



Larry
Fattori

I came to Portugal in 1968 to investigate the mold building industry.

EUROPE, 1968

The story goes back to the year before that, 1967. One of our clients was Fabergé and the chief engineer for Fabergé was a German. We had to build a series of moulds for a new project and he wanted the molds built in Germany. So we went to Germany, Diburg, I forget the name of the company, and had the molds built. They were good molds, we inspected them, but when it came down to the cores, the blade knockouts on the cores, they wanted them nitrided, but we wanted them flash chromed. We couldn't get together about what to do, so I call the chief engineer of Fabergé and told him the story, his solution was to buy both...

So I decided, we have had enough of the Germans, so let's have a look elsewhere. So we went to Switzerland, Italy and then to Portugal.

We found in Italy, a company named Olympo Stamping located in Brescia. It was a wonderful factory, but Mr. Olympo really didn't want to talk about molds, he was interested in automobiles... in racing automobiles...

As we continued talking, we asked him about deliveries, well, "we tell you 13, 14 weeks... we mean 13, 14 weeks except when we have strikes... we may have a coffee strike... we may have this kind of strike, another kind of strike". Obviously, we got out of there and said that's enough of that.

We came to Portugal, we checked-in to the Ritz Hotel, and hired a driver... and once in a while I still see that man around, Armando...

PORTUGAL AND ANÍBAL
H. ABRANTES

So he drove us in a Mercedes up to Marinha Grande. I never forget the story... we got to the intersection, in Marinha Grande where the cop (polícia sinaleiro) used to be on a pedestal, he had white gloves on... Armando stopped to ask for directions... after receiving the directions he said "thank you jackass", I said: Armando you're getting in trouble, and he said: he doesn't understand English.

So we went to first factory... We inspected the equipment and it looked like,

what we refer to as a salvation army, the equipment was very old, did not impress us at the time...

Then, I don't know if was that day or, it is hard to remember, as it was many years ago, but we went through Abrantes and the equipment was day and night. They seem to be more organized, the gentleman spoke English very well, was impressive, but the machinery bothered me...

We didn't do anything with Abrantes for... I guess was about maybe a year, a year and a half... two years...

MOLDS IN MARINHA
GRANDE

One of our customers was Trans World Display and they gave us the first job – Seegrams. It was... one cavity mould to produce a Napkin Holder which requires side cams and hot bushing, was a large piece, the part must be 12 inches long, by 6 inches width, and 7 or 8 inches high and had engraving of Seegrams on a side which was formed by the cams. Based on the workmanship of the tool was very good and the parts were submitted by our client Trans World Display to Seegrams and everybody was happy.

Based on that we got more work from Trans World and I think, in between that, we have placed other tools for other companies but I can't remember who they were, what the moulds were but...

we spend many nights until midnight producing mouldings, producing parts. They enjoyed, their stay especially in the Inn (the Pousada)... they enjoy the Edilásio company. They thought that was great.

We landed, a big job from Trans World for their client Spiedel. And they had a concept for, what they call TT108. They wanted to put 180 watch bands into the cabinet, but the cabinet would only display on the front, and all the reserves would be in the back, so we designed a system where the panels opened up and all the reserve watch bands were put into the back.

We did all the engineering on that and we submitted the plans for quotation to Abrantes at the time, we won the approval of Trans World and we placed the tools, and I think they were 9 moulds involved in the project, 8 or 9 moulds.

That molds worked very well and to put it into the production line at the factory, we move things around. We had a conveyor with 260 feet long and we started moulding and assembling with the machines along the conveyor.

We started the first moulding, then the second moulding and the operation with hot stamping, with grain on it, the all job went down the line, finished, was ionized with the ionizing gun, was wiped down with wax, and went to a trailer. No stock, we didn't keep anything in the warehouse. The completed unit went directly to the trailer and was shipped out that night. We did a lot of work for other companies. We did a Salton Ice cream machine at Abrantes. The Salton executives came over to observe the initial molding, husbands and wives, they were four of them and we put them in the Inn of Batalha (the Pousada). We spent many nights trying out the moulds, at Expermold. Not only did they try out the moulds, but they also wanted to produce samples in the right colour. They shipped many boxes back to the USA. Together, we spend many nights until midnight produc-

ing mouldings, producing parts. They enjoyed, their stay especially in the Inn (the Pousada)... they enjoy the Edilasio company. They thought that was great.

