The Heritage of A Century

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PROLOGUE

ONE Hundred years ago the name Mayer was already established as a manufacturer of fine china in England. In the years that have passed this name has been constantly associated with that art with increasing importance. ¶ In many parts of the world have been uncovered from time to time specimens of the potter's art which bear mute testimony to the progress of the craft throughout the ages.

Many centuries ago china making was first introduced into England. The original Mayer was a direct descendent of early followers of that art. He lived in an age of great potters. Years passed, the sons of this Mayer, Joseph and Ernest, grown to manhood, had learned the art of their fathers. During that period, the development of the art of china making progressed wonderfully, and fortunate indeed were Joseph and Ernest Mayer, who were destined to be the founders of the present American establishment, to be the possessors of such a heritage.

The year 1881 witnessed the establishment of a modest pottery by the Mayer Brothers at a site formerly occupied by the Economites, the sect which pioneered the Beaver Valley, in Beaver Falls, Pennsylvania. Here a plentiful supply of water

power was available, and furnished a delightful place to work, live and expand. Conditions foretold success from the start. Knowledge, sincerity, and industry all contributed to the steady, healthy growth the Mayer China Company has enjoyed since the day Joseph and Ernest Mayer first utilized the waters of the rushing Beaver River to furnish the power to operate a white ware pottery.

It was natural that the spirit of progressive America should inspire the Mayer Brothers to still greater achievement; that improved equipment and new personnel be added as the years passed, and that all developments in their chosen art be studied and adopted. Thus the quality of their product was enhanced.

The heritage of a hundred years is quality, in business record and product; that is the watchword in every department today, and has never been sacrificed to increased production or added profit.

To better acquaint you with our heritage of a century, that heritage of quality which is so cherished by every member of the Mayer Organization, take a little journey with us in picture and story to the Mayer China Company, at Beaver Falls, one of the greatest manufacturing towns of its size in the United States.

Mayer China in the Making

First we will visit the numerous bins on the ground floor of the Mayer China Company where the supply of raw material is stored in ample quantity.

Here we find ball clay from Tennessee, feldspar from Canada, Connecticut and New York, kaolin from England and Florida, and flint from Illinois. These materials in proper proportion are compounded and thoroughly mixed with water and then filtered through fine bolting cloth. This refined mixture is then pumped to a series of flat canvas bags held in filter presses where the excess water is removed under high pressure.

AN AISLE IN ONE OF THE CLAY SHOPS

When this mixture is removed from the filter presses it is then in slabs of uniform shape and size.

These slabs of clay are then cut up and put into a pug mill, the purpose of which is to more thoroughly mix and temper the clay, and thus prepare it for the delicate operations to follow. This prepared clay is then placed on a conveyor and delivered to the potters, who mould it into various shapes and forms.

Skilled craftsmen throw the required amount of clay for the particular article they are making on the spreader, which revolves rapidly. A tool is brought down on the clay mixture which makes a "bat" of proper thickness, and which resembles a huge pancake. It is then passed to the operator of the "jigger," where it is shaped by means of a mould and a fast revolving machine. The mould forms the inside of the ware and a steel tool of proper shape forms the outside. It should be remembered, however, that the moulds and steel tools must be changed

for each different shape, and great care exercised to maintain absolute uniformity of product.

In the manufacture of some shapes the clay is reduced to liquid form and poured into a mould. After it has settled to the right thickness, the excess is poured off and that portion remaining hardens and forms the piece of ware. Whenever this process of shaping is used, the subsequent processes, however, are the same.

The mould, with the properly shaped covering of clay, is now placed on a slowly moving shelf in a drying machine, which requires nearly three hours to complete its journey.

In this drying machine, the heat is so regulated that it equally reaches all parts of the ware. After the ware completes its torrid passage through the dryer, it is removed from the mould at the other end.

Here the finisher inspects the now hardened ware and removes any blemishes or rough spots, which have naturally developed prior to this point of manufacture. From here it is sent to the sanding machines.

