Farm Women and Gas Engines
The New Technology in the Barnyard

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ABSTRACT: In this illuminating study of gasoline engines on the farm and how women interacted with them, author Carrie A. Meyer reviews advertising in farm magazines, the commercial history of Sears, Roebuck and Maytag, and the memories of Hoosier homemakers to help trace the evolution of gas engines in the barnyard. Women’s interaction with gas engines, which first appeared on midwestern farms before 1900, has been neglected and misunderstood, in part because surveys taken a hundred years ago failed to recognize women’s role in the barnyard and failed to ask the right questions. Producers of farm gas engines, nevertheless, did recognize women’s role in the barnyard and appreciated women as prospective users, as early as 1897. Meyer shows that “Women’s early reluctance to embrace the engine helped push manufacturers to design better engines.”

KEYWORDS: gasoline engines, washing machines, farm women, technology, midwestern

In the early twentieth century, midwestern farm life was full of taxing physical work for women. On a typical day, women cooked meals and cleaned with primitive equipment. They tended gardens, raised chickens,
milked cows, churned butter, and cleaned the dairy equipment. They also pumped and hauled many gallons of water in and out of the house on a daily basis. Laundry was probably the most dreaded chore, as it took all day and plenty of muscle power. Women sometimes helped in the fields, but more often, when not working inside the house, they worked in the barnyard.¹ In those same years, the new technology of the internal combustion engine appeared in the barnyards of midwestern farms. Within a few years, automobiles would begin to revolutionize farm life; a decade or so later, tractors would do the same. But before automobiles appeared on farms, thousands of farmers bought stationary (and portable) gasoline farm engines for barnyard chores. These early “hit-and-miss” engines were heavy, had large flywheels, and were difficult to start. But many rural men fell in love with them and developed considerable expertise in handling them.²

Farm women were also exposed to this technology, and by all indications women were less enamored of the machines than were men. Nevertheless, producers intended the engines to lighten the load on both men and women. Farm magazines, even before 1900, advertised gasoline engines as tools that women could operate for pumping water and running butter churns. Soon, companies were promoting gas engines for use with washing machines. In fall 1906, the Sears, Roebuck and Co. catalog ran a twelve-page spread on the gasoline engine and pictured applications for washing machines, cream separators, and barrel churns. In 1908, the twenty-horsepower Ford Model T could be purchased for $850, but a less-than-two-horsepower engine—sold by Sears for under $50—sufficed for pumping water and running a washing machine in the barnyard. The


The best data available indicates that most of the early engines purchased were relatively small and of the type marketed for women’s chores.\(^3\)

The gas engine thus arrived on farms to change the lives of both men and women with a new power source to revolutionize the technology of farm life. This article begins by reviewing some of the relevant literature on farm women and technology and looking at the arrival of the gas engine on the farm. It then turns to considering how these engines were marketed and produced, examining the Sears, Roebuck and Co. catalog, and the production of washing machines in 1920s and 1930s Iowa. The final section focuses on women’s personal experiences, mining a rich collection of interviews, conducted in the late 1970s and early 1980s, with homemakers about their lives in early twentieth-century rural Indiana, and then looking at letters from readers of *Gas Review*, also dating from the early twentieth century, describing how women used their gas engines. Midwestern women

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\(^3\) Ronald Kline has dismissed gas engines as “expensive and difficult to start” relative to the Model T Ford. But a two-horsepower engine was much cheaper than a car at any point in time and far more suitable for pumping water and washing clothes. See Kline, *Consumers in the Country*, 78.
were more familiar with the farm gas engine than previously believed, and engine producers recognized this enough to respond to their needs as the technology developed.

**Farm Women and Technology**

Unsurprisingly, the vast majority of literature on the history of farming technology focuses on men and their favorite machines, including the McCormick reaper (and the story of International Harvester Co.), steam engines, and, of course, tractors. With few exceptions, until recently women’s contributions—outside of their role in preparing dinner for the threshing crews—have gone untold. Thus, it is not surprising that women’s use of the farm engine has gone largely unnoticed.

In the late 1970s and early 1980s, scholars of women’s history pioneered the study of housework, but such studies were more concerned with urban women than farm women, focusing on the period around 1900, when electricity and running water became available, and on how life changed for urban women. Researchers including Ruth Schwartz Cowan were also able to prove that women’s purchasing decisions were crucial in advancing household technology. A wave of literature in the 1990s turned attention for the first time towards farm women’s lives and their use of technology. Scholars began to consider how technological advancement operated outside urban centers in the country.

Historians Katherine Jellison and Marilyn Holt wrote extensively about the Country Life movement—or, as Holt called it, the “domestic economy movement.” The movement originated in 1908 when Theodore Roosevelt called for a Commission on Country Life to assess the condition

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of life in rural America and recommend ways to correct deficiencies. The commission dispatched investigators into rural towns to conduct interviews. Commissioners noted that men seemed to be happier than women with farm life; many women, understandably jealous of the indoor plumbing and electricity available in urban homes, had readily expressed their views when queried. To correct perceived deficiencies, the commission called for educational programs, more effective rural institutions, and the adoption of modern farming methods and machinery. One of the results of the commission’s recommendations was the establishment of the Cooperative Extension Service in 1914.6

In 1919, as automobiles, gas engines, tractors, and electricity found their way onto farms, the US Department of Agriculture (USDA) undertook another survey project, led by Florence Ward, to determine to what extent modern technology was improving the lives of farm women. Again, many women expressed dissatisfaction, particularly with the way their husbands spent money on labor-saving technology for fieldwork but not for the home. Ward’s survey also produced recommendations for improvements in the farmhouse and farmyard.7

