(No Model.)

3 Sheets—Sheet 1.

T. PAWLIK.

VESSEL CLEANER.

No. 565,632. Patented Aug. 11, 1896.

Fig. 1.

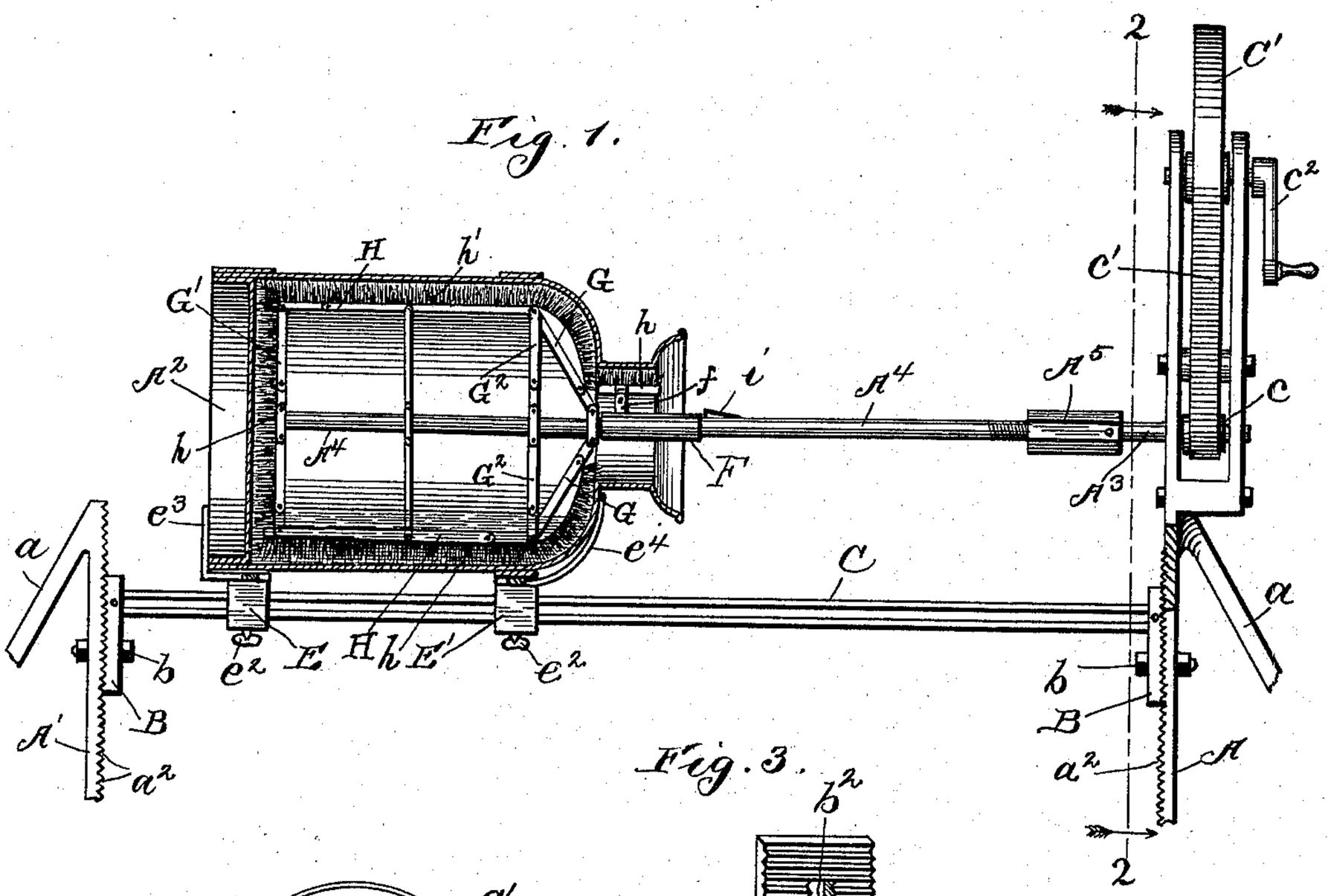


Fig. 3.

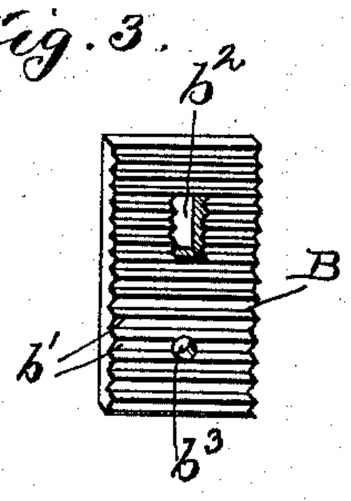


Fig. 2.

