

Industry

Crush, Grind, Pulverize, Separate and Blend

Machinery to Handle All These Tasks Produced by Sturtevant Mill Company

Years of experience in making rugged machines to crush, grind, pulverize, separate and blend basic materials has given the Sturtevant Mill Company of Dorchester a know-how in building machinery which extends far beyond its primary product line.

In its 82-year history this Massachusetts concern has custom-built various other types of industrial machinery and has even produced automobiles and boats.

The company got its start making emery mills to grind materials used in the manufacture of fertilizers. It still makes this type of equipment but today its number one product is air separators and its greatest market is in the cement industry.

Air separators, which are used to separate fine materials from coarse materials, utilize fans to create air currents which suck up the fine particles and separate them from the large particles. In the cement industry, for instance, these machines, used as part of the pulverizing system, can separate those particles which meet the standard of fineness for the finished product from larger particles which must be further pulverized.

Sturtevant Whirlwind Centrifugal Separators are made in a wide range of sizes, from laboratory models 20 inches in diameter to production

models running to 24 feet in diameter. The latter are truly giant pieces of machinery, standing 36 feet high.

The capacity of these machines for handling big volumes of material is amazing. In one plant, for example, a 16-foot Sturtevant separator is processing 800 tons of material hourly. That's better than 13 tons a minute!

The Measure is Fineness

Talk with Sturtevant people about separators, grinders, or pulverizers and you are soon enmeshed in references to "mesh" — the measure of the fineness of materials.



Shown above is one of Sturtevant's rotary dry batch blenders in its final assembly and test running stage.

To understand what they mean when they say that Sturtevant air separators "have a fine-product range of from 40 to 400 mesh" it is helpful to know that ordinary house fly screening has a mesh of 16 — that is, there are 16 openings to each linear inch. Imagine the fineness of material which would pass through a screen with 400 openings to the inch. Materials of fineness of 200 mesh are said to melt in the mouth.

In the manufacture of air separators the Dorchester firm occupies a leading position. Sturtevant's general president, George P. Towle, puts

One of the two shallow draft steel vessels constructed by Sturtevant for use in Siam



it this way: "I guess we're tied with our top competitor." And then, with a twinkle, he adds: "Of course, that's in volume. In performance, we think we are better."

Towle was only 17 years old when he started working for Sturtevant as a receiving clerk in 1916. His father was a foreman at the plant.

The business was established in 1883 by Thomas L. Sturtevant and the Sturtevant family is still active in the management. Clayton F. English, chairman of the board and treasurer, is married to a great granddaughter of the founder. Mr. English, who for many years was with the Bethlehem Steel Company's Shipbuilding Division in Quincy and Boston, came with Sturtevant Mill in 1947. His son, William S. English, is assistant general manager.

Incidentally, the fact that Mr. Clayton English's first name is the same as the name of the street on which Sturtevant's main building is located is purely coincidental.

First Automatic Transmission

It was in rented space in the basement of this same building, then owned by the Paine Engine Company, that Thomas Sturtevant started making processing machinery for the fertilizer industry. As the business grew, the company took over the first floor and eventually the entire building. In 1915 the firm bought the Newaygo Screen Company and built new plant facilities to manufacture this product just across Park Street from the Sturtevant plant.

Automobiles were still a novelty when the company took a brief excursion into the auto industry, producing the first car with an automatic transmission. The transmission, incorporating the basic principles of modern automatics, was an invention of Thomas J. Sturtevant, a nephew of the founder of the company. He had become associated with his uncle's business in 1893.

The engine and transmission for the Sturtevant car were made in the company's own plant. The body was purchased from a body maker.

Announcement of the car with a revolutionary automatic transmission was made in an elaborate brochure printed in 1907. It heralded "The Automatic Automobile — A Car



Sturtevant Mill Company officials shown above are, left to right, Clayton F. English, Chairman of the Board and Treasurer, William S. English, Sales and Advertising Manager, and George P. Towle, President.

That Does Things For Itself."

Actually only five of the cars were built before the company decided that there was a more rewarding field in making industrial machinery than in producing horseless carriages. However, the five cars which were built performed very efficiently, attaining what was then the high speed of 60 miles an hour and easily climbing the steepest hills. "I know they were good," says Mr. Towle, "because I rode in one."

Thomas J. Sturtevant, besides inventing the automatic transmission, also invented a carburetor which was used for many years in the engines of Indian motorcycles.

