

A BRIEF HISTORY OF THE WASHING MACHINE

Or, DON'T AIR YOUR DIRTY LAUNDRY in PUBLIC

*Ellen Lupton, The Cooper Union School of Art and
Faculty of Humanities and Social Sciences*

*By 1873, around 2,000
U.S. patents had been filed
which dealt with the
mechanization of laundry.*

Over the last two hundred years, the American home has offered the inventor's imagination a fertile terrain of unsolved problems and a lucrative market to the clever entrepreneur who might solve them. Of the domestic chores traditionally assigned to American wives, laundry was one of the most arduous. Unmechanized clothes washing involved filling tubs of water at a well and hauling them to the kitchen or backyard where they could be heated on a stove, and then soaking, pounding, rinsing, wringing, hanging, and ironing the articles by hand. The entire process demanded at least a day and half of physically exhausting and intellectually unrewarding labor. The procedure was taxing in temperate months and close to impossible in the dead of winter. The numerous domestic washing machines patented and manufactured during the nineteenth century lightened the task only minimally: these manually driven devices required constant attention and had to be filled and emptied by hand.

With the rise of industrialization beginning in the early nineteenth century, the space of the home was increasingly marked as the special sphere of women's labor; men went to work for wages in the marketplace, and women remained at home as managers of bodily health and comfort. Whereas poor women became a major part of the industrial work force, the primary activity of middle-class wives was housework. (The social category "middle class" was rapidly expanding, and one condition for membership became the non-participation of wives in wage labor.) Because housework lacks the *monetary* value explicitly attached to men's work, numerous nineteenth-century domestic guides infused household duties with *moral* and *social* value, helping make the role of women more palatable. Catharine Beecher, for example, compared housework to such exalted disciplines as science, business, and the religious ministry; her 1869 book *American Woman's Home* helped establish the servantless, single-family dwelling as the ideal architecture of middle-class America.

Yet even while Beecher treated cooking, shopping, and child-care as morally elevated tasks that should be personally administered by the housewife, she hoped for the rise of community laundry services, that would remove washing from the private home: "whoever sets neighborhood laundries on foot will do much to solve the American housekeeper's hardest problem" (334). Middle-class and working-class women were quick to delegate laundry to hired helpers—even in the early decades of the twentieth century, when domestic servants were becoming less common. Laundry, devoid of the creative potential of cooking and child care, did not occupy a cherished place in women's lives.



*The woman in this 1869 ad
for a washing machine looks
decidedly disenchanted
with her task, despite her
advanced equipment.*

Many domestic activities did indeed exit the household during the course of industrialization. Textile manufacture was mechanized early in the nineteenth century, and clothing production began leaving the home with the ascendance of the commercial sewing machine after 1850. The 1880s saw the rise of commercial bakeries, modern food processing factories, and nationally branded packaged goods. These developments moved procedures out of the home and placed them under the control of private businesses: the focus of domestic labor shifted from *production* to *consumption*.

The nineteenth century also witnessed the rise of a commercial laundry industry, whose business steadily grew between the 1840s and the Depression, regained strength briefly after WWII, and then plummeted—perhaps for good—in the 1950s. The early commercial laundry industry focused on the care of men's garments. Around 1830 detachable cuffs and collars were invented, which could be washed independently of the rest of the shirt—standards of hygiene did not yet suggest that the entire article should be cleaned just because its collar had gotten gray. Collar manufacturers soon provided laundry services to their customers. Commercial laundries also met the demands of various bachelor communities, such as New York merchant seaman in the 1830s and California goldminers in the 1850s. The *family* laundry market emerged after 1890, its services ranging from “wet wash,” which delivered damp laundry to be dried and ironed at home, to mechanically ironed “flatwork,” to “fully-finished” garments.

