

(No Model.)

2 Sheets—Sheet 1.

P. J. McDONOUGH & T. E. SHELLEY.
MACHINE FOR FINISHING GLASSWARE.

No. 601,898.

Patented Apr. 5, 1898.

Fig. 1.

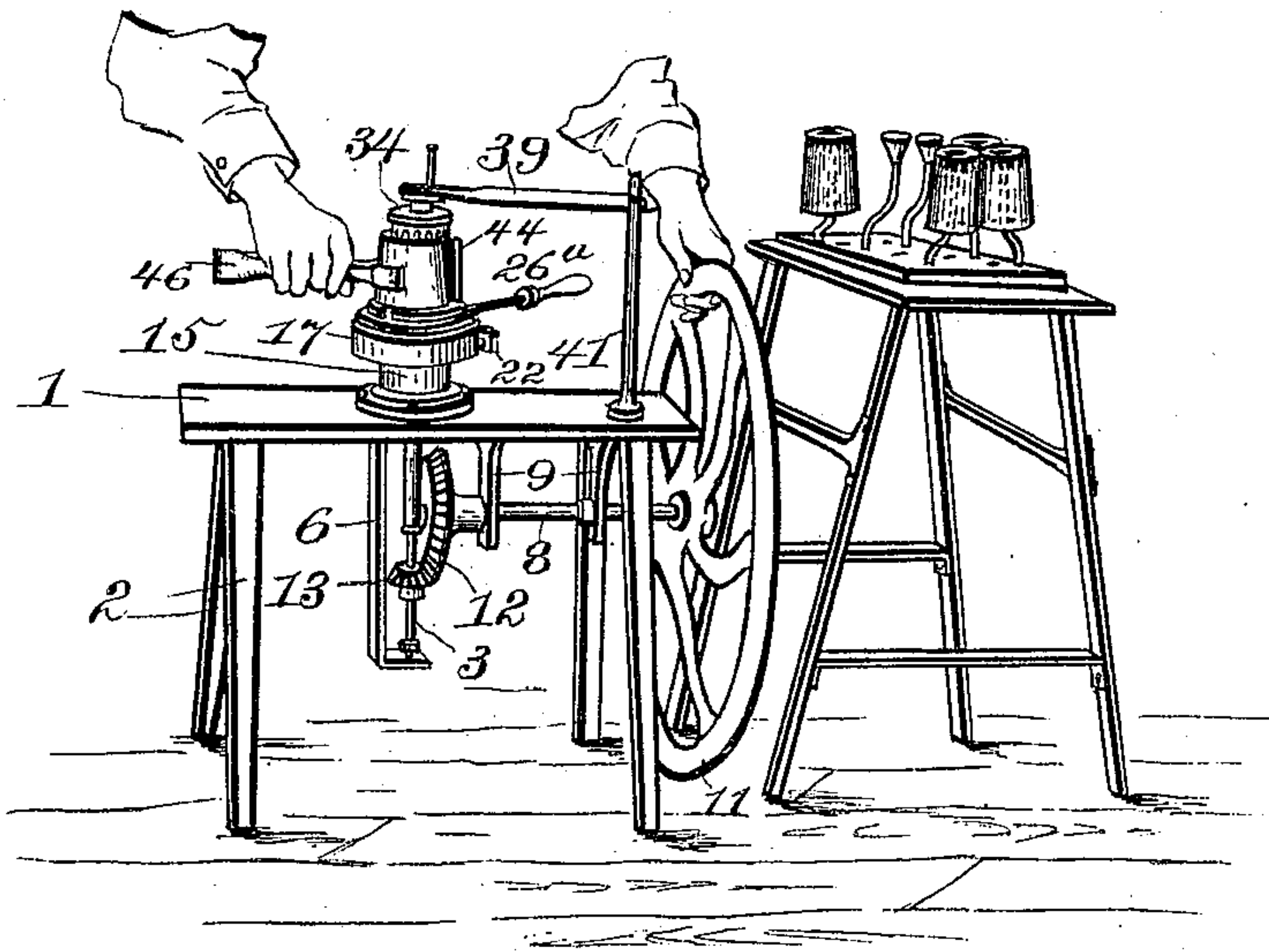


Fig. 4.