Scholars have come down on both sides regarding the controversial issues raised by the Country Life movement. Some historians note that Progressive-Era reformers failed to understand the needs of rural families. Many farm women understood the need to “put the barn before the house” and agreed that investments in farm productivity could pay off in a more comfortable life down the road. Women believed that his new tractor improved her life, and they were more eager to have a family automobile than indoor plumbing. (As one women famously said, “You can’t go to town in a bathtub!”) Other scholars (and many other farm women) believed that women received the short end of the stick when it came to modern technology. Almost all historians agreed that rural people had


mixed feelings about many of the reforms being advocated by the Country Life movement.\(^8\)

Scholars also disagree as to the extent to which farm men and women worked in separate spheres. Some argue that women were unfairly restricted to domestic chores by patriarchal farming communities; others have found evidence of partnership between men and women who worked together to advance the interests of the family farm. In this view, women devoted more time to the house and the children and men devoted more time to the large animals and fieldwork, but they met in the barnyard and shared many tasks.\(^9\)

By furthering our understanding of one critical barnyard technology—the farm gas engine—this article lends support to the view of the farm family as a partnership where men, women, and children shared work in the barnyard.

**Gas Engines Arrive on the Farm**

Gas engines first arrived in midwestern barnyards at least a decade before the Country Life Commission began its work; farm magazines began advertising gas engines as early as 1895. Early ads specifically mentioned pumping water and running butter churns and featured, or mentioned, women and children. The Lambert Gas and Gasoline Engine Co. of Anderson, Indiana, was an important producer in the 1890s, manufacturing stationary gas engines in sizes ranging from 1 to 100 horsepower. One Lambert advertisement from 1897 read: “Just the power for Farmers, Dairymen, Pumping, Grinding and running anything from a churn to a sawmill or electric light plant. Simple, safe, durable, reliable, economical. A boy can start and operate the Lambert . . . engines.”\(^{10}\) Fairbanks Morse & Co. was

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\(^{10}\) *Prairie Farmer*, February 9, 1895; *Farm, Field and Fireside*, December 18, 1897.
Fairbanks Morse & Company gasoline engine advertisement in *Prairie Farmer*, August 26, 1899.

Fairbanks Morse & Co. was the largest American gas engine producer in the late nineteenth century, and the “Jack of All Trades” was the most popular farm gas engine of the time.

Courtesy, Farm, Field and Fireside Collection, Illinois Digital Newspaper Collections, University of Illinois at Urbana-Champaign
the largest American gas engine producer of the time, and its relatively small “Jack of All Trades” engine was the most popular farm gas engine of the time. An 1899 advertising headline read: “Pumps Water, Shells Corn, Grinds Feed, Churns Butter.”

Early testimonials in farm magazines featured women’s work and depicted young boys running farm engines. In 1904, *Farm, Field and Fireside* published a picture of a three-horsepower engine running a washing machine “for the lady of the house.” Another picture in the same article showed a farm power plant—an engine attached to a line shaft, running several machines including a washing machine, butter churn, and cider mill. An 1896 testimonial in *Prairie Farmer* reported that a 14-year-old boy was running the family gas engine for pumping water and grinding feed.

Within a few years, ads pictured women and young girls alongside gas engines. Like the Lambert advertisement, these ads claimed that engines were so simple to operate that young boys or women could run them and so easily portable that young girls could pull them from one place to another on the farm.

Many, if not most, of the first gas engines purchased by farmers were used to pump water, a job that often fell to women and children. Fuller and Johnson of Madison, Wisconsin, gained an early edge in the gas engine business by specializing in small pump engines. The company ran an ad that pictured a broken-down old woman laboring at the pump. Other Fuller and Johnson ads called their pump engine “the Friend of the Farmer and His Wife.” Pump engines were also the right size for churning butter and running the cream separator and washing machine. Fuller and Johnson engines were pictured doing all those chores in a 1911 *Wallaces’ Farmer* ad.

Farm engine producers also advertised in women’s magazines. Sears, Roebuck and Co. advertised its gasoline engines in *The Farmers Wife* as early as 1907: “most efficient, most durable, least liable to get out of order, easiest handled, most reliable, simplest and safest gasoline engine made.”

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11 *Prairie Farmer*, August 26, 1899.
12 *Farm, Field and Fireside*, December 17, 1904, p. 8.
15 *Farm Press*, November 1, 1910, p. 10; *Wallaces’ Farmer*, October 7, 1910, p. 15.
Farmers typically used gas engines to power a water pump. The International Harvester advertisement features a girl helping with chores around the farm by fetching water from a trough filled by a stationary engine.

Courtesy, Wisconsin Historical Society
Women on the farm were responsible for backbreaking work like pumping water, churning butter, and laundering clothing. The Fuller & Johnson Farm Pump Engine was designed to relieve this broken-down old woman from her everyday chores.

Courtesy, Farm, Field and Fireside Collection, Illinois Digital Newspaper Collections, University of Illinois at Urbana-Champaign

Fuller & Johnson Farm Pump Engine advertisement in Farm Press, November 1, 1910.
These engines started at a price of $53.45. The Detroit Engine Works advertised a two-horsepower engine for $29.50 in The Farmers Wife in 1908: “Runs pumps, cream separators, churns, grist mills, corn shellers, washing machines, lathes, sawing machinery, etc.”17 The same issue also ran a spoof about a gasoline engine that was started by an alarm clock at 4:30 a.m.