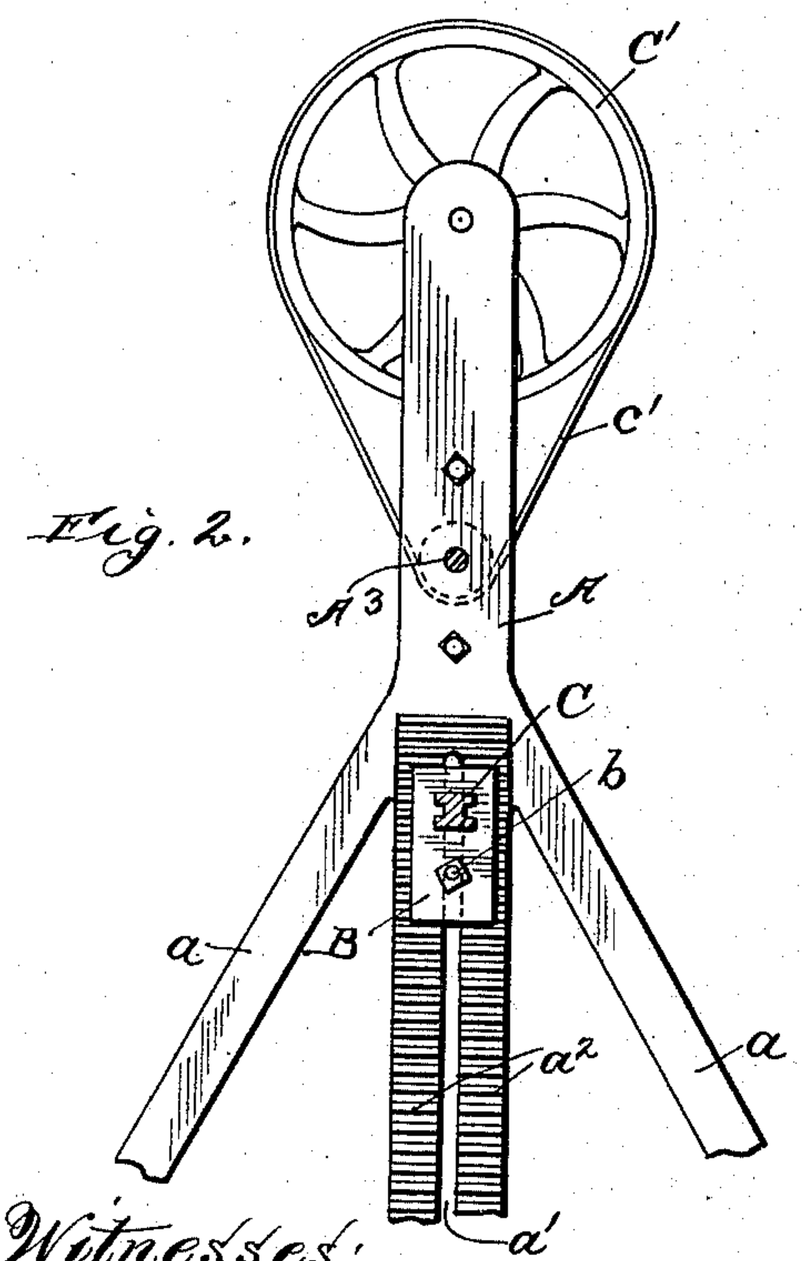


Fig. 4.

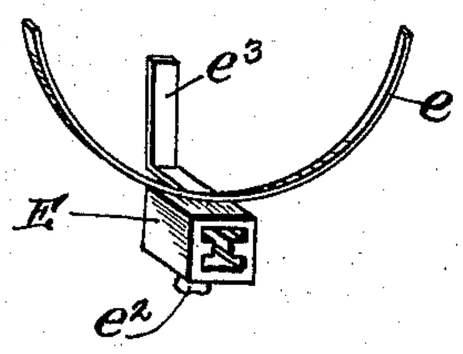
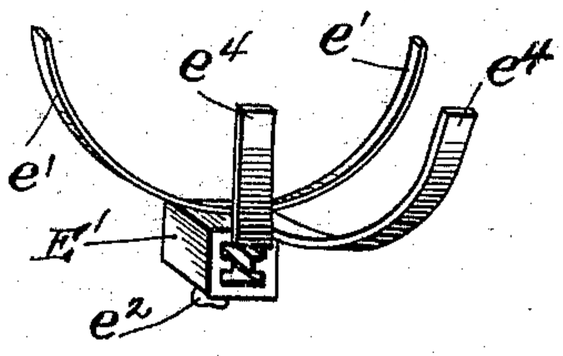


Fig. 5.