The Sturtevant company's excursion into boat-building was in 1947, when it constructed two shallow-draft steel vessels of unusual design

for use in Siam. These 35-foot craft had to operate in water only 11 inches deep. Their propellar fins extended above the surface and special "sluiceways" had to be built into the hulls to feed water to the propellers.

Sturtevant makes crushing and grinding machinery specially designed to process raw materials for many different industries. It has machines to pulverize limestone or grind flour. Among the materials which can be processed in its machinery are bauxite, carborundum, cement, chalk, coal, coke, graphite, iron ore, phosphoric rock, slag, slate and sulphur.

In many installations Sturtevant air separators are used with grinding equipment as an integral part of the pulverizing system.

Workman at the Sturtevant Mill Company's plant in Dorchester are shown working on the fabrication of the cone section of a 16-foot air separator which is under construction at the plant.



The Sturtevant line consists of some 25 different types of machinery. It includes the interesting Sturtevant micronizer, a grinding mill that utilizes fluid energy (compressed air, gas or steam) to propel particles in such a way that they grind each other, producing exceptionally fine powders for manufacturers of carbon black, pigments, pharmaceuticals, flour and a host of other products.

The company also makes vibrating screens, coal samplers, elevators, conveyors, valve gates, and forms for concrete pipe-making.

Sturtevant has its own pattern shop, where patterns for most all of its machinery are produced. Castings, however, are purchased from nearby foundries. "We have headaches enough without trying to run a foundry," observed Mr. Towle.

The company has a well-equipped machine shop in the main building and steel fabrication facilities across the street in two buildings erected in 1915 and 1917. Because industry is demanding bigger and bigger processing machines, the firm recently started construction of a 50-foot

high addition to one of its buildings. Here it will be able to assemble indoors its biggest machines.

Versatile Manufacturer

A visitor to the Sturtevant plant quickly gains an impression of quiet efficiency — with no wasted effort, or words. A sign over the door of the purchasing agent reads: "NOTICE: Salesmen Requested to Limit Their Visits to 10 Minutes."

The company has about 100 employees. On average, they have been with the firm about 15 years.

Relationships between management and employees are personal. Asked for a copy of the Company's employee publication, Mr. Towle said, "We don't have any. We're just old-fashioned. We talk to them."

Sturtevant machines are operating in industrial plants across the country and many have been shipped abroad. This versatile old Massachusetts machinery builder, which has made automobiles and boats, has never tried its hand at making airplanes or rockets, but it doubtless could.



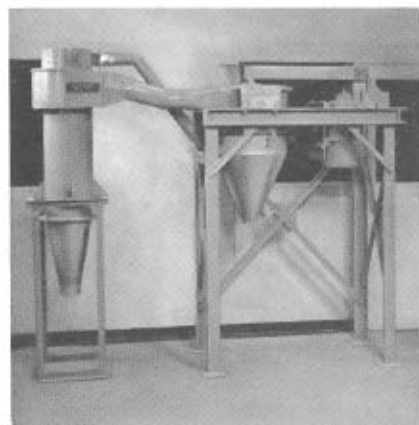
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Sturtevant engineers and fabricates a full line of dry processing equipment: air separators, fluid energy mills, impact mills, blenders and mixers, conveyors, crushers and grinders.

Now - A 20 Inch Air Separator for Laboratory Use or Small Production



Accurate extrapolation of lab results is now possible with the 20" Sturtevant Air Separator. No longer does industry have to use small production units for pilot and lab work. The 20" Sturtevant Air Separator classifies from ounces to hundreds of pounds an hour, depending upon feed, feed rate and required particle size.

True lab work — at Sturtevant or at your own plant — is now a reality.

The 20" unit fills out Sturtevant's comprehensive line of air separators. Besides the lab unit, a three-foot model for pilot and moderate production is available. Larger-scale separators range from six to twenty feet in diameter and classify in tonnage quantities. All are available with fully external adjustment devices which allow shiftover from coarse to fine selection in minutes, without shutdown of the separator!

For full information, write, phone, or wire today to Sturtevant Mill Company, Sturtevant Street, Boston, Massachusetts 02122. Phone (617) 825-6500. Cable EMERYSTONE Boston.

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The interiors of Sturtevant machines are accessible "By One Man In One Minute" for fast, easy inspection, cleanout, adjustment and maintenance.



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Sturtevant engineers and fabricates a full line of dry processing equipment: air separators, fluid energy mills, impact mills, blenders and mixers, conveyors, crushers and grinders.