

(No Model.)

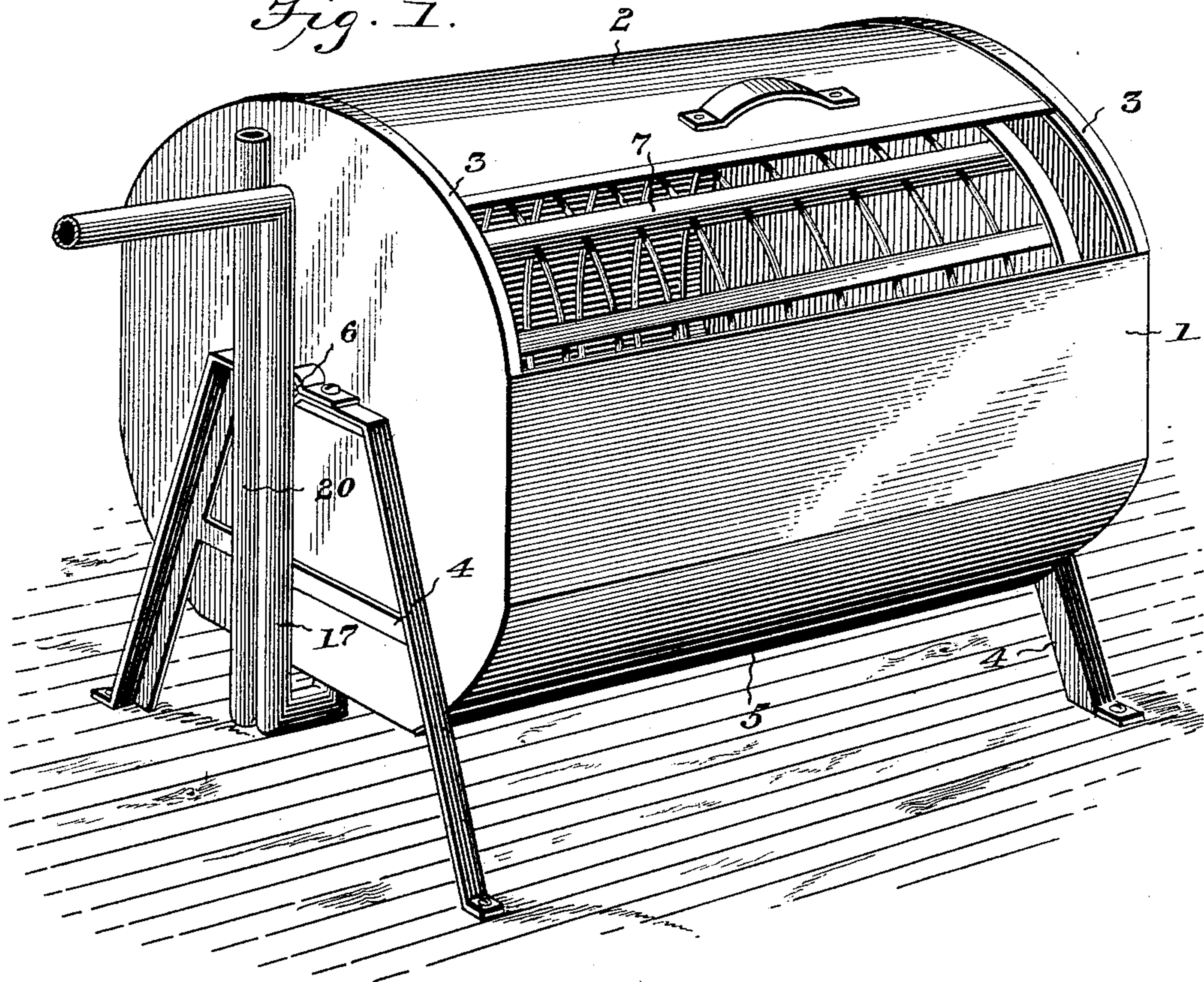
2 Sheets—Sheet 1