Witnesses:
R. J. Jaeker.
E. A. Duggan.

Inventor:
Theodor Pawlik.
By Chas. C. Tillman. Atty.

(No Model.)

3 Sheets—Sheet 2.

T. PAWLIK.

VESSEL CLEANER.

No. 565,632. Patented Aug. 11, 1896.

Fig. 6.

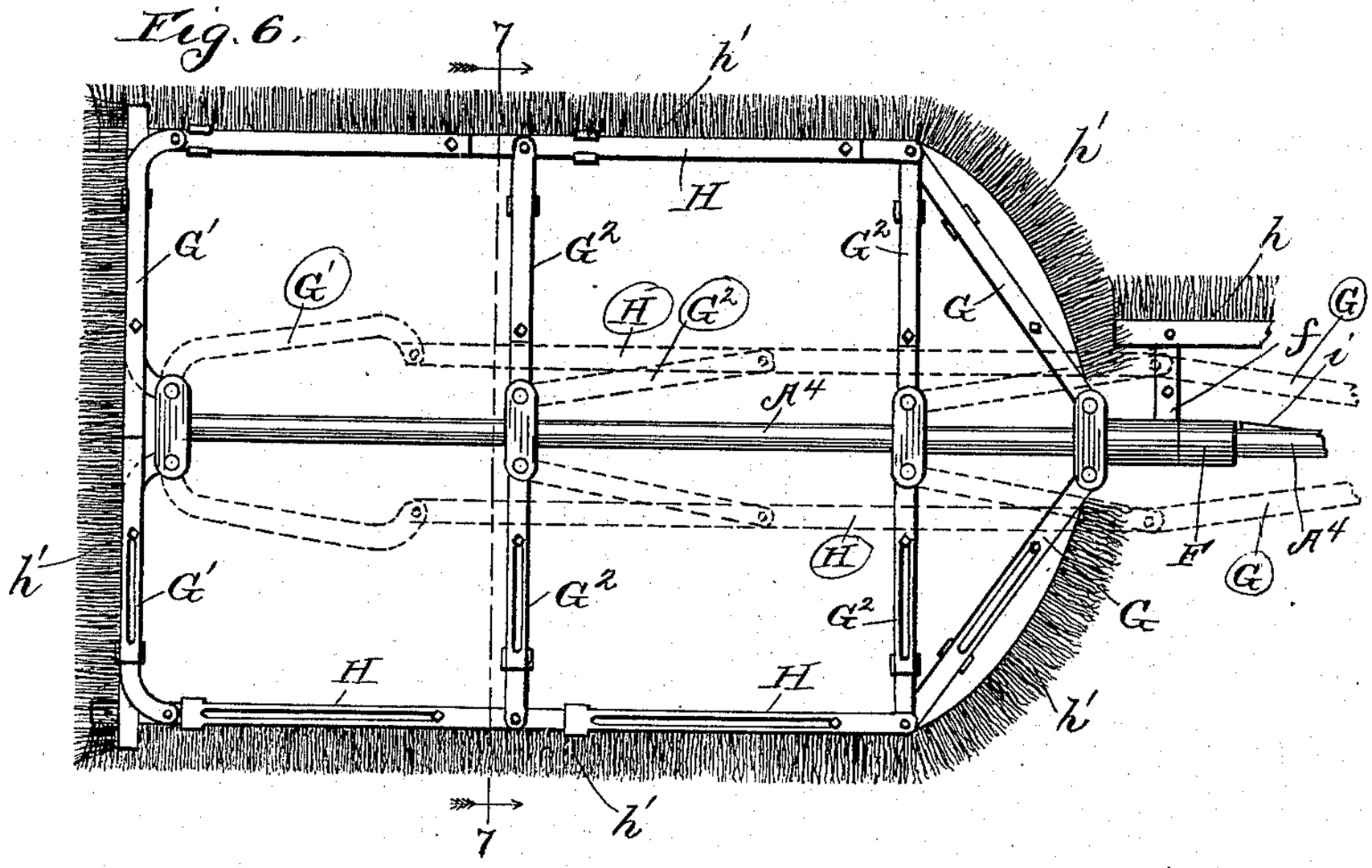


Fig. 7.

