

(No Model.)

G. W. B. CREES.  
MACHINE FOR WASHING PLATES, DISHES, &c.

No. 459,927.

Patented Sept. 22, 1891

Fig. 1.

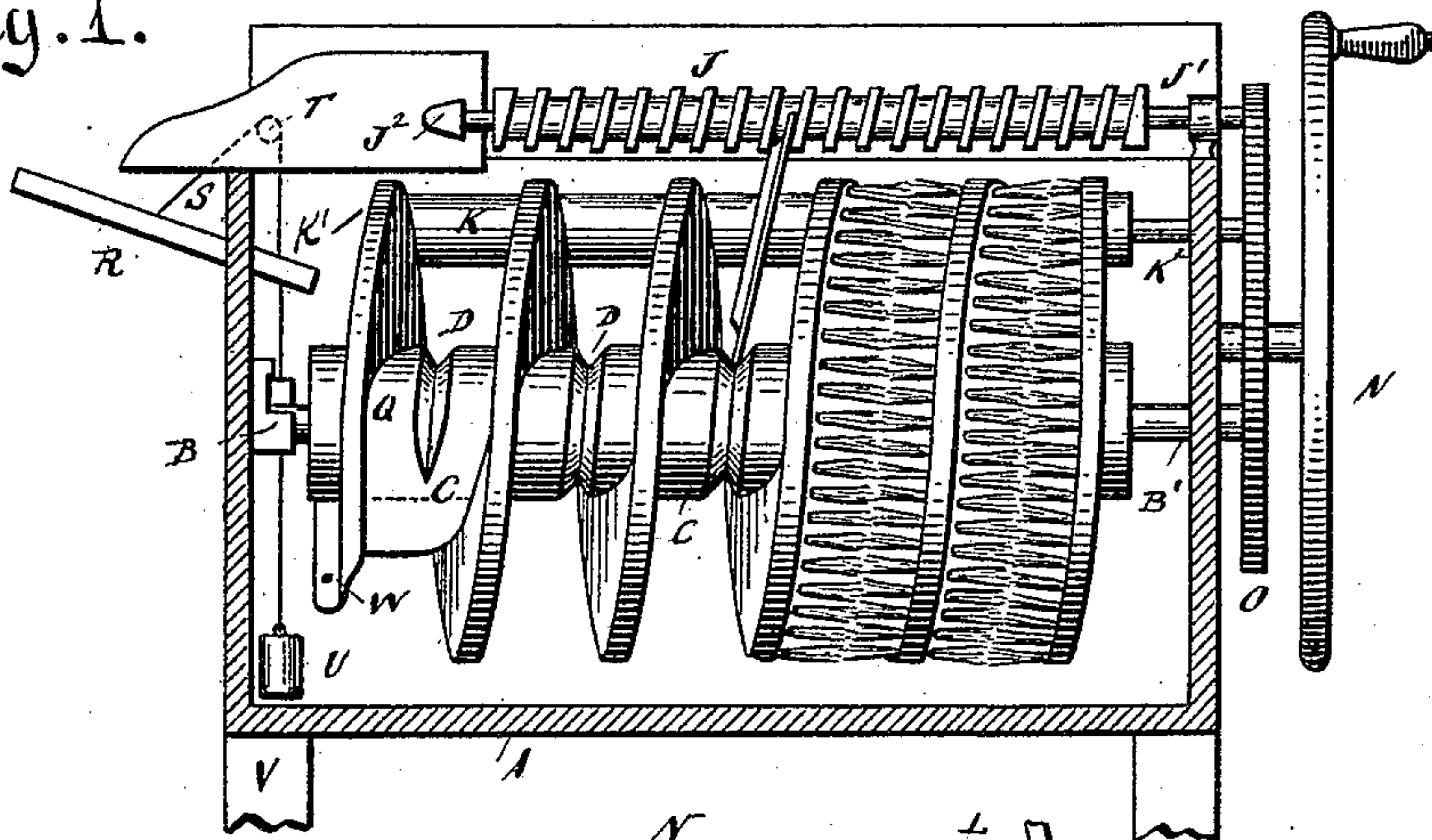


Fig. 2.

