

No. 708,633.

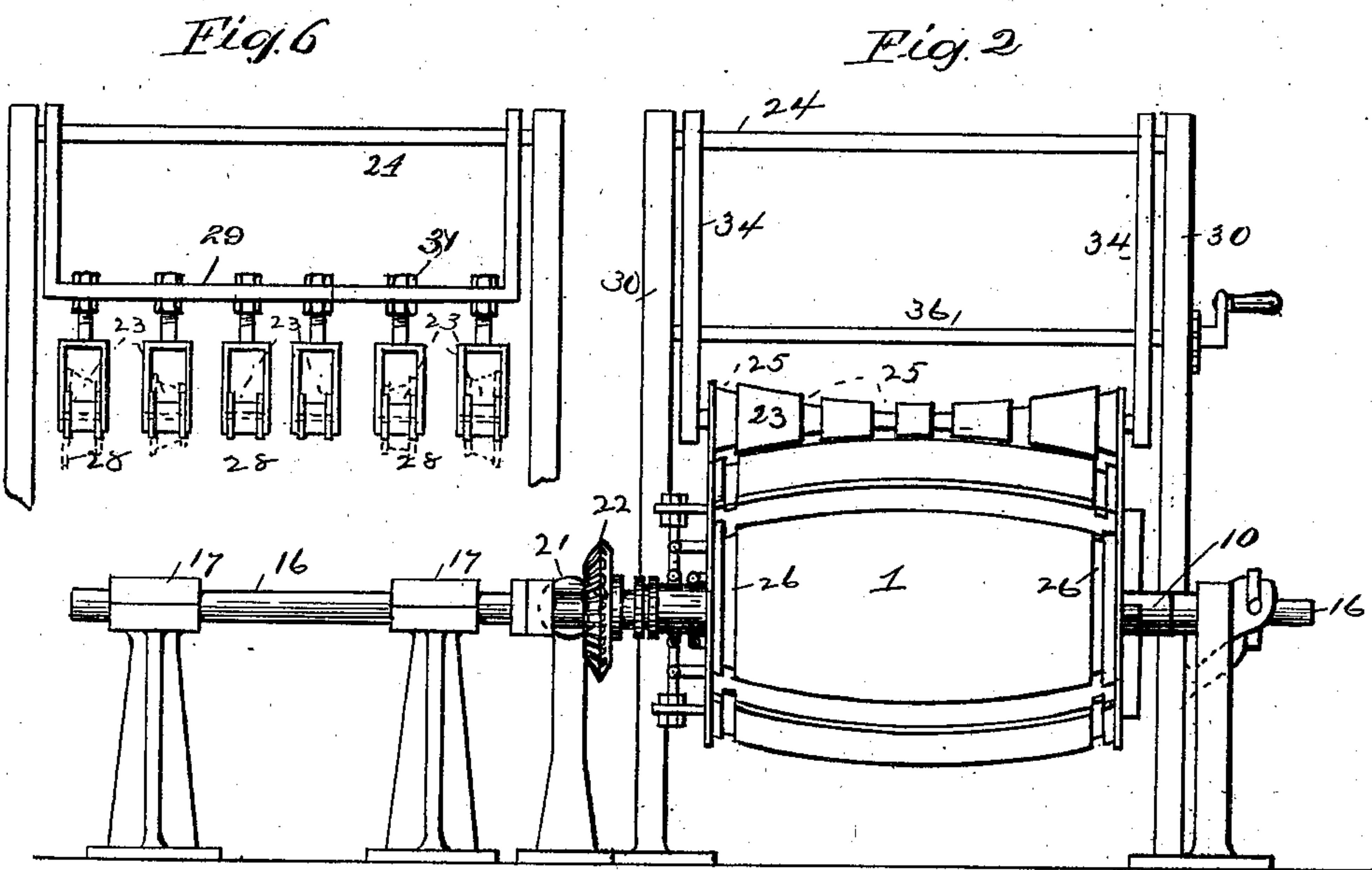