H. B. ROACH.  
WASHING MACHINE.

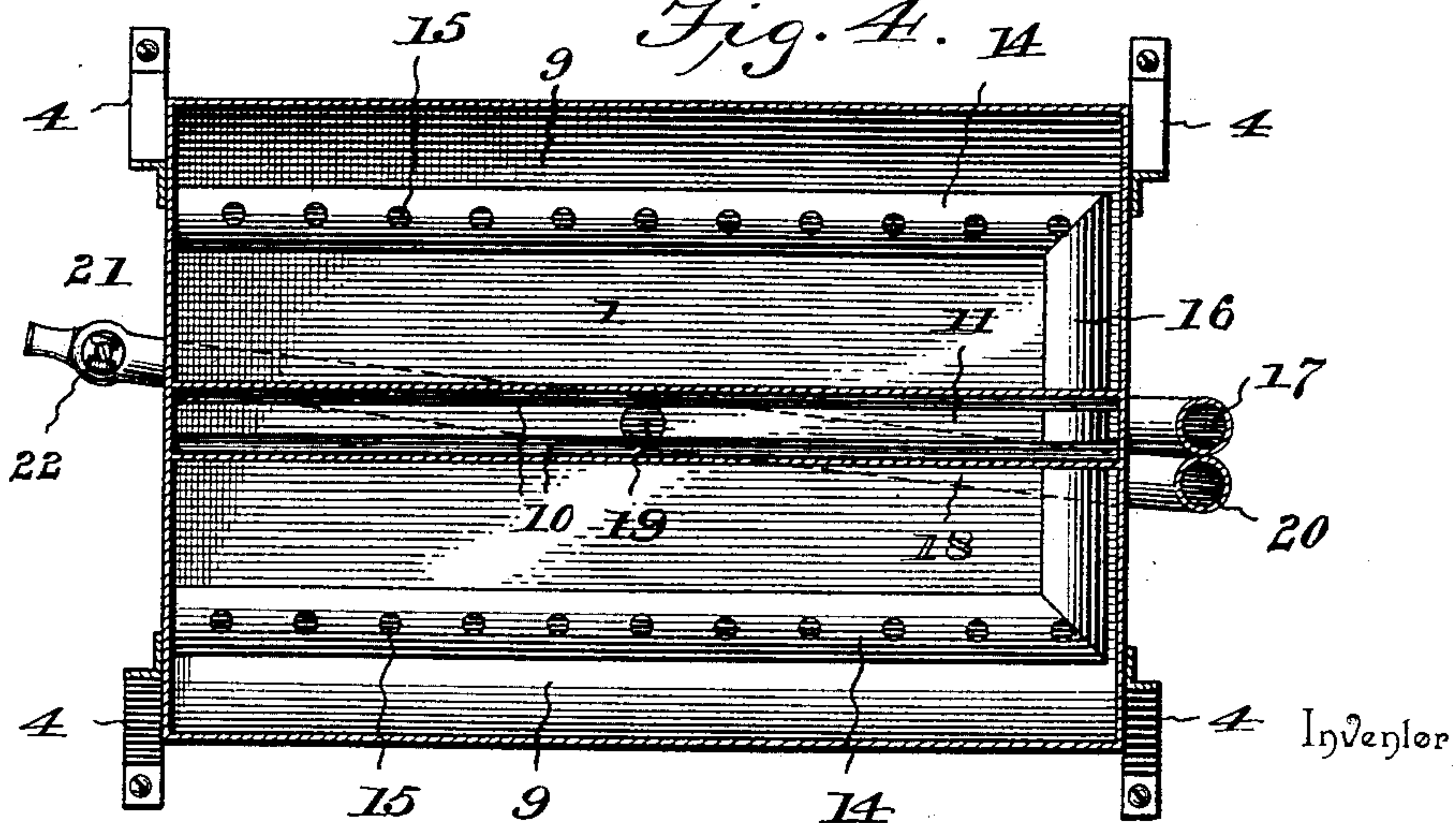
No. 602,567.

