Figs. 2, and 3. the former Fig. 2, of which shows the said locking device closed, to hold the jaws 24, within the groove 11, of the center 9, while the latter Fig. 3 shows the locking device opened to separate the jaws 24 from said groove.

In Figs. 6. and 7. I show modified forms of the centering springs of the heads 1. In the said figures the leaf spring 2, is dispensed with, and in lieu thereof a sliding block pressed outwardly by a spiral spring is employed, it being understood that said sliding blocks are to bear against the inner surfaces of the blanks 5, in manner like to the leaf springs.

It is to be understood that the center 9, does not revolve, but is arranged to be moved forward and pressed into position against the head 1, by a lever, or other device, this however forms no part of my invention, and is here referred to for the sole reason that the said center 9. is noted by designating numeral herein.

The operation of my device will be understood, from the foregoing description, without special description.

Modifications in form may be made in my invention without departing from the spirit or sacrificing the advantages of such invention. I therefore claim the right to make such modifications as shall properly fall within the scope of the claims hereto appended.

Having thus described my invention, I claim and desire to secure by Letters Patent:

1. A centering device for table leg turning machine such device comprising, a rotatable head, a plurality of springs upon said head to engage a pillow leg blank, a plurality of spurs upon said head to engage the blank, and a locking device to secure the head to a table leg turning machine, substantially as described.

2. A centering device for table leg turning machines such device comprising, a rotatable head, a plurality of springs arranged upon one face of said head and equi-distant from the center thereof, spurs upon said face intermediate of said springs, and a locking device to secure the head in rotatable connection with a table leg turning machine, substantially as described.

3. A centering device for table leg turning machines such device comprising, a rotatable head, a plurality of centering springs upon one face of said head, and spurs upon said head intermediate of said springs, in combination with locking levers hinged to said head, and connected means to move said locking levers to release the head from the leg turning machine, substantially as described.

4. The combination in a centering device for table leg turning machines, of a rotatable head, centering springs upon said head equi-distant from the center of said head, spurs projecting from said head intermediate of said springs, locking levers hinged to said head, and a cam to move said levers, with the center of a leg turning machine, and means to rotate said head upon said center, substantially as described.

5. The combination with a rotatable head, centering springs upon one face of said head and equi-distant from the center thereof, and spurs projecting from said head intermediate of said springs, of locking levers hinged to said head, jaws upon said lever to engage the center of a turning machine, a cam hinged to the head to move the levers, an arm to move said cam, and locking indents upon said arm to engage projecting lugs upon the levers to hold said levers in locked position, substantially as herein set forth.

6. The combination with the center of a table leg turning machine and with a groove in said center pin, of a rotatable head having centering springs upon one of its sides and equi-distant from its center, locking levers upon said head having jaws to engage the groove of the center, a spring connected to hold the levers in position to maintain the jaws thereof in engagement with the groove in the center, a cam to positively move the levers outwardly and the jaws thereon out of engagement with the groove in the center of the turning machine, substantially as described.

In testimony whereof I hereto affix my signature in presence of two witnesses.

HENRY M. FUNK.

Witnesses:
DALE M. STEGNER,
HARRY L. MILLER.