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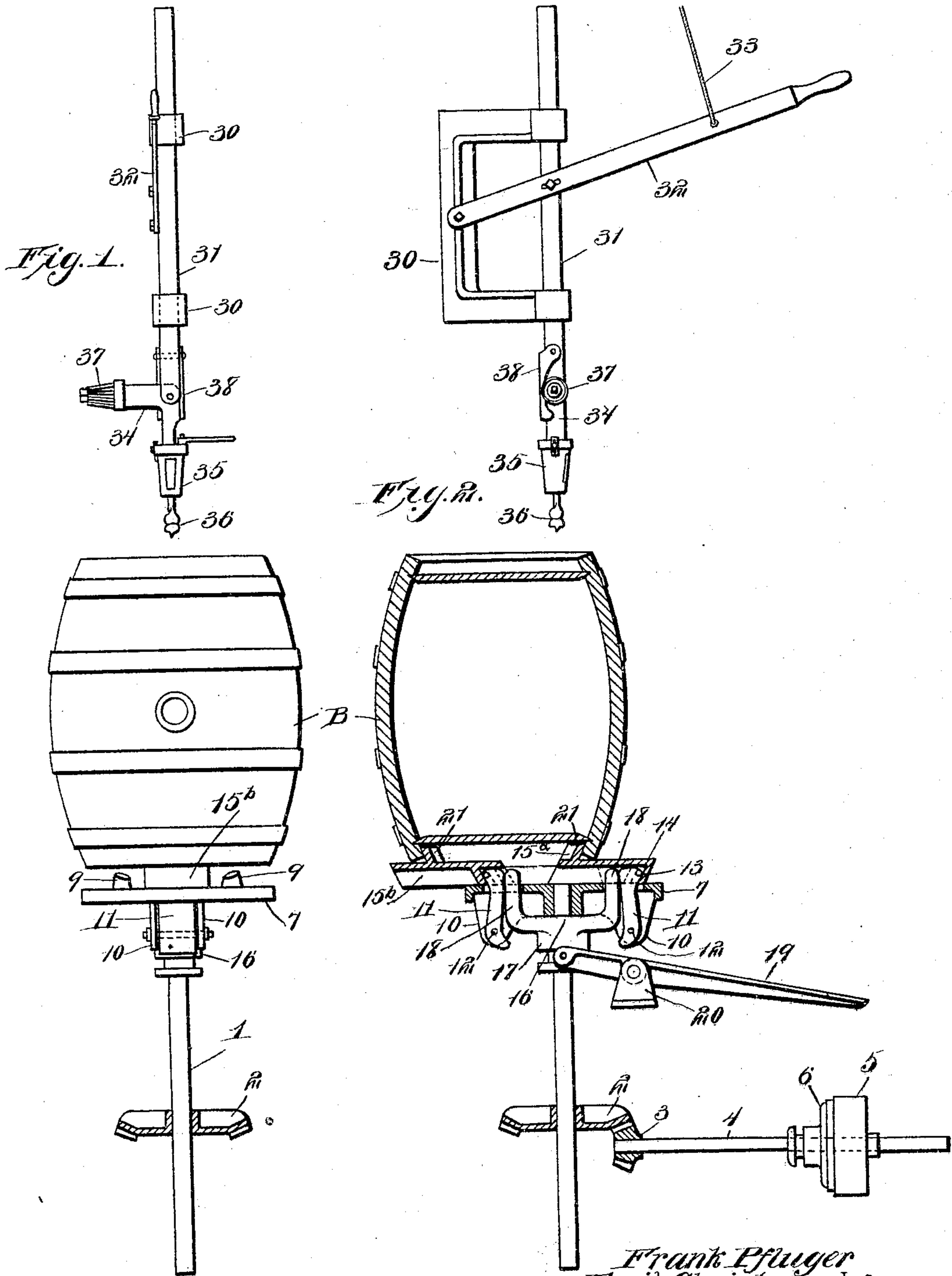
PATENTED JULY 12, 1904.