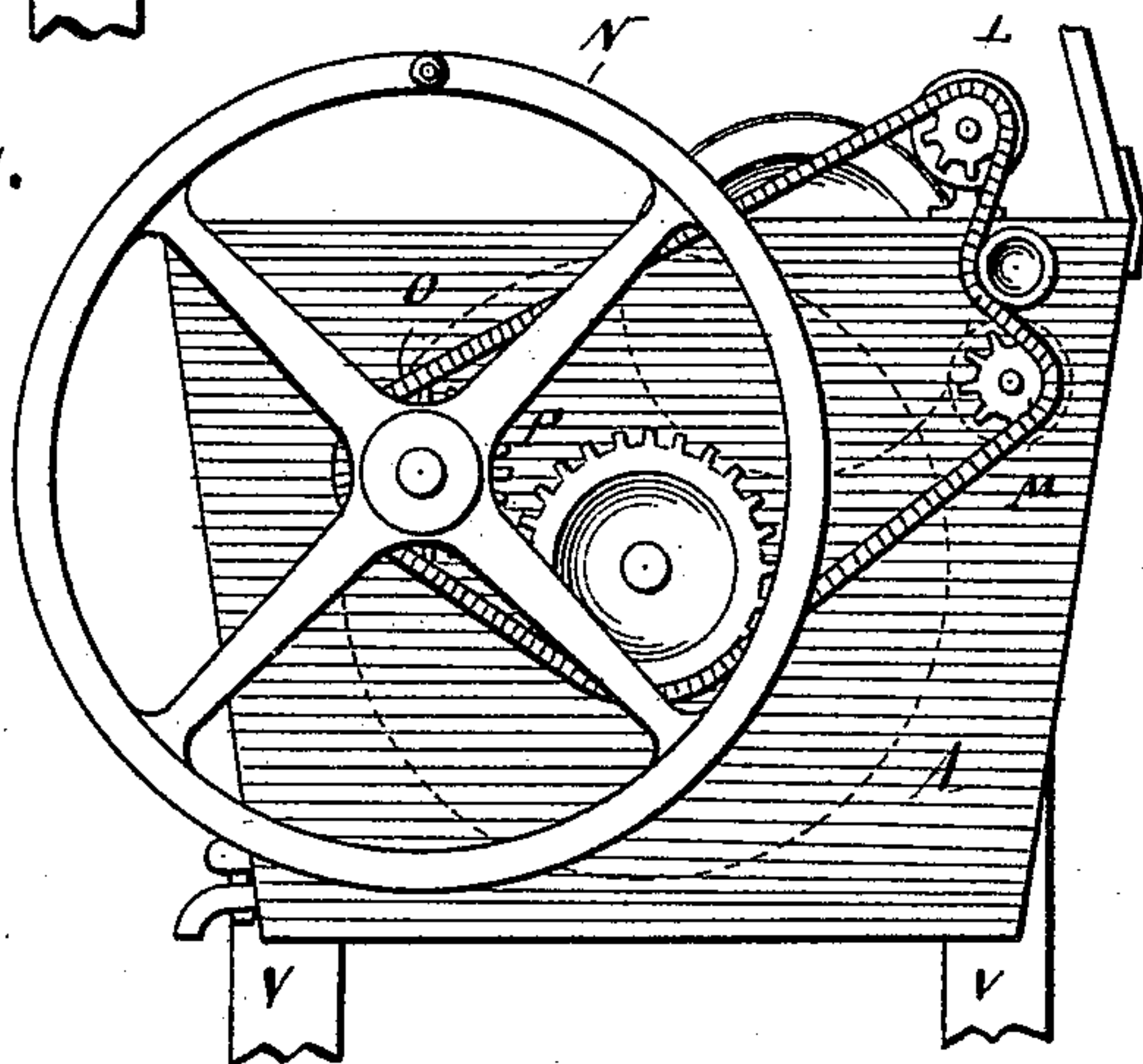
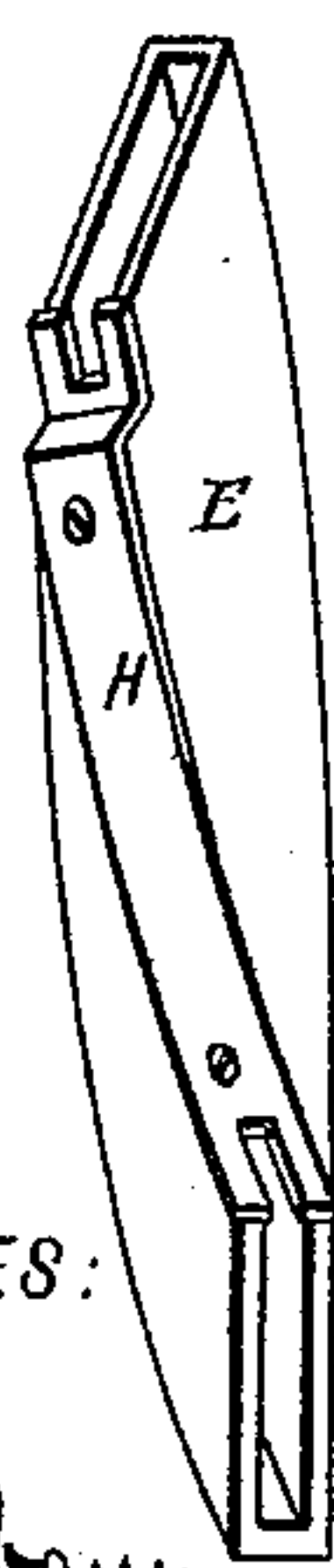


