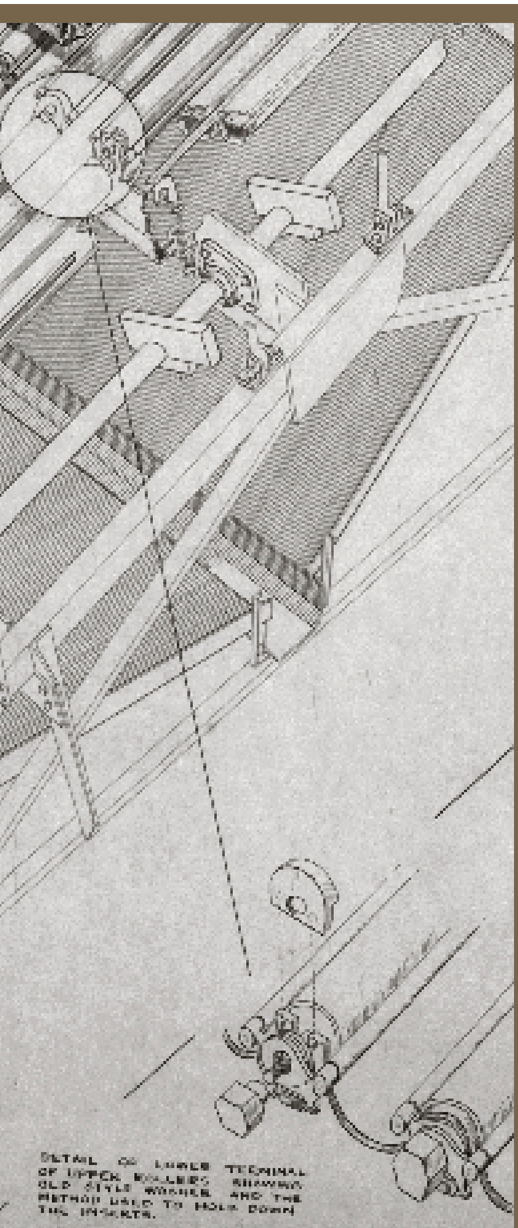
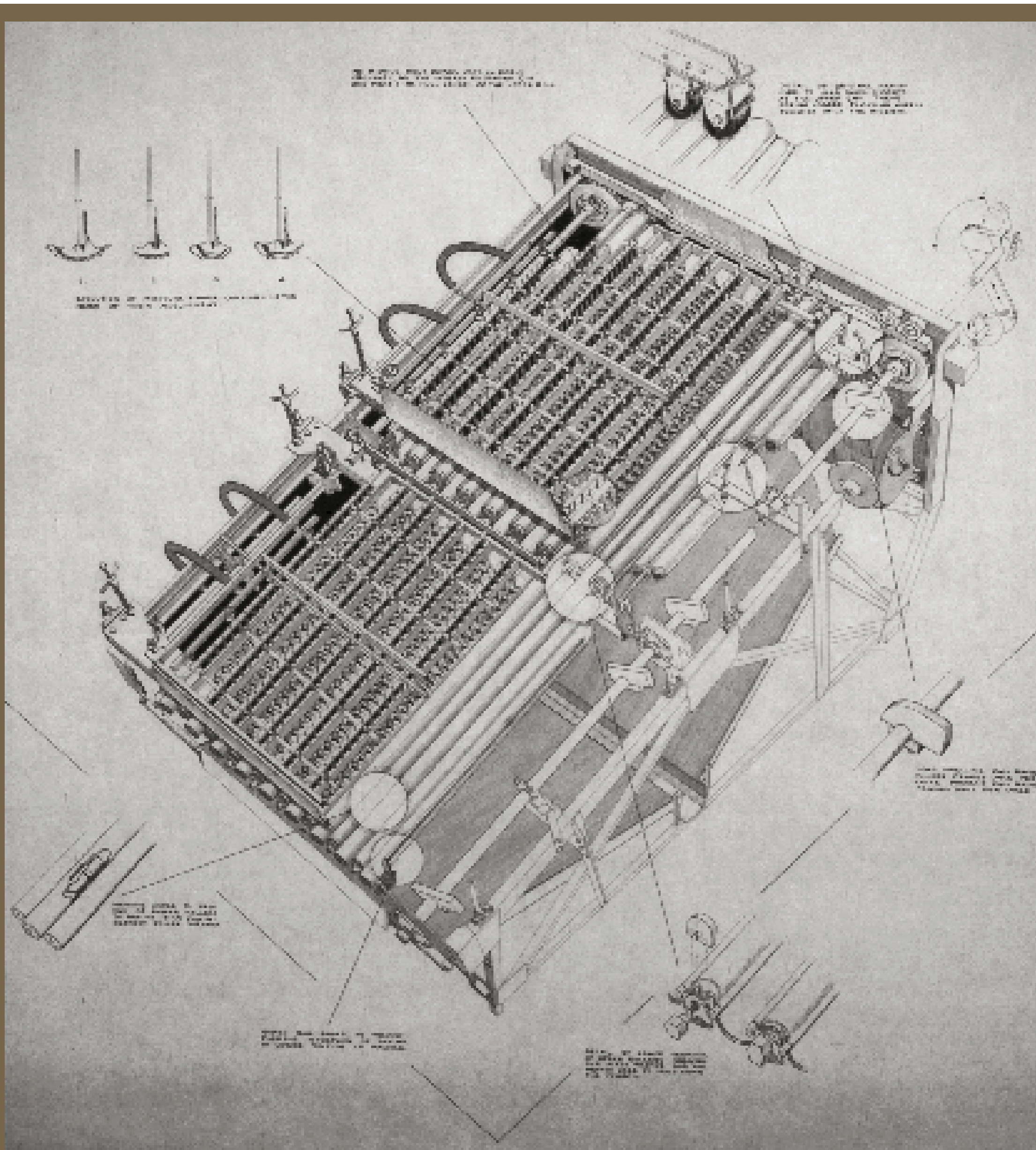
The Lapeyre Automatic Shrimp Peeling Machine, Model 'A', No. 572, 1979





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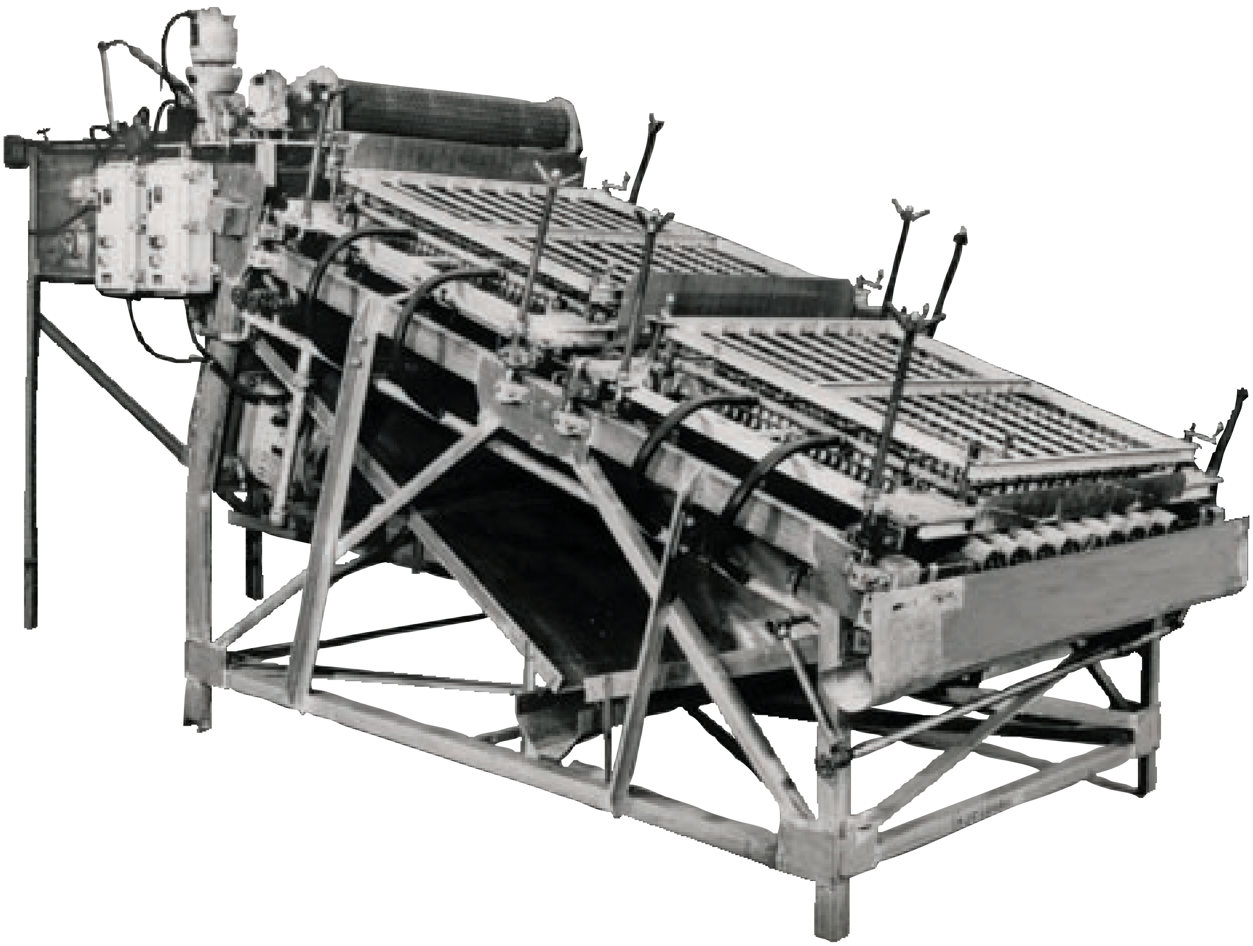


Model A Peeler, 1949

Floor Space (L x W x H): 16 ft 6 in x 7 ft x 11 ft; 99 ft^2 (5 m x 2.1 m x 3.4 m; 10m^2)

Net Weight: 3725 lb (1691 kg)

Yield: Approximately 1,000 lb (450 kg) of head-on shrimp or headless shrimp per hour

Water Consumption: 31 gallons (117 liters) per minute

The Lapeyre Automatic Shrimp Peeling Machine, Model 'A', No. 572, 1979

From the application for patent of the first shrimp peeler design, filed July 25, 1944:

"The present invention relates to improvements in shrimp peelers and has for an object generally the expeditious, inexpensive, commercial peeling of shrimp."