F. PFLUGER & E. CHRISTENSEN.
BARREL DRESSING AND BORING MACHINE.

APPLICATION FILED AUG. 3, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses
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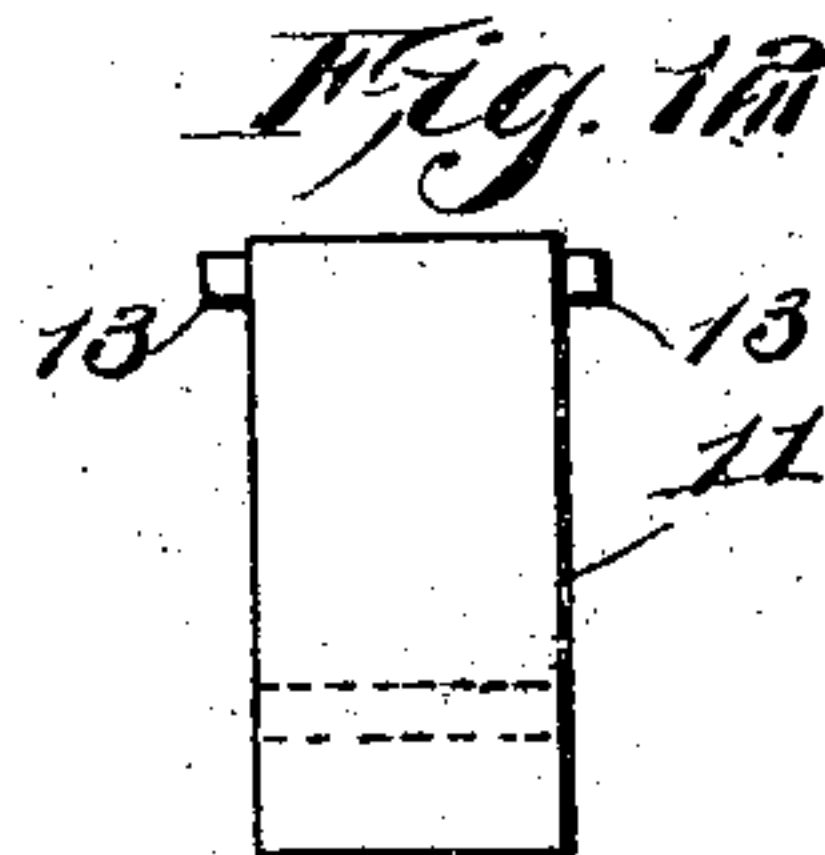
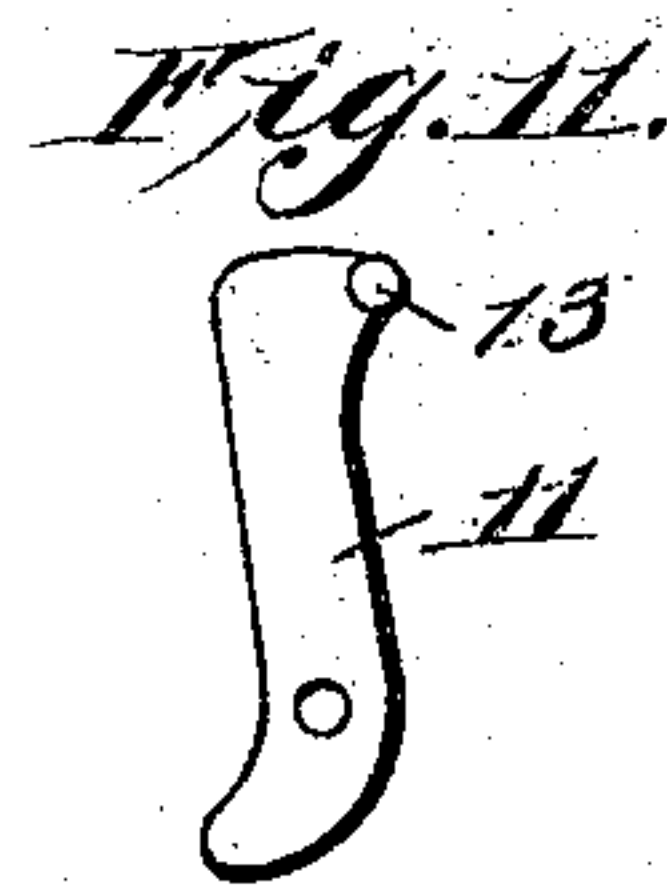
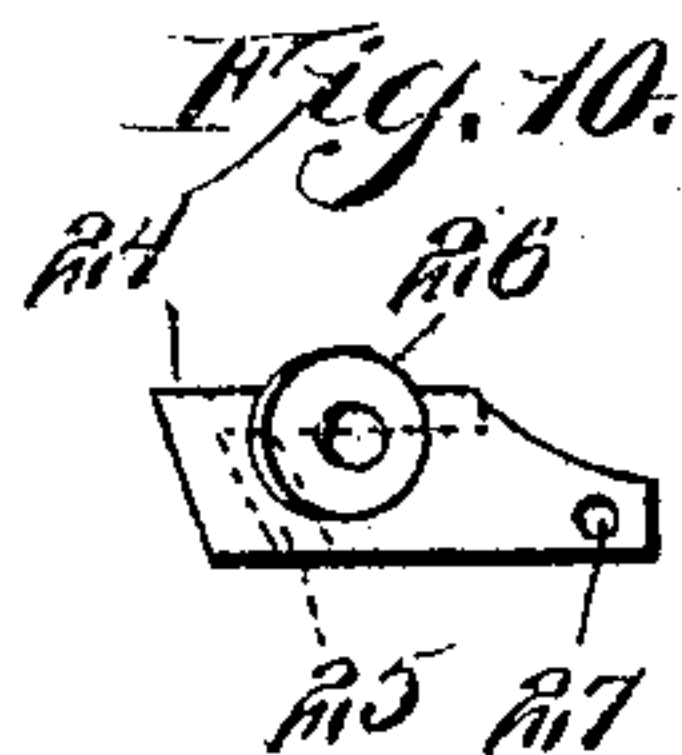