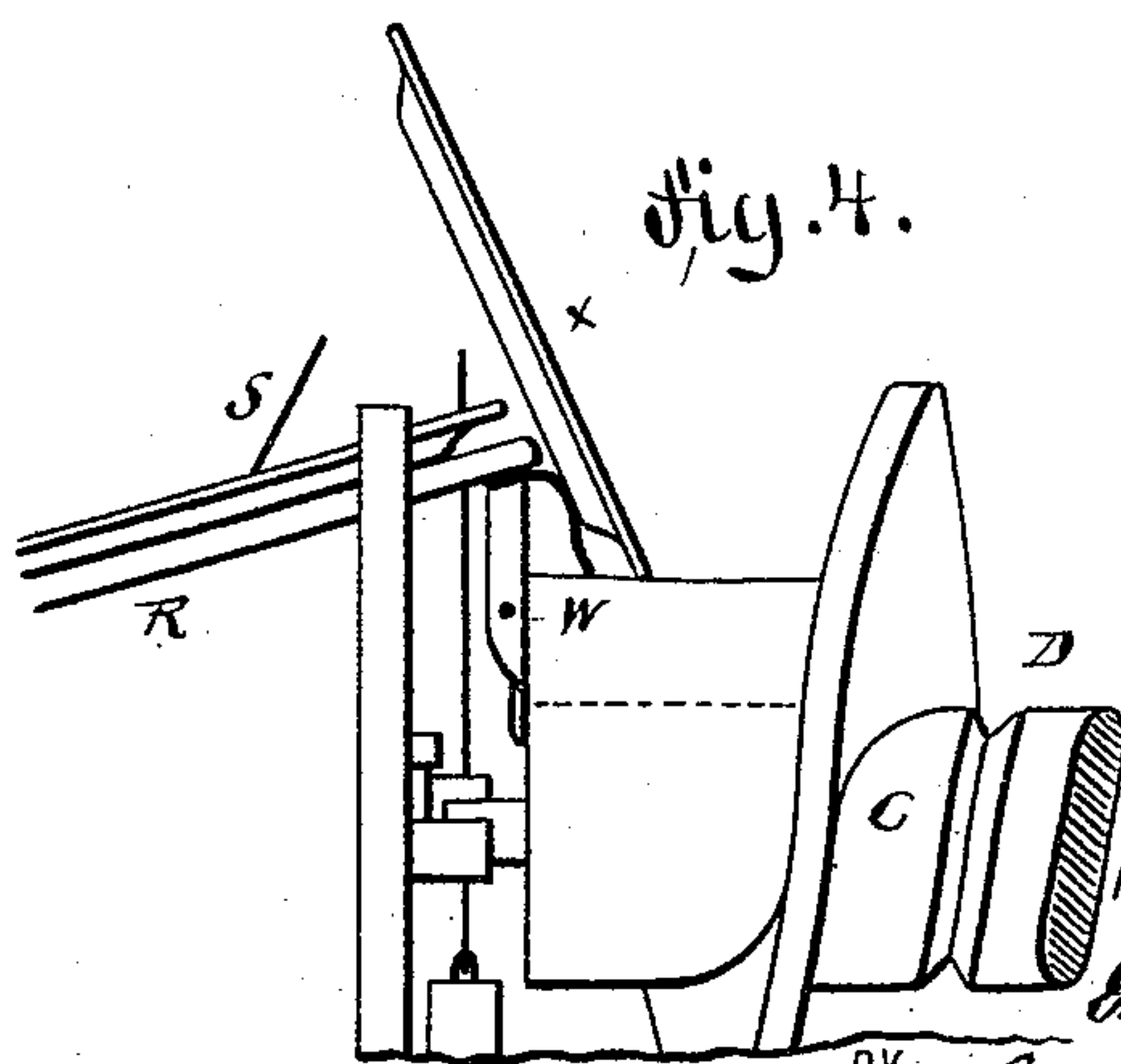
Fig. 3.