The commercial laundry business proved its popularity in the U.S. in the 1920s, a period which saw the dramatic expansion of the consumer economy and the accelerating impact of technology on the domestic environment. In a time when women were learning the patterns of consumerism—such as purchasing canned soup and ready-made clothing—the idea of sending out laundry to a commercial establishment was hardly alien, and seemed, in fact, to be part of technological progress.

Yet a battle was being fought between the commercial laundry business and washing machine manufacturers, who identified the home as a lucrative mass market. Rather than sell a few large machines to central establishments, manufacturers sought to sell many smaller units to individual households. Advertising and door-to-door salesmanship tried to persuade households to invest in washing machines. Migrations to the suburbs also encouraged washing machine purchase, by increasing dependence on the automobile (another private domestic appliance) and discouraging centralization.

Looking back at history, one is tempted to view contemporary products and customs as the happy ending, the necessary resolution, of the narrative “story” of “progress.” If one glances backward at American laundry, however, in relation to other regions of the industrialized home, one sees not a uniform march towards the customs of the present day but a wandering path whose destination was, for a time, uncertain.

The annual volume of the commercial laundry industry rose from \$104,000,00 in 1909 to \$541,000,00 in 1929.

By 1949 around 61 percent of the nation's 24,500,000 non-rural households possessed washing machines.

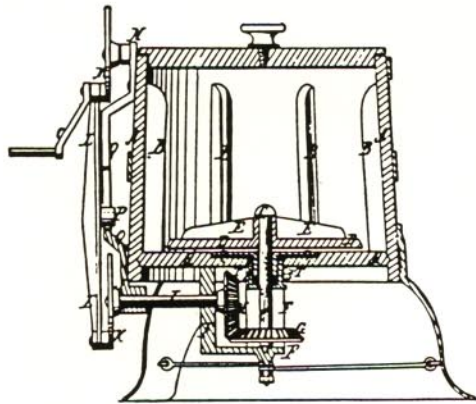
“The advent of individually-owned electric washing machines... has slowed up the trend of laundry work—following baking, canning, sewing and other items of household activity—out of the home to large-scale commercial agencies... the installation of costly electrical machine units used only one day a week in hundreds of Middletown homes, represents not ‘progress’ but a back-eddy in home-making technique.”

HELEN AND ROBERT LYND, *Middletown*, 1925

By 1929 there were fifteen patents for powered machines fitted with a rotary agitator. 76 percent of the washing machines listed in the 1930 Electrical Merchandising Index employ the agitation principle.

Nineteenth-century domestic washing machines can be grouped into two basic classes: those which imitate the principal of the traditional wash board by rubbing the soiled garments against an abrasive surface, and those which circulate hot, sudsy water *through* the fabric. Designs of both type existed side by side until the early twentieth century, when circulation-based machines became the standard.

In 1859-60 Hamilton E. Smith of Pittsburgh patented a commercial washing machine consisting of a perforated inner cylinder suspended inside a water-tight outer cylinder, both constructed from wood. When the inner cylinder is rotated, soapy water circulates through the clothing. In 1863 Smith improved his invention with a pulley device which automatically reverses the direction of the cylinder, and thus prevents the articles from clinging to the sides of the tub, keeping them in constant agitation. Most commercial washers in use after the Civil War were indebted to Smith's device. Smith patented another washing machine in 1869 (see PATENT NO. 88,816 on the following page), which also reverses the motion of the tub, but in a more dramatic fashion.



According to Siegfried Giedion, a domestic washing machine was patented in 1869 (PATENT No. 94,005) that functions just like a modern home washing machine, although the design went more or less unnoticed at the time. It consists of a cylindrical tub with a four-blade agitator driven by a shaft passing through the bottom of the tub, turned by a hand crank. The motion of the gyrator circulates soapy water through the garments. Motorized washing machines based on this principle became the norm in the twentieth century. More common nineteenth-century designs beat the fabric with a "dasher," "dolly," or "beetle," while others tumble the garments in water or use pressure to squeeze water in and out of the fabric.

