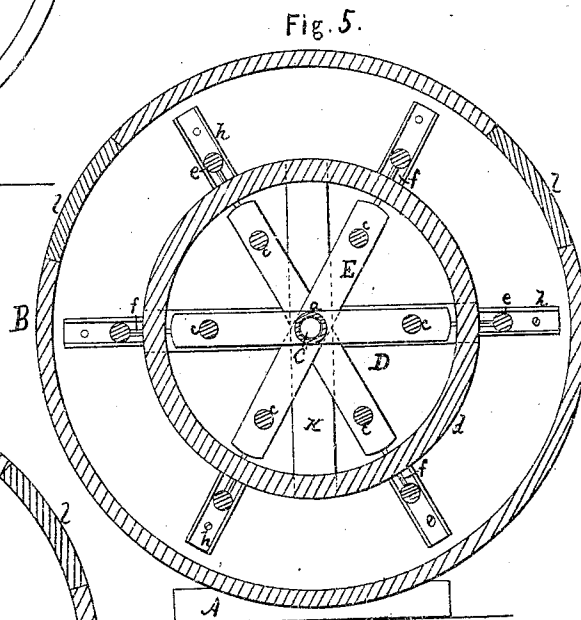
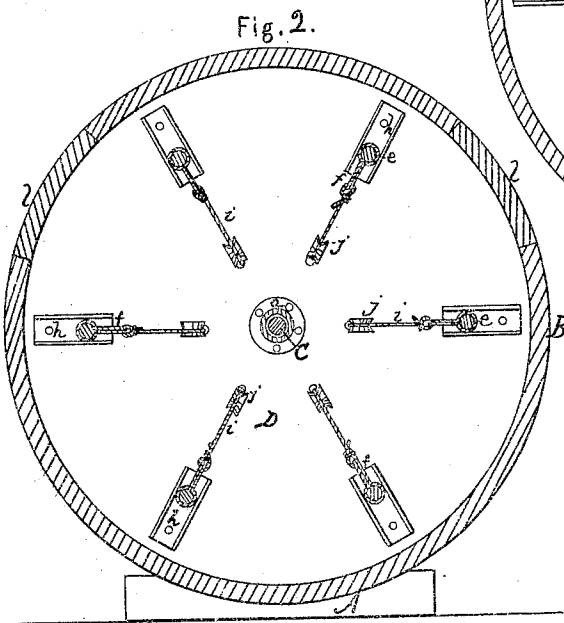
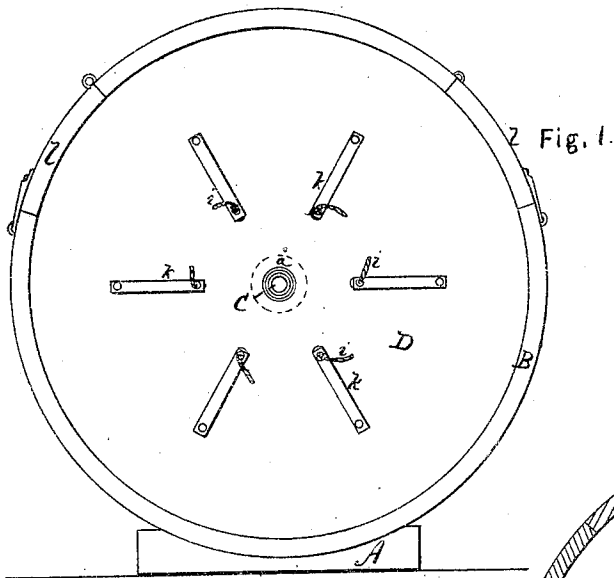