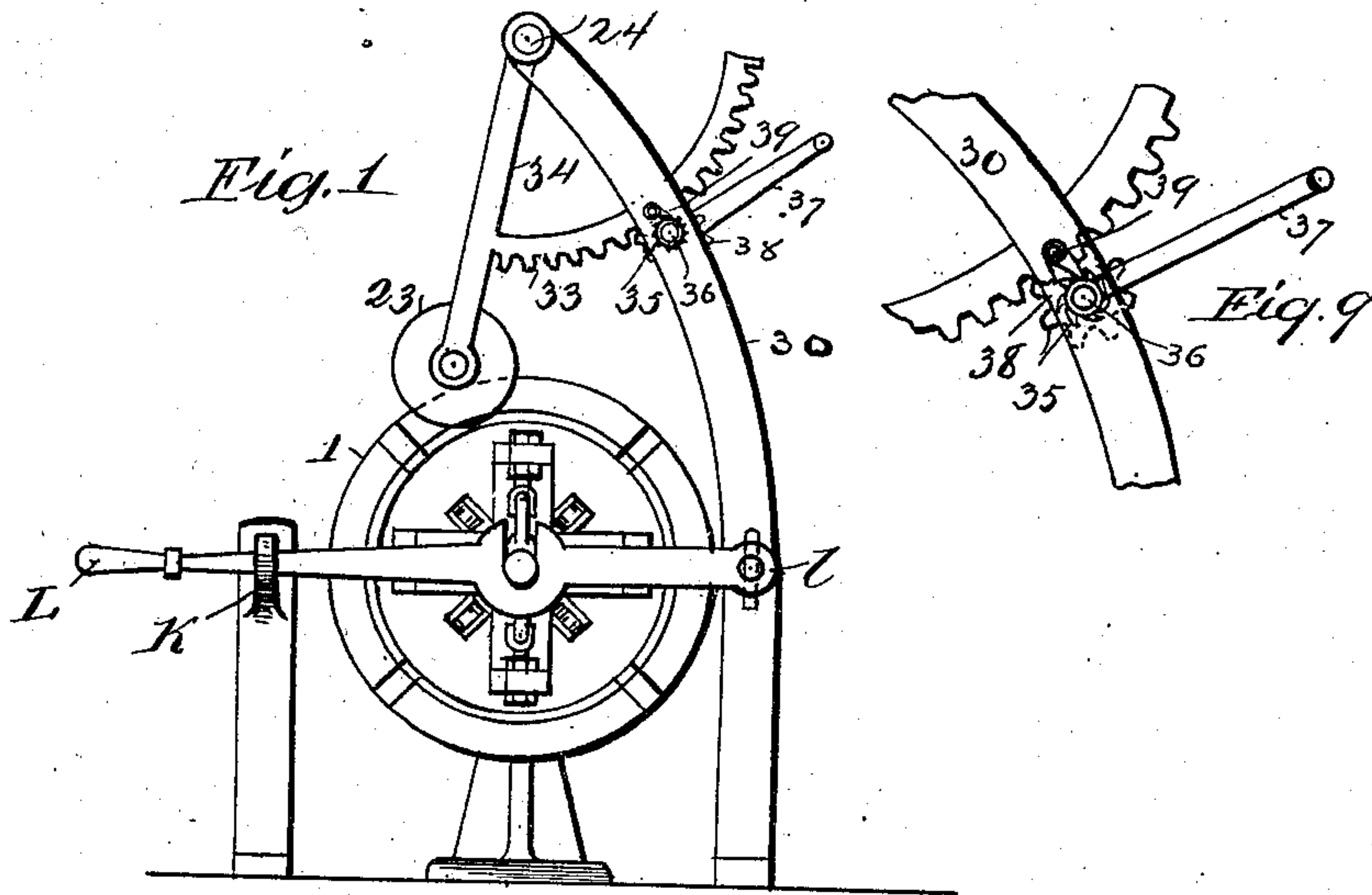
Patented Sept. 9, 1902.