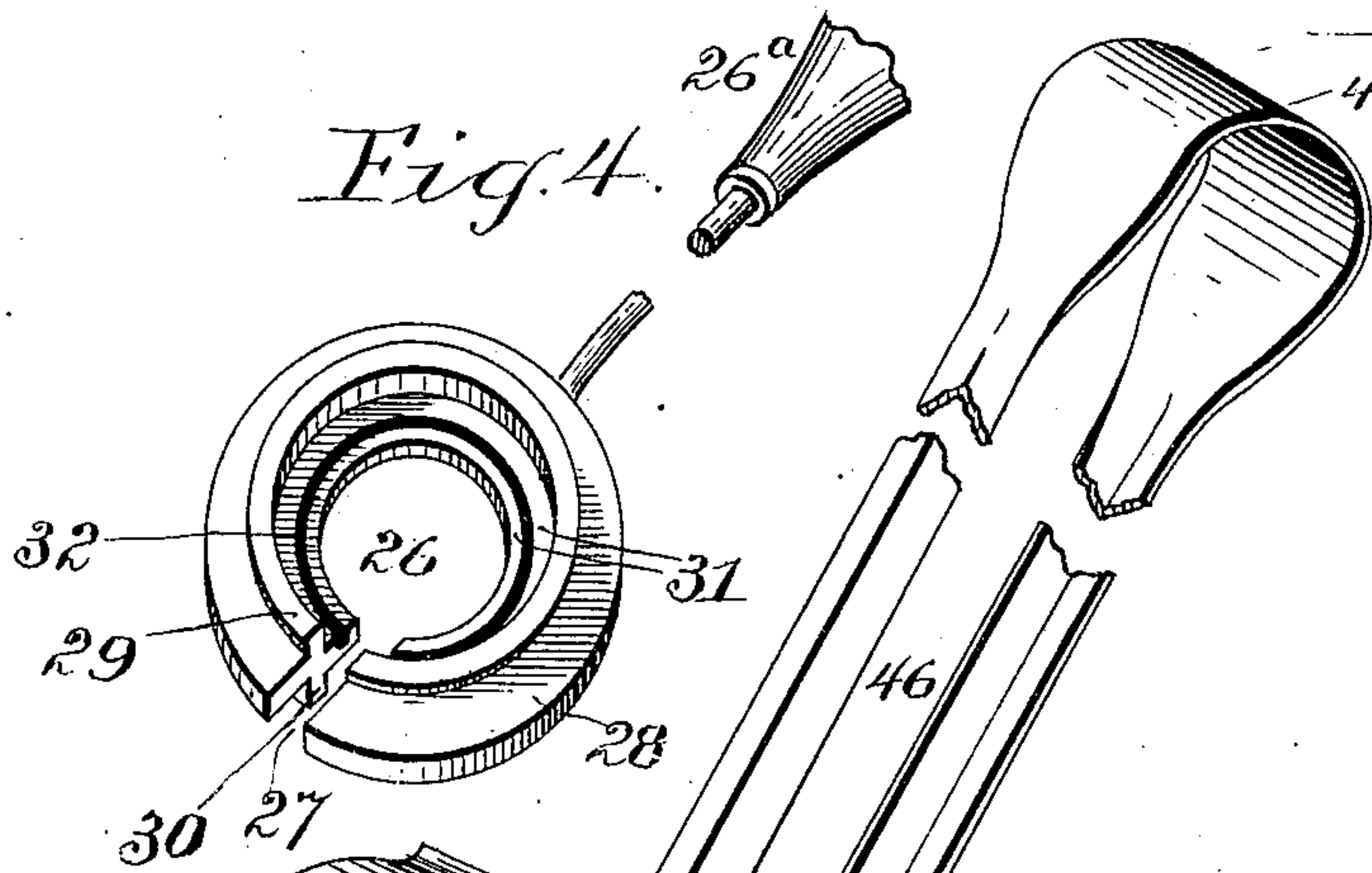


Fig. 6.

