Mildred Maddocks

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The Consumer Viewpoint

covering vital phases of manufacturing and selling household devices

by Mildred Maddocks, Director GOOD HOUSEKEEPING INSTITUTE

Department of Household Engineering

It has been Good Housekeeping's privilege to build up, as a source for reader service, many departments that are unique and noteworthy in the extent to which they have gone in measuring consumer needs and consumer viewpoint.

In the following pages are presented some observations made by one of these departments as the result of years of research and investigation in the field of household appliances.

Generally speaking, most man-made devices are man-used. Here is an industry whose products are man-made, but woman-used. It is this fundamental condition that has placed the merchandising and selling problems of the industry absolutely in a class by themselves and has made them of peculiar importance and significance.

It is hoped that the material given herein may be of real service to those whose interest lies in knowing more about one of our most rapidly growing and least understood industries and also to those who would better understand the basic element in all manufacturing and selling.

C. Henry Hathaway

#### **FOREWORD**

The manufacture of home devices to be used by women in household work is of comparatively recent development, the growth of the industry has been so rapid that many manufacturers are still groping to establish standards that will meet the new and uncertain conditions under which their product must be used.

Dealers in household equipment as well as manufacturers are still uncertain as to what constitutes the selling value of an article, because it has been impossible to predicate the conditions, the care and skill with which each device would be used after it was marketed. It is comparatively easy for designer and factory manager to guard against known conditions of use. The dishwashing machine for a hotel or restaurant service can be built to perform with satisfactory efficiency. Its operating purposes and costs are known, the skill of its operators is more or less established, and the materials can be so selected to result in a satisfactory life of the machine.

It is a different story when the manufacturer's product is to be used in the typical American home. Household equipment of every type must be made so that it will prove adaptable to different service conditions, with regard to both homes and actual users. An even more important consideration is intermittent use that must be met successfully by all home devices. It is the unusual home in which washing is done more than once or twice a week. The balance of the time the machine must stand idle. And this is true of practically every other type of labor saving device. It represents the most difficult of conditions a factory product has to face.

In dealing in the following pages with this most important subject it must be understood that Good Housekeeping Institute is offering valuable facts that have been established through fifteen years of experience in testing household equipment, and is further utilizing the viewpoint of thousands of consumers and dealers who have come for a conference with us either in person or by letter.

#### POINTS OFTEN OVERLOOKED BY MANUFACTURERS.

It is not too much to say that in general the manufacturer wants to produce the article that the woman wants to buy. In many cases the reason he does not accomplish it is due to the fact that he does not divide his expenditures wisely. He neglects to pay the price for the highest grade skill in designing and he markets his product too quickly.

The importance of developing a specific design cannot be overestimated. No machine on the market, of any type, is one hundred per cent perfect and none on the market should, therefore, be taken as a standard to be met by the new manufacturer. It is a patchwork, only, that is obtained by one common method used to obtain a newly designed machine. Namely, the manufacturer purchases every type of machine, already marketed to perform a given work, and adapts one part from one machine, another part from a second machine and perhaps still another part from a third machine. Such a design must always be a compromise, and it is seldom possible to obtain the original working efficiency of the several parts in the new machine because of the necessary compromises.

A second point that the manufacturer is apt to overlook is the importance of including the most minute of details in his general high standard of manufacture. For instance, he elects to use copper for a water container, but forgets to provide that every bolt and rivet and screw, no matter how small, shall be of a rust–resisting metal. The small part capable of rusting is as much an eyesore to the purchaser and in certain conditions can do as great damage as though the manufacturer had not spent the major sum to insure his rust–resisting container.

And a third point: sometimes a manufacturer neglects to make certain of a perfection of detail in the factory that will produce one hundred per cent. of uniformity in his product. Thus vacuum cleaner manufacturers, merely by installing an equipment that would measure for them, under actual conditions of service, the correct air displacement of the particular machine tested, could eliminate any possibility of lack of uniformity in their

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product. Further, it would take no more time for the inspection than is at present accorded to the routine reading of current consumption. Yet up to this time we know of no vacuum cleaner factory that has installed this comparatively simple and inexpensive equipment.

