

(No Model.)

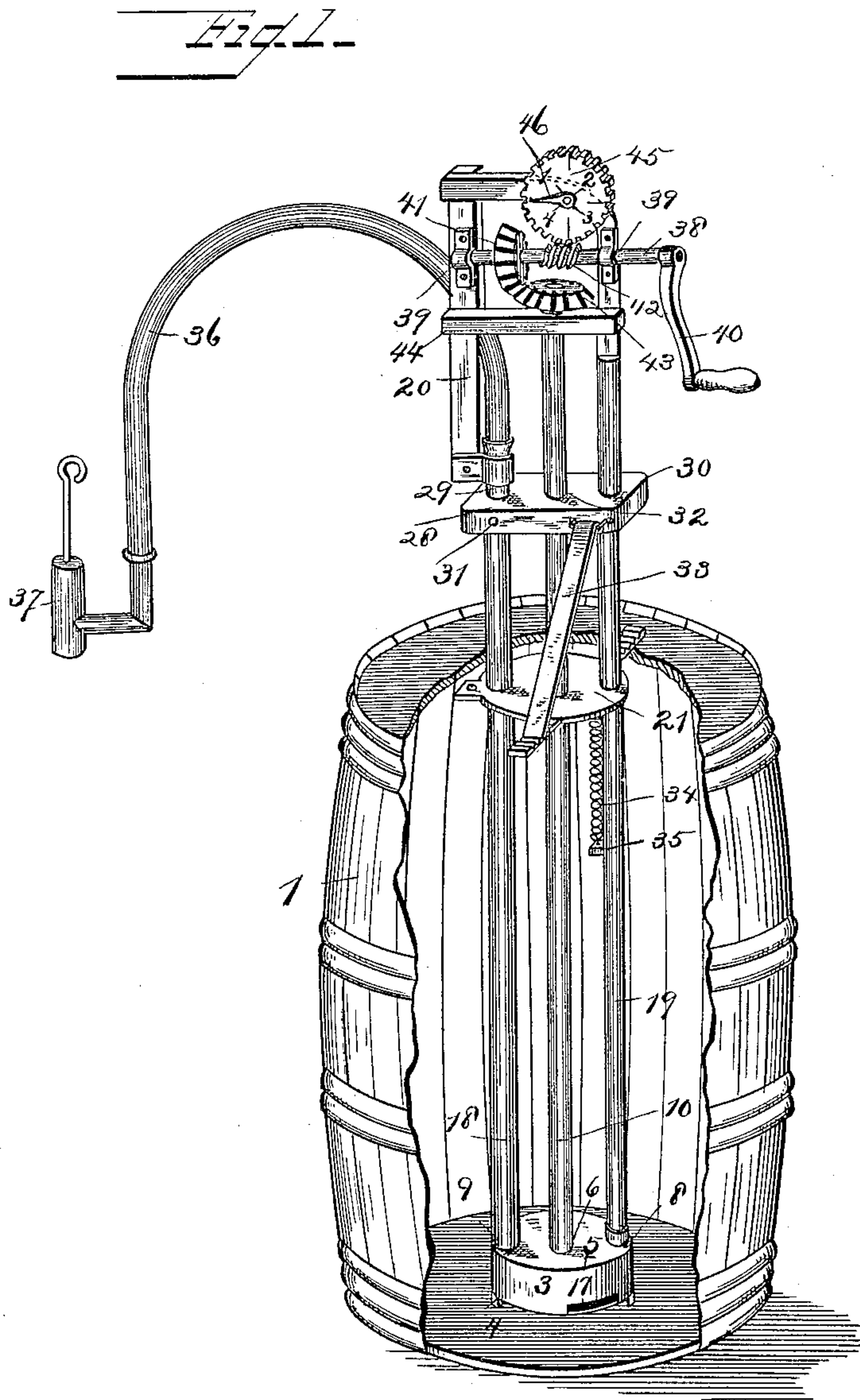
2 Sheets—Sheet 1.

R. E. HUFF.

SIRUP AND MEASURING PUMP.

No. 364,930.

Patented June 14, 1887.