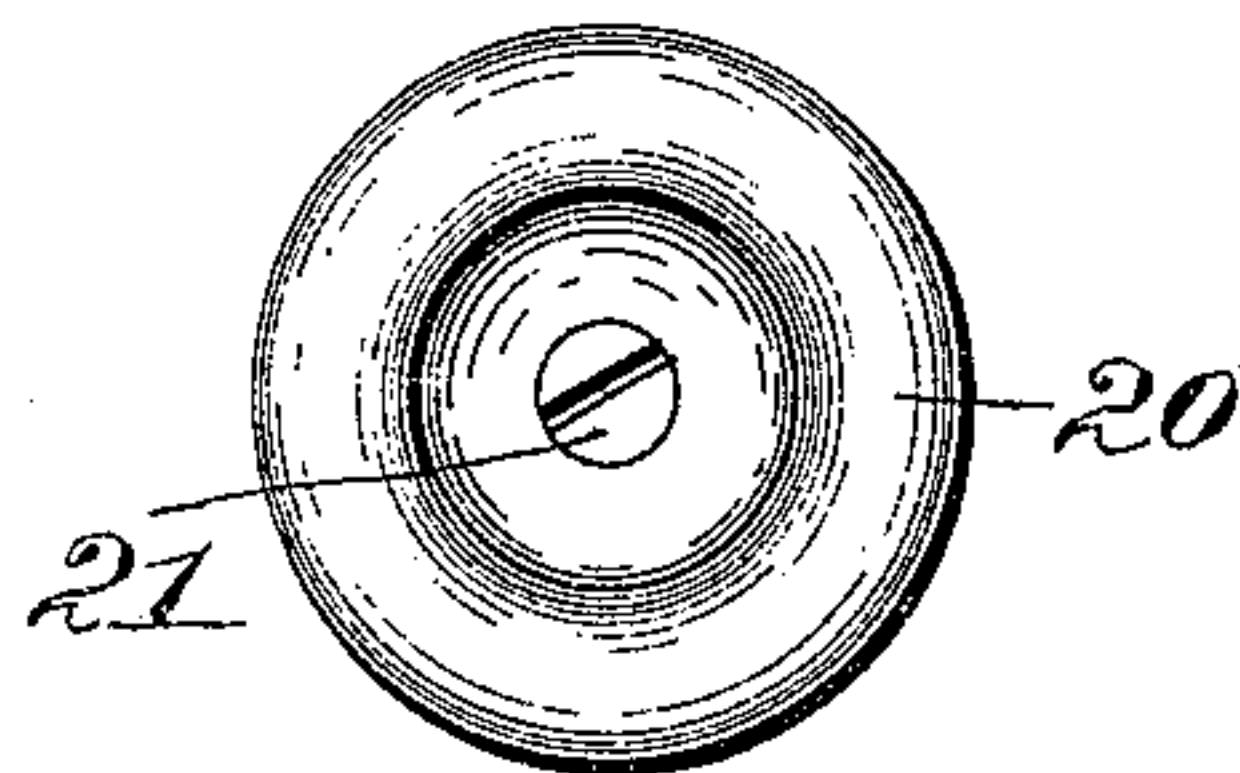