Patented Apr. 19, 1898.

*Fig. 1.*



*Fig. 4.*



Witnesses

*E. H. Monroe*  
*U. B. Hillyard.*

By *his* Attorneys,

*Henry B. Roach,*

*C. A. Snow & Co.*

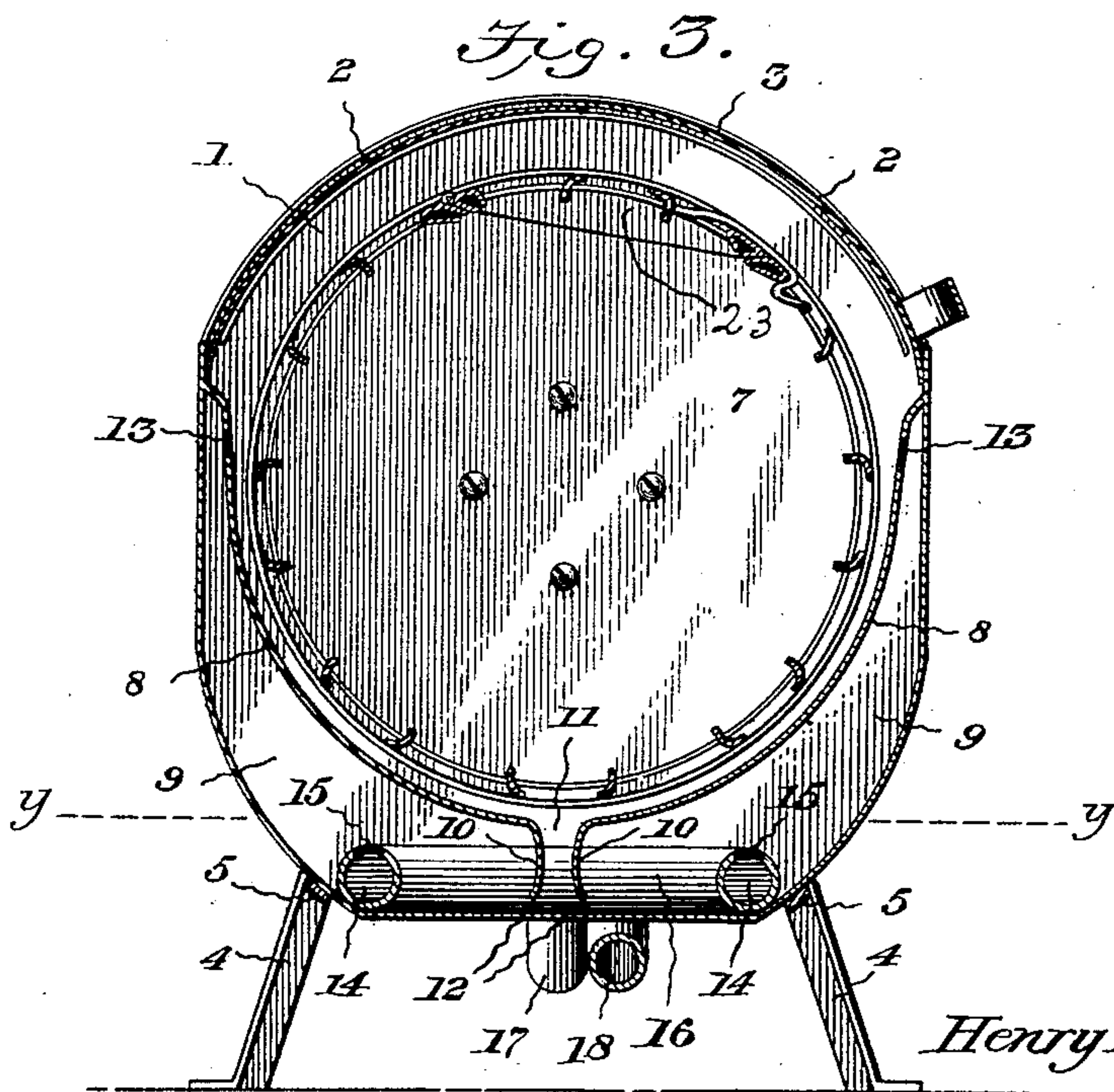
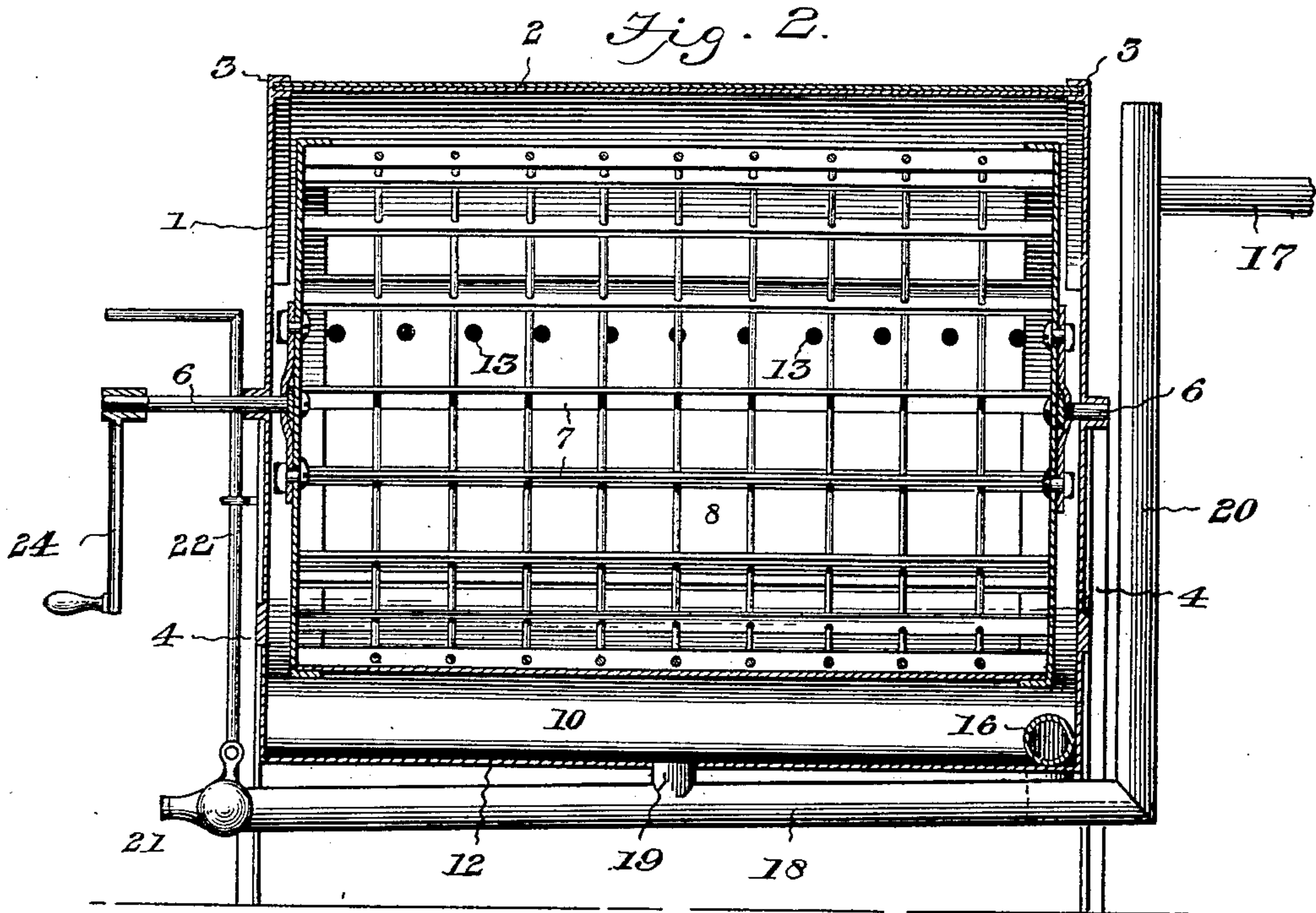
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*E. A. Monroe*  
*U. B. Hillyard.*

By *W. B. Hillyard* Attorneys,

Inventor

*Henry B. Roach,*

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# UNITED STATES PATENT OFFICE.