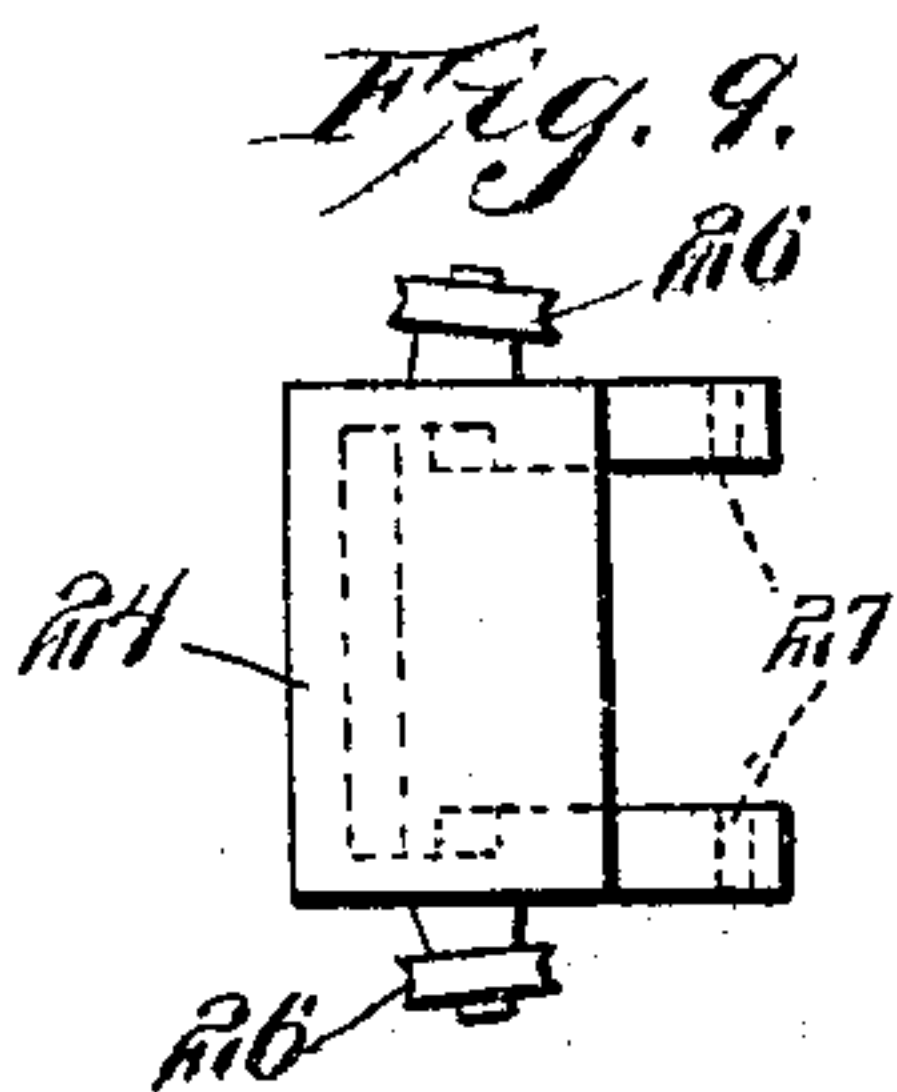
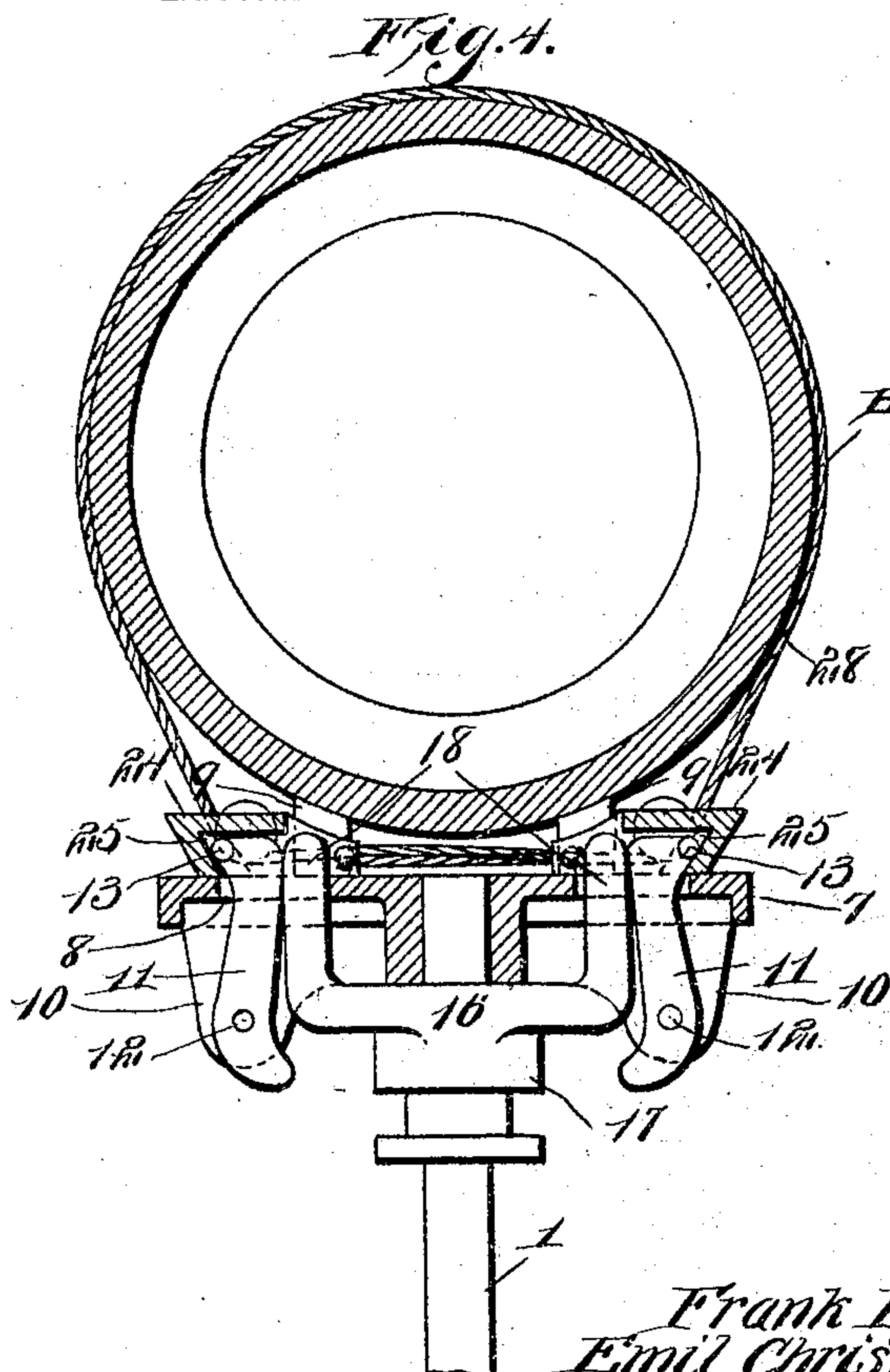
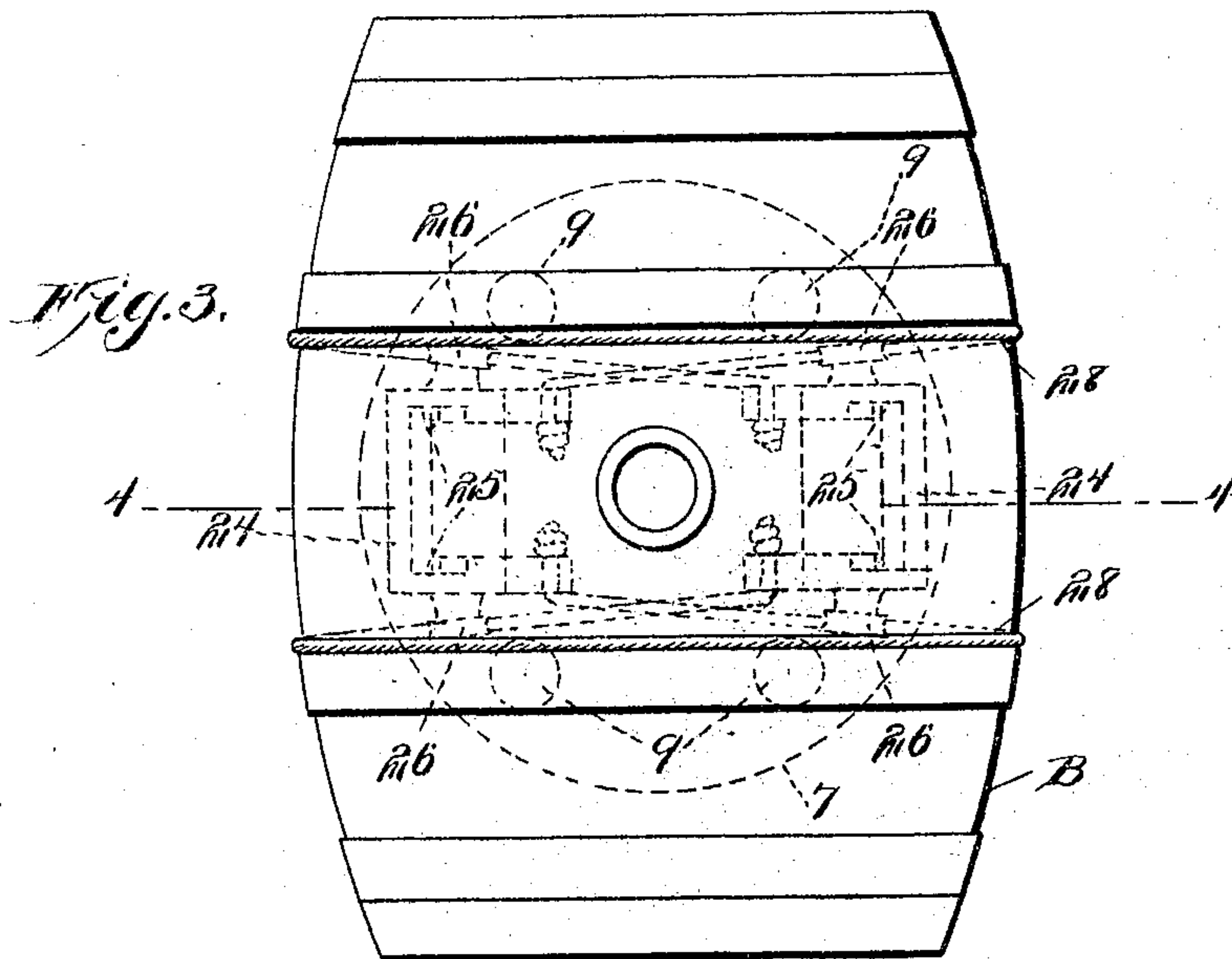