WITNESSES:

for N. Rosenbaum.  
Charles Schroeder

Fig. 4.



INVENTOR

G. W. B. Crees

BY

Forbes & Paegauer  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

GEORGE W. B. CREES, OF WINGFIELD, NEAR TROWBRIDGE, ENGLAND.

## MACHINE FOR WASHING PLATES, DISHES, &c.

SPECIFICATION forming part of Letters Patent No. 459,927, dated September 22, 1891.

Application filed January 12, 1891. Serial No. 377,554. (No model.) Patented in Germany June 12, 1890, No. 54,595; in France August 6, 1890, No. 194,302, and in Belgium August 7, 1890, No. 91,543.

*To all whom it may concern:*

Be it known that I, GEORGE WILLIAM BENJAMIN CREES, a subject of the Queen of Great Britain, residing in Wingfield, near Trowbridge, in the county of Wiltshire, England, have invented certain new and useful Improvements in Machinery for Washing Plates, Dishes, and the Like, (for which I have obtained Letters Patent in the following countries: in Germany, No. 54,595, dated June 12, 1890; in France, No. 194,302, August 6, 1890, and in Belgium, No. 91,543, dated August 7, 1890,) of which the following is a specification.

This invention has for its object the construction of a simple, effective, and economically-built machine for washing plates, dishes, and similar articles, and suitable either for domestic use or for hotels, restaurants, steamships, or any establishment requiring to cleanse a large number of plates, dishes, and the like within a short period of time.

In carrying out my invention I provide a box, trough, crate, or other similar receptacle, preferably rectangular in shape, in which is mounted in suitable bearings a block or roller round which I spirally attach sections of wood or other suitable material, carrying brushes or other cleansing agents fixed or fitted therein or thereon in the form of a screw, and between these convolutions I cut or form a groove or notch in the block or barrel. The block carrying the brushes or other cleansing agents is revolved by suitable mechanism, and I prefer to use an arrangement of chain-wheel gearing actuated by a fly-wheel, handle, treadle, or other device. At one side of the box, frame-work, or receptacle I mount one or more screw or worm rollers, plain rollers, or endless bands, also actuated by the chain gearing or other device for transmitting motive power and arranged to run at such a speed as will insure the proper revolution of the plate or other article placed in the machine.

Referring to the accompanying sheet of drawings, and to the letters of reference marked thereon, Figure 1 is a sectional elevation showing the apparatus fitted in a box or tank capable of holding water or other fluid and actuated by gearing worked by a handle.