One of the biggest projects we worked on was a nine mold project for B-Bar-B Company. The project included not only the design and the developing of the moulds but also to install the new and complete factory for them.

One of the big moulds we had made was for Sony, it was a Sony display and the a part looked like a large S and had 4 foot from one end to another end and 3 feet in height, two parts were riveted together and then metal tubing held three layers to display Sony equipment as their display in the store. The interesting part about that mould, was that when we tried it out, we couldn't stop the parts from cracking. I had to go back to the United States, I can remember, I flew back, next week I came back, and Firmino and I tried some changes, worked on a Saturday, and wondered how are we going to fix this, the mould is sliding, as the material is injected, causing the moulding to crack, so eventually... we had to interlock it some how and maybe change the injection point. But finally we got the mould to work.

One of the biggest projects we worked on was a nine mold project for B-Bar-B Company. The project included not only the design and the developing of the moulds but also to install the new and complete factory for them.

The factory was built, we designed the entire electrical system, the water system, the material feeding system, we installed the machines, we've installed the molds and produced everything according to our projection. We initially accorded them with the fact that we would produce, I think it was a 4 cavity mold, we would cycle four shots per minute in perfect parts, and we did that to all the moulds.

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We had our own tooling shop at that time, we had 18 men at there and we used them most to repair, but we did build some of our own moulds. The equipment that we saw in Abrantes was far advanced to what we had. I think the... I got to know the people at Abrantes fairly well. First of all, going backwards - the finish of a mould, I can't find a company that can finish a mould like Abrantes can finish a mould. When we said number one finish was number one finish, if we said number two finish, number two finish and if we said is EDM finish, is an EDM finish. We got what we ask for as far as the finish of a tool. I can remember also Louro, I cant remember what mould it was, but he was so proud he was in charge of the finishing department, and he would come over and put his finger and push a cam, push back and forward the way a cam should work, we never saw something like that.

SHOP IN AMERICA

So, in comparison, we became very loyal to Abrantes and we disbanded most of our s toolshop, we scaled down to a 4 or 5 man shop, we had purchased into this shop and put it in the back of our plant.

SENHOR ZARCON The important thing in going back is, as I say, I got to meet most of the people in the various factories, and they use to kid around with me, calling me Senhor Zarcon. I was called Senhor Zarcon because I made them “blue in” every mould. I wanted to see how the mould faces sealed off. I just couldn’t accept a tool that wasn’t perfectly machined on the face, on the parting line. I enjoyed that, Senhor Zarcon, I use to walk in and they said: “Here comes Senhor Zarcon”, but I walked in not only with the Zircon, but also walked in with measuring and test equipment, with thermometers and hardness testers. I wanted to measure the temperature of the mould face, I want to see how the cooling system was, I went thru a complete inspection of every mould, because this was what we told our customer that we do. I think we were successful doing that, we achieve what we wanted with the group.

One of the things that I remember, after they formed the Iberomoldes company they had offices in Leiria, it was winter and they were cold... I remember going up there one day and they had a radiator full of oil and the heat was coming out of there but everyone was shivering like hell and I remember Almeida was working on a drafting board and he had a incandescent lamp and he bend over and burned his head and made a scar that was... ugly!

We placed moulds, most of those 9 moulds that I talk about for B Bar B were made by Portumolde... we were very pleased with their interaction with us.

OLIVEIRA DE AZEMÉIS There was no reason to... for all the moulds we made in Portugal were made in Abrantes initially or with the Iberomoldes Group after they formed their company. That’s an interesting point to... I guess we were number 2 customer for Ibero-moldes. Bernard Yellin from Chicago was number 1 and we were number 2. But I like to say we were there before Berny but...