W. C. GRANT.
MACHINE FOR MAKING VENEER BARRELS.

(Application filed June 21, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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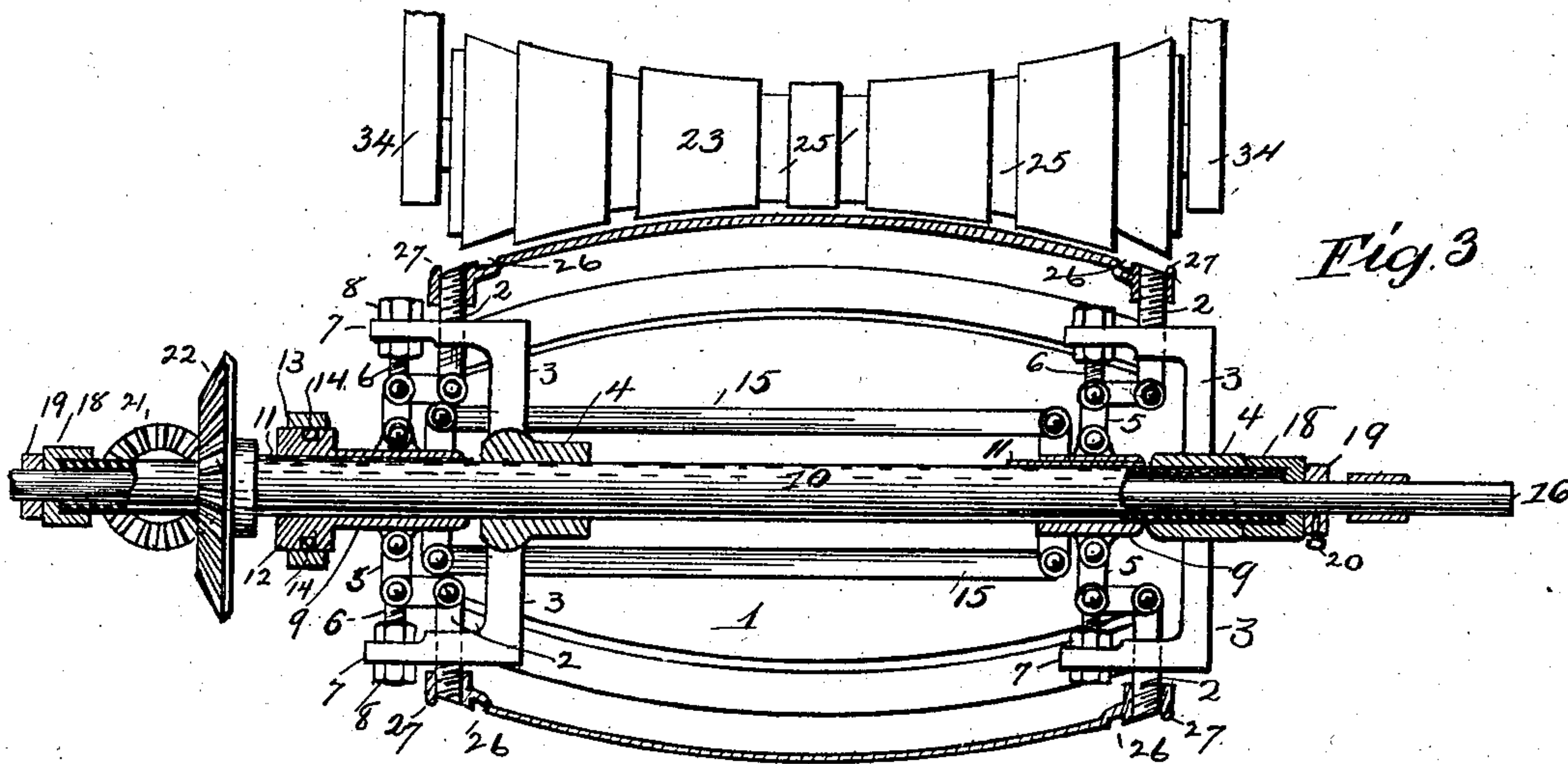


Fig. 4.