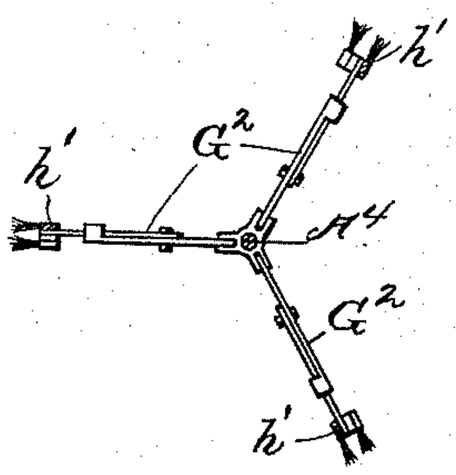


Fig. 8

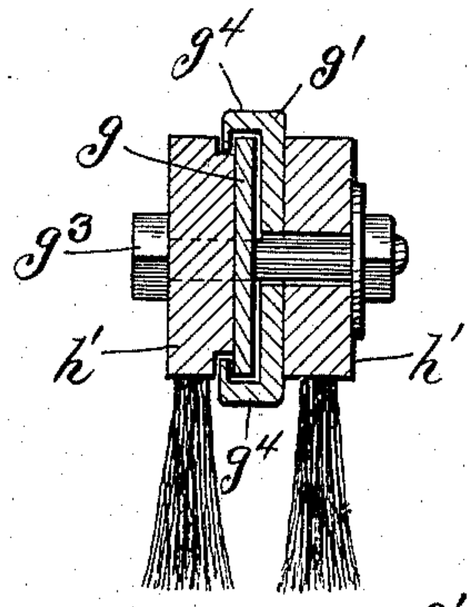
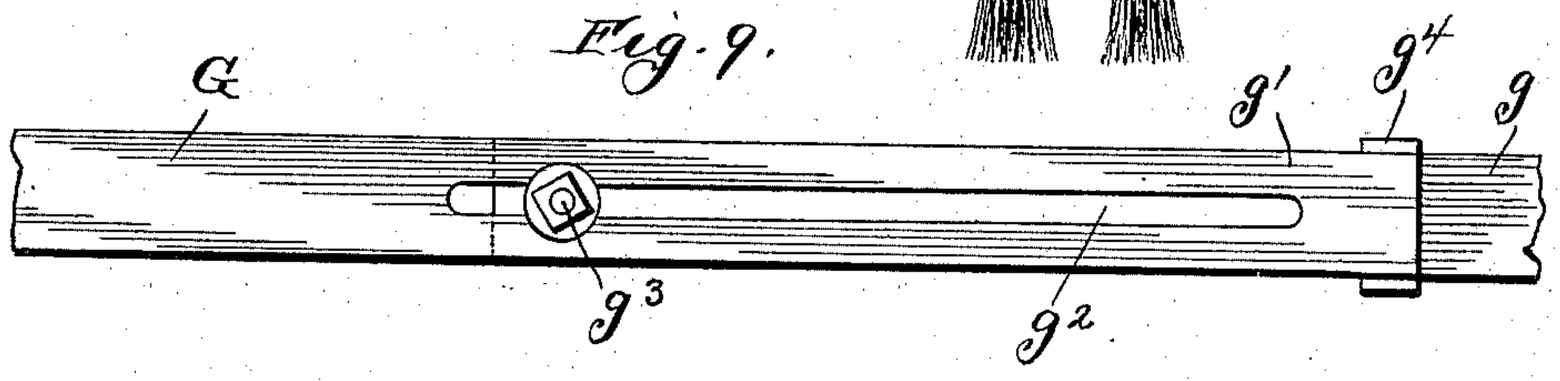


Fig. 9.



Witnesses:
R. J. Jacker.
E. A. Duggan.

Inventor:
Theodor Pawlik.
By Chas. C. Tillman
Atty.

(No Model.) 3 Sheets—Sheet 3.

T. PAWLIK.

VESSEL CLEANER.

No. 565,632. Patented Aug. 11, 1896.

Fig. 10.