Quality is the important factor, I think one of the main reasons we starting working here in Portugal, against Germany was that, the Portuguese mould makers did listen to us, built to our American standards, which is very important.

PORTUGAL AND THE OTHERS He did purchase moulds on the United States prior to that time, but after we started working with Fabergé and placed the moulds in Germany, we saw Europe as our source to build our tools.

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The Germans only built on metrics, well nothing wrong with metrics, as far at the metrics goes, except for replacement parts... to replace a minor part... a leader pin, a bushing... to get those in metric parts was difficult.

Well we specified and received American standard parts from Portugal, they got the parts for us before we saw it. If we built a hot runner mould, if we said we wanted such, and such type of hot runner mould they got it, they installed it, no arguments, they did what we wanted, engineering wise...

I think we are all firm believers of the fact that the money in mould making is

made on the drawing board and... I think, evidence of that is that the work they would put in the mould drawing, in the engineering and we go over with a fine look and scratched out, and they would change it, adjust it. Couldn't get that in Germany, couldn't get that anywhere.

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In Italy, we got frightened because of the coffee strikes. Who wants to deal with a ten minutes coffee strike? Because a ten minute coffee strike could be an hour, or two hours, or five days, or months, who the hell knew...

We were not buying tools for ourselves, we were buying tools for our customers, and we were committed to... so what do you do?

We started the company in New Jersey, on the name REL Manufacturing Corporation. We started out manufacturing and marketing toys and sunglasses. As we worked along that line we became the world largest producer of model boats, little power boats. What happen at that time, I can't place the year... the difficulty of the toy industry of that time was due to the influx of the Discount Houses, they just disrupted the sales by Department Stores, that felt it that very much.

REL MANUFACTURING
COMPANY (USA)

That was a down stream to the jobbers, the people we sold to were the jobbers, the jobbers sold to department stores, they sold to *mom and pop* stores in their area.

Got to a point that was no money left for anybody, no incentive to develop so we got out of the toys business and thankfully and we went to custom moulding.

One of the things that really got us going in custom moulding were my inventions... (I, by the way, hold 60 patents, over sixty patents... the numbers are going up, we just applied for two more). I developed a valve for the milk industry which delivered two and half gallons of milk in a polyethylene bag, you know that product today as the "*bag-in-a-box*" delivers wine. You can see it throughout Portugal...

I had licensees throughout the World, in Australia, in Japan, in South America, in Chile, in Argentina, Canada, United States.

That was the start, and I developed that for the Olin Matherson Company which then spun off the paper division as OlinKraft located in Louisiana, and they were producers of kraft paper.

With the demise of home delivery of milk in the United States, they gave up the project because they were producing a "*bag in a bag*", so I continued with the patents with the licensees who were developing the "*bag-in-the-box*".

I'm surprised you haven't seen it, we buy it in *Pão de Açúcar*...

One thing led to another and we started to develop clientele, we picked up Faberge, AMF, Salton, Plastic Reel, goes on and on...

We still built in, all of the moulds for Plastic Reel in our own shop, except the last one that we had built by Abrantes.

Basically we had them to develop a system...

In the United States when they ship videos from place to place by the Post Office, if a video weights a pound and a half, they would charge for two pounds, so if they put two of this together they had 3 pounds, and save a lot of money in the overall situation, so we developed a piggyback lock where two of these units would interlock together.

They were happy with that. We were dedicated to develop intelligent product design, were committed to our customers to produce what we said we were going to produce, it was a guarantee and we provided it. The mould had to do what we said it was going to do. And promised what we said was what we delivered.

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AGENTS IN PORTUGAL

I met a lot of agents, they were after me in the Eurosol (hotel). I was my own agent. I didn't need somebody; I didn't think that anybody as an agent could do the work that I personally could do - on the acceptance of the mould, and on the mould design. I went to engineering rooms and I spent hours in there. We played, "we'll do it this way, or this way". The same thing in the acceptance of the mould, as I refer to – Senhor Zarcon, the world knows me as such. The mould had to be made to our specifications. And they produce it, they did it. I don't know anyplace else in the world that could do it. Not in love with us, we were tough, and we got what we wanted.