REFERENCES

- Beecher, Catharine and Harriet Beecher Stowe. *American Woman's Home*. Hartford, CT: Stowe-Day Foundation, 1985.
- Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. New York: Basic Books, 1983.
- DeArmond, Fred. *The Laundry Industry*. New York: Harper and Brothers, 1950.
- Giedion, Siegfried. *Mechanization Takes Command*. New York: W. W. Norton, 1948.
- Forty, Adrian. *Objects of Desire: Design and Society from Wedgwood to IBM*. New York: Pantheon, 1986.
- Pulos, Arthur J. *American Design Ethic: A History of Industrial Design to 1940*. Cambridge: MIT Press, 1983.
- Sparke, Penny. *Electrical Appliances: Twentieth Century Design*. New York: E. P. Dutton, 1987.

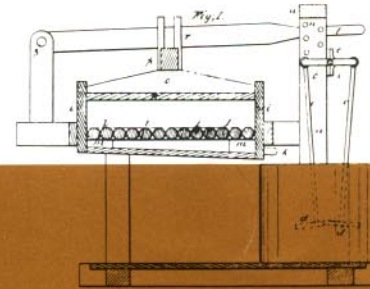
Most nineteenth-century washing machine designs pay little attention to visual appearance; many resemble ordinary wash tubs with mechanical appendages, while others are rectangular troughs which look more at home in the barnyard than the household. In the 1920s and 30s manufacturers hired professional designers to improve the marketing appeal of home washing machines; one successful design strategy was to conceal the mechanical elements inside a smooth shell, making the machine more at home in the modern kitchen. In the 40s and 50s, the dominant form became a cylindrical tub enclosed inside a legless rectangular box, visually related to the modern stove and refrigerator. This style remains the norm today.

PATENT NO. 177,687 *William Bymaster, Inventor 1876*

This washing machine type involves an "ordinary wash tub" to which has been attached a "rubber," which moves up and down against the clothes, grinding them against the ridged bottom of the tub. "In using the machine the clothes to be washed are placed upon a stationary rubber, and a sufficient quantity of soap and water are put in.