[The engine] tilts the hired girl’s bed, spilling her to the floor. It also dumps the beds of the hired men so everything starts going. The engine pumps water for the house and barn, turns the oats into the horses’ feed boxes, starts the kitchen fire, turns the grinding stone, runs the washing machine, does the churning, saws the wood, peels the potatoes, swings the gate for the ducks and geese to go to the pond for water and runs the patent milker.

No doubt many women were skeptical of gasoline engines in a time when farmers were just starting to buy automobiles, but the engine producers that advertised in The Farmers Wife must have believed that some women would notice their ads.

The time gap between the advent of gas engines on farms and the advent of the automobile indicates that a significant number of midwestern farmers adopted gasoline engines before 1910. Editors of the magazine American Thresherman put the number of gas engines on farms at 200,000 in 1900, when virtually no farmers owned automobiles. Even by 1910, there were about 600,000 gas engines on farms and only 50,000 automobiles (see Table 1). Many farm families were familiar with the internal combustion engine and some had owned one for nearly a decade before they considered buying an automobile. A generation of men came of age with a gas engine in the barnyard. Farm wives watched their husbands tinker with internal combustion engines—even if they wanted little to do with them. By the time the Ford Model T, designed to handle muddy rural roads, was introduced, farm families rushed to buy them and the number of automobiles on farms shot up rapidly.18

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17 The Farmers Wife, January 1, 1907, p. 21; The Farmers Wife, October 1, 1908, p. 11.
Another notable trend is that farm engines and automobiles were much more prevalent in the Midwest than in other parts of the country. Based on manufacturers’ figures and assessor reports, a 1924 USDA bulletin estimated that by 1920 nearly every farm family in Iowa, Nebraska, and the Dakotas owned a gas engine. In Illinois and Indiana, the share of farms with gas engines stood at about 65 percent and 45 percent respectively. In Alabama and Mississippi, on the other hand, the ratio of gas engines to farms was estimated at about one to ten.\(^\text{19}\) By 1920, the use of automobiles was also growing rapidly on farms, and they were most prevalent in states where farmers already owned a gas engine—73 percent of Iowa farms had automobiles in 1920 and nearly 76 percent of Nebraska farms. In other midwestern states, like Illinois, Indiana, and Wisconsin, the percentage of farms with automobiles was closer to 50 percent. In southern states like Alabama and Mississippi only six percent of farms had automobiles in 1920.\(^\text{20}\)

Women’s use of the barnyard engine is challenging to measure, but the 1919 USDA survey left some clues. The survey, designed by agricultural professionals, included one major bias that requires reconsideration: it assumed that men and women operated in separate spheres on the farm. Nevertheless, the 1919 survey produced the best data available on farm women and technology. Like other reformers in the Country Life movement, the agricultural professionals who designed the survey sought to remake farm women in the image of urban homemakers. As Jellison claimed, “They did not perceive the interdependence and fuzzy distinction between the farmhouse and the farm itself.” A re-examination of the survey proves that the USDA failed to ask the right questions to find out how the new barnyard technology was affecting women’s work.\(^\text{21}\) To understand how and why the USDA survey and subsequent conclusions were inadequate, we need a deeper look at the history of farm engines and how farm families used them. A good place to begin is with a careful look at the Sears, Roebuck and Co. catalog, an important source of merchandise for farm families.

\(^{\text{19}}\) Kinsman, \textit{An Appraisal of Power}, table 1, p. 53, and table 15, p. 66. This USDA bulletin had much higher estimates of gas engines on farms. Subsequent studies like Hurst and Church, \textit{Power and Machinery} revised estimates downward to match census data on gas engines collected in 1930.


THE SEARS ENGINE STORY

The Sears catalog is a rich resource for the history of the farm gas engine and its role as a barnyard technology. In 1897, Sears, Roebuck offered its first gasoline engines for sale; in 1954, the company still offered rural women the option of a gasoline-powered washing machine.

The 1897 gas engine appeared in a small ad in the pages devoted to farm implements. As early as 1905, Sears used considerably more space to offer a three-horsepower engine for just $72.65: “so simple to operate and easy to handle that any man or woman, boy or girl can learn to start and run” it successfully.22 The next year—the same year that Henry Ford introduced the popular Model N automobile—Sears featured a 12-page spread on gasoline engines with pictures of small gas engines attached to washing machines, butter churns, water pumps, and cream separators.23 According to the catalog, the engine would “drive the washing machine, no matter whether it be operated by crank, lever or belt.” Sears also featured many pictures of larger gas engines running circular saws, feed grinders, and other farming equipment.

Beginning in spring 1909, the Sears catalog included a farm implement section that regularly featured pictures of a gas engine attached to a line shaft and running several machines—including a washing machine, a cream separator, a barrel churn, and a pump. Sears also offered testimonials on the ease of starting the gas engine: “a 12-year old boy runs it and it starts on the first turn” read one example.24 J. N. Rittenhouse from Spartansburg, Pennsylvania, wrote to Sears with this praise: “My wife runs it. It separates the milk, churns the butter and grinds bones for the chickens.”25 In spring 1910, Sears pitched a two-horsepower “Economy Gasoline Engine” for just $46.95: “Think of the time wasted in pumping water; think of the hard labor imposed on your wife in running the washing machine, churn, and cream separator.”26 During the years of agriculture prosperity from 1910 through 1918, Sears gave substantial and colorful coverage to gas engines in its catalog—from five to thirteen pages and consistently including pictures of the line shaft with engine, pump, barrel

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22 Sears, Roebuck & Co. Catalogue No. 115, Fall 1905 (Chicago, 1905), 930.
23 Catalogue No. 116, Fall 1906, 536.
24 Catalogue No. 118, Spring 1909, 480.
25 Catalogue No. 119, Fall 1909, 1093.
26 Catalog No. 120, Spring 1910, 1074.
churn, and washing machine. Throughout these years, prices declined, while the quality of the machines improved.