This is the story of how members of the Lapeyre (sounds like "la pair") family succeeded in doing just that, and in bringing about a revolution in the shrimp processing industry.

Introduction

Today, automated machinery peels more than 500 million pounds of shrimp annually, worldwide. Most of that equipment is derived from an idea conceived in 1943 by a Houma, Louisiana high school student. For over fifty years, this elegantly simple solution – known as the Model A Automatic Shrimp Peeler – has proven to be the most effective and widely used method of automatic shrimp peeling, despite attempts by others to develop alternative approaches.

The growth of the shrimp processing industry and its impact on local economies along the northern Gulf of Mexico, the U.S. West Coast, and in more than forty other countries is largely attributable to the "machine that peels shrimp," invented by sixteen year old James Martial (J.M.) Lapeyre.

The current Laitram Machinery Model A Automatic Shrimp Peeler is virtually identical to the first unit that was put into commercial use in 1949. Each machine peels approximately 1,000 pounds of shrimp per hour, ranging in size from 10 to 200 count per pound. Hand-peeling the same amount of shrimp would require the labor of as many as 150 experienced peelers, depending on the size and condition of the shrimp. Processors using the shrimp peeler realize a significant increase in yield per barrel of shrimp, a factor that can make or break a shrimp processing operation. Yield is increased because the peeling machine recovers 5% to 10% more meat from the head and tail sections of the shrimp than can be recovered in a hand peeling operation.

Because of this yield gain, the cost reductions of the peeling machine both to processors and to consumers are significant. Additional benefits include better sanitation and product consistency, and the availability of processing capacity at virtually any hour of the day or night, because only one employee is needed to operate and adjust several machines.

In the days of hand peeling, shrimp, a viable source of protein, was a luxury food which was available only locally, and at a premium price.

1.
During the Depression, children and adults often worked to peel shrimp together. Before automation, laborers were paid on a piecework basis, per bucket of shells.

2.
Grand Caillou Packing Company Bayou Grand Caillou, Louisiana

1

2

Because the peeling machine lowered processing costs, shrimp could be sold at a lower price to a much broader market than ever before. J.M. Lapeyre's perseverance resulted in a machine whose influence extended into the world marketplace, beyond its revolutionary effect on local economies where it changed the seafood processing industry forever.

An Industry in Need of Automation

Automated shrimp peeling had its beginnings at the Grand Caillou Packing Company, a shrimp processing plant located on the banks of Bayou Grand Caillou, south of Houma, Louisiana. The plant was founded in 1924 by Emile Lapeyre, and was typical of that era's shrimp "factories" – little technology, much hand labor. Even by 1943, when the industry had made advances in the harvesting, canning, and freezing of shrimp, the critical step of shrimp peeling was performed completely by hand. The manual labor force created bottlenecks in factory operations, hindered industry growth, and added financial risk.

Prior to J.M.'s invention, a major obstacle to the steady production of peeled shrimp meat was the pay structure of the plant workers. Workers were paid on a piecework basis, per bucket of shells. When shrimp were small, workers produced fewer buckets, and therefore, earned less money. The smaller shrimp took more time and effort to peel, and it took longer to fill a bucket with the smaller shells. The workforce was often inclined to walk out the door when confronted with a batch of smaller shrimp.

Staffing a plant for the difficult and tedious job of peeling shrimp was often challenging, and labor issues were aggravated by the manpower shortage brought about by World War II. The cost of maintaining a dependable workforce resulted in high consumer prices and limited the industry's potential.

The Rubber Boot Test

The search for the shrimp peeling solution began in the summer of 1943, when Emile Lapeyre suggested to his teenage son, J.M., that he "invent a shrimp peeling machine." J.M. was the eldest of eight Lapeyre sons and daughters and was still a high school student. Despite his youth, he was an ideal candidate for the job, with his experience in his father's shrimp plant (and resultant understanding of its labor problems), and his interest in, and aptitude for, understanding the workings of mechanical systems. J.M.'s interest in invention was such that, even at this early age, he kept a notebook filled with drawings of ideas for new inventions. Emile Lapeyre appreciated his son's strong analytical abilities and creative approach to solving mechanical problems. He was confident that J.M. would find the peeling challenge irresistible.

3

3.
J.M. Lapeyre (right) as a young man with his brother Emile, Jr. (left)

4.
Testing J.M.'s original idea

4

J.M.'s take on those early years sounds a little more pragmatic:

> *"My father used to give us jobs that were sometimes too hard. I always tried to figure out the easiest way to do things. That's what invention is all about."*

As J.M. was to demonstrate many times in the years to come, his approach to inventing began with an accurate perception of the fundamental elements of a particular process or operation. He began to apply this approach to the shrimp peeling question, and reasoned that applying pressure to the shrimp in exactly the correct manner would squeeze the meat out of its shell. As he related in a 1982 television interview,

> *"I got my original idea, believe it or not, in church. When I was supposed to be praying, I was thinking about how to get the shrimp out of the shell because my father had said that 'if you want to make a lot of money, invent a shrimp peeling machine,' and I thought, 'why not squeeze them out of the shell?' And so when I got down to the plant the next time, I began to step just to the side of the shrimp with my rubber boots to see if I could not in fact squeeze the shell from the meat. And...it worked."*

5.
The Washing Machine Tests. Shrimp shells were pulled through tail first, while the meat remained on the front side of the rollers.

5

The Washing Machine Tests

J.M. inspected the peeled shrimp lying next to his boot and analyzed the results of his rubber boot experiment. He correctly deduced that he was looking at the basic principle of the automated peeling process and that rubber rollers might reproduce the effect that his boot had had on the shrimp. Obviously, it was time to test the idea more rigorously, so he brought home a batch of unpeeled shrimp and convinced his mother that her wringer washing machine would be the perfect testing apparatus!

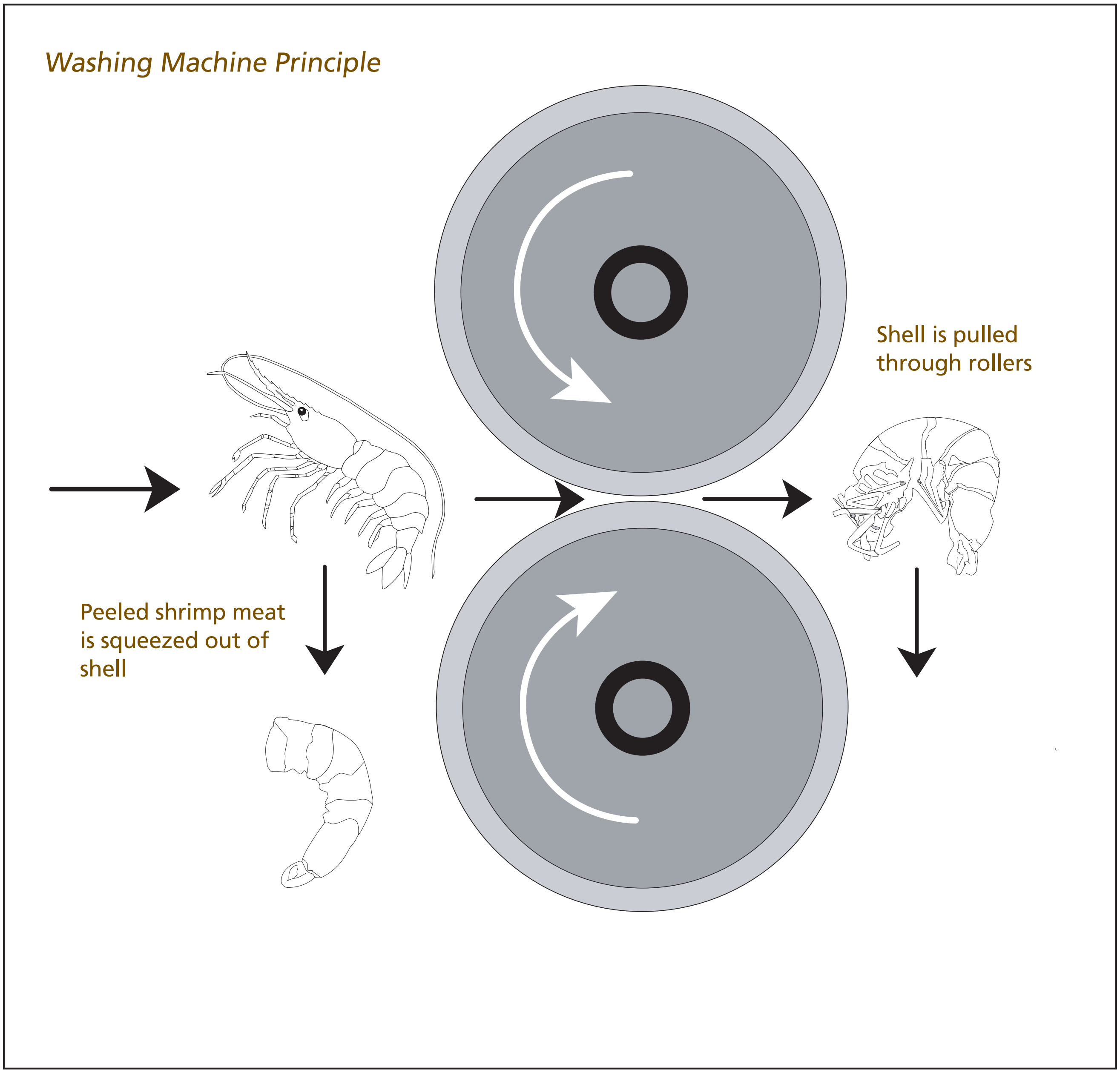
His mother reluctantly agreed to the experiment, after warning him of the dire consequences of damaging her washing machine. He then duplicated the peeling action, this time using the washer's rubber rollers.