When attempting to market a product to women, factory faults are of far greater importance than when marketing a product for the use of men. The latter understand the difficulties of factory production and accept the occasional defective product as a routine. They expect it to be credited. They expect prompt correction on the part of the manufacturer or dealer, and, once adjusted, with them the matter usually ends. Not so with the average woman purchaser. First of all, and last of all, she remembers that something was the matter with the machine for which she paid her money. Oftentimes only the most drastic and unusual service on the part of the manufacturer will take away the sting that was left in her mind by the original transaction. In club, church, or in confidential chat at home, somewhere she leaves the impression that there is still something the matter or she would not have gotten a poor machine. The advertising value, therefore, of a uniformity of product cannot be overestimated. No amount of costly after–service will compensate for the lack of it.

#### THE VALUE OF PROPER DEMONSTRATION BY THE DEALER.

A manufacturer sometimes fails to satisfy the woman consumer because he is attempting to satisfy a dealer's demand for flashy rather than practical selling points and, therefore, loses sight of the value to him of a perfect functioning of his device. Exclusive points of design that can be used for a spectacular demonstration have been up to this time perhaps the strongest of selling aids; but manufacturers and dealers alike are beginning to realize that they have an element of danger. Thus, the confetti test for vacuum cleaners was an unfortunate misuse of the machine. It has never convinced the woman purchaser that it would accomplish the more trying task of removing grimed—in soil, even while it fascinated her as a spectator and even while she left as a purchaser. She doubted her own machine because of the unconvincing test.

It was only a short time ago that in one of the trade papers dealing with household equipment there appeared an editorial endorsement, and an exceedingly strong one at that, of a certain dealer display which had attracted great crowds on both sidewalk and street before the dealer's window. The crowd had been drawn by the display of a number of different washing machines grouped around a central machine which was absorbing the limelight. It had a swinging wringer and the wringer was revolving at so rapid a rate it became plain that any woman who stepped in the way of that particular type of wringer was doomed to a severe blow if not a fall. The idea of the dealer in using such a display was of the stop—look—listen variety, and he obtained all he could desire of this variety of interest. But he had not safeguarded the interest of *any* washing machine in his window. For women have a certain reluctance toward machinery in motion and he failed to reckon with them as the purchasers of his washing machines. Would she buy one in order to use the swinging wringer as an obvious menace to herself and to her household? No.

In selecting an Iron, the woman looks for:

- 1. A weight of household iron that is around six pounds.
- 2. A general design that is easy to handle, of good balance and with comfortable large handle grip.
- 3. A thin sheet metal hood; weight in hood decreases ironing efficiency.
- 4. A correct relation between the weight of the storage heat mass above the heating element, and the weight of the sole plate beneath the heating element. Upon this relation depends good ironing results.

(If heating element should be inset in sole plate with

one—fourth inch margin, a direct heat connection between the two masses of metal could be secured at a consequent reduction of heat loss.)

- 5. Cord connections to slip in and out easily.
- 6. Switch in plug connection or on cord.
- 7. Plug connection so heat insulated as to prevent conduction of heat, and overheating of cord at connections.

Undoubtedly if there was a prospective woman purchaser in that group in front of the window she left to become one of the hundreds of women who still are asking themselves the question is a washing machine safe?

It is not difficult to see how quickly this particular kind of demonstration becomes a boomerang to the manufacturer. It is as true of every type of spectacular appeal. The time has surely come to discontinue all such practices and to sell appliances: because they will do the work more quickly, more easily, or more cheaply, because they are so built that they will prove durable, and therefore, a satisfactory investment; and finally, because they are the only logical solution of comfortable, well–ordered present day family life.

#### WHAT THE PURCHASER LOOKS FOR

It has been amply proved that women are not especially interested in fine points of design unless that interest is implanted by competitive statements of the salesmen. They are not especially interested in form or color or detail, but they are supremely interested in dealer assurance that the machine is solidly built; that it will accomplish the work; and that its purchase will save them money, time or labor, perhaps all three. Let the appliance itself impress them with the strength of the materials used, the cleanness of its design and the perfection of work performed, and the sale is made.

#### **COST IS CONSIDERED**

The question of cost considered only from the woman's standpoint of expenditure is more difficult to discuss. In the case of small equipment priced under or around five dollars it is easy to make large sales upon the time or labor—saving qualities the devices may have. But repeat sales are affected by the quality of construction and materials used.

In all higher priced equipment the question of strength and quality seems uppermost in her mind, but a difference in price between two makes or two models of same manufacture, often results in the sale of the higher priced, because she has enjoyed the opportunity of discrimination.

There seems to be no question that the woman purchaser is willing to pay *any added sum required to make* construction better or convenience greater always provided that the salesman convinces her she is obtaining the quality she is paying for.