HENRY B. ROACH, OF PARIS, TEXAS, ASSIGNOR OF ONE-HALF TO GEORGE F. HICKS, FRANK O. HICKS, AND JOHNSON HALE, OF LAMAR COUNTY, TEXAS.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 602,567, dated April 19, 1898.

Application filed July 21, 1897. Serial No. 645,420. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY B. ROACH, a citizen of the United States, residing at Paris, in the county of Lamar and State of Texas, have  
5 invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to that class of washing-machines which depend for their action upon the circulation of suds-water, said circulation being effected by heating the water  
10 to a boiling-point.

An essential feature of the improvement is to provide simple and effective means for securing a positive circulation of the suds-water, so as to insure a thorough and rapid  
15 cleansing of the clothes or articles when the machine is in active service.

A further purpose of the improvement is to combine with the suds-box a pipe for supplying water thereto and for the withdrawal  
20 of the dirty suds-water, when required, without interrupting the operation of the machine and to enable the clothes or articles to be washed being placed within the drum and removed therefrom without requiring the said  
25 drum or cylinder to be disconnected from the suds-box.

Other objects and advantages are contemplated and will appear in the course of the subjoined description and be more particularly  
30 set forth in the claims; and to this end reference is to be had to the accompanying drawings and the description, to which corresponding and like parts are designated and  
35 referred to by the same reference characters.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing  
40 from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a washing-machine constructed in accordance with  
45 this invention. Fig. 2 is a vertical central longitudinal section thereof. Fig. 3 is a transverse section; Fig. 4, a plan section on the line Y Y of Fig. 3.

50 The suds-box 1 is oblong and approxi-

mately of elliptical shape in transverse section, the bottom being flattened and the top being curved and closed by sliding covers 2, movable in ways 3, formed on the inner sides of the end pieces adjacent to their upper edges. 55 This suds-box is mounted upon a metallic frame comprising A-shaped stanchions 4 and longitudinal bars 5, the latter connecting the side pieces of the stanchions and coming beneath the rounded portion of the bottom of the  
60 suds-box exterior to the flattened portion thereof. The stanchions 4 are provided at their upper ends with bearings, in which are mounted the journals 6 of the drum or cylinder 7, rotatably mounted in the said box and adapted  
65 to receive the clothes or articles to be washed.

Plates 8 are located within the suds-box, and are curved outwardly between their top and bottom edges, and are disposed so as to form spaces 9 at the sides and bottom of the  
70 suds-box, the upper edges of the plates being secured to the sides of the suds-box a short distance from its top, and their lower edge portions coming close together and deflected vertically, as shown at 10, forming a longitudinal  
75 passage 11 between the deflected portions 10, and the lower edges of the parts 10 terminating a short distance from the flattened bottom of the said box, whereby passages 12 are provided. These plates 8 extend  
80 the entire length of the suds-box and have a series of openings 13 near their upper edges, through which the suds-water and steam escape into the upper portion of the suds-box from the spaces 9 when the machine is in op-  
85 eration. The curvature of the plates 8 conforms to the circumference of the drum or cylinder 7, whereby as small a space as possible exists between the surface of the drum and the curved surfaces of the said plates. 90