"I ran the shrimp through the rollers of the washer," related the young inventor. "At first it was an awful mess. But after experimenting with different pressure settings on the rollers, I finally got one setting that worked out fine."

J.M. observed that the rubber rollers would grab the shell of a shrimp in such a way that the meat was squeezed out of the shell, and the shell and other debris would be pulled through the two adjacent rollers. There was no interaction between the peeled meat and the rollers; only the shells were pulled through. (See Figure A.) Although today's configuration is infinitely more sophisticated, this is the concept that enables a modern Model A Peeler to peel approximately 1,000 pounds of shrimp an hour.

The key to the peeling process is that the rubber rollers grip the shrimp shell, but not the meat. More specifically, J.M. observed that the coefficient of friction between the rubber and the shell was higher than the coefficient of friction between the rubber and the meat. This difference allows the rubber rollers to pinch and gain purchase on the shell and pull it away from the meat, which remains whole and unaffected by the rollers' continued motion. On the Model A Peeler, the rollers rotate back and forth through a 3/4 turn, rather than turning continuously in the same direction as they did on the wringer washing machine. This action produces a repeated "pinch and release" effect on the shrimp that facilitates both peeling and the thorough separation of meat and shell.

Figure A


Washing Machine Principle
Shell is pulled through rollers
Peeled shrimp meat is squeezed out of shell

6.
J.M. in high school

7.
Founders of The Peelers Company. From left, Fernand, J.M., and Emile Lapeyre, c. 1950

6

From Inspiration to Working Machine

After the success of his experiments on the washing machine, J.M. had to convince his father that he had, in fact, peeled the shrimp mechanically.

> ***"When I showed the shrimp to my dad and told him how I had peeled them," J.M. said, "he thought I was joking. He just wouldn't believe me. But when I showed him how I had done it, he was happy as a lark."***

Emile Lapeyre was willing to be convinced because of the industry's critical need for a way to improve the shrimp peeling process. He was confident that his son's approach was sound and that the project should move forward.

The next step was to develop a practical machine based on J.M.'s idea. Because he was only sixteen years of age and still attending high school, it was not feasible for him to head such a project. Emile was fully occupied with the business of his shrimp plant; and, more significantly, he did not think of himself as an inventor. But he had a younger brother, Fernand S. Lapeyre, who was a mechanical engineer and ideally qualified to direct such a design and development project.

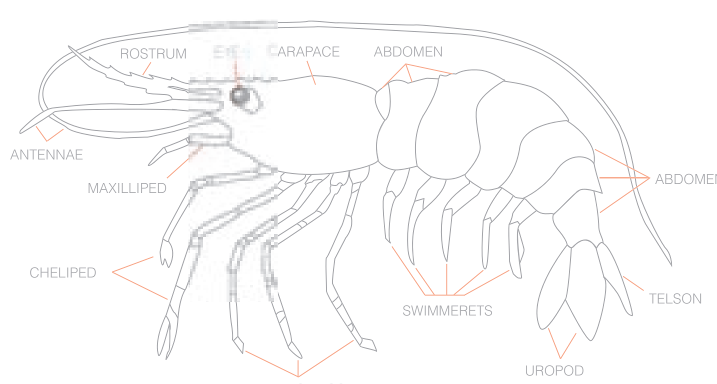
Fernand, like a number of other members of the Lapeyre family, was fascinated by invention and had also tinkered with various devices for peeling shrimp. He welcomed the opportunity to become project manager and joined J.M. and Emile in early 1944. The working arrangement capitalized on the men's individual strengths: J.M. would supply the core ideas, and Fernand would translate those ideas into reality. Emile, with his plant owner's perspective and thorough understanding of the industry, would guide the project along the path to commercial success.

Fernand lived in New Orleans and was already working full time as an engineering product salesman. The only practical way for him to participate was for the initial development work to be done at his home. The trio set up shop in Fernand's garage, working in their spare time and on weekends. J.M. and Emile regularly commuted to New Orleans from Houma, often bringing with them the shrimp they needed to run their experiments. This unavoidable, "part-time" schedule extended early development over a lengthy, two-year period. It was time well spent, however, because, by the time J.M. graduated from high school, the Lapeyres had perfected a manually operated shrimp peeler.

While early prototype development and experiments had centered on individual peeler components, the Lapeyres now began

7

focusing their efforts on the development of a commercially viable machine. Their goal was to determine the optimal machine geometry for applying J.M.'s "Washing Machine Roller Principle" to the shrimp peeling challenge. This development effort would span nearly a decade and produce several machine designs. These years of work culminated in a final configuration that was patented in 1951 and is the same design which is in use today.



Phase 1: The "828 Machine"

The predominant feature of the "828" machine (the name derived from the patent number assigned to it in 1947) was an inclined bank of rubber-coated reciprocating rollers, adjacent to each other in a lateral arrangement. (See Figures B and C.) One of the rollers was powered and used friction to turn the other rollers. This caused adjacent pairs of rollers to turn in opposite directions, which created the basic peeling action. At the upper end of the machine's incline was an automatic feeding device driven in relation to a horizontal conveyor. Its job was to drop unpeeled shrimp precisely into the "V" formed between the first pair of adjacent rollers.

After the shrimp were dropped into the first "V," the contacting surfaces of the rollers rotated downward, gripping the shells and heads, and drawing them through the bottom of the "V," rejecting the slippery meat. When the roller motion was reversed, the meat was carried around and over the surface of the next roller and down into the next lower "V," where a second peeling and discharging operation was performed.

Due to the inclination of this bank of rollers, the shrimp then continued downward, with peeling and discharge taking place between each successive pair of rollers. Shrimp coming off of the last set of rollers were delivered to a collection trough and water-flumed away from the machine. Shells and other debris were removed as they were pulled down through the rollers.

The "828" design did, in fact, peel shrimp, but had several shortcomings in terms of output and peeling efficiency, largely due to the lateral positioning of the rollers. The automatic shrimp feed device was complicated and difficult to maintain. The number of times that shrimp were exposed to the peeling action was limited to the number of roller pairs in the machine.

The "828" represented progress, but it was only a first step. The Lapeyres continued their experimentation and development efforts and by 1946 were able to file a patent application for a significantly redesigned Peeler (patent number 2,574,044, granted November 6, 1951).

Figure B: *Graphic of the lateral peeling machine configuration from patent "828" granted October 28, 1947*