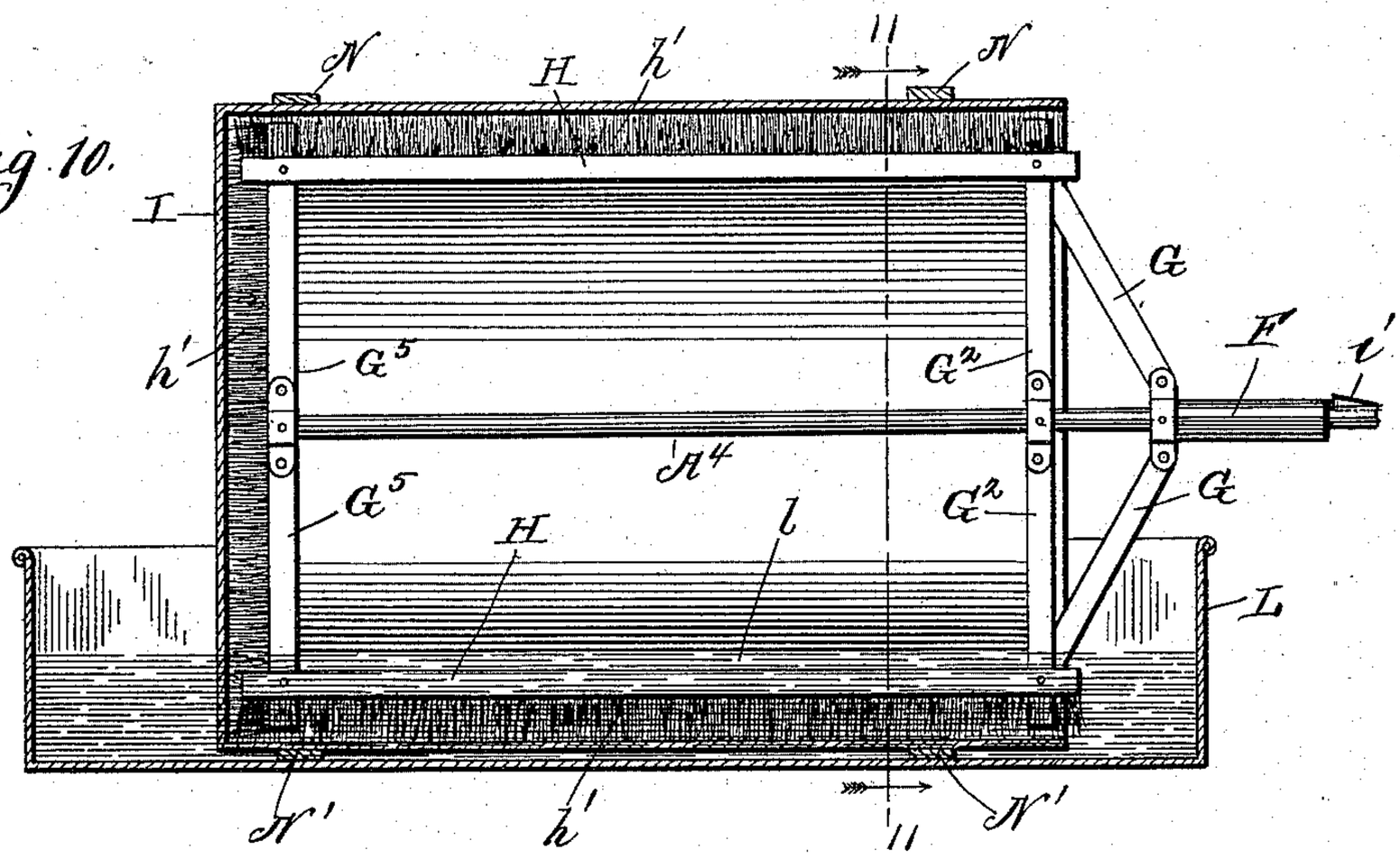


Fig. 11.