Pipes 14 are located upon each side of the passage 11 and in the lower portions of the spaces 9 and have a series of openings 15  
95 along their top sides for the escape of steam to heat the suds-water and create a circulation of the latter through the machine, which is essential to effect the washing process. These pipes 14 are connected at one end by a cross-pipe 16, which connects centrally with  
100 a supply-pipe 17, extending from a boiler or



steam-generator of any approved construction. A pipe 18 extends beneath the suds-box and inclines slightly throughout its length and communicates with the suds-box about  
 5 at a central point, as indicated at 19. This pipe is intended to supply the machine with water from a suitable fount, and for this purpose the pipe is provided at one end with a vertical extension 20, leading from the fount  
 10 or reservoir from which the supply of water is taken. A valve 21 is located at the delivery end of the pipe 18 and is normally closed, and is controlled by a stem 22, extending vertically, thereby obviating the necessity for  
 15 the attendant to stoop or bend to operate the valve when it is required to drain the suds-box of the dirty water. Normally the valve 21 is closed and water is supplied to the suds-box through the pipes 20 18 and the connection 19 until the proper level within the suds-box has been reached, when the supply is cut  
 20 off. If desired, the water may be supplied to the suds-box by being poured into the upper end of the pipe 20, as will be readily understood. After the washing has been effected, or when it is required to draw off a  
 25 portion or all of the dirty suds-water, the stem 22 is operated to open the valve 21, when the water will escape from the suds-box through the connection 19 and pipe 18, as will be readily understood.

The cover 2 is of the rolling type and is composed of similar parts or sections, each slidably mounted in the grooves or curved  
 35 ways 3 and the one movable upon the other, so as to uncover half of the top, whereby access is had to the interior of the suds-box, so that the door 23 of the drum 7 may be reached and opened, so as to permit clothes or articles  
 40 to be placed within the drum to be washed or to be removed therefrom after being cleansed.

The water is supplied to the suds-box to the desired or proper level and is heated and caused to circulate by means of steam admitted to the interior of the machine through the  
 45 perforated pipes 14. When the water becomes heated in the spaces 9, it rises therein and escapes through the openings 13 into the drum 7 over the clothes or articles therein  
 50 and gravitates through the said clothes into the passage 11, thence back into the spaces 9 through the passages 12, when it is again heated and caused to traverse the path indicated. By this means a positive circulation  
 55 of the water is kept up and the dirt is loosened from the meshes of the fabric, and the

latter is cleansed in the ordinary way, as will be readily understood. The washing process is facilitated by turning the drum upon its journals, the latter operation being accomplished by means of a handle 24, fitted to a projecting end of one of the journals, and by this means the drum may be rotated continuously in one direction or oscillated backward and forward, as desired.

Obviously the machine may be operated by suitable power arranged to oscillate or rotate the drum, and the legs will be constructed to adapt the frame to the power and may be formed of wood, metal, or any material generally used for this purpose.

Having thus described the invention, what is claimed as new is—

1. In a washing-machine, the combination with a suds-box, of a pipe placed beneath the suds-box and inclined throughout its length, a vertical pipe connecting the inclined pipe about midway of its ends with the bottom portion of the suds-box and serving as an inlet and an outlet, means for supplying water to the higher end of the inclined pipe, and a controlling-valve at the lower end of the inclined pipe to admit of the suds-water being drained from the suds-box when required, substantially as specified.

2. A washing-machine, comprising an oblong suds-box of approximately elliptical shape in transverse section, having a flattened bottom and provided with a longitudinal passage, and spaces or chambers at its sides and bottom upon opposite sides of the said passage, said spaces being in communication at their lower ends with the passage, and at their upper ends with the interior of the suds-box, perforated steam-pipes located in the lower portion of the spaces or chambers and connected at one end, an inclined supply-pipe located beneath the suds-box and in communication therewith, and provided at one end with a controlling-valve, a drum located within the suds-box, and a rolling top or cover, comprising similar sections slidably mounted in guideways at the ends of the suds-box, substantially as set forth.

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

H. B. ROACH.

Witnesses:

W. F. GILL,

W. B. GAUDELOCK.