In selecting a Vacuum Cleaner, the woman looks for:

- 1. A design that will prove efficient at low upkeep cost over a period of time.
- 2. If motor driven brush type [Footnote: Her selection may include either motor driven brush type or air type machine, since properly designed, either will care for all kinds of soil, including thread and lint.], there must be correct relation between air suction power and brush sweeping action.

- 3. As light a construction as is consistent with quality.
- 4. If air type, a narrow floor nozzle so designed as to clean by small amount of air at high velocity.
- 5. If air and brush (geared to wheels) type, a broader nozzle with inset brush is permissible provided care is exercised in design to prevent air leakage. This type cleans by a larger volume of air with correspondingly lower velocity.
- 6. Durable construction, either aluminum or steel casings, an assembly that secures tight joints and seams that won't leak air.
- 7. Easy operation weight of appliance not so important if weight is easily handled.
- 8. Convenient switch; handle designed long enough for comfortable operation at woman's height.
- 9. Bag, double seamed; strong, tight connections; easily emptied; durable material, preferably of cotton flannel type.
- 10. Winding posts for cord to be strong and conveniently placed.
- 11. Convenience in connecting attachments.
- 12. Elimination of noise, in so far as this is possible.

Instead, then, of attempting merely to learn the dealer's demand for selling points, put part of your effort into learning the demands of the user of the machine. Consumer suggestion or demands are apt to come only after a period of use. Obvious ones are sometimes reported by the dealer, but very often they never come to the manufacturer through the reports of the trade in time to be of service. It took a period of years for the dealer to realize the importance of enclosed moving parts. It finally came to him through the reaction developed by women using the machines. In the same way the manufacture and marketing of both gas and electric ranges, which has been uniformly efficient, has overlooked one very important detail. The broiler grids are often so placed that the steak is an inch and a half away from the flame instead of one—half inch. With such a broiler, perfect broiling is impossible. Again a kitchen cabinet may be made of high grade materials but the hardware proves too light to stand the constant closing and opening. Such a kitchen cabinet is handicapped in any neighborhood because constant use makes the minor annoyance a cumulative one, which reacts directly upon the manufacturer's product.

The vacuum cleaner that is easily sold on the dealer's floor because it looks big and imposing oftentimes discloses its poor efficiency only after from four to six months of use. This is due to the fact that from time immemorial women have ordained a period devoted to housecleaning twice a year. And it is at this crucial time that they discover if the routine care of rugs and carpets by their vacuum cleaner has accomplished a work satisfactory to them. This conclusion is well borne out by a conversation we had with a large dealer in vacuum cleaners from the west coast. He freely told us of handling two vacuum cleaners, one a comparatively inexpensive and absolutely inefficient machine (as we had proved by test), the other a more expensive and a thoroughly efficient machine. He claimed that the first proved only a feeder for the second, since when the woman, after a longer or shorter period of use, realized that the first machine would not do the work, she returned to buy the more expensive and better machine. And the average time was six months! Now this dealer could have selected a machine no higher in price than his less expensive model which would have done good work and thoroughly satisfied the user. We leave you to draw your own conclusions as to the fate of the manufacturer's product in the first place, and the dealer's selling methods in the second place.

In selecting a Washing Machine, the woman looks for:

- 1. Compact, trim appearance with all machine parts covered.
- 2. Plain outlines.
- 3. Swinging wringer with safety release.
- 4. Pump attached to machine to rapidly drain off water when drain connection is not practical.
- 5. Metal tub exterior painted (easy to keep clean).
- 6. A waterproof finish on a wood tub.
- 7. Switch control of motor, clutch control of tub and wringer.
- 8. Height that will obviate stooping.
- 9. Design to insure efficiency.
- 10. Motor and switch insulation.
- 11. Materials and workmanship that insure durability.
- 12. A water outlet that allows rapid running off of water.
- 13. Threaded outlet to allow for connection. 14. All handles and levers to be easy to grasp and to turn by wet hands.
- 15. Tub body slightly off the level to allow for draining.

It is easy to sell a refrigerator that has a sightly appearance, that is equipped with a sanitary seamless lining and that is marked with a price that spells to the woman good workmanship. But it is only actual use in storing food that develops the fact that the insulation is of sufficient quantity and is assembled with high grade construction, or that cheap material and workmanship have been substituted. The service that can be obtained from the appliance after it is marketed is of the utmost importance for the manufacturer to learn. It is peculiarly impossible to sell and forget any product sold to women.

