



From Studio to Production

Jonathan Kaplan describes the production process and the story behind Harry Spring's 'Love Bowls'

THERE ARE TIMES in one's career as a potter that a piece you make generates too much public interest. In fact, so much interest that perhaps you think about not making it any more. Either it is too large to fit into the kiln economically or it is so labour intensive that you cannot bear making another one. Or any one of a dozen or more reasons. But it has market potential. You sell all the pieces that you make, and you can easily sell more if you could make more. The positive attributes clearly outweigh the negatives. You have more wholesale orders than you can fill. You sell out of this item at every retail show you exhibit. A sales representative tells you he can place hundreds of them in catalogues. Such was the case with Harry Spring and Spring Pottery of Rhode Island. Harry did not mind making these items. But he decided to limit his production of them so that he could also make the other items he enjoyed. He knew that he had designed an item that had sales potential.

The 'Love Bowl'® has an interesting history. In the mid 1970s on a studio tour with other potters, Harry Spring visited the studios of Michael and Harriet Cohen in Amherst, Massachusetts, and noticed a bread bowl that had this inscription on the rim "Mix it, Knead it, Bake it, Eat it." Harry and his wife, Elizabeth, owned a small pottery shop in Newport, Rhode Island, where they made and sold their pottery. They began to create a line of stoneware that

The bowls are dipped into two separate glazes.



The positive male impression which makes the female working die. The impression is cast with rubber over Hydrocal and uses a steel ring to index it to the die case for the working die. Modelling clay has been added to the foot to increase the clay flow in the working die.



The steel die case is indexed on to the impression and the air release coil is started. This coil sits approximately 1 cm (5/8 in) above the surface of the impression and are spaced the same distance from each other around the entire perimeter of the impression.



The finished air coil.

included a bowl with their own inscription: "Give us this day our daily bread." Over time, the inscription changed to read "Give us this day, our daily bread, salad, pasta & popcorn" so that the entire rim of the bowl was filled with the inscription. According to Harry, they were quite successful with this bowl.

Moving to Ojai, California, in 1987, Harry and Elizabeth opened a small store that carried the work of other artists and craftspeople as well as their own pottery. They also sold calligraphy and realised that their customers were drawn to the written word. Harry again started to inscribe the rims of his bowls. According to Harry: "One day while having tea in the kitchen, we decided to look through some cook books to come up with a pithy saying to inscribe more bowls. The Ananda cookbook suggested that the reason Mom's cooking was so good was that she cooked with love and how important it was to be conscious of that while preparing food and cooking for family and friends. The Ananda book also said: 'You are the most important ingredient in any dish, the ingredient that matters'. We took these ideas and came up with the inscription that would appear later on many thousands of bowls: 'Love is the only ingredient that really matters'. We also produced a vegetarian version of the bowl inspired by the quote from George Bernard Shaw: 'Animals are my friends. I don't eat my friends.' This bowl also sold well in California."

In the early 1990s the Springs moved back to New England. Harry produced a line of pottery that included the 'Love Bowl'. Even though it was a piece that always sold well, Harry was growing tired of making the same bowl over and over. A friend of his, Zubin Levy, agreed to act as his sales representative understanding that there was a market for this bowl and perhaps they could make a little money on the venture providing that Harry could find someone to make the bowl in sufficient quantities.

When I was in undergraduate school at Rhode Island School of Design, I had met Harry Spring. In fact, I remember that we worked together on a design for his stoneware gas kiln. Years passed. Careers move in different and varied directions. I was building a ceramic design and manufacturing business in Colorado. Harry was making pottery and building his wholesale and retail business. One of the constants in his business was the 'Love

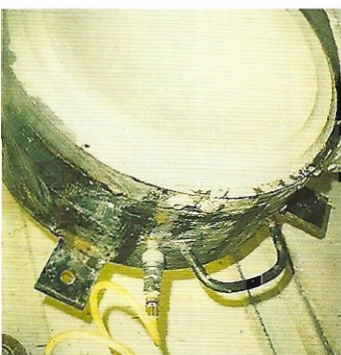
Bowl'. In 1997, from the efforts of his sales representative, the bowl was picked up by two large giftware catalogues. In the Colorado mountains, we had just acquired a RAM® press and were looking for new clients to expand our business. Harry contacted us and we began to explore the production of this item for him.

Our design and manufacturing business was previously focused on production by slipcasting and jigger/jolly. Our list of clients was growing and the RAM press was the next logical extension of our manufacturing capabilities. Our clients included potters, designers from the giftware and tabletop industries, people with ideas for ceramic items that needed product development, as well as a host of others with many and varied needs. We were also developing a line of contemporary tabletop items in low temperature white earthenware for the 'paint your own' stores that at that time were an emerging new industry. Potters were drawn to our shapes as they were designed by a potter and could easily fit into their individual productions. As the business began to grow we made our 'Studioware' line of earthenware pottery in other clays, from terracotta to stoneware and porcelain. Our press was busy. As was the learning curve associated with it.