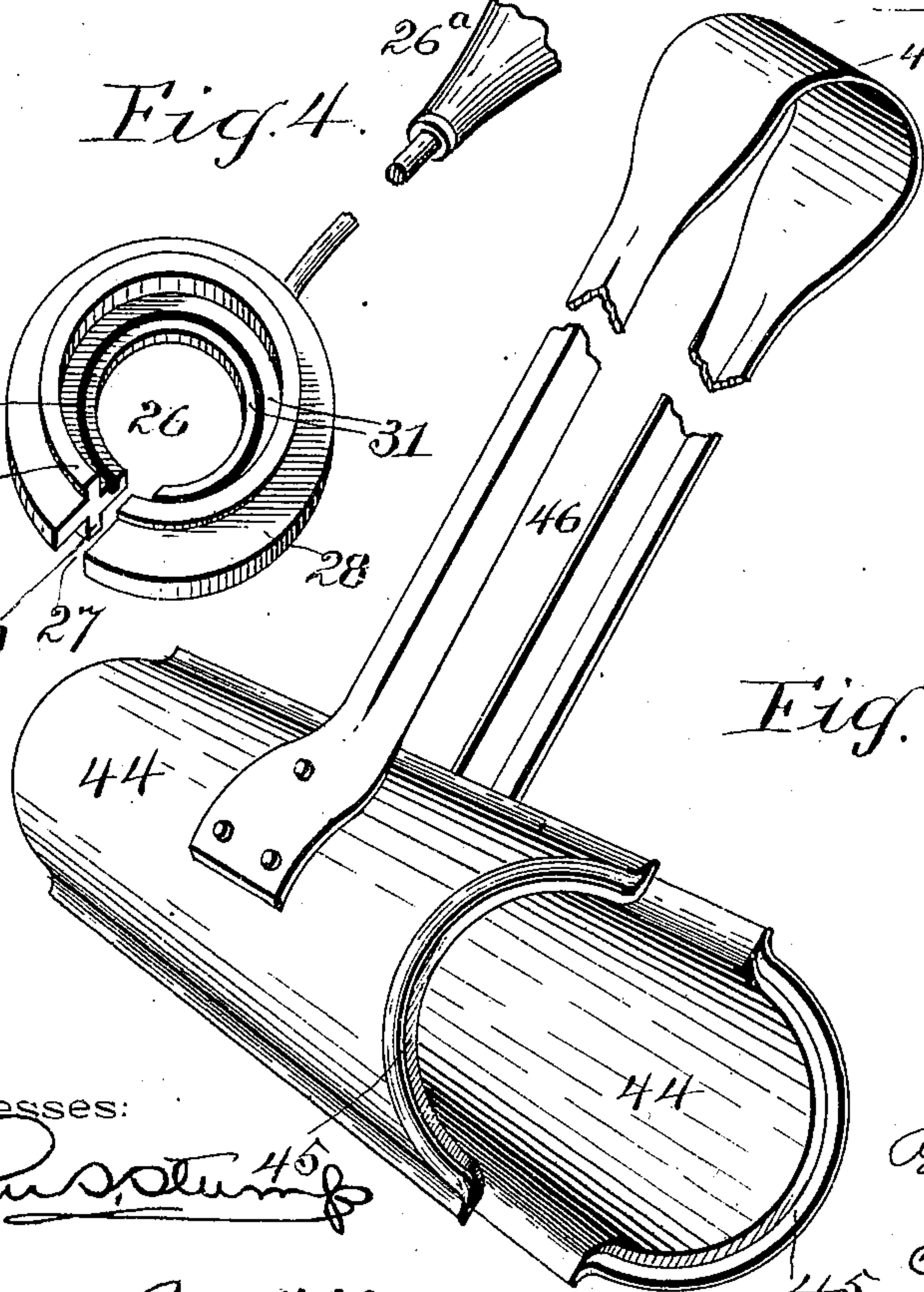