#### THE WOMAN'S VIEWPOINT ON MATERIALS USED IN CONSTRUCTION.

Undoubtedly a phase of manufacturing that acutely interests the average manufacturer deals with the selection of the materials that are to be used in the construction of his product. Too often the person who selects these materials fails to take into account the fact that women are almost fanatically intolerant of two things, rust and discoloration. It may be but one bolt that can rust, but women under our observation have utterly condemned a washing machine for which they paid from \$125 to \$165 because of this one bolt alone. We have heard them further condemn a machine because of the difficulty of keeping it polished.

It is not purpose, we are convinced, but it must be carelessness on the part of that manufacturer who allows the use of a rusting screw here or a bolt there when the rest of the equipment is safeguarded against such conditions. In one specific instance a single part of a machine intended to be used in connection with water was made up of five different metals. Each one of these metals had its own different reaction towards hard water in the presence of soap. That this manufacturer had intended no slight toward his product was indicated by the fact that the largest

section of this part was constructed of the most expensive material. He probably fully believed that he had made that particular part of rustproof material but it was the selection of defective small parts that offset any advantage due to his use of fine materials for the major part of the machine.

#### THE RELATION OF SECTIONAL SELLING TO MATERIALS USED.

Because a great deal of household equipment that is of interest to women must be used as a water container, the effect of water of varying degrees of hardness upon the several metals is of interest. Most metals have some electrolytic action. There are throughout the country water supplies of every known degree of hardness. There are water supplies whose hardness can be corrected and there are supplies of the type known as permanent hardness. In actual practice the salts in these hard waters react with soap of any variety to form a sticky gray precipitate. This precipitate is increased in quantity in direct proportion to the activity of the metal. Therefore, the material selected for the tub and cylinder of a washing machine, for the container of the dishwashing machine, or for the tea kettle that demands constant contact with water should be given the careful attention that its importance demands.

In selecting a Refrigerator, the woman looks for:

- 1. Seamless lining.
- 2. Compartment beneath ice high enough to hold quart milk bottles.
- 3. Generous insulation.
- 4. A selection of wood and treatment of it that will prevent warping.
- 5. Heavy hardware.
- 6. Positive–closing, lever locks.
- 7. Plain unpanelled trim high leg base.
- 8. Dull, rather than highly finished wood.
- 9. Easily accessible drain.
- 10. Adjustable shelves.

A universal metal that can withstand any and all attacks of these several waters is difficult if not impossible to locate. In our judgment there is no perfect metal. Copper comes the nearest to it and yet copper must be tinned, and there is some slight consumer reaction against its use, in large containers, because they claim copper must be scoured in order to be sightly. However, enamel paint on the outside of such a container, leaving only a fair sized name—plate to be burnished, would overcome this objection.

Galvanized iron, zinc, nickel, all have a disadvantage of inducing electrolytic action (producing whitish precipitate) and that should be taken into account in your selection of metals. In sections save those in which waters are of the permanent hard variety, this disadvantage can be overcome by including directions that the machine should not be scoured. Flush with rinsing water only. With such care, the whitish deposit acts as a film over the metal, and, once the latter is completely covered, reduces the precipitation. But in the presence of extremely hard waters, the quantity is so great that the precipitate snows a tendency to deposit on the linen itself,

instead of being thrown solely to the sides of tub, cylinder, or suction cup. Once this does get on the fabric, it has all the sticky characteristics of chewing gum.

Bronze or brass rather than steel or iron should be used for any bearings that come in contact with water. Only thus can you fully safeguard against rust.

#### LITTLE THINGS THAT OFTEN PROVE GREAT.

Safety demands that every equipment involving an electric motor be so fully insulated from the machine frame by water—proof fittings and insulated shaft couplings, etc., that a maximum of safety can be assured. It is indeed remarkable that this is not more often cared for in the original design. In one short period, at least three machines were forced into the disapproval group in the Department of Household Engineering of Good Housekeeping Institute with such lack of insulation as one of the causes.

It is thus clear that consumer needs, in this great classification of merchandise (household appliances) as reflected by consumer attitude are often ill—defined and extremely difficult for the manufacturer to interpret. Therefore, as a recognition of this condition, the basic purpose running throughout all of the testing work at Good Housekeeping Institute is to test every device so as to duplicate the conditions under which the device will be used by the ultimate consumer, be she intelligent or unintelligent. It has furthermore been the Institute's special province to express to each manufacturer the trend of consumer demand as seen, not only through the Institute's use of appliances, but through the thousands of consumers who report their experiences.