Meanwhile, Sears catalogs had been marketing washing machines in the pages dedicated to laundry equipment since 1897, and had been devoting increasing coverage to them in subsequent years. These early washing machines were primarily of the barrel-type with an agitator, generally powered by hand with a lever. In fall 1906, for example, Sears filled seven pages with washing machines. Four years later, Sears featured electric-powered washing machines for the first time. The small print on another page noted that the Sears machine could be used with a gas engine. One could infer that Sears seemed to think that picturing a gasoline engine alongside a washing machine in the laundry pages would do little to sell women on the machine. Rather, the application of gas engines to washing machines was presumed likely to attract the attention of the men who read the farm implement pages.

From 1912 to 1917, however, the gas engine headlined the laundry implements section. Sears advertised power washing machines designed to be used with either a stationary gas engine, a gas-engine-powered line shaft, or an electric motor. Sears first marketed a washing machine already equipped with a small gas engine in 1918 and continued to do so until World War II halted the production of washing machines in the United States.

The coverage of gas-engine equipped washing machines was particularly prominent and extensive during the Great Depression when gasoline was especially cheap. In 1933, for example, Sears devoted five pages of its fall catalog to washing machines; two of them were devoted to gas-engine-powered machines. In fall 1937, Sears claimed that “2 cents will do a big wash.” After Franklin Roosevelt’s Rural Electrification Act of 1936 started to bring electricity to an increasing number of farm homes in 1938, Sears advertised gas-engine-equipped washing machines with this

27 Catalog No. 125, Fall 1912, 1388–92; Catalog, No. 127, Fall 1913, 1392–99; Catalog No. 131, Fall 1915, 1478–91; Catalog, No. 133, Fall 1916, 1457–65; Catalog, No. 135, Fall 1917, 1496–1501; Catalog No. 137, Fall 1918, 1501–1506.
29 Catalogue No. 116, Fall 1906, 547–54.
30 Catalog No. 121, Fall 1910, 1130, 1132.
31 Kline emphasized that men were famous as farmyard mechanics, but not women. Kline, Consumers in the Country, 66–72.
32 Catalog No. 125, Fall 1912, 1143; Catalog, No. 127, Fall 1913, 1269–71; Catalog, No. 135, Fall 1917, 1305–07.
A Practical Farm Power House, International Harvester Company, 1913.
The original caption reads: “With an I. H. C. engine, a few feet of shafting and belting, it is possible to easily and quickly change a shed into a power house. The illustration above shows an ideal arrangement. This arrangement has been successfully carried out on a number of farms. Without a power house the farm equipment is incomplete.”
Courtesy, Wisconsin Historical Society
sales pitch: “In case the high-line comes to your neighborhood, you can easily replace your gasoline engine with an electric motor at little expense and use the gasoline engine for other work.” By this time, the Sears washing machines came equipped with a high-quality Briggs & Stratton gasoline engine. But Sears also still sold the earlier barrel-type models that could be powered by hand, by foot, or with some other power source such as a gas engine.

Sears stopped offering washing machines altogether from fall 1942 until fall 1948. The relative space devoted to gas-engine-powered machines was less than it had been during the Depression, but it was still quite significant. In spring 1950, for example, one of five pages on washing machines was devoted to gas-engine powered machines. The heavy-duty size Kenmore sold for $114.95: “Runs 3 hours on 1 quart of gasoline, easily converted to electricity when power becomes available.” These machines were offered continuously through spring 1954. Washing machines powered by gasoline engines clearly had a long life in rural areas.

Maytag and Newton, Iowa

While the evidence in the Sears catalog is persuasive, it doesn’t tell us how many women were using gas engines to do their washing and churning. The story of Maytag and Newton, Iowa, provides additional evidence on the use of gasoline engines to power midwestern washing machines. Maytag’s washing machine business took off with the introduction of a gas-powered washing machine, certainly suggesting that many of its midwestern customers used gas engines for washing.

The washing-machine industry flourished in Iowa in the early twentieth century, earning the state the nickname “Washing Machine Capital of the World.” Iowa was home to seven washing-machine factories, including the Voss Brothers Co. in Davenport, the Dexter Company in Fairfield, and most notably, the Maytag Company in Newton. The Voss Brothers Company was among the most successful companies that preceded Maytag. They were responsible for an innovative water-powered washing machine

33 Catalog, No. 197 Fall 1948, 796; Catalog, No. 200, Spring 1950, 652; Catalog, No. 208, Spring 1954, 821.

introduced in 1905. Similarly, the One Minute Washing Machine patented by Fred Bergman achieved astonishing popularity when introduced in 1905, selling 9,000 units the first year and reaching a total of 48,000 machines in 1910. Maytag started producing agricultural equipment in Newton, Iowa, in 1893, and produced its first hand-powered washing machines in 1907. Maytag ultimately revolutionized the market by introducing more efficient machines. By 1920, Iowa was second to Illinois in the production of washing machines. As Maytag continued to improve its product, it became the world-leading seller of washing machines by 1924. The company’s success and sales numbers in the Midwest market provide an opportunity to measure farm women’s use of gasoline engines to power washing machines.