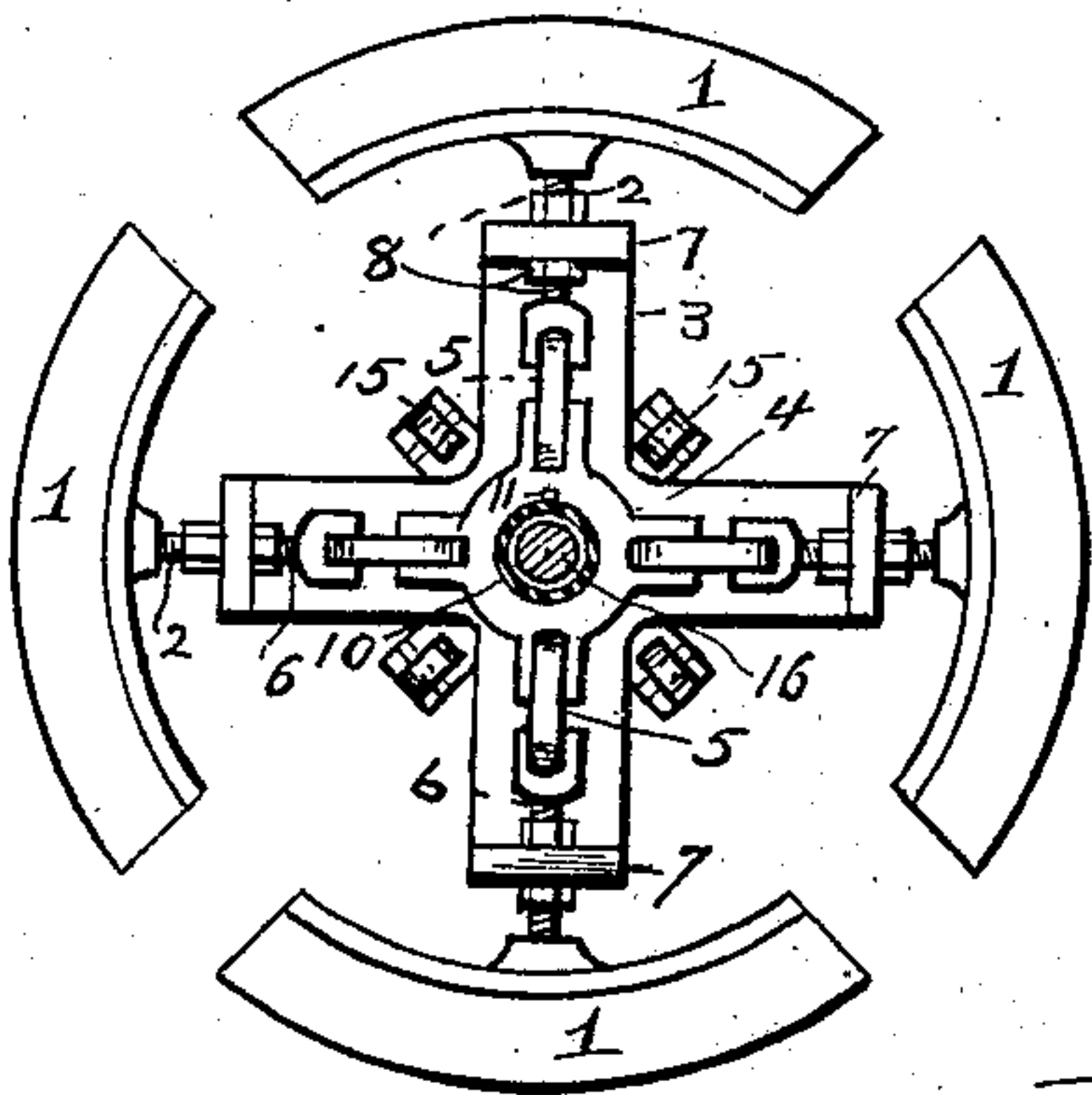


Fig. 5.