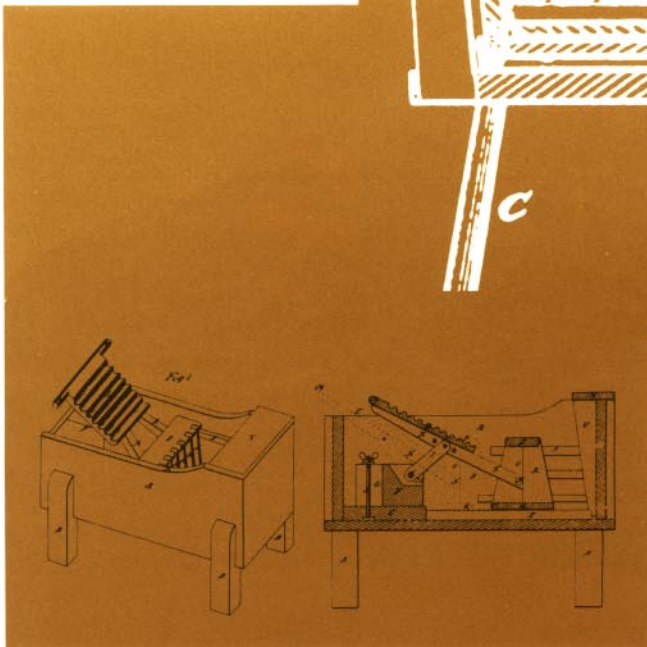
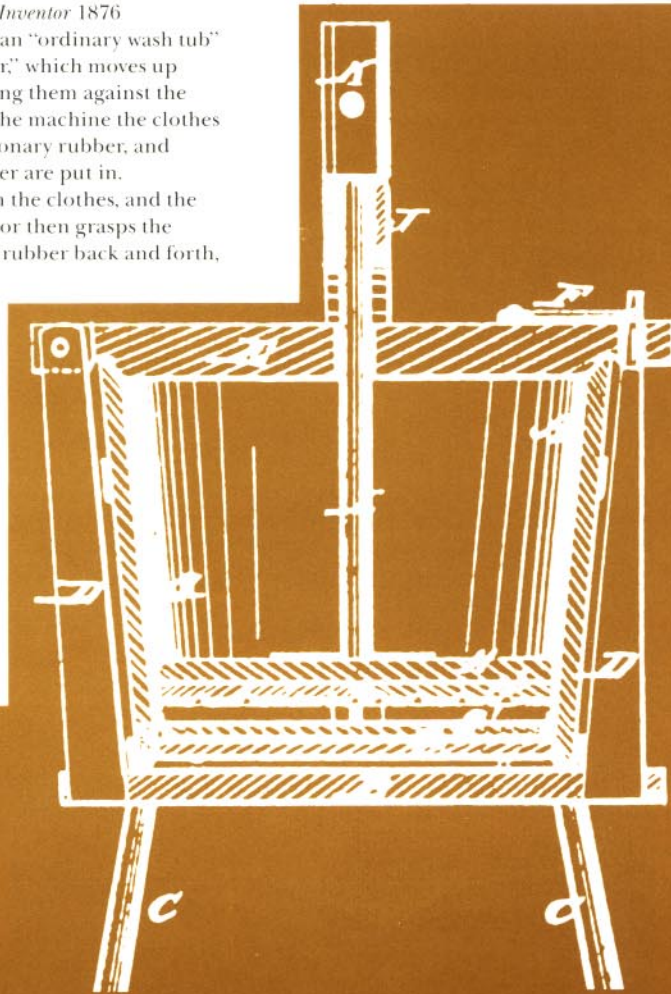
The movable rubber is lowered upon the clothes, and the cover is secured in place. The operator then grasps the cross-bar in his hands, and turns the rubber back and forth, which washes the clothes very quickly and thoroughly."

This design uses a principal similar to the "clothes pounder," a commonly available object consisting of a sometimes elaborately modelled surface with a long handle, which could be used with any wash tub. Here, the pounder is a broadened disc which has been integrated into the structure of the tub, passing through its cover.