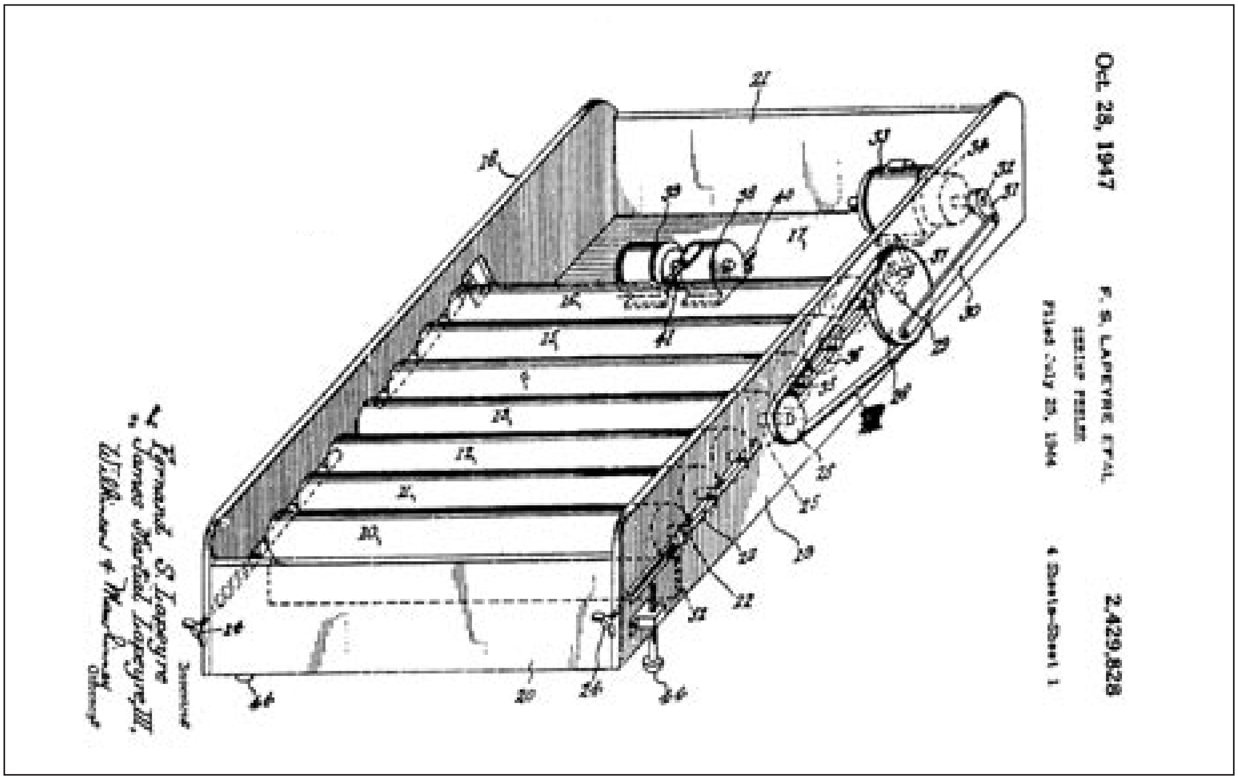
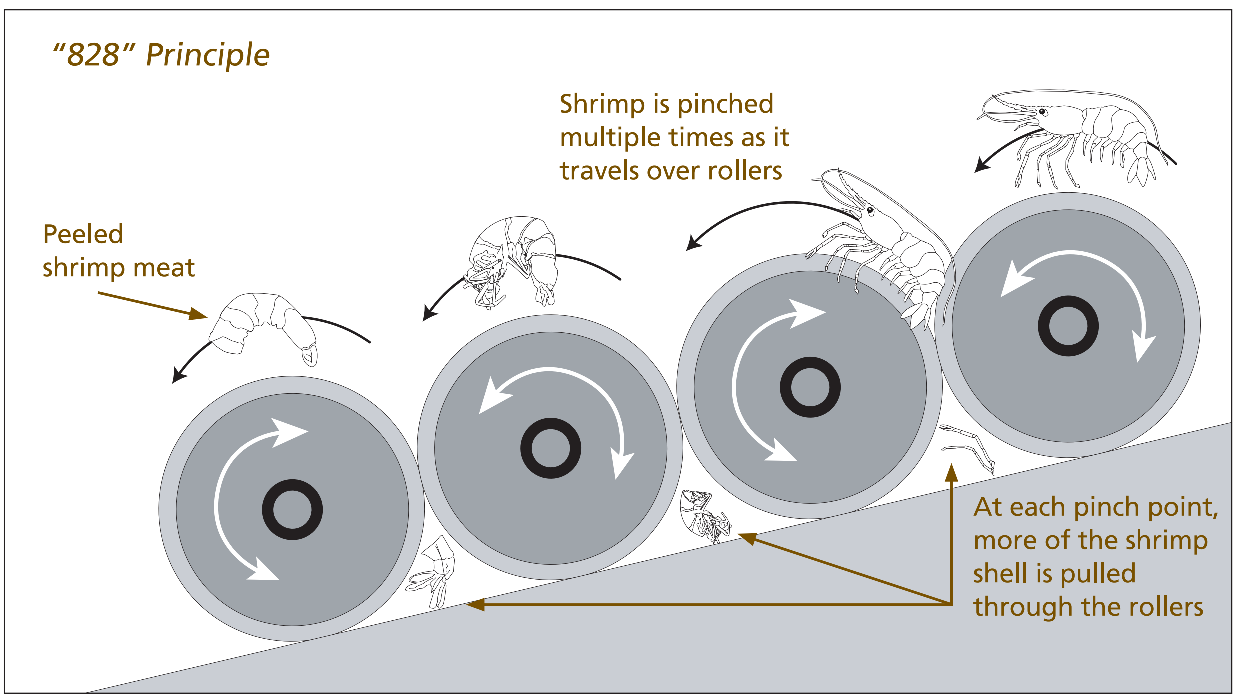


Figure C



Phase 2: The Move to Longitudinally-Oriented Rollers

The key feature of the new design was the change in roller orientation from lateral to longitudinal. (See Figures D and E.) This development greatly simplified the downward movement of the shrimp, allowing them to travel the length of the rollers as opposed to moving across the rollers, and creating repeated opportunities for exposure to the peeling action.

The redesign also eliminated the need for the complicated timed feeding mechanism. Unpeeled shrimp were loaded into a water-filled feed tank located at the upper end of the roller array. The tank held approximately 400 pounds of shrimp, and was equipped with an internal conveyor belt that transported shrimp up and out of the tank and dropped them onto the upper end of the roller array, beginning the peeling process.

In addition to the change in roller orientation, the rollers were now arranged in two planes, resulting in the formation of channels that ran down the full length of the machine. As the shrimp dropped onto the roller array, they fell into these channels and, aided by gravity and water flow, traveled downward. As they traveled downward, they were exposed multiple times to virtually continuous peeling action in the “V”s formed by adjacent sets of rollers. The peeling process was further enhanced as the motion of the rollers gently “flipped” the shrimp from one side of the channel to the other in a zigzag path.

With its substantial revisions, this second machine design produced significant advances in peeling speed and precision, as well as ease of operation and peeling control. However, it fell short of the Lapeyres’ yield and quality expectations. Mutilation of the shrimp, especially at the head and tail, was pronounced, a problem which would hurt plant profits and make the machine unacceptable to the marketplace. The Lapeyres therefore continued their development efforts, now focusing more narrowly on yield and quality.

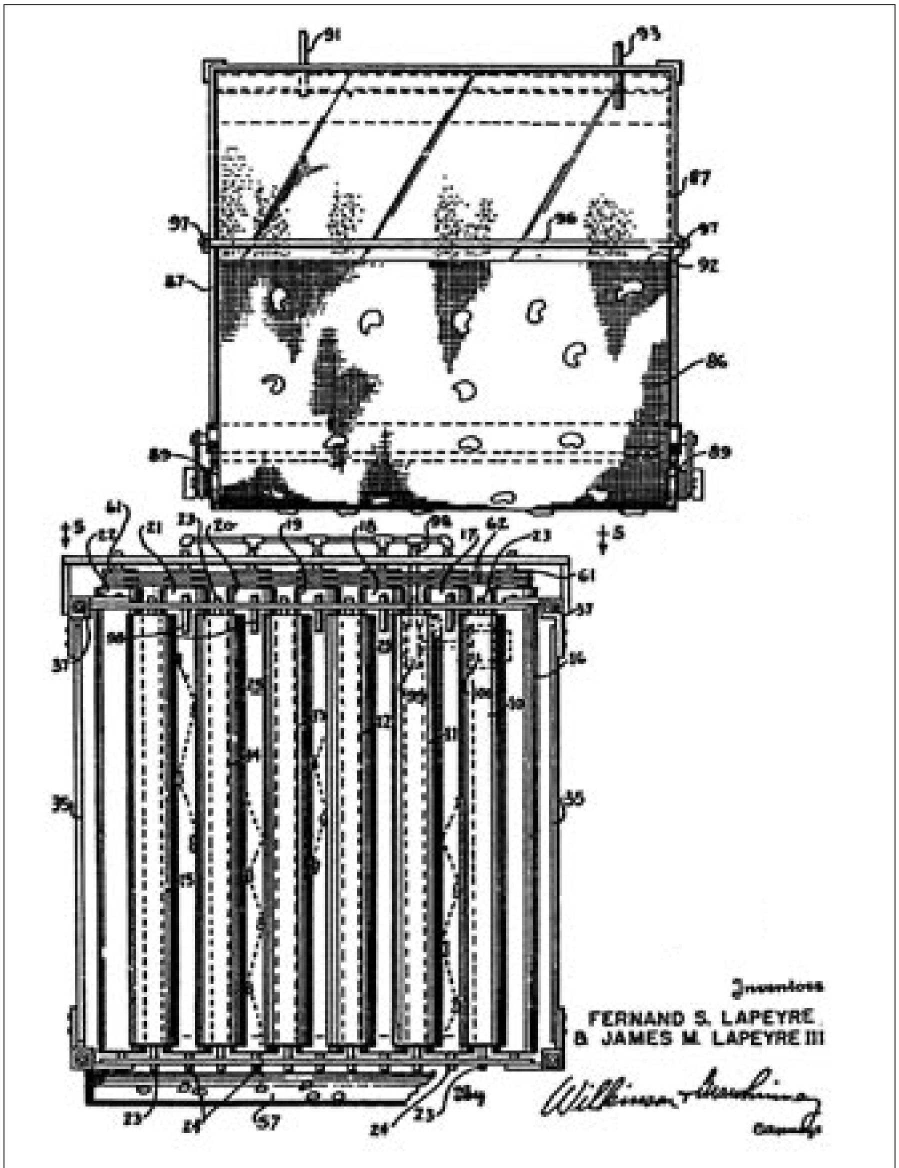
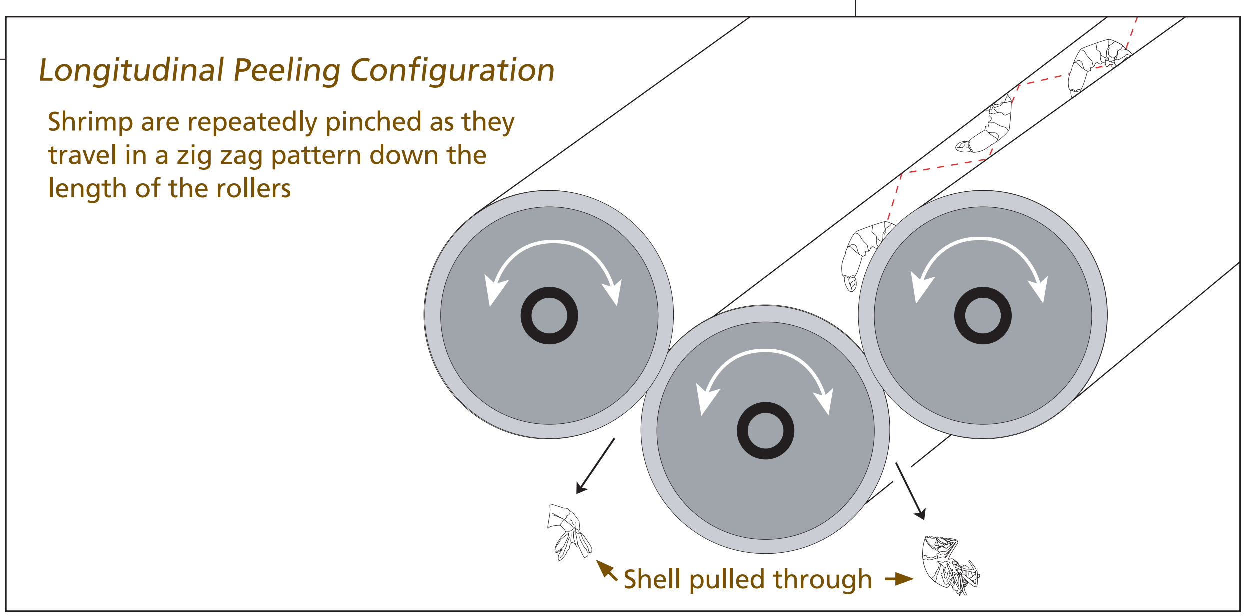