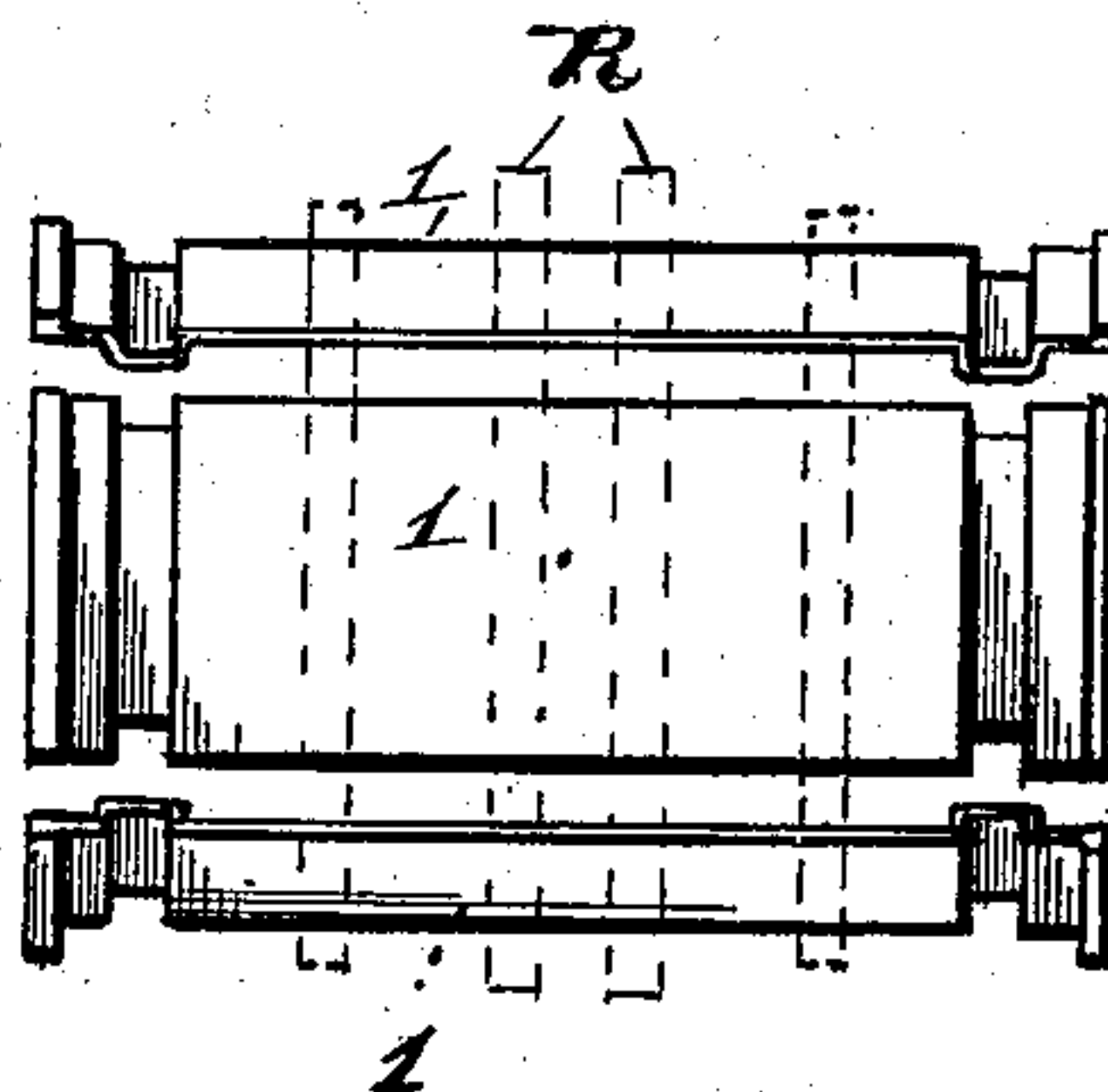


Fig. 7.