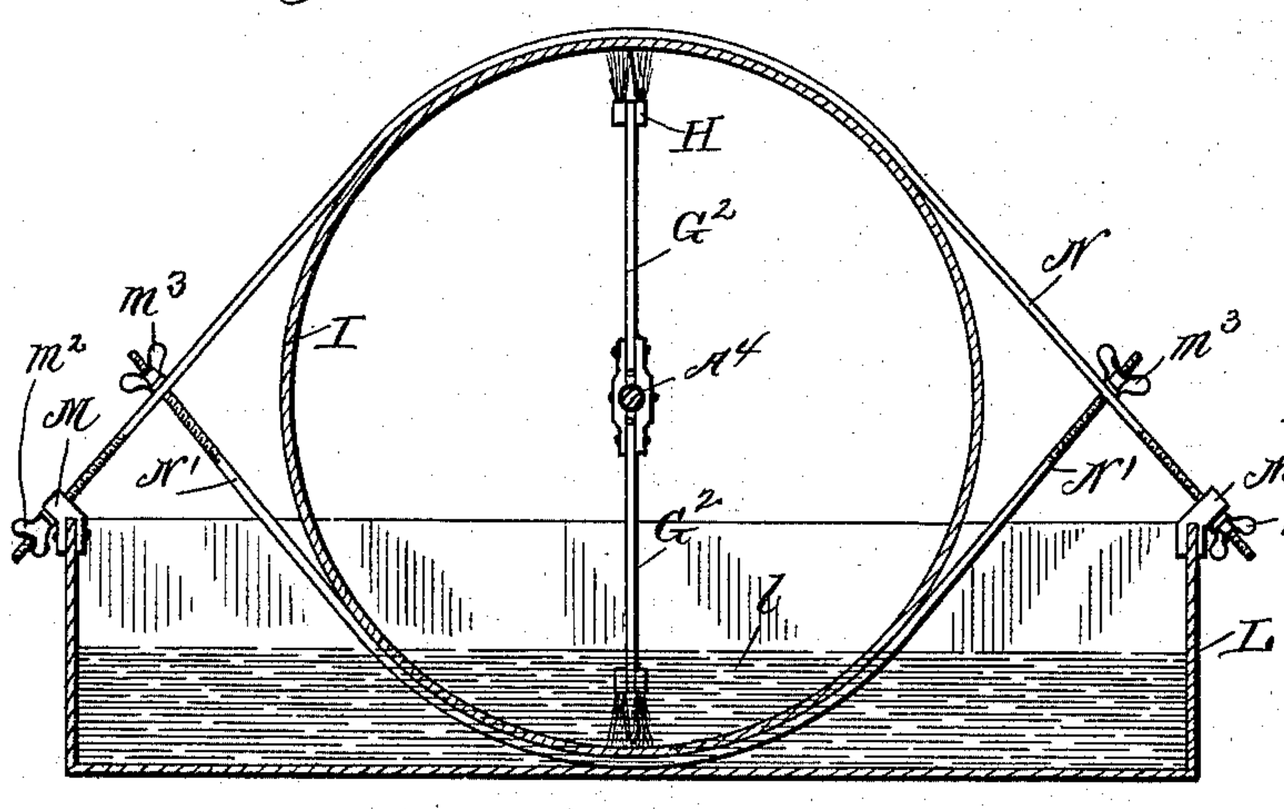


Fig. 12.

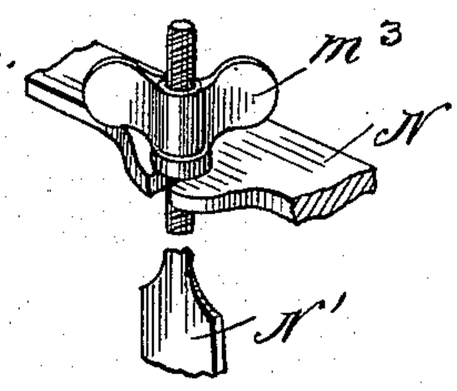
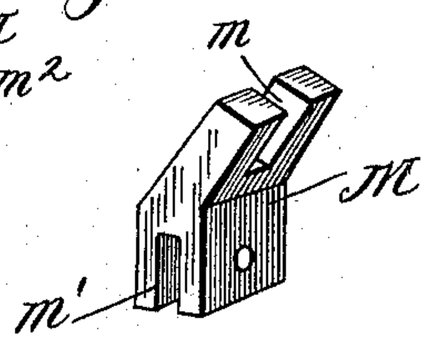


Fig. 13.



Witnesses:
R. J. Jacker.
E. A. Duggan.

Inventor:
Theodor Pawlik
By Chas. C. Tillman
Atty.

UNITED STATES PATENT OFFICE.

THEODOR PAWLIK, OF CHICAGO, ILLINOIS.

VESSEL-CLEANER.