Figure D
Graphic of the longitudinal peeling machine configuration from patent "2,574,044" granted November 6, 1951

Figure E



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8.
Today's Model A Peeler with finger frames down

9.
Today's Model A Peeler with finger frames raised

10.
Detail showing transition between upper set and lower set of rollers

Phase 3: The Model A Peeler: Design in use today

The Model A peeler incorporated several features which brought it up to the Lapeyres' goal of a commercially viable machine that would be welcomed by shrimp processors. The introduction of a **two-stage peeling process** was the most significant design change. The roller array remained longitudinal, and the rollers remained arranged in two layers (creating the channels as before). But there were now two groups of rollers, unlike the single group in the previous design. (See photos 8 and 9.) The shrimp were partially peeled by the rollers in the upper section, then exposed to more complete peeling by larger rollers in the lower section. A series of power rollers ran the full length of the array through both the upper and lower sections. Using friction, they drove the rollers adjacent to them, causing a reciprocating motion and creating the "pinch points" necessary for peeling to take place.

Another integral change was the addition of **small-diameter metal rollers or "inserts"** to the machine's upper section, which significantly improved yield by preserving the meat of the head and tail sections. (See Figure F.) This change finally increased the quality and yield to levels that surpassed hand peeling.

The two-stage process came about because the Lapeyres had learned early on that the effectiveness of the rollers in the shell removal process depended largely on their diameter. A larger diameter roller would produce a greater peeling action, while a smaller diameter roller would produce a gentler action. Unfortunately, the more aggressive action of the larger diameter rollers tended to damage the shrimp.

The inserts (with their much smaller diameter) were far more effective at removing the head and tail without damaging the meat, but did not complete the peeling process. The solution was to subject the shrimp first to the small rollers of the upper section for partial peeling, and then to the larger rollers of the lower section for further peeling. This combination resulted in a more complete peeling job, without appreciable damage to the meat. The need for rollers of different sizes was the reason for the two-part roller array in the new machine design.

An additional peeler design refinement was hinted at early on in testing. The inventors had learned that applying gentle pressure to the shrimp when they were positioned in the "V" of the rollers, for the brief moment between oscillations, was very effective in achieving optimum peeling action. **This led to the addition of "pressure fingers"** to the peeler. (See Figure H, following page??.) Hundreds of these spring-loaded fingers were grouped in upper and lower finger frames, or racks, that corresponded

9

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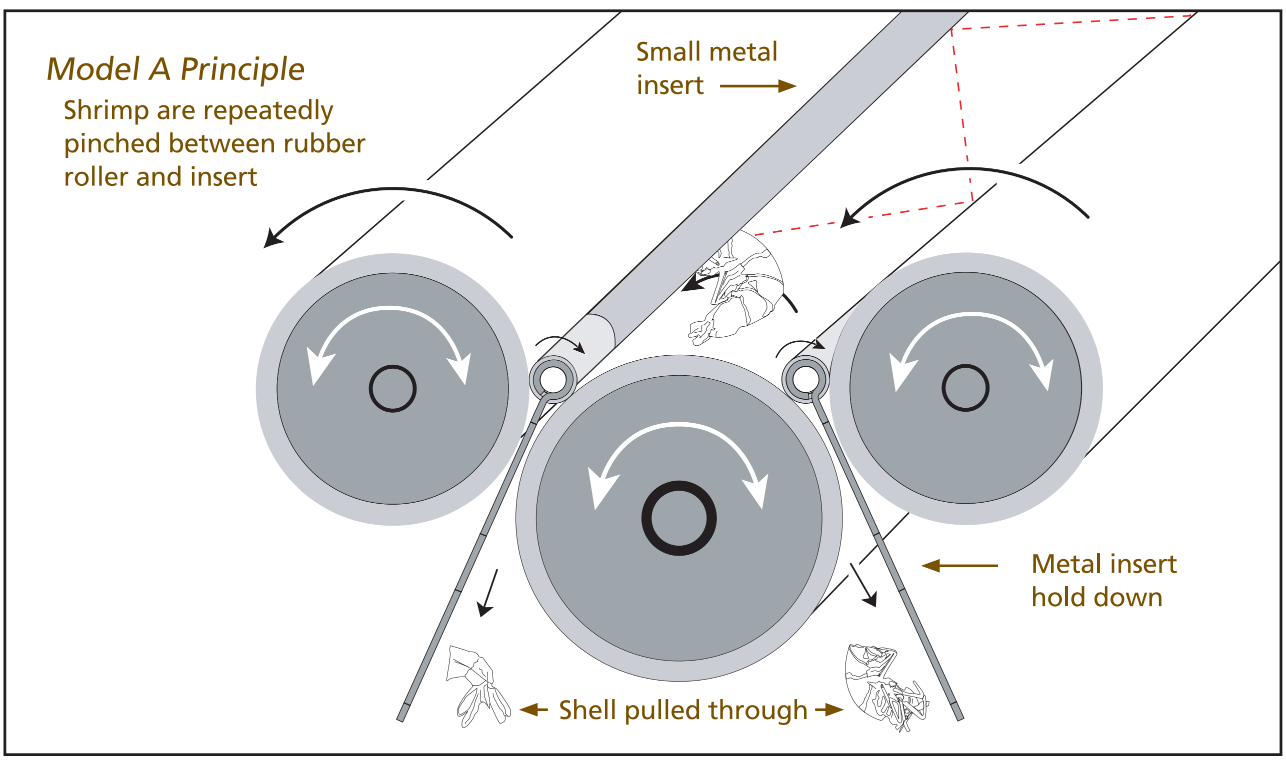
Figure F


Model A Principle
Shrimp are repeatedly pinched between rubber roller and insert
Small metal insert
Metal insert hold down
Shell pulled through

11.
Photo shows transition gap between upper and lower sections of the machine in production

Phase 3: The Model A Peeler: Design in use today

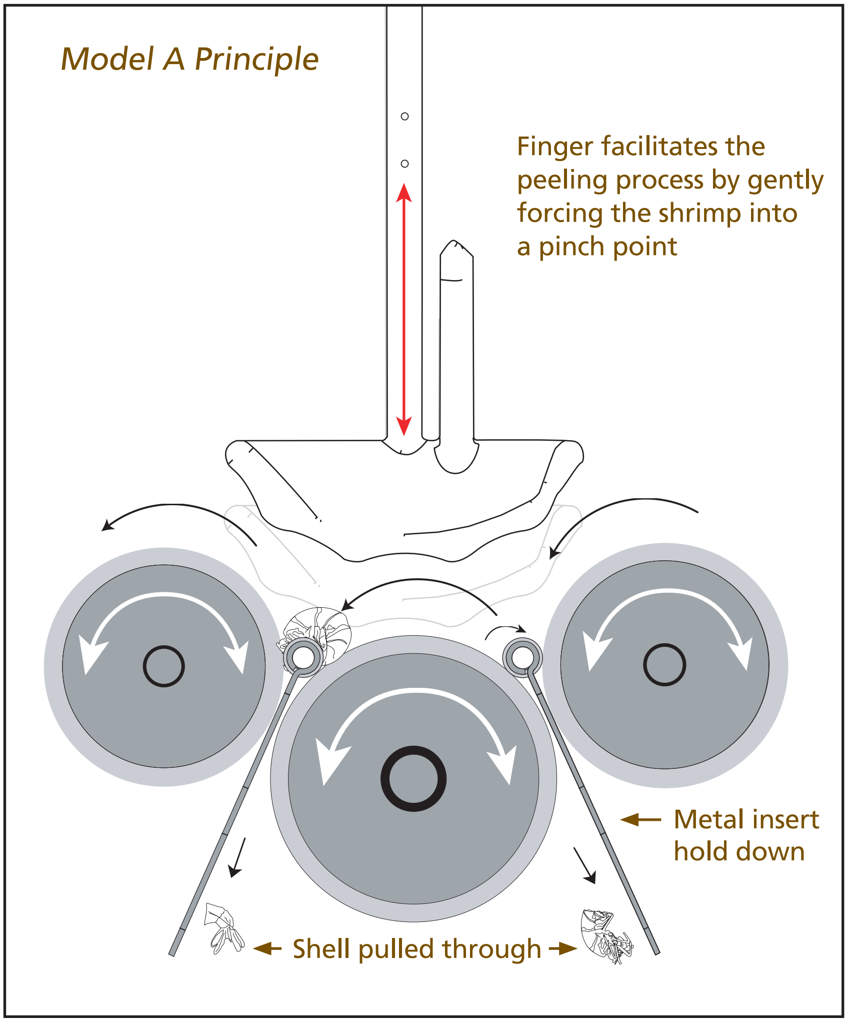
to the upper and lower roller arrays. Their up-and-down movement was synchronized with the reciprocating movement of the rollers. The range of vertical frame movement and the tension on the fingers themselves was precisely adjustable, allowing the machine to accommodate a wide range of shrimp sizes and varieties with simple adjustments.