Fig. 5.



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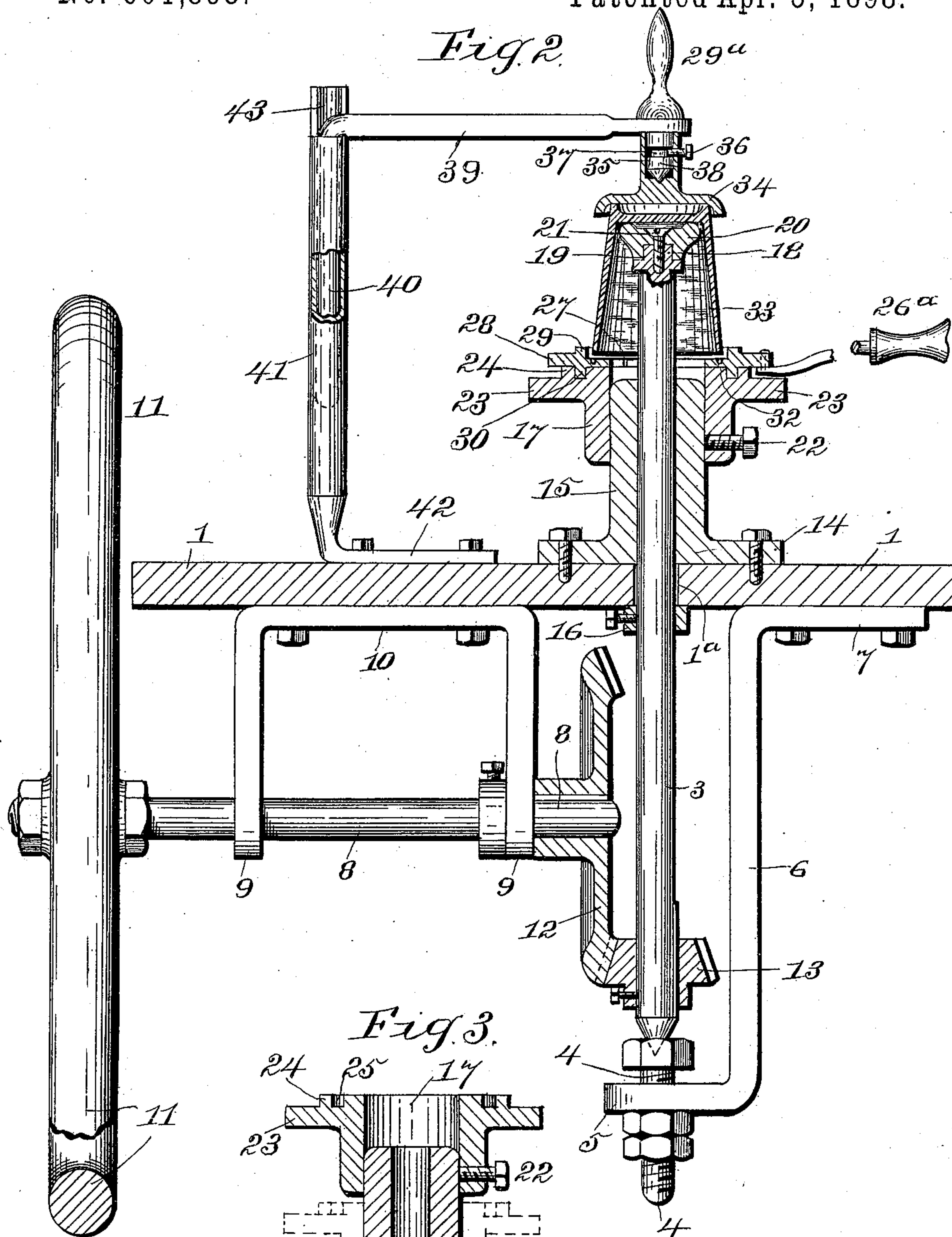
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UNITED STATES PATENT OFFICE.

PATRICK J. McDONOUGH AND THOMAS E. SHELLY, OF BELLAIRE, OHIO.

MACHINE FOR FINISHING GLASSWARE.

SPECIFICATION forming part of Letters Patent No. 601,898, dated April 5, 1898.

Application filed November 17, 1897. Serial No. 658,826. (No model.)

To all whom it may concern:

Be it known that we, PATRICK J. McDONOUGH and THOMAS E. SHELLY, citizens of the United States, residing at Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Machines for Finishing Glassware, of which the following is a specification.

This invention relates to machines for finishing, shaping, and polishing articles of glassware after such articles are taken from what is known as a "glory-hole" furnace and immediately after they are pressed and while yet hot and pliable. After the article is pressed it is dim or blurry and has to be reheated to destroy such blurred appearance. In this reheating process the articles become more or less out of proportion and shape with irregularity in size.

The prime object, therefore, of this invention is to provide new and improved means for restoring the articles to their original or intended size and shape and produce such articles in a finished uniform condition without skilled labor.

A further object of the invention is to provide a machine of such special and peculiar construction and arrangement of parts that articles of various depths or lengths may be treated without changing the driving-head which carries the article.

A further object of the invention is to provide a split ring to form a guide or gage for a buffer or polishing hand-tool and provided with a handle by which the ring is raised and removed from the machine, carrying the finished article with it.

A still further object of the invention is to provide a buffer or hand finishing-tool of novel and peculiar construction adapted to be manipulated in connection with the split ring to render the articles when finished all of uniform or equal size and shape.

Other objects and advantages accruing from this machine and resulting in its essential advances in the art of finishing articles of glassware will be revealed in the specification and claims to follow.