It is an interesting and surprising fact that mechanical tests develop data which often interpret the results obtained under practical usage of the equipment, and the results obtained under the practical usage quite as often define the value of the mechanical data. Any effort a manufacturer may make to develop these two angles of testing will more than offset any money cost that may be added to the factory overhead. Complete testing of this character will also save ultimate consumer reactions against the completed manufactured product. It is not enough, as so many manufacturers have done, to place the appliance in a variety of homes and take the consequent say—so. It must be remembered that it is only possible to compare an appliance when you have something to compare it with, and that something must be an appliance designed to do similar work. How many instances are there where manufacturers allow their products to go out without comparative information of this kind, just because such information is so extremely difficult to get?

To all interested in or concerned with this great industry, there is one thing to be remembered above all else study and test not only the mechanical construction and perfection of your product but know from every conceivable angle what the user or consumer is going to demand of it. If this be done, and done thoroughly, and exhaustively, you will build the appliance of the best materials obtainable, because it must wear well; of the most efficient design, because it must operate smoothly; and you cannot fail to so build it that it will do its work completely and well because you will have the measure of these values within the experience of your own investigation.

The results of this care in manufacture will promptly be reflected when marketing your product in at least three ways, first, increase of sales and repeat sales; second, a lowered overhead cost for servicing, repairing, and replacing defective machines, and third, a fairer and lower price to the consumer because it is based on the cost of her machine only since she is not burdened with a share of her neighbor's repairs in your overhead.

There is perhaps no household device operated by electricity that is more complicated in its oiling system than the old–fashioned sewing machine and yet the manufacturer managed to train the housewife to ninety per cent. efficiency in caring for the machine. Therefore, well defined and specified places for oiling should be provided for, and decalcomaniac or otherwise permanent directions placed on all enclosed gearings, in order that the user may continually have before her the correct places marked for oiling. It is not enough to supply a circular of

directions: she loses it promptly as has been proved over and over again. All important service directions must be permanent.

#### SOME NEEDS OF THE PRESENT AND THE FUTURE.

It is largely because there has not been a consumer demand that was well defined that we find few equipments designed with attention to the proper working heights. Moreover, we are convinced that it is a decidedly difficult question to settle. However, it is possible to group most exertions that women must practice into two classes: those that involve upper arm muscles, as work at a sink, range, washtub, or washing machine, etc., and secondly, exertions that involve the muscles of the forearm, as the mixing, stirring, and beating involved in cookery processes.

In the first case any variations in a woman's height makes comparatively little difference. A range of heights from five feet to six feet would be served equally well by a similar height of equipment. This makes it possible to lay down the rule that sinks should be designed and plumbers should provide for piping them at a height of thirty—five inches from the bottom of the sink to the floor. Ranges should be thirty—four inches in height to the working top, and both washing machines and tubs should be thirty—eight inches to their rims. This enables all work to be done with straight unstrained back.

Where the forearm muscle is involved, however, it becomes a far more delicate question. The distance between work—table top and elbow must be the control on designing. For that reason it is not possible to establish a constant and ideal height for kitchen cabinets and working table surfaces, although in general most of these have been from one to two inches too low. Adjustable in height seems to be the only answer to this phase of the problem. Some one, sometime, will undoubtedly design a well made table (we have already seen one of poor construction) that will have strong, as well as adjustable leg support. Some one, sometime, will build a good refrigerator (as we have seen a poor one) constructed with the sanitary, high leg—base of the present day office desk. It will obviate stooping and it will enable one to get the refrigerator pan without groping provided there can be no drain. It will further allow for a refrigerator pan large enough to prevent the common accident of overflowing. Again, sometime, we believe the manufacturer of kitchen cabinets will see a picture of kitchen built with four, straight, clean walls and completely equipped with the pantry on one wall, consisting of kitchen cabinet and side units for storage cabinets, each one of these side cabinets to be only fourteen inches deep.

The time will come it is almost here when the demand from women for the high sink we have already indicated is going to be strong enough so that the Plumber's standards for cutting pipe will be changed to meet her demand. It is difficult to realize, but it is nevertheless true, that every woman who wishes a properly placed sink in her kitchen or pantry has to overcome the inertia of the plumber not only because of his conservative unwillingness to do this unusual task, but because he is put to the extra expense and trouble of getting specials in pipe length, due to the fact that the plumbing trade, as yet, has not recognized an at least partially developed consumer demand.