Witnesses

F. L. Ourand

W. E. Dawson.

Inventor  
*Robert E. Huff,*  
By his Attorneys  
*Louis R. Packer & Co.*

(No Model.)

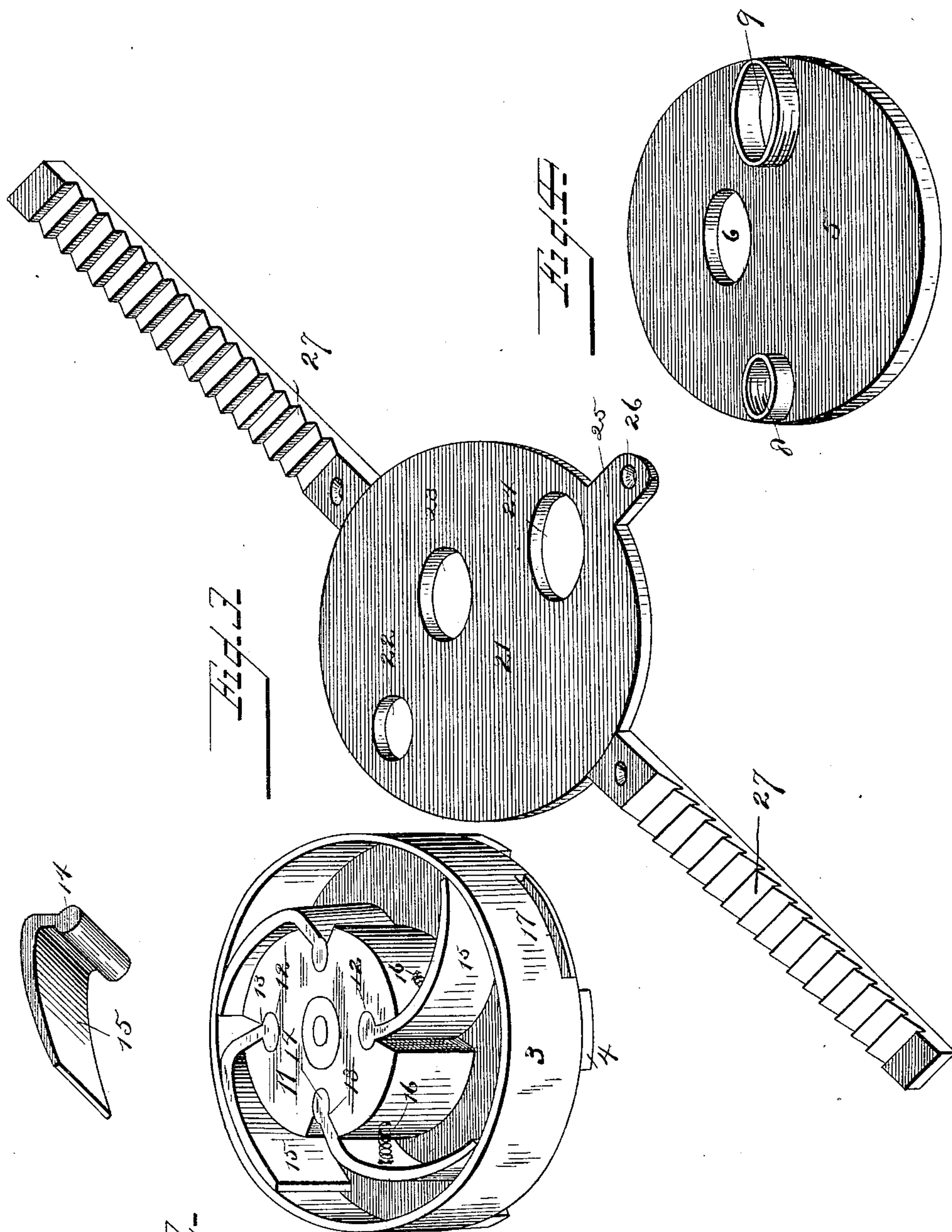
2 Sheets—Sheet 2.

R. E. HUFF.

SIRUP AND MEASURING PUMP.

No. 364,930.

Patented June 14, 1887.