C. Wilgus.
Fulling Machine.

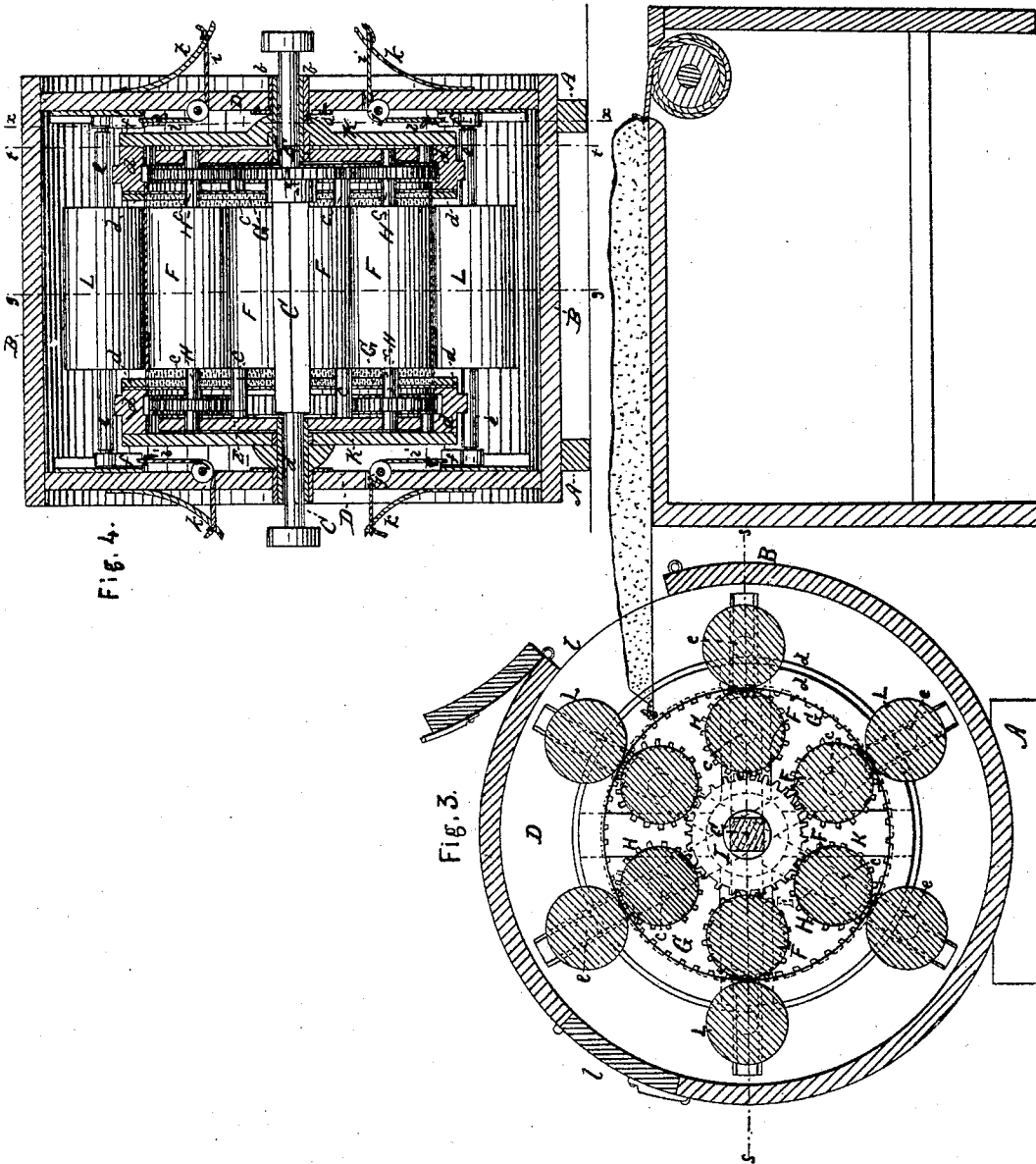
Nº 9667

Patented Apr. 12, 1853.



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Fulling Machine.
N^o 9667
Patented Apr. 12, 1853.



UNITED STATES PATENT OFFICE.

CHARLES WILGUS, OF WEST TROY, NEW YORK.

WASHING-MACHINE.

Specification of Letters Patent No. 9,667, dated April 12, 1853.

