(No Model.) 2 Sheets—Sheet 1

C. C. PECK.

LATHE FOR TURNING POLYGONAL FORMS.

No. 260,118. Patented June 27, 1882

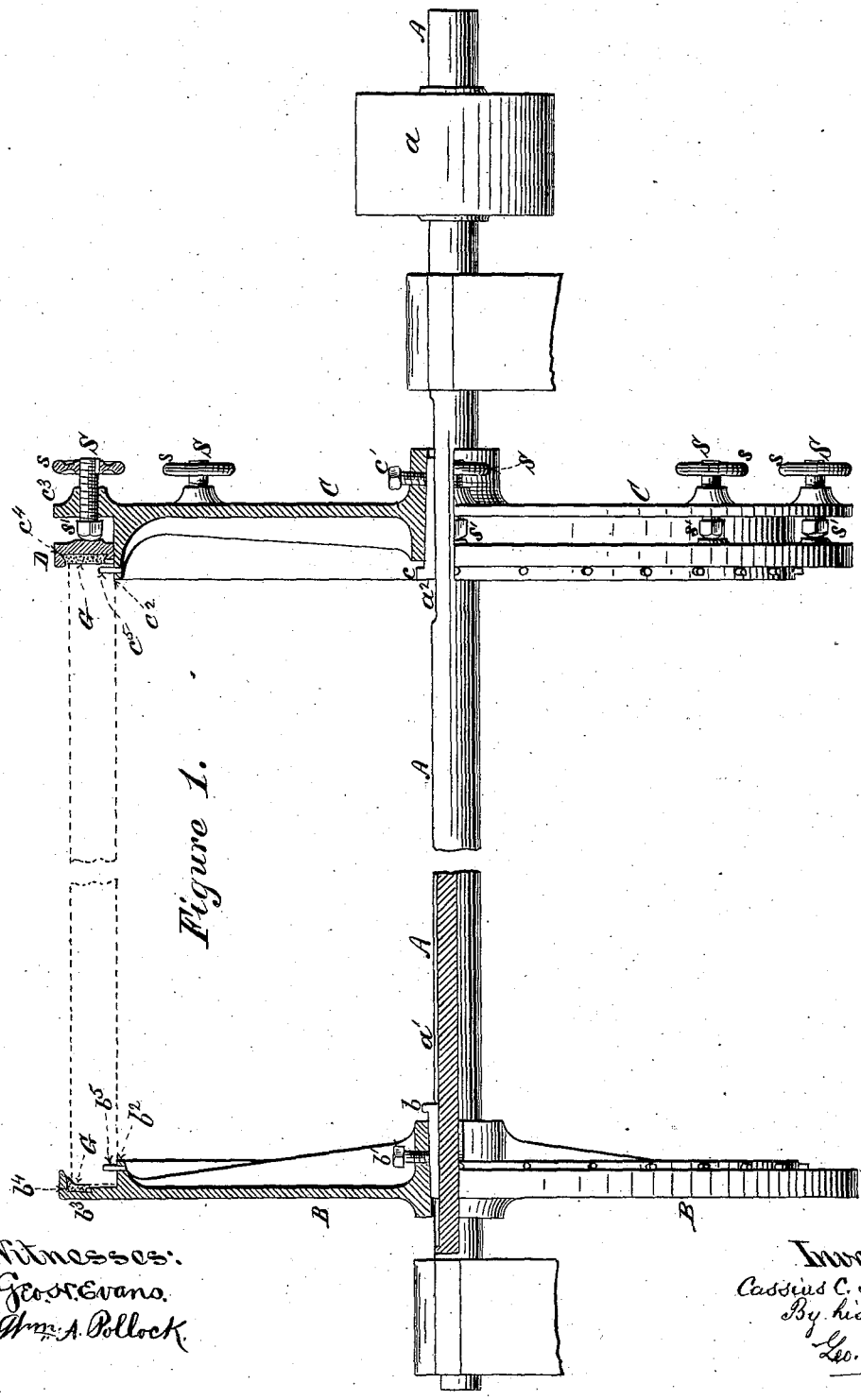

Figure 1.