Hydraulic pressing, or RAM pressing (proprietary to RAM Products, Columbus, Ohio) has been a viable method of manufacturing clayware for some time. Factories used these heavy duty machines along with automatic jigger/jollies to produce volumes of ware for the dinnerware and tabletop markets. In the beginning, the price and the technology was difficult for studio potters to work with. Then Scott Currie of Christian Ridge Pottery in Maine saw their potential in the studio. Currie needed a production tool for the manufacture of his gourmet cooking items that were in demand by upscale catalogues in the US. Currie began production of his 'Apple Bakers'® and 'Bakatos'® in the 1970s as the first studio potters in the states to utilise the hydraulic press manufactured by RAM products of Columbus Ohio. Over time, small studios with increasingly greater productions that to this point were hand thrown also saw the potential of the RAM press. Now many small scale pottery businesses use hydraulic pressing as a viable means of production. I understood well the value of these machines as production tools and how potters can design beautiful ware to complement this manufacturing process.



Steel reinforcing has been added over the air coil to deter any migration within the die if cracking occurs. Forms with narrow feet are subject to cracking, especially around the perimeter of the foot. Ceramical gypsum cement is then poured into the die case.



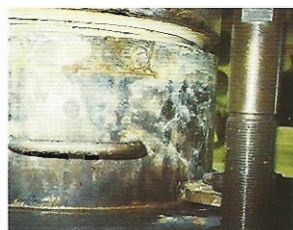
After scraping the excess material from the back of the die and waiting until the temperature of the cure has reached 40°C (105°F), air is introduced into the die to make the die micro-porous enabling air release. After curing for a day, the die is soaked in water. A wet die is stronger than a dry die.



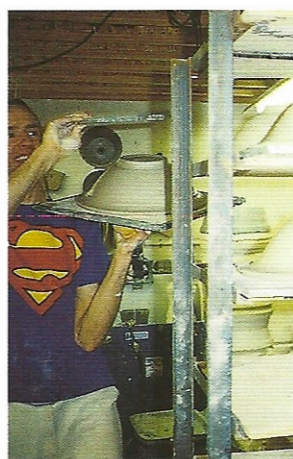
The dies are set up and gapped correctly on the press. Both the male and female die members are checked for proper alignment which will yield an even cross section with no overbite.



A 4 kg (10 lb) de-aired charge of clay is put into the female die member and the press closed.



After proper dwell time, the bowl is released from the female bottom die by applying air into the die.



The press is parted and the bowl remains on the male/top die member. Air is applied to the male/top die member and the finished bowl is released to a catch board and then stacked on ware carts.



As a potter and ceramic designer, I am not tied to the belief that there is an ethical pot, or for that matter, ethical ways of making pottery. My pottery paradigm changed quite early in my career when I threw my first gross of mugs. To me, it does not matter how pottery is made. What matters is the intent, the design, and its execution. Whether it is hand thrown, jiggered, slabbed, RAM-pressed, slipcast or pinched, these are only just ways of working to convey ideas. Potters wheels, slab rollers, extruders, the hydraulic press and the jigger/jolly are just tools and their methodologies are only just ways of working. What matters are ideas, the capacity for good design and its execution. These tools, these machines, our hands, our eyes, our brains and capacity to visualise, are just that, tools to realise our ideas and visions. Methods of making pottery do not determine worth, efficacy or value.

Harry Spring knew it was time to move forward with the 'Love Bowl'. The questions he posed to us were: Could we manufacture it in the volumes needed by specific deadlines; and could the piece be made for a price that would insure a profit over the four levels of sales — our manufacturing, Harry's markup, the sales representatives commission and finally, the vendor's markup at the point of purchase? We told Harry that we would look into these areas and working with him, came up with a pricing strategy that seemed fair and profitable. We decided that we also needed to simplify the paperwork. A system was devised that we would bill Spring Pottery for our costs of the bowl that included time, labour, materials, overhead, seconds and profit. Included in the price was also the labour for packing the bowls and the costs of the boxes and the packing materials. All shipments were FOB our facility. Harry took care of the billing to the catalogue listings and payments to us. Little did we know that we were in for quite a journey. My colleague, potter Tom Mason, said to me: "Just because you have a RAM press, it doesn't mean that it is easy." How right he was.

We had the capacity to RAM-press volumes of Love Bowls but the limiting factor was our 50 cubic foot gas car kiln. We could only fire 36 bowls per load, six bowls per tier with six tiers high. Clearly, we needed to fire three times per week with firings over the weekend to meet the deadlines. At that time, we had the necessary staff to deal with this volume. Each ware cart held 36

finished bowls and this was our production indicator as it was also the number that would fit into the kiln. We needed to press one gross or more each day with finishing time the next day. There was also clay reprocessing and pugging, drying time, bisque kilns, waxing and glazing time, scraping the glaze from the recessed letters and finally packing and shipping. We calculated schedules that would work and jumped into production using a high-fired white stoneware clay. We had already made the dies and impressions. Clay was mixed, glazes made, production started.