Maytag launched the successful Pastime washer in 1907 and introduced another lever-operated machine, the Hired Girl, in 1909. The Hired Girl was designed for use with either a hand lever or a belt and pulley from a power source. The power source could have been an electric motor, a windmill, or even a treadmill; in 1909, it was likely to have been a gasoline engine. The Hired Girl also included a wringer that could have been run by the same power source. If the gas engine were to act up, the woman could continue her laundry with a hand lever and crank. Maytag advertised the machine as “so perfectly balanced that it is mere child’s play to keep it running.”

In 1911, Maytag gained a competitive edge with the introduction of a machine equipped with an external electric motor and a new swinging reversible wringer. While other companies had introduced electric washers about five years earlier, Maytag’s swinging reversible wringer was an important innovation which eliminated the need to shift heavy rinse tubs of water into position. The wringer could swing to reach either of two rinse tubs or a laundry basket. Reversible wringers were also essential for safety reasons—if either clothes or limbs got caught in the wringer, the device could run backwards.

Maytag built on its success with the introduction of the Maytag Multi-Motor in 1915. The Maytag Multi-Motor was the first washing machine

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38 Ibid., 89.
equipped with its own compact-sized, kick-start gas engine, that women could start more easily. The engine was accessible enough to work with other common household appliances, such as a cream separator, a butter churn, a food chopper, a bone grinder, or an ice cream freezer. Now Iowa’s prosperous farm wives were able to join their city cousins in the modern world of household conveniences. Many urban women by then had electric-motor equipped washing machines. Most farms still lacked electricity, but with a Maytag Multi-Motor, the farm wife could start the engine herself and no longer had to share it with her husband.

In their history of the Maytag company, authors John and Robert Hoover (a retired Maytag public relations director and his son) claim: “In 1915, for the first time in the history of the Maytag Company, income from washing machine sales exceeded that of farm implements…. By the end of 1915, washing machine production had increased 125 percent as a result of the demand for the Multi-Motor.” In 1915, Maytag had purchased the gas engine it used on the Multi-Motor from a company in Elgin, Illinois; one year later, Maytag purchased the Elgin company and moved it to Newton, Iowa. Washer production promptly doubled, and about half the machines were Multi-Motor equipped. The other half would have been split between hand-powered, flex-powered, and electric-powered washing machines. By 1918, Maytag sold twice as many Multi-Motors as electric models.

Iowa’s prominence as the “Washing Machine Capital of the World” reflected the market demand for washing machines among prosperous midwestern farm families. The hand-cranked washing machine required a lot of physical strength; many women preferred their washboards. But gas engines made washing machines more practical, and Iowa farmers were among the most likely to have gas engines. When stationary gas engines were finally represented in the census data of 1930, Iowa was among the top four states in engine density—44 percent of all farms were found to have a stationary gas engine.

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39 For a picture of the Maytag Multi-Motor see figures 4–9 in ibid., 95.
40 Ibid., 90–92.
Evidence from Oral Histories and Contemporary Literature

Oral histories, farm diaries, and literature contemporary to the period offer extensive evidence of the use of gasoline engines to do laundry on the farm prior to the 1920s. In 1980, the Indiana Extension Homemakers Association (IEHA) launched an oral history project to celebrate its upcoming seventy-fifth anniversary. The association interviewed nearly three hundred homemakers, most over the age of seventy, and unearthed their memories of washing clothes with hand-powered washing machines and gasoline engines. Betty Trout, a sixty-two-year-old resident of Blackford County, remembered helping to wash clothes as a child: “Our washing machine was one that you ran either by a gasoline motor or by child power, and fifteen minutes seemed like an awful long time when you had to pump the washing machine.” Cora Keplinger of Huntington County, recalled her father’s tinkering with the old tub washer and gas engine. She chuckled as she reported that “sometimes that engine would work . . . and sometimes it’d take all day.” Like Cora, Helen Sauser was also in her 80s at the time of the interview. She recalled how excited her father was to provide his wife with a gasoline engine to run her washing machine.

Men’s experiences were often recorded in the Tractor and Gas Engine Review, as many farmers wrote to the magazine in the early twentieth century to exchange ideas and experiences. Many of the letters provide detailed accounts of how farm families used gas engines for tasks that involved women and children. In 1913, the family of P. Jenson of Arco, Minnesota, for example, was using a one-and-three-quarters horsepower engine for pumping water and running the washing machine. Olin Minehart of Anamesa, Iowa, owned two gas engines and used the smaller one, a two-horsepower engine, to pump water and run the washing machine.

In February 1916, the magazine published a letter from Horace F. Davy of Des Lacs, North Dakota. Davy already had some years of experience with gas engines. He wrote that his first engine had been a one-and-a-half horsepower “air-cooled, four cycle, make and break engine” that he eventually got to work with a small feed grinder. Then he bought a washing
machine for his wife to ease her workload: “Some men think that it is foolishness to buy a washing machine to be run by an engine, they would rather see the women folk rub their lives away than buy a little gasoline, but I don’t agree with them.” To avoid the work of moving the engine back and forth between the house and the granary, he figured out how to get the engine to self-propel. As technology evolved, prices fell, and smaller engines became available, he bought a one-half-horsepower engine to run the washing machine.46

Several other letters published that year described a line-shaft in a shop that was used to power various machines. Paul Tinder of Pittsboro, Indiana, described using a one-and-a-half horsepower engine to run his shop: “I run the washing machine, cream separator, churn, feed grinder, corn sheller and wood saw from the line shaft. The washing machine is a One Minute . . . . I had a blacksmith make the attachment for [it], which cost one dollar and a half.”47

