

E. HAEFFELY.
YARN WASHING MACHINE.

No. 102,256.

Patented Apr. 26, 1870.

Fig. 1.

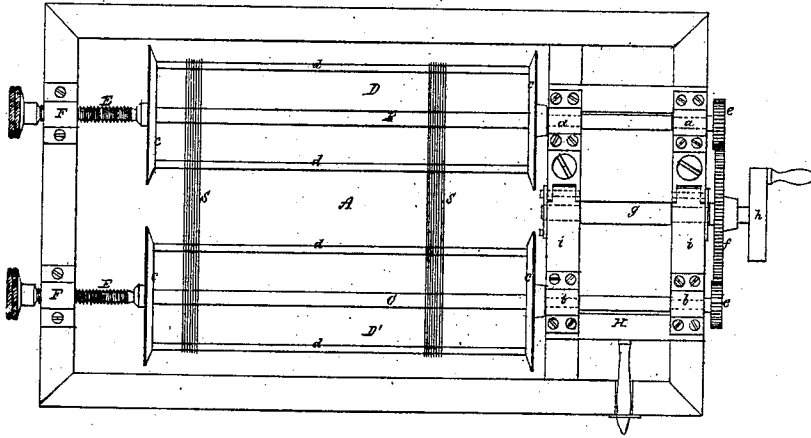


Fig. 2.

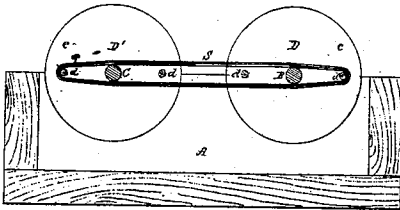


Fig. 3.

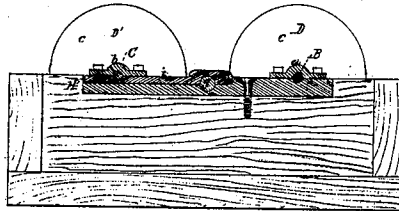
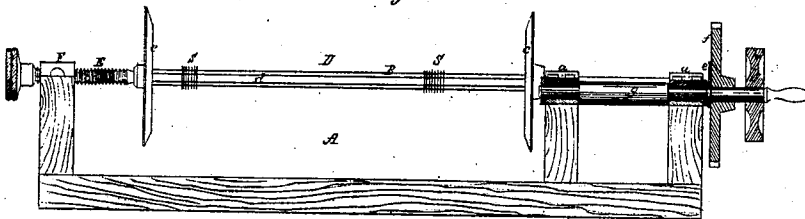


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

EDWARD HAEFFELY, OF LOWELL, MASSACHUSETTS.

IMPROVED YARN-WASHING MACHINE.

Specification forming part of Letters Patent No. 102,256, dated April 26, 1870.

To all whom it may concern:

Be it known that I, EDWARD HAEFFELY, a resident of Lowell, of the county of Middlesex and State of Massachusetts, but a citizen or subject of France, have invented a new and useful Mechanism for Washing Yarn in the Skein, it being also useful in the operations of either bleaching or dyeing of such yarn; and I do hereby declare the invention to be fully described in the following specification, reference being had to the accompanying drawings, making part thereof.

Of such drawings, Figure 1 denotes a top view, Figs. 2 and 3 are transverse sections, and Fig. 4 a longitudinal section, of a yarn or skein washer containing such invention.

In such drawings, A denotes a vat or cistern for holding water or other proper liquid. Two spindles or shafts, B C, arranged horizontally and parallel at the upper part of such cistern and supported in four boxes, *a a b b*, serve to support and make part of what I term the "skein-carriers" D D'. Each of the said carriers, as represented in the drawings, further consists of two circular heads, *c c*, and two bars or rods, *d d*, the latter being arranged parallel to each other and on opposite sides of their shaft and with respect to the heads in manner as exhibited in the drawings.

Each of the shafts at one end is supported by one of two movable centers or pivots, E E, which are pointed screws, to enter pivot-recesses in the shaft, and are screwed through two boxes, F F, fixed on one end of the cistern. At their opposite ends the two carrier-shafts B C have fixed to them two toothed pinions or gears, *e e*, which, when the shafts are in operation, engage with and are revolved by a larger gear, *f*, fixed on a driving-shaft, *g*, that is arranged between the shafts B C and is duly supported in proper boxes. A pulley, *h*, or a crank fixed on the shaft *g*, serves to enable such to be put in revolution.

The boxes *b b* of one of the shafts are supported by a lifter-frame or furcated lever H, which at the extremities of its opposite parts or prongs, *i i*, is hinged to the cistern or vat close to the driving-shaft. On setting back the centers or pivots of the two carriers, and afterward raising up the lifter, one of the said carriers may be caused to approach toward its fellow or the other, and when thus moved up

into contact with it the two will be in situations to receive the skein of yarn, which may next be applied to them by passing the skeins over those heads of the carriers which are next to the pivots, the same being so as to cause each of the skeins to encompass the bars of the two carriers, in manner as represented at S in the drawings. After the carriers may have been charged with a sufficient number of the skeins S the lifter should be depressed, so as to cause the skeins to be extended on the two carriers, which to operate to good advantage should have their bars in one horizontal plane at starting. By revolving the driving-shaft both carriers simultaneously will be put in rotation in the same direction, and should the vat or cistern be suitably supplied with water or a cleansing-liquid the skeins will be dipped into and drawn out of the liquid and run through it in manner to cause them to be effectively cleansed by it. After the skeins may have been sufficiently cleansed the lifter should be raised, so as to bring its carrier nearer its fellow, in order that the skeins may be removed from the carriers.

The machine is specially designed for the washing of skeins of yarn after being colored or dyed and for the purpose of divesting them of loose or surplus coloring-matters. Heretofore it has been customary to accomplish this by manual labor or by the common forms of washing an article by hand and with soap and water.

The mechanism for revolving the carriers as or in manner as described consists of the driving-shaft, its pulley, and the three gears applied to such shaft, and the two carrier-shafts.

My machine has proved in practice a very successful automatic apparatus for the purpose for which it is designed.

I claim—

1. The combination and arrangement of the two rotary carriers D D' and mechanism for revolving them, as described, with a vat or cistern, A, or its equivalent.
2. The combination and arrangement of the movable pivots E E with the two carriers and mechanism for revolving them, as described, such carriers being combined with or for application to a vat or cistern or its equivalent.
3. The arrangement and combination of the

lifter H with the carriers D D' and mechanism for revolving them, as described.

4. The arrangement and combination of the movable pivots E E, the pair of carriers D D', the lifter H, and mechanism for revolving the carriers, as described.

5. The combination and arrangement of the tub or cistern A, the movable pivots E E, the pair of carriers D D', the lifter H, and mech-

anism for revolving the two carriers so as to cause them to operate substantially in manner when used for either of the purposes, as hereinbefore mentioned.

ED. HAEFFELY.

Witnesses:

J. W. REED,
D. HALL RICE.