To all whom it may concern:

Be it known that I, CHARLES WILGUS, of West Troy, in the county of Albany and State of New York, have invented new and
5 useful Improvements in Machines for Washing Clothes, and Fulling and Flocking Clothes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the
10 accompanying drawings, forming part of this specification, in which—

Figure 1 is an external view of the box containing the mechanism for operating upon the articles placed in the same. This
15 view also shows the arrangement of the springs which allow of the upper set of the rollers yielding when the clothes pass between it and the lower set. Fig. 2, is a vertical transverse section of the machine
20 through the line *w, w*, in Fig. 4,—showing an internal view of the end of the box, and also the arrangement of the cords and pulleys the former of which are attached to the springs and the upper rollers and which
25 serve to pull the said rollers back to their proper place after yielding. Fig. 3, is a vertical transverse section of the machine through the line *g, g*, in Fig. 4. This view shows the arrangement of the two sets or
30 circles of rollers for cleansing the clothes and the net cylinder and also the gearing for operating the said rollers and cylinder. There is also shown in red line a counter upon which a sack of clothes are laid and
35 one end of said sack being shown attached to the net cylinder and the other end to cords attached to a roller. Fig. 4, is a horizontal section of the machine complete through the line *s, s*, in Fig. 3. Fig. 5 is a vertical transverse section of the same through the red
40 line *t, t*, in Fig. 4. This view shows the net cylinder head and the frame which supports the lower circle of rollers—it also shows the guides in which the upper rollers slide in as
45 they yield.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists in the employment of two sets of horizontal revolving
50 rollers, which are arranged radially one above the other in circles, within the clothes or washing cylinder. One set being held or kept permanently in its proper place by securing the journals of the rollers, loosely in
55 fixed spiders or heads—which are secured on fixed hubs, in which the central or main

shaft turns, and the other or upper set being allowed to yield when the canvas containing the clothes is drawn between it and the lower set, by the revolving of the net cylinder, and to spring back by means of springs,
60 after the canvas has passed through the rollers. The net cylinder which is used in connection with the rollers when the operation of washing is being performed, serves
65 very effectually to feed in the clothes to the rollers. The lower set being arranged on the inside of, and close to the inner periphery of the net cylinder, and the outer yielding set being arranged on, or around
70 the outer periphery of the same. The net being therefore between the two sets of rollers. These rollers are set in motion through cogged gearing, arranged on the main shaft, and on the shafts of the rollers, and the net
75 cylinder is made to revolve by the gearing on the said shafts working into an internal gear formed in the inner periphery of the solid portion of the said cylinder.

To enable others to make and use my invention I will proceed to describe its construction and operation.

A, represents the platform or foundation upon which the machine rests.

B, is the barrel or washing cylinder in
85 which the water to cleanse the clothes is placed, and in which all the mechanism for operating upon the clothes is arranged.

C, is the horizontal central shaft which turns in stationary hubs or boxes *a, a*, fitted
90 tightly in other hubs *b, b*, in which are secured and fastened to the two heads D, D, of the washing cylinder in the manner shown in Fig. 4. This shaft C, extends
95 along the whole length of the cylinder and passes through and supports the frame which carries the lower set of rollers and through the cross frame of the net cylinder and has its bearings in the hubs *a, a*.

E, E', represent the spiders or frames
100 which support the lower circle of rollers E, E, which are arranged around the inner periphery of the net cylinder G, G. These spiders are always kept stationary as they are secured fast on the fixed hubs *a, a*, and
105 are arranged within the net cylinder G, G, as shown in Figs. 3, 4 and 5. The journals *c, c*, of the lower set or circle of horizontal rollers F, F, are secured loosely in the arms of the spiders E, E', as shown in Figs. 4
110 and 5. These rollers are hung at any suitable distance apart and each may have near

each of its ends a cog wheel H, cut in its periphery or secured on it, the said cog wheels meshing into the cog wheel I, on the main shaft and thereby the said rollers can be made to revolve while the spiders remain stationary. G, G, is the revolving net cylinder which feeds in the canvas or sack of clothes to be cleansed. This cylinder is hung loosely on the shaft C, and revolves as the rollers H, H, revolve, they setting it in motion. The netting of this cylinder is secured fast between the two circles or flanges *d, d, d, d*, to which the cross frame K, is attached in the manner shown in Fig. 4, the netting being shown in red color. On the inner periphery of the circular flanges or ring plates *d, d*, an internal gear K, is cut or formed into which the cog wheels I, I, work or mesh as shown in Figs. 3 and 4, and thereby the cylinder is made to revolve. The construction and arrangement of this cylinder is shown clearly in Figs. 3, and 4.