This sanding machine, which was invented by a member of the Mayer Company and has been used for many years in this pottery, is a most interesting one. It evenly imbeds a bung or stack of ware in sand before it is placed in the kilns. The ware becomes soft during the firing process and the sand so placed prevents this ware from twisting out of shape. Some manufacturers of china imbed their flat ware in finely ground flint or clay, by hand. It will be readily seen that the flint or clay can not be evenly forced by hand under the edges of the ware. The Mayer method is a pneumatic vibrator which forces the sand in perfectly even distribution around all parts.

The ware is now ready for the "Bisque" kiln. Here it is placed in saggers, which are large heavy clay receptacles, to keep it from direct fire, dirt and fumes of the kiln.

The saggers are placed in the kilns and when the kiln is completely filled the door is bricked up, sealed, and the fire lighted. These kilns are fired from fifty-five to sixty hours in a temperature that rises to about 2440 degrees Fahrenheit. In order that the fireman may know just how the firing process is progressing, there are "spy" or "peep" holes in a number of places in the kilns. Within sight of these holes are placed in fourteen different places, cones, which are pieces of chemically prepared clay and other ingredients. These soften and bend over as they are affected by the different degrees of heat. When the designated cone bends over, the fireman knows the kiln is finished.

The firing then ceases, the air holes are bricked up and the kiln allowed to cool slowly. The time necessary to complete the firing of a kiln of ware is suggested by the following schedule. The kiln is lighted Tuesday noon, it is fired all day Wednesday and until Thursday evening, remaining closed all day Friday, opened Saturday, and allowed to cool Sunday, and drawn Monday.

After removing the ware from the kiln it is taken to the Dipping Department. Here is one of the most important processes in the matter of making Mayer China. This is where the "Wear-Resisting" glaze is put on.

Each piece of ware is dipped into a vat which contains a liquid, about the consistency of cream, made of the following ingredients, borax, white lead, whiting, flint, clay and feldspar.

The skill of the operatives in this department is evidenced by their knowledge as to the exact amount of the glaze to allow to adhere to each piece of ware. After dipping, the ware is put on another moving shelf in a drying machine. It journeys through this dryer in about half an hour, and when taken off at the other side, is ready for the fire in what is called the "Glost" kiln.

A SECTION OF THE UNDERGLAZE LINING ROOM

As the ware would stick together during this firing process because of the glazing, each piece must be suspended on a little three cornered piece of fired clay known as a "pin." These pins extend from the inside of the "saggers." These saggers are placed in the "Glost" kiln in the same way as described in the "Bisque," and fired from thirty to thirty-two hours in a temperature of 2210 degrees Fahrenheit. It requires around forty-eight hours for the kiln to cool so that ware can be removed. The saggers are emptied and the ware carried to the Glost Warehouse, where it is "dressed," that is, the small pin marks removed from the back and sorted. This is done by operatives using a small steel tool.

Thus, the process of making white China is completed—it is now ready for shipment after final inspection.

A PORTION OF THE UNDERGLAZE PRINTING ROOM

Mayer Decorated China

The story you have just read of "Mayer China in the Making" dealt only with White Ware. This was done to simplify our explanation of the manufacturing process without introducing the complexity of decorating, which constitutes seventy-five per cent. of our production. All Mayer China is decorated before being dipped and glazed, thus all decorations are under the glaze and cannot wear off. After the decoration has been applied the ware follows the same course of glazing, firing and inspection as described in the manufacture of plain White China.

The Decorating Departments of Mayer China Company are most interesting. In the case of a special design, crest or lining, the art department translates the customer's suggestion in natural colors on paper sketch plates for approval or further instructions.

Should it happen that the customer wants original suggestions from the Mayer China Company, these too are available, from the Art Department.

When a design is approved by the customer, the sketch goes to skilled artisans, where it is engraved by hand on a copper plate, which then goes to the Printing Department for the making of transfers.

The printer takes the copper plate and spreads the color, filling in thoroughly the engraving and removes all surplus color from the plate, then places a wet tissue over it and runs it through a roll press. The color is transferred to the tissue, and operatives in turn transfer this to the ware, which then goes to the Lining Department. Here expert liners put on the lines with a fine brush.