Witnesses:
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Wm. A. Pollock.

Inventor:
Cassius C. Peck
By his attorney
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(No Model.) 2 Sheets—Sheet 2.

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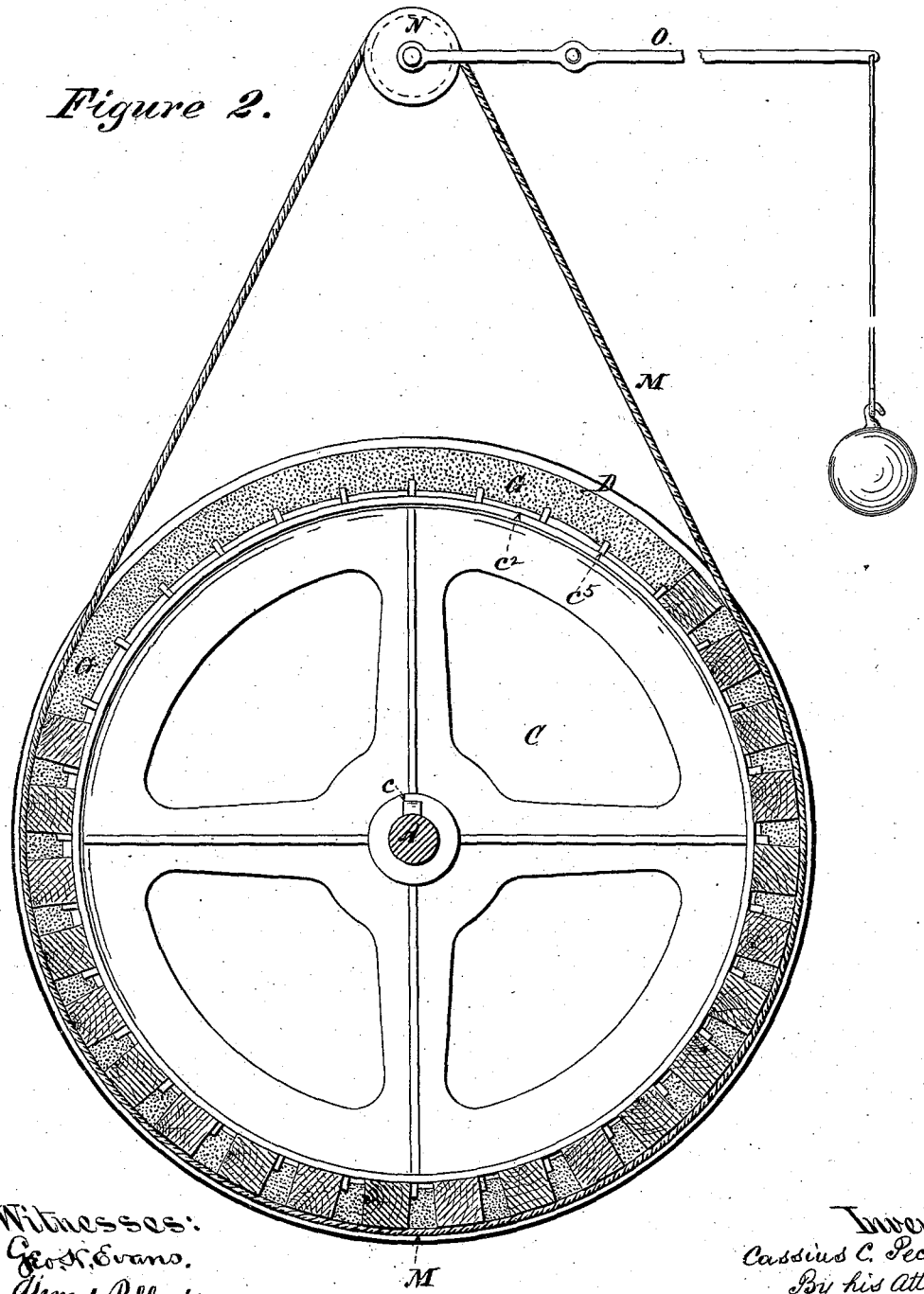
Figure 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

CASSIUS C. PECK, OF NEW YORK, N. Y.