Witnesses  
F. L. Oirauds  
W. E. Dawson.

Inventor  
Robert E. Huff,  
By his Attorneys  
Louis Bigger & Co.



# UNITED STATES PATENT OFFICE.

ROBERT E. HUFF, OF EUREKA, KANSAS.

## SIRUP AND MEASURING PUMP.

SPECIFICATION forming part of Letters Patent No. 364,930, dated June 14, 1887.

Application filed January 21, 1887. Serial No. 25,289. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT E. HUFF, a citizen of the United States, and a resident of Eureka, in the county of Greenwood and State of Kansas, have invented certain new and useful Improvements in Sirup and Measuring Pumps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a barrel provided with my improved sirup and measuring pump, showing portions of the barrel broken away to show the pump in position within the barrel. Fig. 2 is a perspective view of the pump-cylinder with its top plate removed, showing one of the wings removed and placed outside of the cylinder. Fig. 3 is a view of the supporting-plate and ratchet-bars, and Fig. 4 is a view of the top plate of the pump-cylinder.

Similar numerals of reference indicate corresponding parts in all the figures.

My invention has relation to pumps for forcing sirup or similar fluids out of barrels, and for measuring the same; and it consists in the improved construction and combination of parts of such a pump, which may be inserted through an aperture in the head of a barrel placed on end, and in which the pump-cylinder is placed at the bottom of the barrel, so that there will be no lifting of the sirup into the cylinder, the sirup being forced up by the pump and discharged through a suitable pipe or hose, as hereinafter more fully described and claimed.

In the accompanying drawings, the numeral 1 indicates the barrel, the head of which is formed with an aperture, 2, through which the pump is inserted.

The pump consists of a cylinder, 3, preferably provided at its bottom with feet 4, and having a cover or top plate, 5, which is provided with an eccentric bearing, 6, registering with a bearing in the bottom of the cylinder, and having an internally-screw-threaded socket, 8, near one side, and a screw-threaded neck or tube, 9, at the other side.

The lower end of a vertical shaft, 10, is jour-

naled in the bearings of the cylinder, and a cylindrical piston, 11, is secured in the cylinder upon the shaft, bearing tightly against the top plate and bottom of the same, and having cylindrical recesses 12 in its periphery, the said recesses having mouths or openings 13, narrower than the diameter of the recesses, and formed with flaring sides in the sides of the piston.

The inner cylindrical ends, 14, of a number of curved wings, 15, fit within these recesses, rocking in the same, and the wings are curved to fit against the sides of the piston, covering its circumference when folded against it, and spiral springs 16 are secured in suitable sockets in the sides of the piston, and bear with their outer ends against the inner faces of the curved wings, forcing the outer ends of the wings against the sides of the cylinder.

An inlet-aperture, 17, is formed in the side of the cylinder, at the bottom of the same, and a discharge-pipe, 18, is secured with its lower screw-threaded end upon the screw-threaded neck of the top plate, extending upward, and a rod, 19, is secured with its lower end in the socket of the top plate, and has its upper end curved to one side and provided with a downwardly-projecting bar, 20, the lower end of which is secured to the upper end of the discharge-pipe, and which, together with the upper portion of the rod, forms a frame for the support of the pumping and measuring mechanism.

A circular plate, 21, is formed with apertures 22, 23, and 24, for the passage of the vertical shaft, the discharge-pipe, and the vertical frame-rod, and is secured to the head of the barrel over the aperture in the same, having a perforated ear, 25, for the insertion of a fastening-screw, 26, and two ratchet-bars, 27, project in opposite directions from the opposite edges of this plate, having their teeth facing toward the plate.

A block or casting, 28, is formed with two perforations, 29 and 30, at its ends, through which perforations the discharge-pipe and the vertical frame-rod respectively pass, and in which they are secured by means of set screws 31, and the center of this block has a vertical bearing, 32, for the upper portion of the vertical shaft. Two arms, 33, are pivoted to the sides of this block, and have their lower ends



engaging the ratchet-bars, so that it will be seen that the block and the pipe, shaft, and rod may be supported at different heights by adjusting the arms at different places of the ratchet-bars, adapting the pump to be used with barrels and casks of different sizes.