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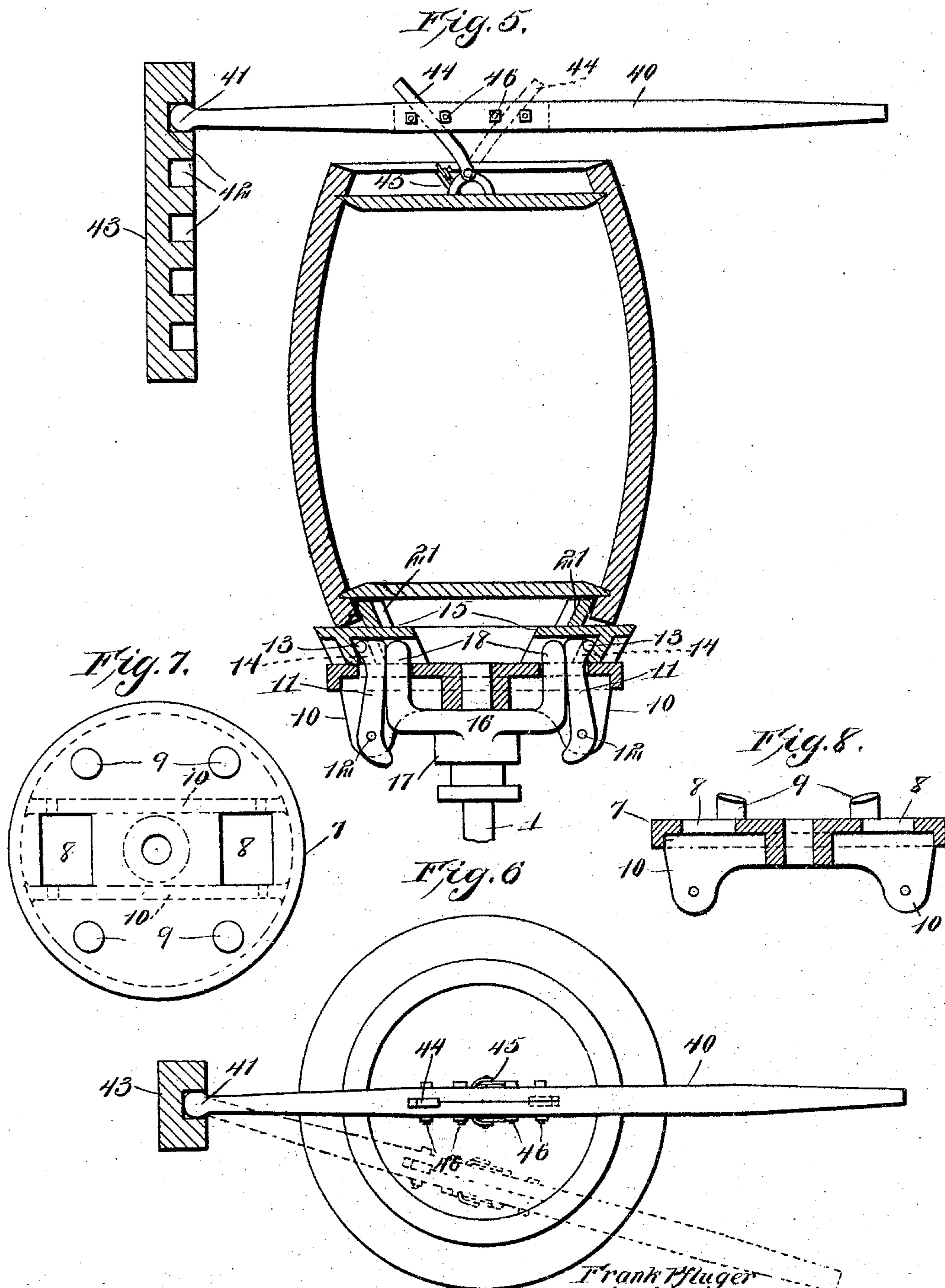
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UNITED STATES PATENT OFFICE.