The first problem we encountered was entrained air stemming from the deeply-trimmed foot of Harry's original model that we used to make the working die. The depth of the foot trapped air in the small foot cavity. It sealed over as the clay flowed upwards. Under 60 tonnes of pressure in the press, this entrapped air migrated into the wall, unseen. All the ware was successfully bisque fired but, on glazing the bowls, the water from the glaze caused the entrapped air from the foot to expand. We lost many pieces as sections of the sides audibly cracked off the bisque pots. The second issue was not understanding the requirements of clay flow under pressure into the working die. Because the original had a deep foot, the clay filled these areas quickly upon pressing but did not flow. Rather it encountered the foot rather harshly and it set up a stress. After drying, most of the production had cracks in the feet. There was a smaller issue of rim cracks due to inadequate dwell time at the conclusion of the pressing cycle but this was easily rectified.

Harry produced a new model to our specifications with a flat foot which enabled the clay to flow unencumbered through the die. We made a new set of impressions and working dies, and have been successfully producing Spring Pottery's Love Bowl for Harry's clients for four years. The die is remade periodically as the cut off edge and the raised letters are prone to wear down as the clay moves over them.

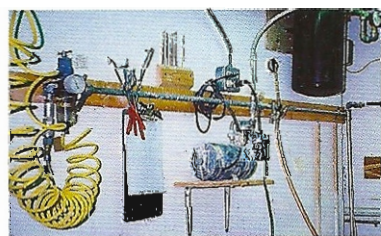
The bowls are glazed by dipping them into two glazes, one completely over the first. We use a vacuum assisted glazing device so that tong marks are eliminated. We monitor the specific gravity of the glaze so that the total thickness of the layered glazes is within an acceptable thickness range. To enable the second glaze to flow perfectly over the first glaze, it is deflocculated slightly with Darvan 811. The glaze dries overnight and the next day, we scrape and clean the letter area. They are fired to cone 10 reduction. An oxygen probe monitors the reduction in our 50 cubic foot car kiln. The burners are computer controlled with a soak near the end point of the firing cycle resulting in a truly spectacular deep blue glaze with much surface activity. As these glazes melt together they produce an acceptable eutectic that eliminates any pin-holing or glaze pitting, so often a result of reactions of iron, rutile and gersley borate in a reduction atmosphere.

The catalogues required that these pieces be individually boxed for re-shipment to their customers. There were two catalogues and the total order for both was approximately 1000 bowls. These were manufactured and shipped within the required deadlines. Currently, we do not produce these bowls for catalogues. The entire production is now sold to craft retailers.

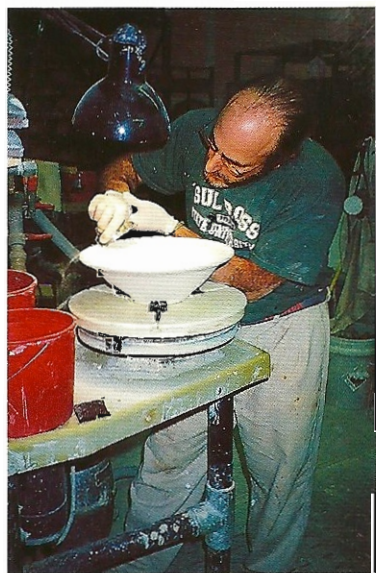
Harry writes: "Jonathan, the Ceramic Design Group and I have been through a few production problems over the past years but things are moving along just fine now. I still think that the Love Bowl has huge sales potential but, like anything else, it requires focus. A good deal of my time is spent on my own pottery and the craft shows I sell my work to now. I still make the handmade version of the Love Bowl and it continues to sell well for me."



The bowls are bisque fired to cone 06. Bisque fired and waxed bowls are set on shelves.



Glaze area with vacuum-assisted glazing equipment.



After the glaze has dried, the lettering is scraped clean of surface glaze leaving glaze in the letters.



Finished Spring Pottery "Love Bowl©" manufactured by Ceramic Design Group Steamboat Springs, Colorado.



A 50 cubic foot fibre-lined gas car kiln holds 36 bowls and is fired to cone 10 in a reduction atmosphere.

As I look back over four years of the Love Bowl production, what is most apparent is that this is an item that has selling potential. The mottled blue glaze with surface texture is certainly a strong selling factor, but mostly it is the Love Bowl that sells itself. It has a 'hook', in fact it has many hooks, its size, the colour, and the inscription. I often recall potters saying: "If I only had one item that really sold ..." This is indeed one of those items. For us, it has been a valuable learning experience as well as good business. In fact, even though we have standardised each part of the process of making the Love Bowl, every kiln load provides insight as to how we can better tweak our system. For instance, we have recently purchased an industrial stainless steel clay processing system that will allow us to formulate and make our own clay in press consistency, freeing us from manufactured bodies of unknown formulations and uneven consistency. Further, as we have experienced the potential of this bowl, we have taken over the business from Harry Spring. We will continue to fill our standing orders from his accounts, and we look forward to new business ventures with the Love Bowl.

Jonathan Kaplan is a potter and ceramic designer in Steamboat Springs, Colorado. His company, Ceramic Design Group, specialises in design, prototypes, samples, tooling and small production manufacturing for the giftware, tabletop and pottery industries. They can be reached at info@ceramicdesigngroup.net.