FIRST INJECTION MACHINES IN USA

My father had two partners, one was an ex-priest; Joe Bernerti and the other was Herb Hagh, a German Engineer. The three of them, my father in particular was working for a company in New Jersey, called Julius Spill. They manufactured eye glasses, sunglasses made from rod stocks. In those days there were no injection machines, they had and glass. On a form, they the parts together, and put glass lens into the frame. That's what they made, horrible looking spectacles. My father started the business in a chicken cup. And his two partners continued to work at Julius Spills. Like any other business they worked hard, they had it going and eventually the partners came in to the business along with my father. I guess Mr. Hagh heard about this crazy machine in Germany, which could produce eyeglasses for them, without having them to bend the rods and glue them together. So sent Mr. Hagh to Germany, he bought the machine and six months later showed up with the machine. It's was a great invention but with an awful design. It was a power press laid on the side with an injection cylinder in it. The machine was able to produce a moulded eyeglass frame. Which they would take from the machine and on a router they would cut the inside grove and then they would heat it in a tray which was full of heated salt which would soften the material and then allow them to snap in the lens, and pin on the temples. It was primitive but was better then the rods that they developed. My father was in charge of a metal plant. I went into Service; I was accepted into the Aviation Programme. When I came out of service, I went back to college and got my Engineering degree as a Mechanical Engineer. Every summer I worked in the Engineering Department at my father's company.

They had me doing all kinds of crazy things.

In 1950 my father sold his interest in the company, and the company was sold to the Curtiss Wright Corporation, which was an Aircraft Manufacturing company. I don't understand why they bought the Company. They moved all of the facilities to a city in Pennsylvania, with a couple thousands acres of ground. The company had its demise within a year.

I graduate from Stevens Institute of Technology in June of 1949. I already started the REL Manufacturing Corporation in May of 1949. Even as a under-graduate I started the wheels in motion. I went in to the injection moulding with Reed Prentice machines. And with those machines we used to kick and spit at and swear at them, you name it. I guess that with all of that, you learn the business the hard way. "If it is to much pressure, lower the pressure, or maybe the temperature is too much, lower the temperature... Shut it down, lets go home, go to bed".

The old story about Aníbal, is that when he quoted the initial price for a man in Switzerland, he was told that: "Yes you can make plastic moulds", but Aníbal said: "I don't know anything about that", but they respond: "You make moulds to the glass industry, so you can make moulds to the plastic industry, so here is a piece, how much did you think that costs to make?"

ANÍBAL ABRANTES

Aníbal looked at the sky and told the price, he took it out of the air.

I found Aníbal Abrantes to be a very king gentleman, he was always very good to me. I just thought he was a good Portuguese gentleman.

Primarily I negotiate with Vitor Hugo. He was the commercial director.

ABRANTES company seems like a family... I walked through that plant and everybody waved at me, say hello, I felt at home, which was important.

Since 1992, we got away from the consulting end of it, and became proprietary in the manufacturing of Maritime high security seals. This is what we do today.

PLASTIC INDUSTRY

After I sold REL Manufacturing Corp. in 1980 I retained the corporate structure and retained the engineering division and sold all the physical assets and I went through an open-heart surgery... I moved down to Florida and my son Jimmy, came down with us, he was a graduate of North East University, a Engineer and we set ourselves as consultants. Our son Paul, who now runs the company, at that time was in the University of Florida, going to school.

We had several big contracts as consultants, the biggest one, as I described before, was B-Barb-B contract, there were several million dollars involved in the construction of the mould, the factory, the machines, we took over the entire ball game, and produced what we promised to produce. They turned around and took ours efforts, and within three months they sold the entire situation for more then twice of the initial concept cost... they were happy.

We were happy for what we did, but it hurts to see something you created going down the tubes, with someone else managing it...

Then was when we set what we stand for now, manufacturing security seals for the Maritime industry, Truck industry and so on...