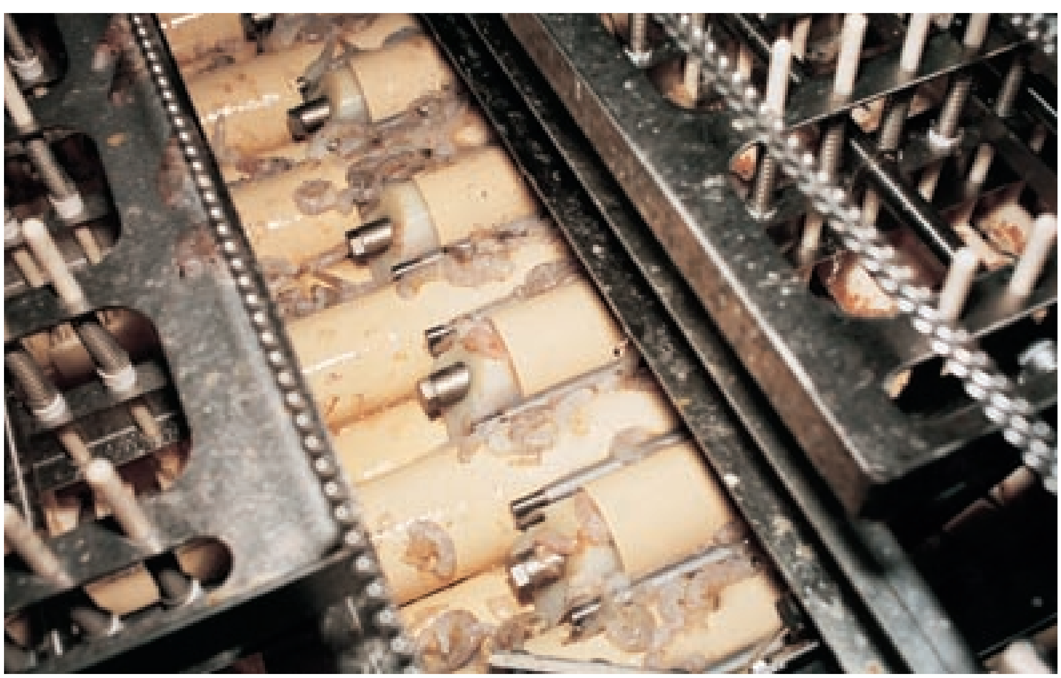
The new peeler design also introduced **a series of water sprays,** which were placed along the full length of the roller array. The sprays were equipped with individual valves to aid the movement of the shrimp down the channels and flush away shrimp slime from the rollers. The spray system's ability to closely control the rate of shrimp travel down the rollers was vital to the peeling machine's effectiveness.

After these basic discoveries and developments, the Lapeyres decided that the time had come to build a working model of their design, on which to perform larger test runs and evaluate operating requirements in simulated commercial conditions. A shed was built behind Grand Caillou Packing Company especially for this purpose, and J.M. was assigned the job of fabricating the first machine. In "typical J.M." fashion, he first attended classes at Delgado, a New Orleans vocational school, to learn to weld. The first machine was constructed of carbon steel; in subsequent years, machines were constructed of galvanized steel, aluminum, and now, stainless steel.

Thus the first practical peeling machine was manufactured – the same machine that was installed at the Grand Caillou Packing Company in May of 1949. The machine was put through extensive testing, but the Lapeyres were careful to preserve a cloak of secrecy in order to avoid compromising their proprietary rights to the invention. It had taken nearly six years of persistence and experimentation, but the concept had progressed dramatically, from rubber boot to automated shrimp peeling. This machine was known as the Model A peeler, and its design is still in use today.

Figure H


Model A Principle
Finger facilitates the peeling process by gently forcing the shrimp into a pinch point
Metal insert hold down
Shell pulled through



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The Peeling Process*

Upper Section of Model A Peeler


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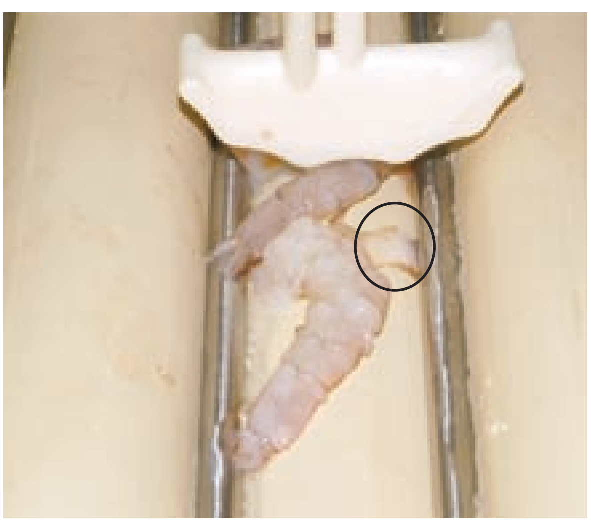
13


14

Lower Section of Model A Peeler


15

12.
Circled area indicates where shrimp tails are being pinched by rollers as finger frames come down to add gentle pressure.

13.
The shrimp's legs begin to be pulled away. Circled area shows how pieces of the exoskeleton are starting to come off as the shell is pulled through the rollers and inserts.

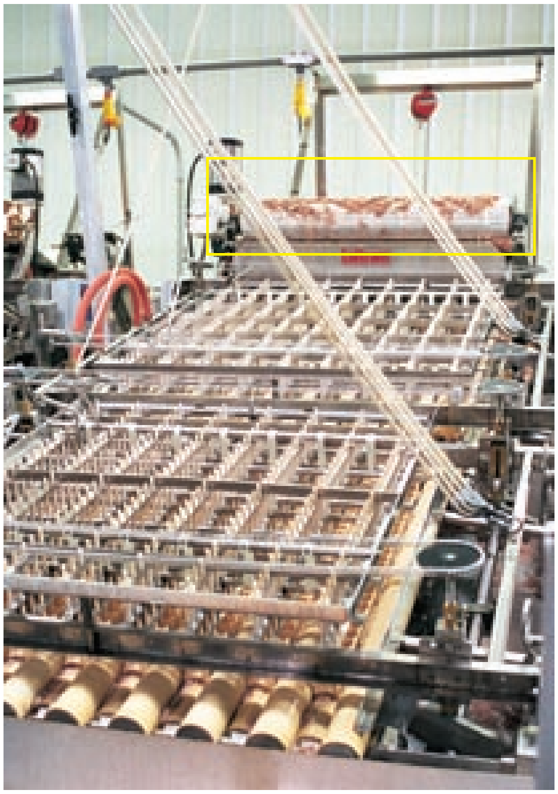
14.
The peeling process continues as the finger frames move up and down, allowing the shrimp to travel in a zig zag patter down the length of the machine.

15.
As the shrimp reach the lower section of the Model A, the shrimp are almost completely peeled. The slippery meat is unaffected by the continued motion of the rubber rollers.

**Only one finger is shown in these photos. The rest were removed for illustration purposes.*

The Model A Peeler in production

Shrimp plant with numerous Model A peelers in production



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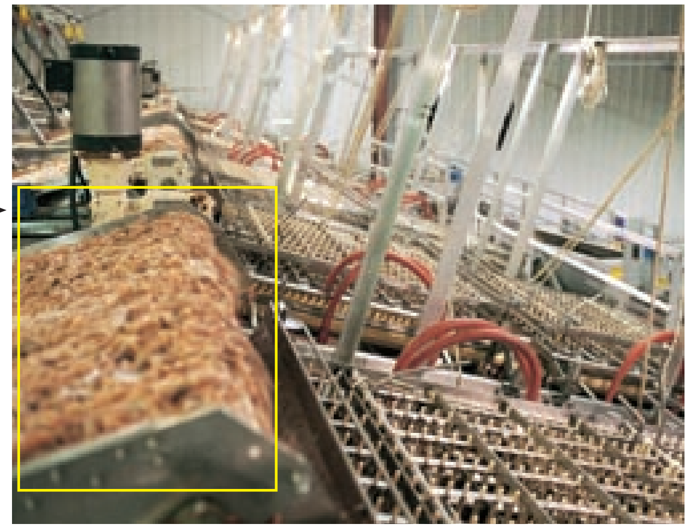