In the case of printed border patterns, the design is engraved on cylinders in sizes and curves which will exactly fit the ware to be decorated. These cylinders are operated on printing machines and are fed a special quality of transfer tissue paper in much the same way as a rotary printing press.

The color is fed on these cylinders automatically, the paper goes over a steam table and through the printing press. Operatives separate these curved prints and they are placed on the bisque ware in the same general way as the special design transfers. They rub down the prints on the ware with a stiff brush, using a special substance, and the tissue is later washed off, leaving the color and design in the proper position on the ware.

All color used is made at the plant. For this reason, it is possible to know that only the purest chemicals and mineral oxides are used in its manufacture. This assures absolute uniformity of color and permits colors to be accurately and carefully duplicated.

As before stated, the ware is now ready for dipping, glazing, firing and inspection, following the same process from this point as the White Ware.

A VIEW OF THE EASTERN SIDE OF THE PLANT FROM THE RIVER

The Plant

The Mayer China Company occupies thoroughly modern two story brick buildings, which practically cover two city squares. Notwithstanding this large floor space, plans are now under way for the erection of additional buildings which will very materially increase the present capacity. The Mayer plant is clean, bright and cheerful; providing pleasant working surroundings for the employees, which, in turn is reflected in the standard of workmanship so pronounced in Mayer China.

Nature has provided the source of power for the Mayer China Company. The rushing waters of Beaver River flow close to the plant and modern turbines harness its force for the supply of electrical power. This arrangement gives a steady flow of economical power which can be relied upon year in and year out.

Mayer Standard of Vitrification

It has been a very difficult matter to establish any standard for what might be called "Vitrified China" as there is such a wide range under this classification. To vitrify means to change the structure by heat in such a way as to attain a semi-fused mass which is practically non-porous and translucent.

There seems to be no set standard as to the percentage of absorption, but when china has reached the state that it will show by test to average about two one-hundredths of one per cent. absorption, we feel sure that it is as near vitrified as it is possible to make it. Mayer China has reached this standard.

Unison of Body and Glaze

Every school child knows that heat causes expansion and cold contraction. This is a generality, but to be more concrete we must further designate that most things expand or contract to a more or less degree inherent to the substance in question.

In china we have two such substances, the body and glaze. If one of these expand to a greater degree than the other, it will pull apart, and cause "crazing."

This evil can, and has been, overcome in Mayer China by a scientific compounding of body and glaze so that when the ware is subjected to the heat of the oven or a cup to the boiling coffee, both body and glaze will expand to the same extent and not be damaged by unequal expansion.

Selecting the Ware

As a high standard is adhered to in every process of the manufacture of Mayer China, it is maintained to an unusual degree in the selecting of ware after it comes from the kilns.

The one in charge of this department has been over forty years with the company, and has a corps of expert selectors whose sole duty it is to inspect all ware. This inspection is rigid in the extreme.

Checking and Packing

Orders are placed in the hands of workers who carefully get the ware out and check each item. This is sent to the Packing Department and re-checked when set off the truck. It is then counter-checked before the shipment is turned over to the Packing Department. A packer then checks with one of his assistants and all of these checking sheets must correspond exactly before they are sent to the Invoicing Department The same standard of efficiency is demanded in the packing of all orders, with the result that claims for breakage are almost unknown.

Conclusion

A great deal of the joy of life consists in doing perfectly, or at least to the best of one's ability, everything which he attempts to do. There is a sense of satisfaction, a pride in surveying such a work—a work which is rounded, full, exact, complete in all its parts. It is this conscientious completeness which turns work into art. Such a spirit of service is evident in every department of the Mayer China Company and leads us to use, in part, a wonderful thought of John Burroughs, American Naturalist, "In substance, the charcoal and the diamond are one, but in form and effect how widely they differ! The difference is all in presentation; a finer process has gone on in the one case than in the other. The elements are better fused and knitted together; they are in some way heightened and intensified." Is not here a clue to what we mean by the quality of MAYER CHINA?

"THE WARE WITH THE WEAR RESISTING GLAZE"