L, L, represent the upper set of yielding rollers which are arranged in a circle just above the lower set and around the outside periphery of the net cylinder. The netting separating the two sets of rollers from one another and yet allowing of their coming very near each other as shown in the drawing Fig. 3. The journals *e, e*, of the upper set of revolving yielding rollers are secured loosely in the sliding pieces *f, f*, Figs. 2, 4, and 5, in which they revolve as the canvas of clothes passes around the net cylinder and between the two sets of rollers. These sliding pieces are fitted in guides or ways *h, h*, attached to the heads D, D, and slide in the same back and forth. *i, i*, are cords which pass under the pulleys *j, j*, secured in the said heads D, D, and connect the sliding pieces to the springs *k, k*, which are arranged radially on the outside of the heads D, D, in the manner shown in Figs. 1 and 4. These springs allow of the upper rollers yielding as the sash or canvas is drawn between them and the lower ones, and thereby permitting different sized and irregular shaped sacks to be passed between them without any strain or breakage.

l, l, are the doors through which the clothes are conveyed into the machine.

Operation: The machine being all properly arranged and a sufficient quantity of water put into the same. A piece of canvas or other open cloth of sufficient length and width to reach quite around the entire periphery of the net cylinder D, is spread on a table or counter, of sufficient width and length, and one end attached to the net cylinder G. This being arranged properly the articles to be cleansed are spread evenly over and upon the whole surface of the net sack or canvas and the soap placed or sprinkled on the same; the whole is then

neatly folded within the canvas, after which, motion is communicated to the machine and the sack of clothes is drawn into the same and around the net cylinder and between the two sets of rollers. After the machine has given a sufficient number of revolutions to the net cylinder and rollers to cleanse the clothes from all dirt, the dirty water must be let off at the bottom of the machine and a fresh supply let in through the top while the machine is in operation so that the clothes may be perfectly rinsed. After the rinsing operation all the water is allowed to run off at the bottom of the cylinder and while this is taking place the machine must be kept in motion so that all the water shall be expressed from the clothes and that they may be thoroughly wrung and ready to be hung out to dry before they are withdrawn from the machine. By the use of this machine it will be seen that the whole operation of washing, rinsing and wringing clothes can be performed without any more injury to the clothes than is commonly experienced when the work is done by hand. To get the clothes out of the machine I employ a roller having two cords attached to it, and which is attached to the farthest end of the table. The said cords I attach to the sack in the manner shown in Fig. 3 in red, and after attaching them thus I turn the roller and thereby wind the cords on the same and consequently the sack is drawn out gradually on the table or counter.

This machine when used for fulling cloths will answer just as well without the netting on cylinder as with it—and in fact it is better to dispense with it. In fulling it is only necessary to fold the cloth properly and soap the same and attach one end to the frame of the net cylinder and then set the machine in motion as before and by the constant revolving of the rollers and the motion of the cloth between them the cloth will be most perfectly fulled—after which operation it can be entirely stripped of all the grease generally contained in the same and washed and cleansed thoroughly and rinsed and wrung dry without being taken from the machine—after which it is withdrawn and another piece of cloth inserted.

In flocking the same operation of the machine is necessary as in the case of fulling. The fine shearings being first laid in between the folds of the cloth, it is next drawn into the machine folded and after being properly operated upon is withdrawn and another lot introduced.

This machine it is thought is superior to any other in use for fulling and flocking—for there is no liability of the cloth being injured or cut by friction and as the cloth is drawn around tight on the cylinder there is no chance of its coming between the rollers in an uneven state—thus serious loss is pre-

vented—for in the mills in use large quantities are seriously impaired in that way.

Having thus fully described the nature and operation of my invention I will now
5 state what I claim as new and desire to secure by Letters Patent.

I claim—

10 The employment of the revolving feeding net cylinder G, *d*, *d*; in combination with the two sets or circles of rollers H, H, and L, L; one set of said rollers being allowed to yield when the sack of clothes or other article is drawn around the net cylinder and

between the said sets of rollers—and made to spring back by means of the springs *k*, *k*, 15 which are connected to the rollers in the manner substantially as shown, the whole being constructed, arranged and operating in the manner described and for the purpose of washing clothes and fulling and 20 flocking cloths as set forth.

CHARLES WILGUS.

Witnesses:

O. D. MUNN,
EL. POLHAMUS.