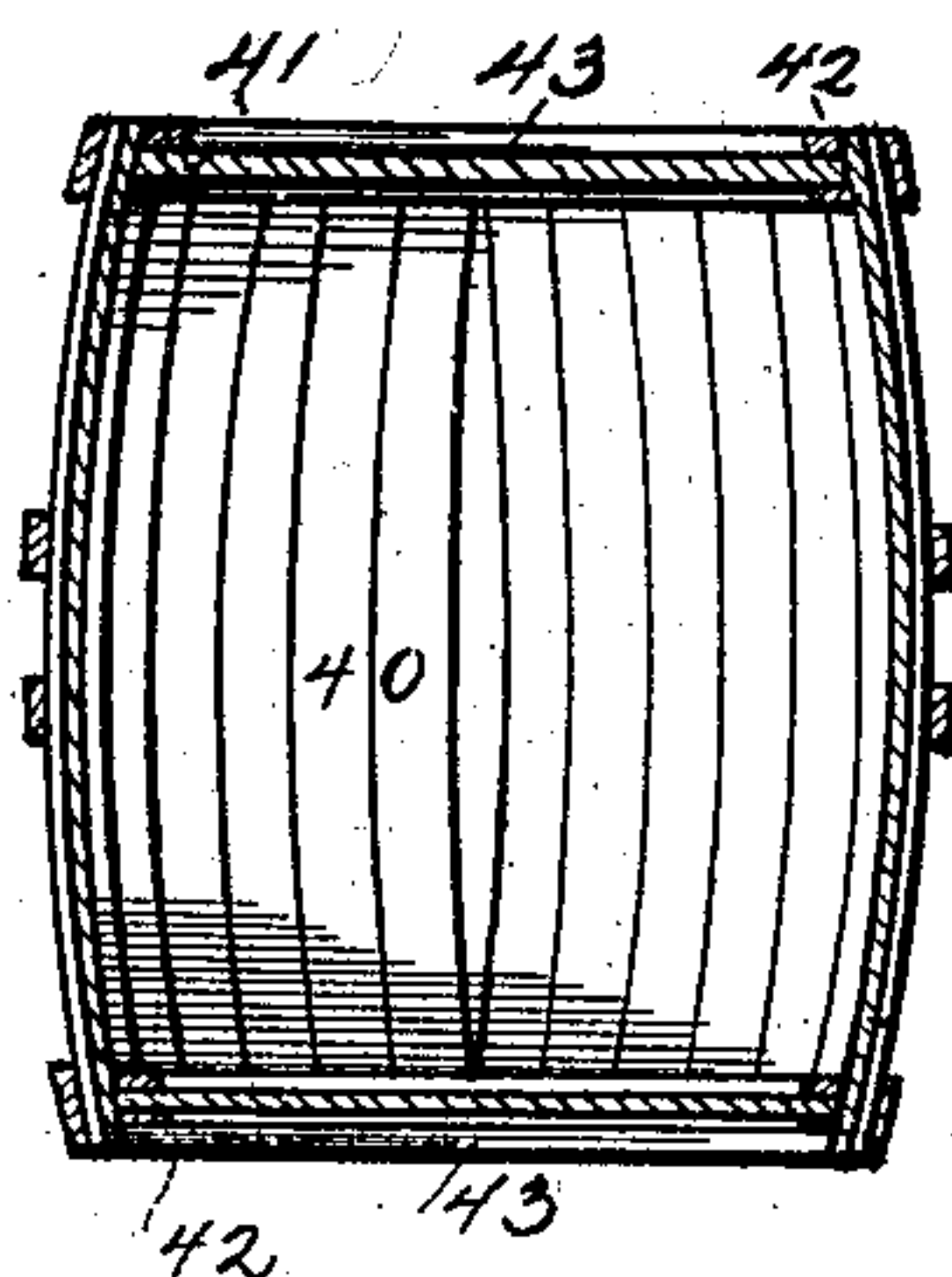
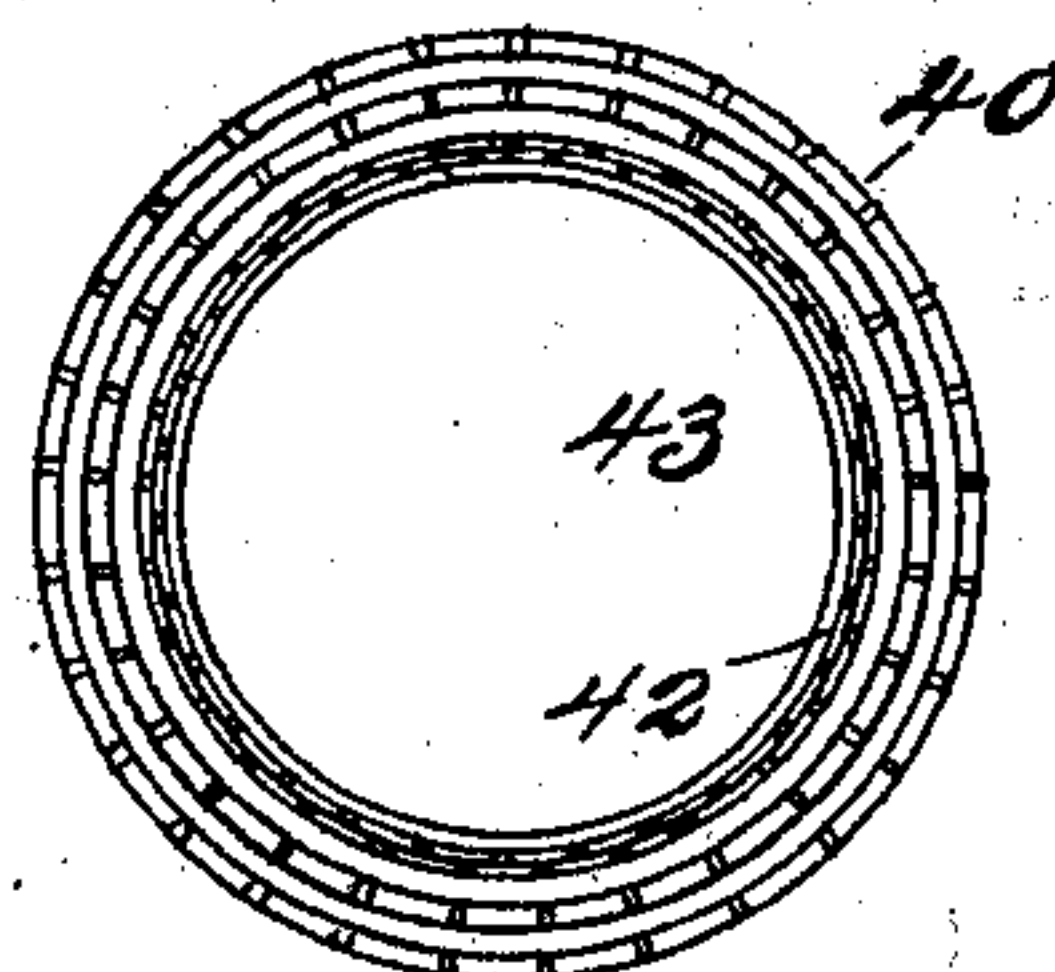


Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIS C. GRANT, OF ASHTABULA, OHIO.

MACHINE FOR MAKING VENEER BARRELS.

SPECIFICATION forming part of Letters Patent No. 708,633, dated September 9, 1902.

Application filed June 21, 1901. Serial No. 65,532. (No model.)

To all whom it may concern:

Be it known that I, WILLIS C. GRANT, a citizen of the United States, and a resident of Ashtabula, county of Ashtabula, State of Ohio, have invented certain new and useful Improvements in Machinery for Making Veneer Barrels, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machinery for making veneer barrels; and the objects of the invention are to provide a device whereby barrels can be constructed from unjointed veneer staves and made either bilged or straight at the option of the maker.

My invention consists in the radially-extensible and sectional former with the accompanying mechanism for compressing the barrel staves and hoops thereon as the barrel is being formed, for extending the sections of the former, and for withdrawing the same for rotating the barrel, and in the combination and arrangement of the various parts and construction of the various details, as hereinafter described, shown in the accompanying drawings, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is an end elevation of my device. Fig. 2 is a front elevation thereof, the lever 13 being omitted. Fig. 3 is an enlarged vertical central section of a bilged former. Fig. 4 is an end view of the same. Fig. 5 is a side elevation of an annular former provided with straight sides. Fig. 6 shows a modified form of compression device, showing it adapted for a straight-sided barrel in solid lines and its adaptation to a bilged barrel shown in dotted lines. Figs. 7 and 8 show sectional side and end elevations of the barrel, respectively.

In the views, 1 1 are the four segmental portions of the sectional barrel-shaped former. These sections are supported upon pins 2, which slide in the arms 3 of the spider 4 and in turn are pivoted upon arms of bell-cranks 5, which are pivoted upon the short rods 6, which are inserted in the overhanging extremities 7 of the spider-arms and are adjustably set thereon by means of clamping-

nuts 8. The lower extremities of the bell-cranks are pivoted upon sleeves 9, which move freely upon the central sleeve 10, to which the spiders are rigidly secured. Splines 11 turn the sleeves 9, to which the bell-cranks are pivoted. A clutch at 12 is formed upon one of the sleeves 9 at one end of the machine, operated by the lever 13 and pins 14, and the sleeves at each end of the machine are connected by rod 15, so that their movements will be simultaneous, and the bell-cranks at each end of the machine are so arranged as to expand or contract the former alike.

Within the long sleeve 10, upon which the former is supported, is placed a central shaft 16, mounted in bearings 17 17 at one extremity thereof, so as to support the former from one end. The sleeve 10 is supported thereon by means of reducing-nuts 18 at either end and retained in position by means of collars 19 and set-screws 20. Bevel-gears 21 and 22 may be used to drive the sleeve 10 at a slow speed, or the former may be turned by hand, if desired.