SPECIFICATION forming part of Letters Patent No. 565,632, dated August 11, 1896.

Application filed March 23, 1896. Serial No. 584,398. (No model.)

To all whom it may concern:

Be it known that I, THEODOR PAWLIK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vessel-Cleaners, of which the following is a specification.

This invention relates to a machine to be used for cleaning vessels of various kinds, such as milk-cans, ice-cream freezers, jars, and the like; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to provide a vessel-cleaner which shall be simple and inexpensive in construction, strong and durable, and effective in operation; second, to provide a cleaner the parts of which may be readily adjusted to fit within and cleanse vessels of various sizes and shapes, and, third, to provide a cleaner which shall be collapsible, so that it may be readily inserted or withdrawn from the vessel when the same is formed with a neck or contracted portion.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view in side elevation, partly in section, of a portion of the main or supporting frame, showing my cleaner and a vessel mounted thereon and illustrating the brushes thereof within the vessel in the position they will occupy in the operation of cleaning the same. Fig. 2 is an end view, partly in section, taken on line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of one of the securing-plates used for raising and lowering the horizontal bar on which the vessel rests. Fig. 4 is a perspective view of the rear adjustable vessel-holder, showing it detached from the horizontal bar. Fig. 5 is a similar view of the front adjustable holder for the vessel, showing it also detached. Fig. 6 is an enlarged view in elevation of the adjustable cleaning-brushes, illustrating by dotted lines the positions they will occupy when they are folded to the shaft carrying the same to be inserted into or withdrawn from the vessel. Fig. 7 is a reduced sectional view taken as at line 7 7 of Fig. 6, but showing a modification in which three adjustable arms are employed instead of two. Fig. 8 is a cross-sectional view of a portion of the adjustable brushes. Fig. 9 is a side view in elevation of a portion of one of the adjustable arms or brushes with the bristles omitted therefrom. Fig. 10 is a longitudinal sectional view, partly in elevation, of a modification in the construction of the brushes and in the manner of cleaning vessels such as are not contracted at their open ends. Fig. 11 is a cross-sectional view taken on line 11 11 of Fig. 10. Fig. 12 is a detail perspective view of a portion of the straps used for securing the vessel in position in said modified construction, and Fig. 13 is a detached perspective view of one of the attaching devices used for connecting one of the securing-straps to the receiving-tank.

Similar letters refer to like parts throughout the different views of the drawings.

A and A′ represent the end pieces of the main or supporting frame, which are provided with braces *a* to hold them in an upright position and are formed with vertical slots *a′* for the reception and operation of the adjusting-bolts *b* for the securing-plates B, which are provided on their surfaces adjacent to the said upright pieces with horizontal serrations *b′* to engage similar serrations or corrugations a^2 on the inner surface of the uprights or end pieces A and A′ of the frame. Each of the plates B is also provided with openings b^2 and b^3 for the reception of the horizontal bar C and the adjusting-bolts *b*, respectively.

The bar C extends from one of the uprights to the other, as is clearly shown in Fig. 1 of the drawings, and is substantially I-shaped in cross-section, and has mounted thereon the adjustable holders E and E′ for the vessel A^2, which rests within the curved supports *e* and *e′*, secured on and forming a part of the holders E and E′, respectively. These holders are formed with longitudinal openings therethrough to receive the bar C, and are provided with set-screws e^2, to be used for fastening them on said bar.

The holder E is provided with a rear right-angled extension e^3 to support one end of

the vessel, and the holder E′ is provided with forward and upward extensions e^4, which are separated, as shown, to stride the neck of the vessel and serve in conjunction with the projection e^3 to prevent the longitudinal movement of the vessel, as is apparent by reference to Fig. 1 of the drawings.

In the upper portion of the standard or end piece A is journaled the driving-shaft A^3, with which the supplemental driving-shaft A^4 may be connected by means of a coupling nut or collar A^5, fixed on the first-named shaft. On the shaft A^3 is located a pulley *c*, which is driven by a belt *c′*, passing over the driving-wheel C′, which is journaled in the standard A and is provided with a crank-handle c^2 for revolving the same. On the shaft A^4 is located a sliding collar F, which is provided with an arm *f*, to the outer portion of which is secured a brush *h* to contact with the inner surface of the neck or contracted portion of the vessel.