FRANK PFLUGER AND EMIL CHRISTENSEN, OF PORTLAND, OREGON.

BARREL DRESSING AND BORING MACHINE.

SPECIFICATION forming part of Letters Patent No. 764,624, dated July 12, 1904.

Application filed August 3, 1903. Serial No. 168,098. (No model.)

To all whom it may concern:

Be it known that we, FRANK PFLUGER and EMIL CHRISTENSEN, citizens of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Barrel Dressing and Boring Machine, of which the following is a specification.

This invention relates to barrel dressing and boring machines.

The object of the invention is to provide a suitable form of support with means for securing a barrel thereon in different positions, such that it may be successfully operated upon with suitable boring and dressing tools.

A further object of the invention is to provide in a machine of the class specified novel and effective means for securing a barrel in various positions upon a rotatable support, so that it may be readily subjected to the operation of boring and dressing tools.

A further object of the invention is to provide, in combination with suitable barrel supporting and rotating means, a dressing-tool which may be employed to dress quickly and effectively the heads of barrels mounted on a support.

With the objects above mentioned and others in view, as will appear as the invention is fully disclosed, the same consists in the construction and combination of parts of a barrel-dressing machine hereinafter described and claimed, and illustrated in the accompanying drawings, it being understood that various changes in the form, proportions, and exact mode of assemblage of the elements exhibited may be made without departing from the spirit of the invention.

In the drawings, Figure 1 is a view in side elevation of the supporting device having a barrel mounted thereon and of the boring mechanism in position above the barrel to be brought into engagement therewith. Fig. 2 is a view principally in vertical section in a plane at right angles to that of Fig. 2, showing the operation of the devices for securing a barrel in position upon the support. Fig. 3 is a view in plan of the barrel secured upon the support in horizontal position, the supporting devices being indicated in dotted lines.

Fig. 4 is a sectional view on the line 4 4 of Fig. 3. Fig. 5 is a view in vertical section through the barrel and a portion of the supporting devices with the dressing mechanism shown in operative position above the barrel. Fig. 6 is a view in plan to show the lateral movement of the dressing devices over the head of the barrel. Fig. 7 is a plan view of the supporting-disk. Fig. 8 is a view in vertical section through the supporting-disk along one of its diameters. Fig. 9 is a plan view of one of the slidable members to which the cords shown in Fig. 3 are attached. Fig. 10 is a side view of the members shown in Fig. 9. Fig. 11 is a side view of one of the pivoted dogs. Fig. 12 is a face view of the dog shown in Fig. 11.

Referring to the drawings, in which corresponding parts are indicated by the same characters of reference in the several views in which they appear, 1 designates a vertical shaft mounted for rotation in any suitable supporting devices. (Not shown.)

2 designates a beveled gear rigidly associated with the shaft 1 and in mesh with a beveled pinion 3, mounted on a shaft 4 at right angles to the shaft 1 and bearing a suitable driving-pulley 5, which is preferably associated with clutch mechanism of any suitable form and indicated diagrammatically at 6.

Rigidly mounted upon the upper end of the shaft 1 is a disk 7, the construction of which is shown in detail in Figs. 7 and 8. The disk 7 is provided at opposite sides of its center with rectangular openings 8, and at either side of each of the openings 8 is provided an upwardly-projecting stud 9, having the upper end thereof inclined, as shown, so that the studs 9, taken collectively, form a seat for the curved surface of a barrel, as best shown in Fig. 4. On the lower surface of the disk 7 in suitable relation to the openings 8 in the disk are provided two pairs of downwardly-disposed brackets 10, which afford bearings for pivoted dogs 11 of the form shown in Figs. 11 and 12. Each of the dogs 11 is provided near its lower end with a transverse opening for the passage of a pivot-pin 12, which extends through the openings provided in the brackets 10, and at the upper end each of the dogs is provided with a pair of laterally-ex-

tending lugs 13 of preferably circular cross-section, which engage with grooves 14, formed for that purpose on the under surface of sliding jaws 15 or with similar grooves upon slightly-different jaws, presently to be described. The dogs 11 extend up through the openings 8 in the disk 7 to the extent shown in Figs. 2, 4, and 5 and on their inner faces are provided with cam-surfaces for engagement with a spreader 16, which is slidably mounted upon the shaft 1 and comprises a hub 17, having a circumferential groove thereon, and the upwardly-disposed arms 18, which are adapted for engagement with the cam-faces formed on the dogs 11. The spreader 16 is actuated by means of a pivoted foot-lever 19, mounted in a suitable bracket 20 and provided at one end with pins for engagement with the groove in the hub 17 of the spreader. The jaws 15 are slidably supported upon the disk 7 and are preferably of the form illustrated in Fig. 5, each being recessed on its under surface, as shown, for engagement with the upper end of one of the dogs 11, having on its upper surface a curved and serrated gripping-face, which is inclined outwardly and upwardly, as shown at 21, to adapt it for engagement with the inner face of the end portions of the staves of a barrel which project beyond the head thereof, as shown in Figs. 2 and 5.