Fig. 2 is an end elevation of the box or tank, showing a suitable gearing for actuating the machine. Fig. 3 is a detail view of one section of the brush-back, showing a method of attaching the same to the block or barrel. Fig. 4 is an enlarged view of the delivery end of the block-shaft or barrel, showing a plate being ejected from the machine.

Similar letters of reference indicate corresponding parts.

In the drawings a box or tank is shown capable of holding fluids; but the apparatus may be fitted to an open-chamber frame-work or crate of any suitable material, so that it may be placed in a larger receptacle containing fluid and removed therefrom at will, if found desirable, the fluid being free to circulate between and around the brushes.

In the machine here represented A is a box, tank, or receptacle having mounted therein on bearings B B' a central stock, shaft, or barrel C, in which is cut a spiral groove D. Upon and around the barrel C, I attach sections such as E, Fig. 3, on which, at one end or both sides, are fitted bristles or other cleansing agent. These sections are jointed and fitted to each other and to the block or barrel C in such a manner as to form a worm or screw, and the brushes, &c., are sufficiently long to embrace and thoroughly cleanse any article lying between them.

In Fig. 3 I show a convenient form of a section of brush-back, (without the bristles,) as above described, and a metal band H is attached to the under side and shaped at either end to engage with the last and following section until the worm or spiral is completed, the end sections being screwed or otherwise secured to the barrel or block. The ends of the sections are also mortised to fit studs upon the barrel.

At convenient points in the back of the receptacle I mount other plain or worm rollers J K, revolving in bearings J' J<sup>2</sup> K' K<sup>2</sup>, and actuated by sprocket-wheels L M and the chain gearing shown in Fig. 2. On the fly-wheel N, Fig. 2, being turned, the endless chain O, passing over the teeth of wheel P, sets in motion the barrel or stock C, and at the same time the rollers J K are revolved. A plate or dish being placed at any point between the



brushes and with its edge in the spiral groove D, the upper portion of the edge rests against rollers J or K, according to its size, and the apparatus, being in motion, is propelled along the spiral groove D and between the brushes until it arrives at or near Q, Fig. 1, when, the groove running out, it rises to the face of the block or barrel and onto a block or cam which is fixed thereon for the purpose of raising the plate or other article clear of the brushes, and it then assumes the position shown by  $x$  in Fig. 4 and falls upon the tilting board or platform R, which is controlled by a cord, chain, or spring S, passing over a pulley T and regulated by a balance-weight U; or any other device may be employed. The platform R is made to assume the position shown in Fig. 4 by means of a cam W, attached to the end of the block or barrel C. The plate or article falling upon the tilting platform is projected into a tank or other receptacle containing, preferably, hot or cold fluid for rinsing purposes, and it is now effectually cleansed and may be taken out by hand and stacked for drying.

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

1. In a dish-washing machine, the combination, with a rotative shaft having spirally-arranged brushes or wipers, of means for guiding plates between said brushes or wipers, substantially as set forth.

2. In a dish-washing machine, the combination, with a rotative shaft having spirally-arranged brushes or wipers, of a spirally-

grooved shaft for guiding plates between said brushes or wipers, substantially as set forth.

3. In a dish-washing machine, the combination, with a rotative shaft having spirally-arranged brushes or wipers, of means for guiding plates between said brushes or wipers, and a tilting platform at one end of said shaft, substantially as herein shown and described.

4. In a dish-washing machine, the combination, with a rotative shaft having spirally-arranged brushes or wipers, of means for guiding plates between said brushes or wipers, a tilting platform at one end of the shaft, and a cam projection on the end of said shaft adapted to act on the said platform, substantially as set forth.

5. In a dish-washing machine, the combination, with a rotative shaft bearing spirally-arranged brushes or wipers, of a spirally-grooved shaft for guiding plates between said brushes or wipers, and means for rotating both shafts simultaneously, substantially as set forth.

6. In a dish-washing machine, the combination, with a shaft, of a series of sections E, secured thereon to form a spiral rib, and brushes or wipers on said sections, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GEO. W. B. CREES.

Witnesses:

ALFRED A. ANDREW,

ALF. E. WHITE,

18 Southampton Building.