During the next few years, the correspondence section of Gas Review was full of letters describing similar set-ups. Frequently the machines in the shop would be a mix of “farm” and “household” machines—his and hers, so to speak. Sometimes the shop was closer to the house, and other times it was closer to the barns. In 1918, Sam Overpeck of Kintersville, Pennsylvania, described “a building near the back of my dwelling” next to the well. “This building has a line shaft from which the engine is belted and runs the washing machine, churn, emery wheel, grindstone, oyster shell mill, bone crusher and pump jack.”48 E. H. Barlow of Swartz Creek, Michigan, described an engine on a cement foundation in the woodshed “belted to a long shaft that runs through a room where we run the washing machine, churn, and a pump that pumps rain water to a supply tank.”49 R. F. Abel of Corydon, Iowa, on the other hand, owned a larger engine and a more farm-oriented mix of machines. His shop building was built expressly for the engine: “In this building we have a washing machine, a two-hole corn sheller, a feed grinder and rip saw.”50 Some letters described

46 “Correspondence,” Gas Review vol. 9, no. 2 (February 1916), 56.
47 “Correspondence,” Gas Review vol. 9, no. 12 (December 1916), 34; Gas Review vol. 9, no. 6 (June 1916), 20–23; Gas Review vol. 9, no. 9 (September 1916), 50–52.
48 “Correspondence Department,” Tractor and Gas Engine Review vol. 11, no. 3 (March 1918), 54–56.
49 “Correspondence Department,” Tractor and Gas Engine Review vol. 11, no. 11 (November 1918), 38.
50 “Correspondence Department,” Tractor and Gas Engine Review vol. 11, no. 6 (June 1918), 38.
The International Harvester Company produced the Titan—an early tank-cooled skidded oil engine—in the early 1900s. This playful advertisement features the engine floating above a farmstead with pointers to potential uses.

Courtesy, Wisconsin Historical Society
how an engine attached to a line shaft would run a washing machine and a dynamo that charged batteries to provide electricity for lighting.\footnote{H. F. Stewart, “A Modern Country Home,” \textit{Tractor and Gas Engine Review} vol. 11, no. 10 (October 1918), 48; Herman Rinkenberger, “Electric Lights at Little Cost,” \textit{Tractor and Gas Engine Review} vol. 11, no. 6 (June 1918), 30–32.}

I found no instances in which the men who wrote these letters to \textit{Gas Review} mentioned their wives actually starting an engine. The early gas engines required strength and persistence to start. While farmwives were heading up the laundry operation on the farm, men would typically start the gas engine and then women would take over. Sometimes things would go awry, resulting in men spending more time than anticipated on washday dealing with the engine. Oliver J. Fournie described such an experience: “I have built a laundry with concrete floor, tubs, etc., and placed the engine in it. When washday comes and everything is ready, I start up the engine and then go about my business. I have a tight and loose pulley on the machine so my wife can empty and refill the machine without stopping the engine.” On this particular day, however, one of his children had needed to keep running out to the field to get him.\footnote{Oliver J. Fournie, “The Jinx in the Laundry,” \textit{Tractor and Gas Engine Review} vol. 11, no. 2 (February 1918), 58.}

Hoosier homemakers told similar stories to the IEHA interviewers. Helen Sauser, 84, of Wayne County described her mother’s washing set-up: “She had a washing machine that had an engine outdoors and had a belt that came in through the wall and run the washing machine. The big thing about that was if the motor would stop, we would have to go to the field to get Dad to come back to crank the engine to get it started so the washing could go on.”\footnote{Arnold, \textit{Party Lines, Pumps and Privies}, 65–66.}

Although advertisers tried to pretend that women could (cheerfully) handle gas engines, many commentators recommended putting the boys—who, unlike their mothers, loved the engines—in charge of the machinery.\footnote{L. W. Chase, “One Side of the Farm Labor Question,” \textit{Gas Review} vol. 1, no. 9 (September 1908), 20.} Women who may not have been fond of their barnyard gas engine were proud of their son’s ability to run and maintain a variety of farm machinery. Clara Cater from Tipton County, Indiana, told a story about how her son stopped the family’s automobile when her husband was flummoxed and could only holler “Whoa, whoa.” The boy’s father did not allow him to drive because he was too young, but the youth had nevertheless paid
attention and had the presence of mind to shut off the motor and pull on the brake.55

In her study of women and midwestern farming, historian Mary Neth also found evidence of “belt-powered” washing machines, run by gasoline engines. She noted that men’s diaries rarely mentioned women’s daily chores, but they did mention washday because they recognized it as a labor intensive activity for which they sometimes helped with hauling water or tubs. The fact that they were sometimes interrupted to re-start an engine may also have prompted men to mention washday in their diaries.56

A variety of period sources reinforce the fact that farmwomen and farmyard gas engines often did not get along. When the engines were hard to start, women were not amused.57 In 1913, Zeno Putnam published a book titled *The Gasoline Engine on the Farm* and devoted a chapter to “The Woman’s Story.” According to Putnam:

> The gasoline engine for the woman must not be hard to start. Some of the first light engines brought out were too heavy and difficult; the average woman became disgusted or discouraged. The man who has been accustomed to pottering with machinery problems all his life may be willing to spend two hours making an engine do a bit of work that he could do without it in twenty minutes, rather than give up. The average woman will do the work the old way and order the engine to the junk pile.58

Putnam went on to note that the engine should be clean and not “immoderately noisy.” He rationalized that, “After she has used it enough to form a lasting attachment for it she will overlook some of its occasional short-comings. At the first, the chances are she does not more than half believe in it anyway, and every little fault will only add to her suspicions.” In conclusion, he stated, “the engine that a woman wants is one that will

56 Neth, *Preserving the Family Farm*, 27, 239.
58 Zeno W. Putnam, *The gasoline engine on the farm: a practical, comprehensive treatise on the construction, repair, management and use of this great farm power as applied to all farm machinery and farmer’s work indoors and out* (New York, 1913), 448.
relieve her of a portion of her worries instead of adding to them.” 59 No doubt most men felt the same about that bottom line.