A spiral spring, 34, bears against the under side of the plate, covering the aperture in the head of the barrel, and has its lower end bearing against a lug, 35, upon the the vertical rod, the said spring serving to force the pump toward the bottom of the barrel.

The upper end of the discharge-pipe is provided with a flexible hose, 36, provided with a nozzle, 37, by means of which hose and nozzle the liquid in the barrel may be discharged into suitable receptacles.

A shaft, 38, is journaled in the upper portion of the frame formed by the vertical rod and its bent portion, and the vertical bar in horizontal bearings 39, and one end of this shaft is provided with a crank, 40, while a pinion, 41, and a worm or screw, 42, are secured upon the shaft within the bearings.

The pinion meshes with another pinion, 43, upon the upper end of the vertical shaft above a transverse frame-piece, 44, and the worm upon the shaft meshes with a cogged disk, 45, pivoted upon the bent portion of the frame-rod, and having suitable numerals or graduations, from which, by means of an index, 46, pointing to the said graduations, the number of revolutions of the pump-shaft may be read, and, the said revolutions being known, the quantity of liquid pumped up may be determined, the graduations, although indicating the revolutions of the shaft, showing the quantity of liquid pumped up.

It will be seen that the entire pump is very simple and durable of construction, and it will be seen that the liquid will be forced easily out of the barrel, the pump only having to force the liquid upward without having to raise the same.

The spring-cushioned wings within the pump will admit of the wings slipping over splinters or other impurities in the sirup, which may enter into the pump, and the wings may easily be removed and inserted into their recesses in the piston, rendering cleaning and repairing easy.

By spreading the propping-arms farther out and bringing the ends to engage the outer teeth of the ratchet-bars the pump may be forced farther down through the plate, allowing it to fit a large barrel, and by drawing the arms together the pump may be adjusted to fit a smaller barrel or cask, so that the pump may be used with different sizes of barrels or casks.

The pump-cylinder and its winged piston may be used in the construction of a rotary steam-engine, the steam-inlet being through

the present discharge-pipe, and the discharge being at the inlet-aperture.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a sirup and measuring pump, the combination of a casing, a rod secured thereto, the upper end of which is bent, a downwardly-projecting bar, a discharge-tube secured at its lower end to said casing and at its upper end to the lower end of said bar, a shaft having a piston upon its lower end within said casing, and means, substantially as described, for rotating said shaft.

2. In a sirup and measuring pump, the combination of a casing adapted to be placed at the bottom of the barrel, a plate adapted to be placed upon the head of the barrel and having laterally-extending ratchet-bars upon its opposite sides, and a block above said plate, a shaft having a piston upon its lower end, a tube and a rod connected with said casing and extending through said plate and block, two arms pivotally secured at the side of said block, and means, substantially as described, for rotating said shaft and piston.

3. In a sirup-pump, the combination of a pump-cylinder resting at the bottom of a barrel, and having a vertically-operating shaft and a discharge-pipe and a frame-rod parallel to each other and extending through an aperture in the head of the barrel, a block connecting the upper portions of the pipe and shaft and rod, a circular disk having perforations for the passage of the pipe and shaft and rod, and secured over the aperture in the head of the barrel and formed with ratchet-bars at its opposite edges, having their teeth facing each other, arms pivoted upon the connecting-block of the pump and engaging the ratchet-bars, and a spring bearing against the under side of the plate and against a lug upon the frame-rod, as and for the purpose shown and set forth.

4. In a sirup and measuring pump, the combination of a rod, the upper end of which is bent, a downwardly-projecting bar, a shaft journaled in bearings upon said bar and rod, a bar having a crank at one end and a pinion at the other, and a worm upon its intermediate portion, a cogged disk having numbers or characters, an indicator or pointer, a cylinder upon the lower end of said rod, having an inlet-aperture and a discharge-pipe, and a rotary shaft having a piston upon its lower end, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ROBERT E. HUFF.

Witnesses:

GEORGE N. PHILLIPS,  
STEPHEN BRINKER.