LATHE FOR TURNING POLYGONAL FORMS.

SPECIFICATION forming part of Letters Patent No. 260,118, dated June 27, 1882.

Application filed July 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS C. PECK, of the city, county, and State of New York, have invented certain Improvements in Turning-Machines, of which the following is a specification.

My improvements relate to that class of machines for shaping balusters and other analogous articles, in which wooden blanks of square or polygonal form in cross-section are arranged and secured in a circle concentric with the lathe-center, so that the cutting-tool in operation will remove material from the outer exposed sides of the blanks in an arc of a circle proportionate to their distance from said lathe-center.

The object of my invention is to more effectually and conveniently secure the blanks in position and to compensate for any slight variations in the lengths of the blanks; and to this end my invention consists primarily in the arrangement and adaptation of elastic gaskets, against which the ends of the blanks are caused to impinge; secondly, in the special arrangement and construction of the several parts of the apparatus for rendering it more effective and convenient in use, including a device for holding and supporting the blanks in position while the machine is being filled, and before they are secured by the longitudinal adjustment of the disks or securing-ring.

In the accompanying drawings, Figure 1 is a side elevation of my improved apparatus, the upper half being shown in central vertical section; and Fig. 2 is a transverse section, looking toward the end disk which supports the adjustable annular securing-ring.

The shaft A is mounted upon suitable bearings, and is provided with a power-pulley, *a*. Two parallel disks, B and C, are arranged upon this shaft, either one or both of which are relatively adjustable, as preferred. In the drawings both are shown as adjustable longitudinally upon the shaft, and are prevented from turning independently and laterally upon the latter by wedge-shaped keys *b* and *c*, which are inserted between their hubs and the shaft.

The hubs of the disks B and C are provided with suitable recesses or grooves for the reception of the keys, and the shaft is correspondingly grooved, as shown at a', or planed, as shown at a^2, to furnish a bearing for the under side of the keys and prevent their movement laterally.

The more effectually to secure the disks in the desired position, I provide each hub with a set-screw, b' c', which is employed to grip the key underneath and prevent the possibility of the latter becoming loose or displaced.

Each disk is provided with an annular or cylindrical shoulder, b^2 c^2, concentric with the lathe-center, for the reception and support of the respective ends of the blanks. The walls of the disks project beyond these shoulders and furnish radial bearings b^3 c^3. Each of these radial bearings may be adapted to receive the direct impingement of the ends of the blanks, as shown in the case of one of the disks, B. I prefer, however, to provide one of the disks, as C, with an adjustable annular tightening-ring, D, fitting and moving longitudinally upon its cylindrical shoulder *c*, and to employ the radial bearing c^3 in this case as a fulcrum for a series of longitudinally-adjustable screws, S, for regulating the position of said annular tightening-ring D.

In addition to the handle *s*, each adjusting-screw is provided with a rectangular or other angular head, s', to provide for the employment of a wrench when necessary.

I am aware that set-screws have been employed heretofore in a lathe for turning polygonal forms, in connection with an adjustable annular flange for securing blanks in position; but in such cases the set-screws project radially toward the center of the lathe, and can only be employed to secure the flange in a position previously obtained, whereas in my device the set-screws are placed longitudinally with the center of the lathe, and are employed to adjust and force the securing-ring into position, in addition to sustaining it in the required position when attained. I find that a series of longitudinally-adjustable screws, by allowing a variable adjustment of pressure upon the tightening-ring at different points, are better adapted to secure the blanks in position when there are variations in the length of the latter than when the said ring is pressed forward bodily with a uniform pressure throughout its whole extent.