Despite the fact that gasoline engines did not always work well, several of the Indiana women interviewed described the transition from the washboard to a gasoline-powered washing machine as “wonderful.” Zelma Blocher, 81, of Scott County recounted “a washer that had a [gasoline] motor on it. That was something when you could crank it up. Sometimes it didn’t run, but it was nice when it did.” Edna Klinstiver, 57, of Floyd County remembered that her mother had a Maytag washer with a gasoline engine that “was always ready and willing to run.” 60 (Since Ms. Blocher was much older than Ms. Klinstiver, she likely recalled an earlier time when the engines were less reliable.)

In 1908, the editors of Gas Review noted an increase in female readership that correlated with the advent of the automobile. They wrote, “Women are deeply interested in learning how to successfully operate gasoline engines, especially those upon the farm, where pumping, churning and other work is done by these engines. Many women are also experts in handling automobiles, and desire to learn everything possible which will stand them in hand in case of trouble.” 61

Many women learned to drive and joined their male counterparts on the road. National attention focused on women drivers such as President Theodore Roosevelt’s daughter Alice. In 1909, national attention also focused on another young woman, Alice Ramsey, who drove across country from New York to San Francisco with three other women, in a Maxwell Touring Car, as a publicity stunt for the car company. In 1910, suffrage activists toured through Illinois in automobiles to rally support for their cause. 62 During the same years, advertising for the International Harvester Auto Buggy pictured farm women at the wheel. Many of the Indiana homemakers interviewed by the IEHA remembered learning to drive at a young age and at about the same time as their brothers. While some farmers did not want their wives to drive, many others found it convenient to have their

59 Putnam, The gasoline engine on the farm, 448–49; Kline, Consumers in the Country, 78.
60 Arnold, Party Lines, Pumps and Privies, 66.
61 Gas Review vol. 1, no. 9 (September 1908), 16.
Many women learned to drive on the farm and joined their male counterparts on the road as the popularity of automobiles grew.

Courtesy, Wisconsin Historical Society
wives drive to town on essential errands. In most cases, it just made sense for farm women to drive.63

**How Many Women Used Gas Engines on Washday?**

We can really only guess at the number of women who used gasoline engines for washing clothes, but we do know that by 1920 most midwestern farm families owned both washing machines and gasoline engines. In his history of washing machines, Lee Maxwell noted “that only about 10% of all powered washers, manufactured prior to 1940” came equipped with a gasoline engine.64 Many researchers have taken such estimates to mean that very few midwestern farm women would have used a gas engine on washday. Although Maxwell may be correct, the vast majority of powered washing machines manufactured between 1905 and 1940 were produced after 1920. I believe that scholars have underestimated the number of women using gas engines for washing clothes before 1920. We have also failed to consider the adaptation of these engines to old-fashioned hand- or belt-powered washing machines manufactured before 1920. After 1921, farming prosperity declined and was replaced by decades of depression. Most farmers had to “make do.” Farm women undoubtedly used the old barrel washing machines for a long time. As automobiles proliferated in the 1920s and 1930s, on farms and elsewhere, so did old automobile engines. These engines could and did provide the power for farm shops like those described earlier.

On the other hand, electricity was increasingly available and numerous innovations produced more efficient washing machines. New electric washing machines sold rapidly in urban areas and in rural areas where central power was available. Some farms without access to central power generated their own electric power with gas-engine generators and batteries. The Delco-Light Plant was the most popular of these devices, and the company produced a washing machine expressly to run with its own electric plant. Other electric washing machines could also run on power produced by the Delco-Light and similar plants.65

63 Arnold, Buggies and Bad Times, 40–43. On farm women driving see, Jellison, Entitled to Power, 35; Kline, Consumers in the Country, 69.

64 Maxwell, Save Womens Lives, 18.

65 Kline, Consumers in the Country, 93–105.
As previously mentioned, some of the best survey information available on the use of modern equipment by farm women comes from the study overseen by Florence Ward at the USDA in 1919 (see Table 2). The 1919 USDA survey, conducted between June and October, included 10,000 representative farm homes in rural regions of 33 northern and western states. Southern states, which had the lowest rates of adoption of automobiles and farm engines, were not included in the project. The survey found that fifty-seven percent of the 9,580 women participants reported having washing machines. The percentage was even higher among women in the Midwest—64 percent owned washing machines in 1919. On the other hand, only twenty-two percent of the midwestern farms and fifteen percent of the farms overall reported having power equipment “in the home.” Researchers have reasonably interpreted these statistics to indicate that washing machines were mostly hand-powered.

Based on other sources, however, we now know that many farm families ran power equipment elsewhere on the farm. It is possible, indeed likely, that washing machines were not inside the farm home but outside in the barnyard, closer to the pump and perhaps in a power house. Gasoline engines could be operated safely only with substantial ventilation—preferably outdoors. Women surveyed by the USDA would not have claimed to have power in their homes if they were walking out to their milk house, or pump house, or wood shed to do laundry with a machine powered by a gasoline engine. Farm women understood that doing laundry in the barnyard with a gas engine was not the urban reformers’ idea of a modern farm home. The reformers failed to understand the role of the barnyard as women’s workspace and therefore failed to ask the right questions that would have revealed how these women interacted with modern technology.