17

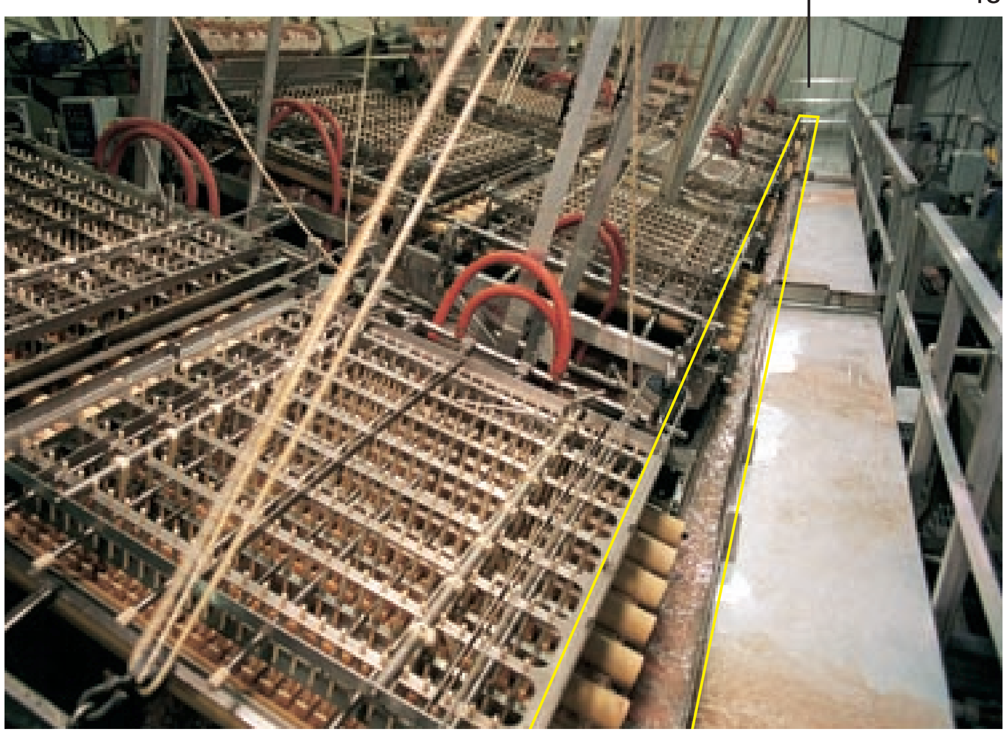
16. and 17.

Infeed conveyor distributes shrimp evenly across the width of the machine. The rate of distribution can be controlled by the machine operator.

18.

Peeled met is discharged at the bottom of the lower section into a trough and carried away for further processing.

18



19.
The Peelers Company offices, 1954

20.
Porcelain sign from a Peelers' service truck

21.
The first public showing of the peeling system garnered much attention

19

20

Establishment of the Peeling Machine Business

The work of planning and creating a business to capitalize upon the now marketable peeling machine was done primarily by J.M., Emile, Fernand, Felix, and Andre Lapeyre. These five men worked together to create an excellent business plan, employing their individual strengths, which were respectively: invention, shrimp processing, mechanical engineering, law, and finance. Peelers, Incorporated (later the Peelers Company) was formally organized on January 4, 1949, to manufacture and market worldwide the Lapeyres' shrimp peeling machine.

An integral component of the Lapeyres' business plan was the stipulation that the machines would be leased, rather than sold, to processors. The men recognized that the market for the machines was small, and that the price paid for a peeling machine would not equate to the value of the machine to the processor over the life of the Lapeyres' patents. They also decided that a fixed lease fee would not be a fair approach, because the benefit derived from the use of the machine was directly related to the volume of shrimp run on the machine. The accepted arrangement was that the fee would be set upon the basis of use. Lessees would be billed according to the number of revolutions made on the main drive motor.

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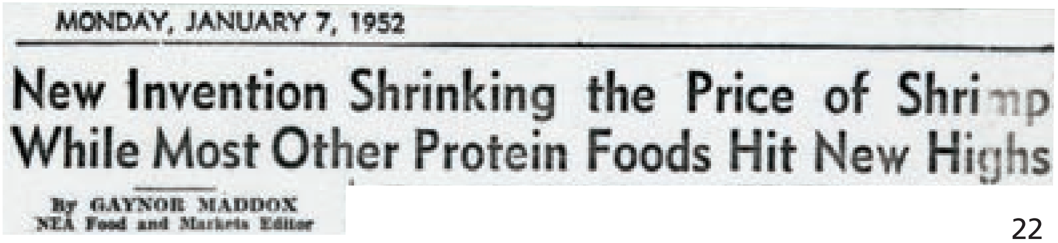
MONDAY, JANUARY 7, 1952

New Invention Shrinking the Price of Shrimp While Most Other Protein Foods Hit New Highs

By GAYNOR MADDOX
NEA Food and Markets Editor

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AUTOMATIC MACHINERY FOR THE SHRIMP INDUSTRY

23

22. and 23.
Headlines from newspapers

24.
The inventors at a trade show with early Manager William H. Barry. Clockwise from left: J.M., Emile, William H. Barry, and Fernand.

The Shrimp Industry Begins to Grow

"New Invention Shrinking the Price of Shrimp While Most Other Protein Foods Hit New Highs"

> *The automatic shrimp peeler "is today materially helping to bring down the price of a first-class protein food at a time when most other protein foods are skyrocketing. It is also releasing several thousand needed workers to the Louisiana defense industries."*

(*NEA Food and Markets*, January 7, 1952. Gaynor Maddox, editor.)

"Automatic Machinery for the Shrimp Industry"

> *"Whether shrimp are marketed raw, cooked, breaded, frozen or canned, it is possible to save time and reduce expenses by using Peelers Automatic Shrimp Processing Equipment. Since the founding of the company in 1949 this revolutionizing machinery has processed hundreds of millions of pounds of shrimp and the handing of this large volume over the years is proof of the effectiveness and value of the machines."*

(*Norwegian Fishing and Maritime News,* 1961)

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The peeling machine at the Grand Caillou Packing Company proved to be such a success that by the end of 1949, six additional machines had been fabricated and placed with processors on the Gulf Coast. These plants saw significant increases in yield when automatic peeling was compared to the old method of hand peeling: hand peeling would yield about 16 dozen cans per barrel of heads-on shrimp, while the machine yielded an average of 18 dozen cans per barrel. This increase in yield and production could easily be the difference between operating profitably and operating at a loss. The machine also offered the very important advantage of being able to peel shrimp of any size, ranging from tiny to large.

25.
Headlines from newspapers


THE WALL STREET JOURNAL, Wednesday, October 9, 1957

Shrimp Industry Booms in Northwest, Aided By Peeler Resembling Old Washer Wringer

25

When the cost and difficulties associated with hand peeling were considered, along with the yield and production benefits realized by the automatic peeling machine, peeling by hand was soon recognized as outmoded. Shrimp processors now had a more dependable, more economically viable method of processing their product, and consumers soon saw the effects of this change in the marketplace. Formerly regarded by most as a luxury food, delicious, protein-rich shrimp were now available at reasonable prices. This availability drove a market demand for more raw product, which resulted in more shrimpers, more shrimp boats, an expanded boat building and outfitting sector, more fuel consumption and supplies – all part of the expanding seafood industry.

The shrimp industry was entering its "boom" phase on the Gulf Coast, but things were beginning to happen in the waters off the Northwest U.S. as well. The "cold water" species that inhabit these waters, *Pandalus borealis* and *Pandalus jordoni*, are generally smaller than their Gulf Coast counterparts. Their diminutive size makes them more difficult and expensive to hand peel than warm water species, so they were not processed on any large scale prior to the introduction of the peeling machine. Things changed dramatically in cold-water fisheries when the Lapeyres introduced a modified version of the Model A Peeler, the Model PCA.

Feedback on the new machine was reported by the *Wall Street Journal* in 1957:

> ***"Thanks to the odd new machine, a new shrimp industry is being born off the Northwest coast. And canned Northwest shrimp now is on its way to salads and cocktails all the way from here to New England."***

The same success was experienced later in Sweden, Greenland, Denmark, Iceland, and other countries where the formerly dormant cold-water shrimp industries now thrive.

Automated shrimp peeling proved to be the most important development in the mechanization of the shrimp processing industry that began in the late 1940's. It was the last piece of the puzzle, the final component needed to spur real industry growth. Today, there are more than 350 peeling machines processing both cold and warm water shrimp, in Canada, Guyana, Surinam, Greenland, Iceland, and the United States' West and Gulf Coasts.

26

26. 27. 28. 29.
Shrimp trawlers around the world. Clockwise from left: Mississippi Coast, Louisiana Bayou, Sisimiut, Norway, and Greenland. (I'M STILL VERIFYING THESE SITE NAMES - SW, 8-31-04)

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James Martial Lapeyre
1926-1989

> *"A lot of people have a strange notion of invention. They think an idea just springs to mind and the invention is complete. Nothing could be farther from the facts. It's hard work. It's time consuming, unusually expensive, takes the talents of many people, and sometimes ends in heartbreak." - J.M. Lapeyre*

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James Martial Lapeyre was born to Emile Minor and Louise Dupont Lapeyre on August 21, 1926, in Houma, Louisiana. The oldest of eight children, young "J.M." possessed a natural aptitude for mechanical design. According to one of his brothers, J.M. would disassemble anything mechanical, in pursuit of an understanding of how it worked. He was often relied upon for repairs, both at home and at school. While these things came easily to J.M., school did not. Today it is understood that J.M. struggled with dyslexia, which would explain his difficulties in school and perhaps his talent for all things mechanical. He worked during the summers in his father's shrimp processing plant and thereby developed an understanding of the seafood industry, upon which he would later build with a landmark invention.

Although J.M. is probably best known as "the man who invented the shrimp peeling machine," he continued analyzing systems and inventing solutions throughout his life. With 191 patents to his name, J.M. Lapeyre was one of America's most prolific inventors. He left behind a large body of work when he died suddenly at age 62 – so large that more than fifty patents were issued to him in the succeeding years. What set J.M. apart from many of his fellow inventors was the amazing breadth of his ideas and inventions. He did not limit himself and was unafraid to explore new disciplines, always through self-study. In an area in which he perceived a need, he would inquire about the fundamentals at work and would set about to design a more efficient or effective system. It is a testament to his inventive genius and tenacity that he invented solutions as diverse as a modular plastic conveyor belt, an electro-optical printing system, an opposed piston diesel engine, and a digital compass.