The jaws 15 are positively connected with the dogs 11 by the engagement of the lugs 13 on the dogs, with the grooves 14 on the under surface of the jaws, so that the outward movement of the upper ends of the dogs causes a corresponding outward movement of the two jaws, and the opposite movement of the dogs causes a corresponding inward movement of the jaws. The inward movement of the jaws is provided for by curving inward the lower ends of the dogs, which are engaged by the curved lower portions of the arms 18 of the spreader when drawn down out of engagement with the cam-faces on the upper portions of the dogs. It is thus apparent that the movement of the spreader up and down on the shaft 1 will throw the jaws into engagement with the ends of the spokes of a barrel supported on the disk 7 or out of engagement therewith, according as the spreader is moved up and down.

The jaws 15 are of substantially the same dimensions, and the gripping-faces thereof are at equal distances from the shaft 1, upon which the disk 7 is supported, so that when a barrel is gripped by means of these jaws it will be held in the position shown in Fig. 5, with the axis thereof above the center of the disk 7. In order to support the barrel eccentrically, as shown in Fig. 2, the jaws 15 will be replaced by jaws 15^a and 15^b, which have the gripping-faces disposed at unequal distances from the center of the disk 7, and when thrown into operative position, as indicated

in Fig. 2, support a barrel with its axis considerably out of alinement with the axis of the shaft 1, the object of this mode of support being to hold the barrel in such position that when the boring mechanism (shown in Fig. 2) is put in operation the bung-hole formed thereby will be near the margin of the head of the barrel.

In order to support a barrel in the horizontal position, (illustrated in Figs. 3 and 4,) it is necessary to substitute for the jaws 15 or 15^a and 15^b, above described, the slidable members 24, each of which is recessed on its under side and provided with grooves 25 for engagement with lugs 13 on the dogs 11 and is provided on each side with a grooved roller 26, which is freely rotatable upon a lateral projection from the member 24. The members 24 are also provided at their inner ends with openings 27 for the passage of small wire ropes 28, the purpose of which is clearly indicated in Figs. 3 and 4.

The wire ropes are secured in position, as shown in Fig. 3, by passing their ends through the openings 27, provided therefor, and passing the ropes under the rolls 26, so that the ends of the ropes are crossed between the members 24, and any outward movement of the members 24 will result in the contraction of the loops formed by the ropes, so as to draw them into close contact with the staves of the barrel B, as shown in Figs. 3 and 4.

The boring mechanism used in connection with the barrel-supporting devices described in a preceding paragraph consists of a bracket 30, which is supported in any suitable manner, and a vertically-slidable boring-bar 31, mounted in said bracket. The boring-bar is preferably square in cross-section to prevent the rotation thereof and is raised and lowered by means of a lever 32, having one end pivoted on the bracket 30 and having a pin-and-slot connection with the bar 31, as shown in Fig. 2. The lever is normally held in the elevated position (shown in Fig. 2) by means of a counterweight, (not shown,) which is attached to the end of a cord 33, which passes upward over any suitable form of support. (Not shown.) At the lower end of the bar 31 there is pivotally mounted an angular bracket 34, upon one arm of which is provided a chuck 35 of suitable form to hold an auger 36, and upon the other arm there is secured a wrench 37 for engagement with a bung-hole bushing. The angular bracket is held in position to bring either the auger or the bushing-wrench into operation by means of a pivoted latch 38, which engages with the sides of either arm of the bracket when in alinement with the boring-bar.

When a barrel is held in the position shown in Figs. 1 and 2, the auger will first be brought into engagement with the head of a barrel by lowering the lever 32, and the slow rotation of the barrel, with its support, will

cause the formation of a bung-hole in the head thereof. Then the angular bracket 35 will be shifted to bring the bushing-wrench into the position occupied by the auger 36 in the drawings. A bushing will then be placed upon the wrench, and the boring-bar will again be lowered to force the bushing into the bung-hole. The bushings are provided externally with screw-threads, and as the barrel is rotated by the disk 7 and the gripping devices thereon the bushing will be securely screwed into the bung-hole.

When it is desired to form a bung-hole in the side of the barrel, the slidable members 24 will be substituted for the jaws 15^a and 15^b, the barrel will be laid in horizontal position upon the studs 9, and the wire ropes 28 will be drawn over the barrel, as shown in Figs. 3 and 4. The spreader 16 will then be raised, forcing the dogs 11 outward and drawing the ropes 28 tightly around the barrel, so that it will be held with the side directly under the boring-bar.

The operation of boring the side bung-hole and inserting a bushing thereinto is exactly like that described in forming the bung-hole in the end and providing it with a bushing. Therefore a detailed description thereof is regarded as unnecessary.