Pivotally secured to lugs on the inner portion of the collar F are a number of adjustable arms G, which arms are each composed of two pieces *g* and *g′*, the latter being formed with a longitudinal slot g^2 to receive a bolt g^3 on the piece *g*, and is also provided with flanges g^4 to overlap the edges of the piece *g* and bind the same thereto, thus forming the extensible or adjustable arms G, to which the brushes *h′* are secured. To lugs on the inner end of the shaft A^4, or that end farthest from the standard A, are pivotally secured a number of adjustable arms G′, which are of the same construction as those just above described, except that they are slightly curved at their ends, and are likewise provided with brushes *h′*, the bristles of which extend outwardly.

Between the arms G and G′, and pivotally but movably secured to lugs on the shaft A^4, are other adjustable arms G^2, which are of the same construction as the arms G save that the brushes are omitted. The outer ends of the arms G, G′, and G^2 are pivotally connected to the longitudinal pieces H, which are provided with brushes *h′* and are formed of two pieces adjustably secured together, as above described for arms G.

In Figs. 10 and 11 of the drawings I have shown a modification in the construction of the brush-carrying portion of the cleaner, which consists in omitting one series of intermediate adjustable arms G^2, the arm *f*, and brushes *h′* on the arms G, and in forming the arms G^5 straight, as shown in Fig. 10, instead of curved at their ends, as illustrated in Fig. 6 of the drawings. The arms and longitudinal pieces H, in the construction now under consideration, are pivotally secured together and are likewise secured on the shaft, but are not extensible, as will be seen by reference to Figs. 10 and 11 of the drawings. The said pieces and arms G^5 are provided with brushes *h′* to contact with the inner surface of the vessel.

When it is desired to clean the vessel I, whose open end is not contracted, it becomes necessary to provide a means to hold a sufficient quantity of water therein to facilitate the operation of cleaning, and for this purpose I employ a tank L of any suitable size, form, and material, which may be placed on the horizontal support C of the main frame, or other suitable support, and place therein a quantity of water *l*. The sides of the tank are provided with retaining devices M, which are formed in their upper and lower portions with slots *m* and *m′*, the upper slot *m* for the reception of the securing-strap N, which is passed over the top of the vessel and has its ends secured in said slot by means of a thumb-nut m^2, while the sides of the tank fit within the lower slots *m′* and are there secured in any suitable manner. Another strap N′ is passed under the vessel I and secured at its ends to the upper strap by means of thumb-nuts m^3, as is clearly shown in Fig. 11 of the drawings. A pair of the straps N and N′ are located near each end of the vessel I and serve to hold it in a fixed position while the brush-carrying mechanism is being revolved therein. The shaft A^4 is provided at a suitable point with a spring-catch *i*, which is used for preventing the inward movement of the collar F, but I may use instead of said catch other means for securing the collar in position without departing from the spirit of my invention.

From the foregoing and by reference to the drawings it will be seen and readily understood that by drawing the collar F toward the end of the frame on which the driving mechanism is located the brush-carrying portions of the cleaner will assume the positions shown by dotted lines in Fig. 6, when they may be readily inserted into the vessel and suitably adjusted therein by forcing the collar F in the opposite direction, when, the vessel being held on the horizontal support C or other support, the operation of cleaning may be performed by means of the crank-handle on the driving-wheel.

While I have shown the driving-shaft A^3 supplemented with another shaft A^4, said shafts being connected together by means of a coupling A^5, it is obvious that a continuous or single shaft may be employed, but by using two shafts thus connected it is apparent that they may be extended or shortened as desired.

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

1. The combination with the support C, of the holder E, adjustably secured thereon and provided with the curved support *e*, and rearward extension e^3, and the holder E′, adjustably secured on the support C, and provided with the curved support *e′*, and forward extensions e^4, substantially as described.

2. The combination with the main frame, comprising the end pieces A, and A′, having on their adjacent surfaces serrations or cor-

rugations a^2, and each provided with a vertical slot a', the plates B, having serrations b', openings b^2, and b^3, the horizontal bar C, located in the openings b^2, of the plates, and the adjusting-bolts b, located in the slots a', of the end pieces, and the openings b^3, of the plates to secure the same together, of the holder E, adjustably secured on the horizontal bar C, and provided with the curved support e, and rearward extension e^3, and the holder E′, adjustably secured on the bar C, and provided with the curved support e', and forward extensions e^4, substantially as described.

THEODOR PAWLIK.

Witnesses:
CHAS. C. TILLMAN,
E. A. DUGGAN.