J.M. was primarily an inventor, but he possessed a business and marketing acumen that allowed him to translate his ideas into successful business ventures. An example of this talent was an early joint effort between the Peelers Company and a New Orleans advertising agency, to launch a campaign promoting shrimp consumption to the American public.

Although he held a Catholic University degree in architecture, to his colleagues, J.M. was one of the most competent engineers with whom they had ever worked. J.M. bolstered his natural aptitudes with hard work. Never one for whom reading was a pleasure, he spent hours studying scientific and engineering journals in order to enrich his knowledge and to stay abreast of new developments. J.M.'s inventions have given employment to thousands of people and generally improved productivity, and consequently, the standard of living in the world today.

The History and Heritage Program of ASME

The History and Heritage Landmarks Program of ASME (the American Society of Mechanical Engineers) began in 1971. To implement and achieve its goals, ASME formed a History and Heritage Committee initially composed of mechanical engineers, historians of technology and the curator (now emeritus) of mechanical engineering at the Smithsonian Institution, Washington, D.C. The History and Heritage Committee provides a public service by examining, noting, recording and acknowledging mechanical engineering achievements of particular significance. This Committee is part of ASME's Council on Public Affairs and Board on Public Information. For further information, please contact Public Information at ASME, Three Park Avenue, New York, NY 10016-5990, 1-212-591-7740.

Designation

Since the History and Heritage Program began in 1971, 229 landmarks have been designated as historic mechanical engineering landmarks, heritage collections or heritage sites. Each represents a progressive step in the evolution of mechanical engineering and its significance to society in general. Site designations note an event or development of clear historic importance to mechanical engineers. Collections mark the contributions of a number of objects with special significance to the historical development of mechanical engineering.

The Landmarks Program illuminates our technological heritage and encourages the preservation of the physical remains of historically important works. It provides an annotated roster for engineers, students, educators, historians and travelers. It helps establish persistent reminders of where we have been and where we are going along the divergent paths of discovery.

The 120,000-member ASME International is a worldwide engineering society focused on technical, educational and research issues. ASME conducts one of the world's largest publishing operations, holds some 30 technical conferences and 200 professional development courses each year, and sets many industrial and manufacturing standards.

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Plaque Wording

LAPEYRE AUTOMATIC
SHRIMP PEELING MACHINE
MODEL 'A,' No. 572

1979

THE MASS-PRODUCTION OF FOOD WITH MACHINERY HAS MADE POSSIBLE THE FEEDING OF AN EVER-INCREASING POPULATION. IN 1943 JAMES MARTIAL LAPEYRE, WHILE WEARING RUBBER BOOTS, STEPPED ON A SHRIMP. OBSERVING THAT IT POPPED FROM ITS SHELL, HE DESIGNED A SHRIMP-PEELING MACHINE DERIVED FROM THAT PRINCIPLE. THIS MODEL 'A' MACHINE OPERATES LIKE THE ORIGINAL, PEELING APPROXIMATELY 1000 POUNDS OF SHRIMP PER HOUR, DOING THE WORK OF 30 - 150 PEOPLE PEELING BY HAND.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS - 2004

Acknowledgments

The New Orleans Section of ASME gratefully acknowledges the efforts of all who contributed to the designation of the Lapeyre Automatic Shrimp Peeling Machine as an National Historic Mechanical Engineering Landmark. We would like to specially thank the thousands of people who worked in the Louisiana and worldwide shrimping industry.

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Design and editing were provided by:

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Historical research was provided by:

Jean Lapeyre
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Robert Lapeyre
Frank Profumo
Sarah Rauls

Special Acknowledgments to:

Laitram Machinery
Ralph Bergeron
Brent Ledet
Danny Grisbaum
Lance Johnson

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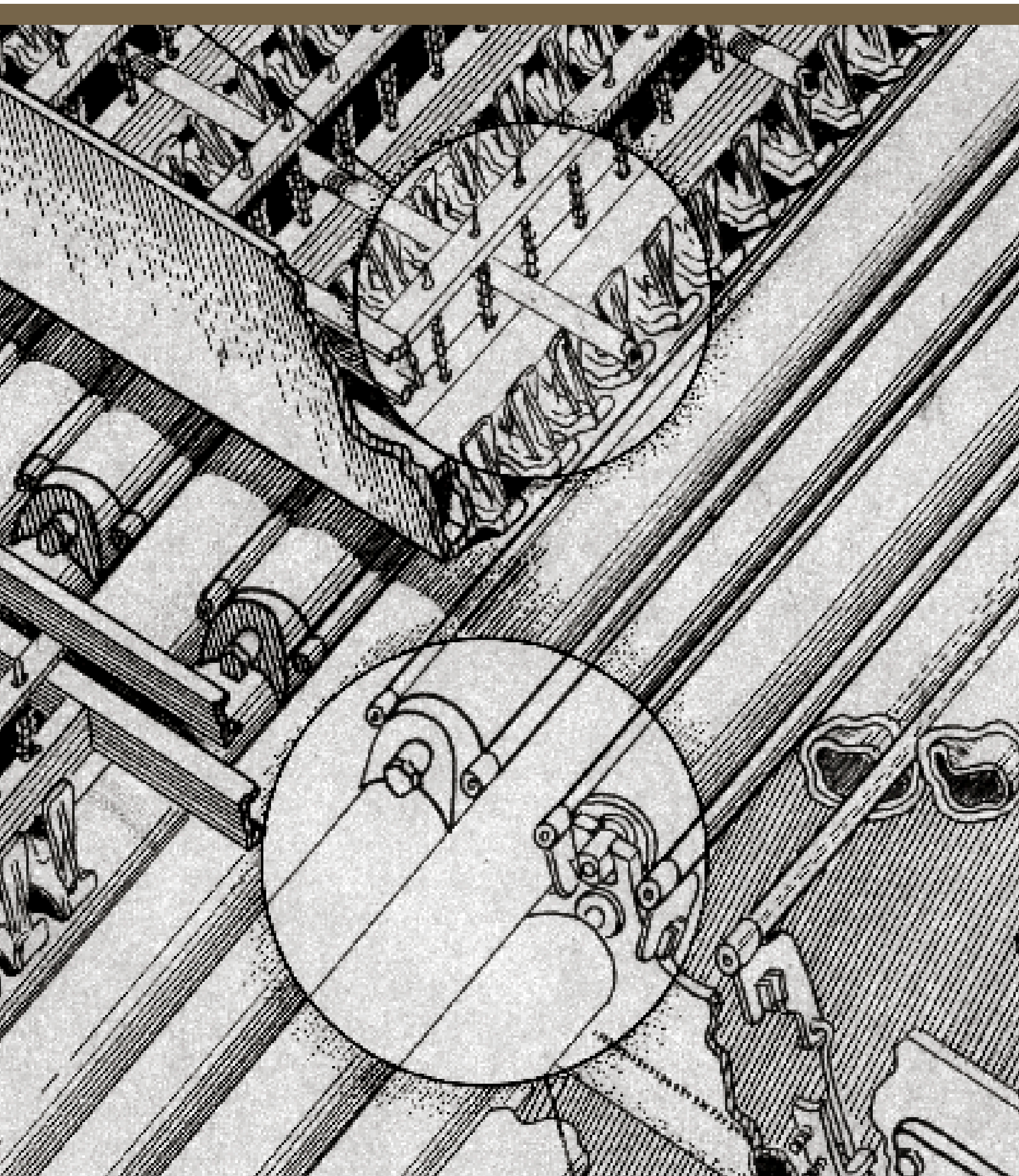

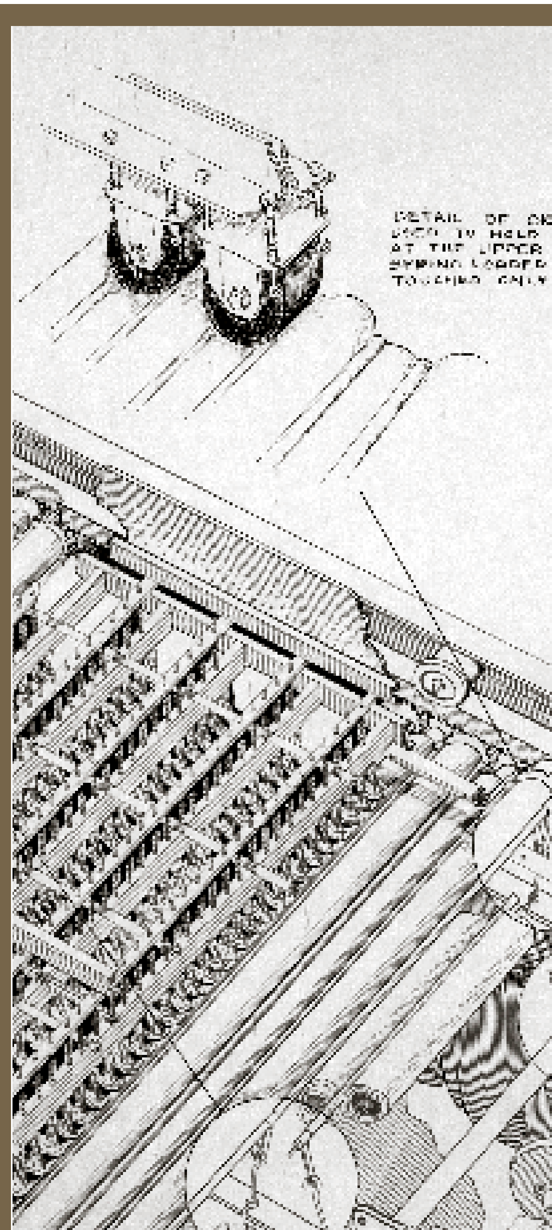
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