For dressing the end of a barrel there is employed, in connection with the supporting device already described, a supporting-lever 40, which has one end rounded to form a ball 41, which is adapted for engagement with a series of sockets 42 in a vertical column 43, arranged at one side of and somewhat above the barrel-supporting devices. The lever 40 has secured thereto intermediate of the ends a scraping-tool comprising a shank 44 and a cutter-head 45. The shank 44 extends through a slot in the lever 40 and is securely clamped therein by means of bolts 46, extending through the lever, as shown. The cutter-head is pivotally connected with the shank, so as to adapt itself to the surface of the barrel-head, and the dressing of the barrel-head is accomplished by simply shifting the dressing-tool laterally over the barrel-head as the barrel is rotated upon its support. The ball-and-socket connection of the lever 40 with the column 43 enables the lever to be shifted laterally to any desired extent, and the series of sockets 42 permit the adjustment of the height of the lever to correspond to the heights of barrels of different sizes.

When a barrel is mounted upon the disk 7 to have the head thereof dressed, the gripping-jaws 15 will be used in order to insure the proper centering of the barrel upon the support.

In the foregoing description and in the drawings illustrative thereof the framework in which the various members of the barrel dressing and boring machine are mounted has

been omitted, as the framework may be of any suitable design and the construction thereof forms no part of this invention. In fact, the bracket 30, supporting the boring-bar and the column 43 in which the dressing mechanism is mounted may be attached directly to the wall of a shop, and no special framework to support them need be employed.

Having thus described the construction and operation of the invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the class described, a barrel-supporting device comprising a base, oppositely-disposed separable members mounted on said base, gripping-jaws on said members disposed at unequal distances from the center of said base, and means for separating said members.

2. In a machine of the class described, a barrel-supporting device comprising a base, oppositely-disposed separable members mounted upon said base, means associated with said members for gripping a barrel, pivoted dogs engaging said members, and a spreader disposed between said dogs.

3. In a machine of the class described, a barrel-supporting device comprising a base, oppositely-disposed separable members mounted on said base, means associated with said members for gripping a barrel, pivoted dogs having inwardly-disposed cam-faces in engagement with said members, and a reciprocatory spreader mounted between said dogs and adapted to engage with the cam-faces thereof.

4. In a machine of the class described, a barrel-supporting device comprising a base, oppositely-disposed separable members mounted on said base, means associated with said members for gripping a barrel, downwardly-disposed brackets on the under side of said base, pivoted dogs mounted in said bracket and having their upper ends in engagement with said separable members, and a spreader disposed between said dogs.

5. In a machine of the class described, a barrel-supporting device comprising a base, oppositely-disposed separable members mounted on said base, means associated with said members for gripping a barrel, downwardly-disposed brackets on the under side of said base, pivoted dogs mounted on said brackets and engaging at their upper ends with said separable members, and a spreader mounted for reciprocatory movement between said dogs and adapted to engage with the upper portions of said dogs to spread said separable members and to engage with the lower portions of said dogs to approximate said separable members.

6. In a machine of the class described, a barrel-supporting device comprising a slotted base, separable members disposed above said slots, means associated with said members for

gripping a barrel, dogs pivotally mounted beneath said base and extending upward through said slots to engage with said members, and a spreader disposed between said dogs.

5 7. In a machine of the class described, a barrel-supporting device comprising a base having slots therein, separable members mounted above said slots, means associated with said members for gripping a barrel, dogs pivotally
10 mounted beneath said base and extending upward through the slots therein, laterally-projecting lugs on said dogs at the upper ends thereof engaging with said separable members, and a spreader disposed between said
15 dogs.

8. In a machine of the class described, a barrel-supporting device comprising a rotatable shaft, a disk rigidly mounted on the upper end thereof, separable barrel-gripping members mounted on said disk, pivoted dogs engaging said members, and a spreader slidably
20 mounted on said shaft and adapted for engagement with the inner faces of said dogs.

9. In a machine of the class described, a barrel-supporting device comprising a rotatable
25 base, separable members mounted on said base, and a cord having its ends crossed and secured to said separable members, and means for separating said members.

30 10. In a machine of the class described, a barrel-supporting device comprising a base, separable members mounted on said base and each bearing a roller, a cord having its end secured to said members, passing over said
35 rollers, and so arranged that the separation

of said members will contract the loop formed by the cord.

11. In a machine of the class described, the combination with a rotatable base, of barrel-gripping devices mounted thereon, a vertically-disposed member having a plurality of
40 sockets, a lever-arm provided at one end with a ball for engagement with said sockets, and barrel-head-dressing devices carried by said lever.

12. In a machine of the class described, the combination with a rotatable base, of means for securing a barrel in eccentric position upon
45 said base, and a vertically-slidable boring-bar mounted above said base.

13. In a machine of the class described, the combination of a rotatable base, means for securing a barrel in eccentric position upon
50 said base, and a boring-bar disposed above the center of said base in position to engage the top of a barrel mounted on said base.

14. In a machine of the class described, the combination with a rotatable base, of means for securing a barrel thereon in horizontal position, and a boring-bar arranged above said
60 base in position to operate upon the upper surface of the barrel.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

FRANK PFLUGER.
EMIL CHRISTENSEN.

Witnesses:

W. B. BUELL,
M. BUCHANAN.