In the accompanying drawings, forming part of this application, Figure 1 is a perspective view of the machine in operation. Fig. 2 is a central vertical section of the machine,

with the shafts and hand-wheel in elevation, showing an article of glassware in position to be finished. Fig. 3 is a sectional view of the sleeve through which the vertical shaft works, showing the adjustable collar arranged in two different positions from that of Fig. 2. Fig. 4 is a perspective view of the hand-ring. Fig. 5 is a perspective view of the buffer or hand finishing-tool. Fig. 6 is an enlarged plan view of the driving-head.

The same numeral references denote the same parts throughout the several figures of the drawings.

The support or stand for the mechanism hereinafter to be referred to consists of a table 1, having legs 2 of any suitable material, size, and shape and of such height as to be convenient to permit an operator to be seated while manipulating the machine.

The table 1 has a central aperture 1^a, through which a vertical shaft 3 extends without touching the table, said shaft having a conical bottom end journaled in the head of a set-bolt 4, which keeps the shaft from downward movement and which is adjustably secured to one wing 5 of an S-shaped hanger 6, the other wing 7 of said hanger being bolted to the under side of the table.

A transverse shaft 8 is journaled in depending arms 9 of a bracket 10, secured to the under side of the table. One end of the shaft 8 is provided with a hand driving-wheel 11 and the other end of said shaft has a gear-wheel 12, which meshes with a pinion 13 on the lower portion of the vertical shaft 3, whereby motion is imparted from one shaft to the other.

The hand-wheel, the transverse shaft, the vertical shaft, and the gear and pinion constitute the driving mechanism of the machine.

Adjacent the vertical shaft hole or aperture is bolted the flange 14 of a bearing-sleeve 15, and directly under said hole is a collar 16, secured to the shaft to prevent the latter from upward movement. The length of the sleeve bearing on the shaft keeps the latter in perfect alinement, and the exterior of said sleeve forms a bearing upon which a flanged collar 17, hereinafter to be more fully described, is adjusted.

The top end of the shaft 1 has a reduced portion 18, which is countersunk and screw-

threaded, and a shoulder 19, upon which is placed a driving-head 20, having a concaved top face and secured upon said reduced portion against said shoulder by a set-screw 21, 5 passed through the driving-head into the screw-threaded countersink. This head may be replaced by similar heads of greater or less size to suit the size of the tumbler or other article to be worked by simply removing the set-screw 21. 10

The flanged collar 17 is secured to the sleeve 15 by a set-bolt 22, and has a lateral flange 23, a rim 24, and a circular groove 25. Said collar is capable of vertical adjustment on the sleeve 15 in order to shorten or lengthen the space between the driving-head 20 and the hand-ring 26, carried by the said sleeve to accommodate tumblers or other articles of various lengths. 15

The ring 26, having a suitable handle 26^a, is split or has an opening 27 and is provided with an outer lateral flange 28, a top rim 29, a bottom tongue 30, and an inner lateral flange 31, having a cavity or groove 32. The tongue 30 fits in the groove 25 of the collar 17, the flange 28 rests upon the collar-rim 24, and the flange 31 is seated upon the top body of the said collar. The groove 32 forms a bearing for the edge or rim of the glass or tumbler 33 in removing the glass or tumbler from the machine. 20 25 30

The device for leveling and holding the tumbler on the driving-head consists of a cup-disk 34, having a hollow stem 35, provided with a set-bolt 36, which engages a circular notch 37 in a spindle 38, which admits of the free revolutions of the disk-stem on the spindle. This spindle is secured to or is part of an arm 39, provided with a handle 29^a and having an angle portion 40 loosely mounted to turn in a hollow standard 41, which has an angle-base 42, secured to the top of the table 1. In order to prevent the arm 39 from turning too far away from the driving-head or out of convenient reach of the operator, a portion of the top of the standard 41 is cut away, leaving a stop projection 43, which controls the movement of the arm 39. 35 40 45

The buffer or finishing-tool consists of two conical jaws 44, shaped to fit when closed together a finished glass or tumbler, each jaw having an inner shoulder 45 for the rim 29 of the ring 26, which rim forms a rest and gage for the buffer and prevents the jaws from being closed more or farther upon one glass or tumbler of a set than the others. The jaws are connected by a handle 46, secured at each end to the jaws and having a thin central bend 47, which produces sufficient spring tension in the handle to separate the jaws. 50 55 60