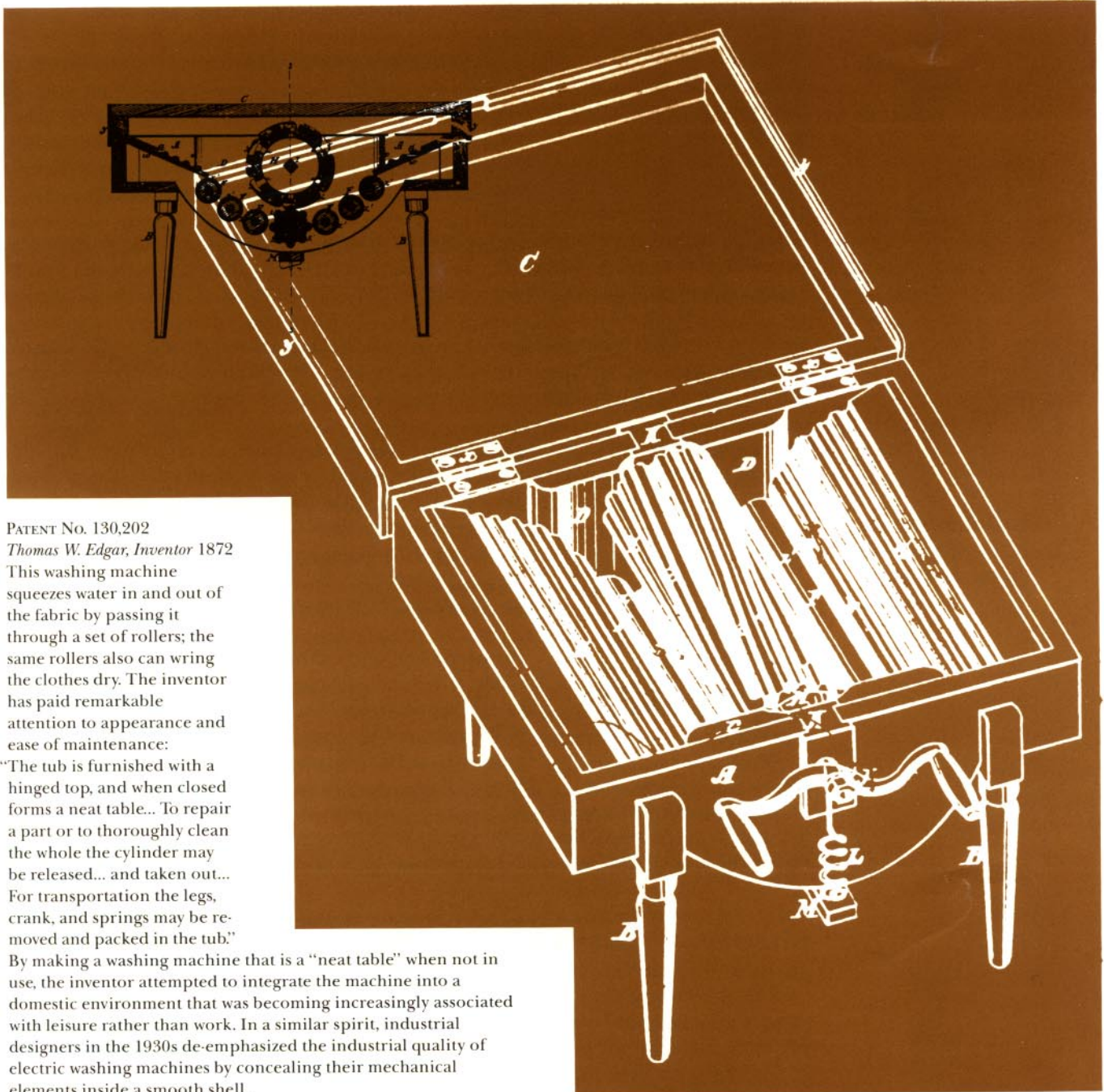
PATENT NO. 33,567
S. Burr, Inventor 1861

This type of washing machine employs "dashers," which whip the clothing about inside the tub. This particular design is remarkable for including two functions in one (rather massive) appliance: it consists of "a washing-machine and also a press, which may be used for pressing the water from wet clothes, or for pressing cheese, or for any other similar purpose to which presses of that character are applicable."



PATENT NO. 15,711 *John B. Kinney, Inventor 1856*

This type of washing machine forces the clothing back and forth along slats on the bottom of the tub. The uniqueness of this particular design is to attach a traditional washboard to the lever which pushes around the clothes, allowing the operator to clean selected items by hand: "By my machine the clothes are beaten moderately to remove the dirt, and then the beater is drawn back... The operator then, by hand, washes out the dirtiest parts... [saving] the clothes from much useless rubbing." The design testifies to the hardship inflicted on fabric by friction machines.



PATENT NO. 130,202
 Thomas W. Edgar, Inventor 1872

This washing machine squeezes water in and out of the fabric by passing it through a set of rollers; the same rollers also can wring the clothes dry. The inventor has paid remarkable attention to appearance and ease of maintenance:

"The tub is furnished with a hinged top, and when closed forms a neat table... To repair a part or to thoroughly clean the whole the cylinder may be released... and taken out... For transportation the legs, crank, and springs may be removed and packed in the tub."

By making a washing machine that is a "neat table" when not in use, the inventor attempted to integrate the machine into a domestic environment that was becoming increasingly associated with leisure rather than work. In a similar spirit, industrial designers in the 1930s de-emphasized the industrial quality of electric washing machines by concealing their mechanical elements inside a smooth shell.