Suitable gaskets, G, of elastic material are secured to one or both of the radial bearings, b^3 c^3, of the opposing disks, or to the adjusta-

ble tightening-ring D. Any material affording the necessary amount of elasticity may be employed for this purpose, although I prefer to employ caoutchouc gaskets, and to "spring" them into dovetailed recesses b^4 c^4, formed for this purpose in the bearing-shoulders, as shown in the drawings. The elastic bearing-surfaces thus furnished compensate for any slight variation that may exist in the relative lengths of the blanks without compressing or otherwise injuring the ends of the latter, and enable me to secure them in position more readily and effectually than heretofore.

In order to secure the accurate alignment of the blanks parallel to each other in longitudinal planes radial from the center of the lathe, I provide each disk with a series of projections or shoulders, b^5 c^5, each being directly opposite to one of the series on the other disk, so that in placing the disks in the apparatus it is only necessary to have a particular side rest at each extremity against the opposite pins or shoulders on each disk. In thus placing the blanks in the apparatus they are preferably arranged against these shoulders or projections in such manner that the latter are opposed to and sustain the blanks against the action of the cutting-tool.

For the purpose of retaining the blanks in position while the apparatus is being filled, and before they are finally secured by the longitudinal adjustment of the disks or tightening-ring, I provide a temporary sustaining device, M, so arranged as to encircle the lower half of the cylinder formed by the blanks when in position, and sustain them against gravity. A simple and effective method of doing this is by the use of one or more endless ropes or belts, M, of sufficient extent to encircle the cylinder of blanks when in position, and to extend over a pulley, N, attached to a weighted lever, O, above the same, which allows the rope or belt to travel with the disks as they are revolved during the operation of filling, and at the same time keeps it taut, irrespective of the number of blanks in position.

By the use of the continuous endless belt I am enabled to fill or empty the apparatus without reversing its motion, and at the same time am also enabled to turn or reverse the blanks upon their longitudinal axes to present a fresh surface to be acted upon by the cutting-tool without removing said blanks from their positions in the apparatus or disturbing the other blanks.

What I claim as my invention is—

1. In a lathe for turning polygonal forms, a disk adapted to receive the ends of a series of blanks, when provided with an elastic gasket for the purpose, and substantially in the manner designated, in combination with an opposing disk or abutment for receiving and supporting the opposite ends of the series of blanks, substantially as herein set forth.

2. In a lathe for turning polygonal forms, an adjustable securing ring or flange mounted upon a cylindrical shoulder formed upon a suitable disk, and adapted to receive the ends of a series of blanks, when provided with an elastic gasket for the purpose, and substantially in the manner described, in combination with an opposing disk or abutment for receiving and supporting the opposite ends of the series of blanks, substantially as herein set forth.

3. In a lathe for turning polygonal forms, provided with an adjustable securing-ring, mounted upon a cylindrical shoulder formed upon a suitable disk adapted to receive the ends of a series of blanks, a series of set-screws provided with bearings on said disk, with their longitudinal axes parallel with that of the lathe-center, for the purpose of forcibly adjusting and sustaining the securing-ring, substantially in the manner described, in combination with an opposing disk or abutment for receiving and supporting the opposite ends of the series of blanks, substantially as herein set forth.

4. The temporary sustaining device adapted to support the blanks during the operations of filling or removing the blanks from the apparatus, or while turning the blanks upon their longitudinal axes, substantially in the manner and for the purposes set forth, consisting essentially of an endless belt suspended upon a pulley attached to a weighted lever that automatically adapts itself to and renders the said belt taut when in use, and whereby the operations of filling, adjusting, and removing may be performed without reversing the motion of the apparatus, substantially in the manner and for the purposes described.

CASSIUS C. PECK.

Witnesses:
GEO. W. MIATT,
GEO. H. EVANS.