The operation of the machine is as follows: The collar 17 having been adjusted to suit the glass or tumbler to be finished and the cup-disk swung to one side and the split ring having been placed in position, the boy or other operator who has reheated the tumbler, which is stuck to the head of a punty, holds it di-

rectly over the driving-head and by a slight tap on the punty releases the tumbler onto the driving-head. The fly-wheel is given a pull by the left hand of the operator, who at the same time places the buffer down around the tumbler with the right hand and before closing the same applies the disk-cup with the left hand to the bottom of the tumbler and closes the buffer to the gage. When the machine is stopped, the disk is swung to one side and the finished tumbler is supported in the groove 32 of the ring, the latter then being put over one of the tumbler-supports and withdrawn therefrom by means of the hand-ring split or opening, leaving the tumbler upon its support. 70 75 80

It will be understood that one pull on the hand or driving wheel is quite enough to give the machine sufficient motion to finish a tumbler, that the tumbler or other article is carried off the machine by the hand-ring, and that the said ring prevents the buffer from being closed too far upon the glass or tumbler. 85 90

It is obvious that after the pull given the hand or driving wheel both hands of the operator are free to handle the other parts of the machine, and the time of revolution of said wheel is sufficient to finish the glass or tumbler. 95

This machine can be propelled by power instead of hand by substituting a belt-pulley for the fly-wheel. We claim an advantage in a hand-power machine for the reason that it can be operated in any part of a factory, because ordinarily no power is used in the pressing department of a glass-factory. 100

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is— 105

1. The combination in a glass-finishing machine, of a bearing-sleeve, a collar having a circular groove and adjustable on the sleeve, means to adjust the collar, a ring having a tongue to engage said groove, and a gage-rim upon the opposite side of the ring from said tongue, as set forth. 110

2. A tumbler-supporting and gage ring for glass-finishing machines, comprising a lateral outer flange, an inner flange, a bottom tongue, a top rim, and a suitable handle, as set forth. 115

3. A split ring forming a bearing and a gage for an article in a glass-finishing machine, comprising an inner grooved flange, an outer flange a handle thereon a top gage-rim, and a tongue opposite the said rim, as set forth. 120

4. The combination of a sleeve forming a shaft-bearing, a collar adjustable on the sleeve, means to adjust the collar, and a rotatable tumbler-carrying gage-ring upon the top of the said collar, as set forth. 125

5. In a glass-finishing apparatus, the combination, with the driving mechanism having a vertical shaft, and the table supporting the same, of the driving-head detachably secured to said shaft, a bearing-sleeve having a flange 130

secured to the table, a collar adjustable on the sleeve, means to adjust the collar, a hollow standard attached to the table, an arm having an angle portion to turn in said standard, and a disk-cup swiveled to the said arm, as set forth.

6. The combination with the shaft, the driving-head detachably secured to the shaft and means to drive the shaft, of a fixed sleeve forming a bearing for the shaft, a collar adapted to be adjusted on the sleeve to vary the distance between the driving-head and the collar, and means to adjust the collar, as set forth.

7. The combination with the shaft provided with a reduced shouldered end having a screw-threaded countersink, of a driving-head having a recessed or concaved top, and a bottom adapted to fit over the reduced end against said shoulder, means to drive the shaft, a fixed sleeve forming a bearing for the shaft, and a collar adapted to be adjusted on the sleeve to vary the distance between the driving-head and the collar, and means to adjust the collar, as set forth.

8. The combination with a vertical shaft having a driving-head, and means for operating the shaft, of the hollow standard having a stop projection, an angle-arm operated in said standard against the stop, and the disk-cup rotatably connected to said arm to hold an article of glassware upon the driving-head, as set forth.

9. The combination with the vertical shaft having a driving-head, and means for operating the shaft, of the fixed hollow standard having a portion cut away to form a stop, an angle-arm operated in the standard, a notched spindle secured to the standard, and a disk-cup having a hollow stem provided with a set-bolt engaging said spindle-notch to rotatably connect the cup to the angle-arm, as set forth.

In witness whereof we hereunto set our hands in the presence of two witnesses.

PATRICK J. McDONOUGH.

THOMAS E. SHELLY.

Witnesses:

J. A. NEY,

D. W. COOPER.