Given the prevalence of both farm engines and washing machines on midwestern farms and the mechanical abilities of most farmers, it seems likely that half or more of the washing machines on farms were, at least sometimes, powered by a gas engine. These machines may well have been old hand-powered washing machines rigged up to run with an old gas

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66 Ward, The Farm Woman’s Problems.
67 Jellison drew on this data to conclude that 64 percent of Midwestern women owned washing machines, “primarily the hand-powered variety.” Jellison, Entitled to Power, 34.
engine and used outdoors or in the barn. Even the newest, most up-to-date, gas-engine-equipped Maytag washing machines from the 1930s were often located in the barnyard.69

One hundred years later, historians cannot go back to rewrite the USDA's surveys of how farm women used technology. But we do possess strong evidence, from a wide variety of sources, that researchers of the period failed to recognize the importance of the barnyard as a place where farm women worked. In fact, the presence of gas engines in midwestern barnyards in the early 1900s reduced drudgery in women's lives and made women active participants in the internal combustion engine revolution on the farm. As shown above, producers of gasoline engines considered women in their marketing plans, understanding that men, women, and children all worked together in the barnyard. Advertisers pitched gasoline engines as a power source to relieve burdens for every family member. Even though many women may not have been physically strong enough to start those first engines that appeared on farms, nor have been inclined to deal with their problems, they were exposed to the idea that gasoline engines could lessen their burdens.

By the time automobiles began to arrive on farms around 1906, many women were already acquainted with gas engines. Producers wanted women to feel comfortable driving and, as has been shown, many rural women promptly learned to drive.70 Women prioritized features such as ease of starting, safety, and comfort in the automobile, and these same features made the automobile more useful for the whole family.

By 1913, when Putnam wrote about women and gasoline engines, it was clear that manufacturers were interested in and responding to feedback from women: the book was written to sell farm engines. Two years later,

69 My father remembers his mother using a Maytag washing machine outdoors in the early 1930s in central Kansas. She started it herself and ran it outdoors—even in the wintertime.

70 Annetta Lyford learned to drive in about 1914 when she was 10 years old. Carrie A. Meyer, Days on the Family Farm: From the Golden Age through the Great Depression, (Minneapolis, Minn., 2007), 77. Annetta Lyford learned to drive in about 1914 when she was 10 years old.
Maytag introduced the Multi-Motor washing machine, with an engine expressly designed to appeal to feminine preferences. It took advantage of stronger leg muscles (relative to arm strength) with a kick-start engine, was relatively lightweight, and was billed as “quiet, clean and economical.”

Women have been essential to the development of household technologies and to the early development and use of the internal combustion engine. Women’s early reluctance to embrace gas engines on the family farm helped push manufacturers to design better, more user-friendly machines.

### Table 1: Gas Engines, Automobiles, Tractors, and Trucks on Farms, 1900–1930 (in thousands of power units, thousands of farms)

<table>
<thead>
<tr>
<th></th>
<th>1900</th>
<th>1910</th>
<th>1920</th>
<th>1930</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas engines*</td>
<td>200</td>
<td>600</td>
<td>1000</td>
<td>1131</td>
</tr>
<tr>
<td>Automobiles</td>
<td>–</td>
<td>50</td>
<td>2146</td>
<td>4135</td>
</tr>
<tr>
<td>Tractors</td>
<td>–</td>
<td>1</td>
<td>246</td>
<td>920</td>
</tr>
<tr>
<td>Trucks</td>
<td>–</td>
<td>–</td>
<td>139</td>
<td>900</td>
</tr>
<tr>
<td>Total Farms in U.S.</td>
<td>5740</td>
<td>6366</td>
<td>6454</td>
<td>6295</td>
</tr>
</tbody>
</table>

*Gas engines refers to stationary and portable internal combustion engines.


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Table 2: Modern Equipment in the Farm Home, 1919

<table>
<thead>
<tr>
<th></th>
<th>Eastern</th>
<th>Central</th>
<th>Western</th>
<th>Country wide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power on the farm for farm machinery</td>
<td>35%</td>
<td></td>
<td></td>
<td>42%</td>
</tr>
<tr>
<td>Equipment of farm homes surveyed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power machinery in home</td>
<td>8%</td>
<td>22%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>Running water</td>
<td>39%</td>
<td>24%</td>
<td>36%</td>
<td>32%</td>
</tr>
<tr>
<td>Water in kitchen</td>
<td>85%</td>
<td>60%</td>
<td>45%</td>
<td>65%</td>
</tr>
<tr>
<td>Washing machines</td>
<td>52%</td>
<td>64%</td>
<td>48%</td>
<td>57%</td>
</tr>
<tr>
<td>Women that do own laundry</td>
<td>94%</td>
<td>97%</td>
<td>97%</td>
<td>96%</td>
</tr>
<tr>
<td>Hired girl during summer work period</td>
<td></td>
<td></td>
<td></td>
<td>14%</td>
</tr>
<tr>
<td>Help w-laundry about once a week</td>
<td></td>
<td></td>
<td></td>
<td>9%</td>
</tr>
<tr>
<td>Farms with automobile</td>
<td>48%</td>
<td>73%</td>
<td>62%</td>
<td>62%</td>
</tr>
<tr>
<td>Farms with telephone</td>
<td>67%</td>
<td>85%</td>
<td>56%</td>
<td>72%</td>
</tr>
</tbody>
</table>