Above the former is shown a roll 23, arranged to compress the hoops upon the exterior of the staves forming the barrel as it is formed. This roll is swung from an upper pivot-rod 24 by means of links 34 and is provided with grooves 25, in which the hoops are confined while being placed in position on the exterior of the barrel. Supports 30 are shown at either end of the rod 24. Grooves 26 are shown on the exterior of the former-sections at either end, in which are laid the hoops, which are attached to the inside of the barrel at either end, and segmental annular rings 27 retain the hoops at the ends of the barrel. As shown in Fig. 6, the roll which retains the hoops upon the barrel while undergoing the process of construction may be divided into as many smaller rolls or sections as there are hoops. Each roll, as at 23, is supported in a separate bearing 28, which is adjustably secured to a cross-bar 29 by means of clamping-nuts 31 or by any other suitable means, this detail not being important to the invention. The bar 29 is then swung from upper supports similarly to the first-mentioned roll.

To move the swinging roll 23 to and from the periphery of the former to compress or re-

lease the barrel, I employ a positive form of device, as shown in Fig. 1, where 33 represents segmental racks secured to the swinging links 34 and arranged to engage the pinions 35 upon a shaft 36, to which are also secured the crank-arm 37 and ratchet 38. A pawl 39 upon one of the supports 30 enables the operator to place the barrel under compression and retain it there while busy with the construction of the barrel.

In Fig. 5 is shown a former provided with straight sides. Upon this former sectional rings R can be secured, as shown in dotted lines, thus adapting it to a bilged barrel. In Fig. 6 also are shown in dotted lines rolls increasing in size from the center of the barrel position outward, adapted for use with a bilged barrel.

Figs. 7 and 8 are views of a barrel formed by this machine. Here 40 represents the unjointed or straight staves, which separate in a bilged barrel at the center, but come together at their ends. Since veneer staves are too thin to croze to receive the barrel-heads, hoops 41 must be secured within the barrel at either end, and hoops 42 are added outside the heads 43, thus completing the barrel. If desired, the staves can be placed in double overlapping rows, so as to cover the openings between the staves, and thus construct a tight barrel.

In constructing the barrel the inner hoops are first placed in the grooves at either end of the sections, a stave is placed over these hoops, the hoops are placed on the outside, and the roll above is swung down to retain the parts together while the stave is nailed to the hoops, the nails clenching upon the metal underneath. The former is then rotated far enough to make ready for another stave, and this is nailed in place, the process being continued until the circle of the barrel is completed.

The advantages of this device are great, since the staves do not need to be jointed. Being thin and flexible they are easily placed in position, and scrap or material of irregular widths can be utilized for the purpose, thus greatly reducing the cost of material and of the finished product. The sections can be made to travel in and out radially as the bilge of the barrel requires, or if there is no bilge the travel need be very slight. If the last stave or staves inserted do not fit, a little can be trimmed off, thus avoiding the usual necessity in having staves of exact width prepared before commencing a barrel.

The staves may be single ply or double or of as many thicknesses as desired.

At one end of the machine one of the bearings 17 is formed in the lever L, which can be dropped to release the completed barrel. This lever is pivoted to the frame at l, and the outer end is inserted in a keeper k when the lever is used to support the barrel.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a barrel-shaped former divided into segmental sections, a main central sleeve passing longitudinally through said former, spiders provided with spider-arms and secured to said sleeve, pins passing radially through said spider-arms and secured individually to said sections, one at either end thereof, short movable sleeves on the main sleeve, bell-cranks pivoted upon the spider-arms, and with their arms severally pivoted to said short sleeves and to the before-mentioned pins, connecting-rods between the short sleeves, a clutch engaging one of the short sleeves, and a main supporting-shaft within said main sleeve, and means for rotating the sleeve, as described.

2. In a machine for the purpose described, comprising a former longitudinally divided into sections, a central supporting-shaft therefor, mounted upon bearings at one end of the former, a main sleeve loosely mounted thereon and secured from longitudinal movement, means for extending and supporting said sections consisting of spiders secured to said main sleeve, bell-cranks pivotally secured to said spiders, short sleeves upon the main sleeve, to which the lower arms of the bell-cranks are secured, and pins mounted radially in said spiders and secured to said sections at their upper extremities and pivoted to the bell-cranks at their lower extremities, connecting-rods between the short sleeves and a clutch upon one of the short sleeves, means for rotating the main sleeve, means for retaining the outer and inner hoops upon the former while the barrel is being constructed, and a temporary support for the face extremity of the shaft, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIS C. GRANT.

Witnesses:

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C. H. OLDS.