We ship primarily to Latin America – Colombia, Ecuador, Venezuela, Peru, and Mexico.

We have a constant battle going on with the United States customs... anyway I don't know if this has any meaning to you as moldmaking industry... security matters.

Last time we bought, we bought two moulds in Portugal, we built three moulds in Portugal for our Seals and one we built in the United States.

We have spend a great deal of time here, in Cascais, we have had an apartment, in Cascais which I'm sorry that we sold, Torre do Pinhal, in the top floor, we owned half of the top floor, in the back we had the views of mountains of Sintra and in the front we had the view of Cascais bay. It was beautiful, beautiful.

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MARINHA GRANDE AND
CASCAIS

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It was my Shangri-La... I got tired of living in the Ritz Hotel and in the Sheraton Hotel... the problem was I commuted up and down to Marinha Grande in the same day... tough!!! Before autoestradas. I remember waiting in line at the airport, in the circle (Rotunda do Relógio), sitting there for half an hour, trying to get into the circle, in those days.... The Portuguese drivers are something to be careful of...

people say to me "Why don't you go back to Italy?" What for!?, I have everything I want in Portugal.

PORTUGAL

The driving force in Portugal, asides from mould making quality and of course the friendships, there are the people, the Portuguese that I remember, I think the people that we remember, the food... its here, the willingness of the people to help you, they would go out of their way to help you because they recognize that you are in a far and strange country, they would help you. You certainly don't find that in France. I don't know. Is my love of any country, other the United States, obviously, is Portugal. I'm an Italian extraction... and people say to me "Why don't you go back to Italy?" What for!?, I have everything I want in Portugal.

CHANGES IN THE 60's AND
80's

First thing I remember goes back even before that...

The initial polystyrene that was produced was beer colored and took along time before the chemical companies developed a crystal polystyrene. What I do remember is that in my dad's company, they built a building to do this, it was high structure and they brought cans in, probably twelve inches diameter and maybe eighteen inches height

Well they put the styrene monomer into this can and they polymerized the

monomer while it was in the can by applying heat to it by some method.

They would bring these cans in and by elevator bring it up to the top of the building then strip the metal off, a disgusting looking thing, when came off as rust, the polymerisation because of the heat. They took this mass of polymerized polystyrene and throw into this grinder. I swear, the all town in New Jersey would shake. This comes down to the grinder. They were producing their own polystyrene pellets, not pellets, chips by grinding. They used this material in the production of brush backs where they coloured it to disguise what happen inside the cans, the dirt, the bark. They developed a method where they could turn the bark off, they had a machinery where they have to put it, they run a blade, that stripe the bark off, now they had a residue of clear polystyrene and they use the bark like they used before, by colouring it.

At that time, they where using a great deal of cellulose nitrate and cellulose acetate. The cellulose acetate production was very good but every time they use cellulose buederate you won't believe the smell, it was like horse manure, it was awful.

They had a direct relationship with Dupont Company. I remember the individuals; Mike Calaghan was the salesman from Dupont, who was very instrumental in getting Columbia to run nylon, there were no designations to nylon at that time, no 6.6 or 6.12, just playing nylon. They became a warehouse for Dupont, they had nylon stocked by the zillions, and then they started to producing nylon combs. The problem in producing a nylon combs was the mould had to be absolutely perfect, because nylon will flow into spaces the size of a half of a thousand of an inch, would go find its way to come out and flash. They did a lot of work on resurfacing their tools, and they were all "Zircon in"

That's all I remember from then.

When we got into the moulding and start using a lot of high heat polystyrene, we got a faster set of the high heat material so that you can improve our cycles. We were using a great deal of ABS, at that time, produce by Marbon.

We bought a clear nylon from Germany; we were producing the second filter for a Purelator for Amical Gas Company.

Right now we are using primarily polycarbonate and polypropylene. In the polypropylene we are using homo blend with metallocene to get clarity and also use a reinforced polymer for the stems. That's about it. We played around with some polyester moulding, I really don't see the benefit for us, as compared to polycarbonate.

