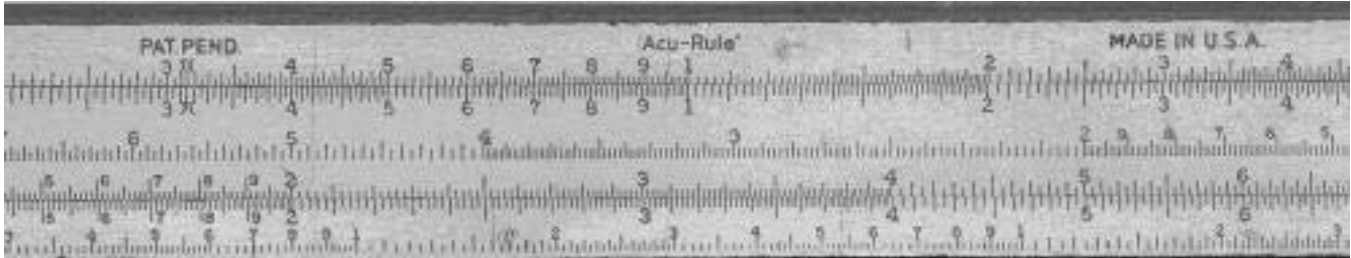


## *A Short History of the Festus Manufacturing Company*

and its successor the Acu-Rule Manufacturing Company,  
Makers of the Acu-Rule and ACUMATH Slide Rule



George E. Keane

### **It Started in Festus, Missouri**

The Acu-Rule slide rule was first made in Festus, Missouri in 1938. It was the closing years of the Great Depression and Festus was a small town of 4,400. It was hardly a place where one would expect to find a company with the technology to produce slide rules, but it was there. The problems of precision manufacturing that slide rules require in addition to the proper milling of the wood and the need for accurate indexing of the numerical scales was overcome. Very little is known in Festus about this company or why it was even started.

The earliest documented reference was found in the May 12, 1938 issue of *The Jefferson County Press*. The Festus Mfg. Co. was listed with other businesses on a page congratulating the Festus High School graduation class of 1938.

Howard Litton, Festus historian, stated in his book, *Tanglefoot - Portrait of a City*, Vol. 1, June 1989, that the manager of the Festus Manufacturing Co. was Mr. Paul Jones. Edward Quilliam and L.D. Cockerham were employees. The company was located in the S. T. Waggener & Brothers Store Company building at 318 West Main St., Festus, Missouri. The Waggener Store Company, a local lumber yard, owned the operation. Recently a Festus resident reported that her brother, Don Lee Hughes, and a lady named Ella Mae Hass were also employees.

The company's existence was also confirmed by the *Tri-City Independent* of Festus that reported in the September 29, 1938 issue that Paul Jones, Jr., manager of the Festus Manufacturing Co. with offices located on West Main St., had a very narrow escape from death in an automobile accident.

Paul Jones, Jr. was born in St. Louis His mother was from Chicago and his father, a real estate agent, was born in Tennessee. His marriage to a relative of the Waggener Store Company is believed to have been the reason he established the business in Festus. He was described as very smart, very handsome and 42 years old at the time. Today no one knows why he decided to manufacture

slide rules.

The author has two wooden slide rules manufactured by the Festus Mfg. Co. The first is painted only on the face side with no identifying marks. On the back side the equivalents table and Festus Mfg. Co., Festus MO. are printed on a paper label that is glued on. The cursor is flat and not the magnifying type. It is believed that this was an early model.

The second slide rule has a slightly different design. The wood body is a little thinner and it is painted on both the face and back sides. The face is inscribed with PAT.PEND. Acu-Rule MADE IN THE U.S.A. The equivalents table is now printed on the painted back side along with FESTUS MFG. CO., FESTUS, MO. The cursor is a curved, magnifying type. The first owner wrote his name and the date 4/14/39 on it.

The company manager wrote the first instruction sheet. It is inscribed "Paul Jones, Author" with a copyright date of 1938. In the same year an instruction sheet was printed that read Festus Mfg. Co., Festus, Mo., U.S.A., Copyright 1938.

Financial problems were reported as the reason the company left Festus. However, Jones quickly obtained some backing and on April 12, 1940 the Acu-Rule Mfg. Co. was incorporated with Directors Herman L. Schnure, N. F. Delporte and V. E. Guenther, all from St. Louis. Production seems to have been uninterrupted. The manuals now read:

Acu-Rule Mfg. Co. (successor to Festus Mfg. Co.)  
New York address 15 East 26th St.  
Factory & General Offices, Festus, Mo.

The building at 15 East 26th St. is the Madison Square Building and contains a large number of offices. A check of the 1938 Manhattan telephone directory located an M. Manheim Company. This turned out to be Magnus M. Manheim. On Acu-Rule Mfg. Co. letterhead he identifies himself as Sales Manager and is circulating a product sheet with four models of slide rules, No. 10J, No. 10D, No. 50 and No. 100, and listing wholesale prices per gross.

This letter was dated August 14, 1939. That is before the company was actually chartered and while still in Festus.

The 10-J is described as seasoned hardwood, stained as mahogany, with a metal framed, flat 1/8th-inch beveled edge, Lucite cursor. The price was \$18.00 per gross. The 10-D has a 10-inch ruler on the edge and a magnifying, red-line cursor. Models No. 50 and No. 100 are made of kiln dried mahogany with both inch and millimeter rulers. The No. 50 uses a flat cursor. The No. 100 features a removable, auxiliary, Lucite magnifier with pins that fit it to the cursor. The No. 100 provided sine, log, and tangent scales on the reverse. These sold wholesale for \$72.00 per gross. All except No. 10-J came packed in an individual carrying case. The face of each model contained scales A [ B, CI, C ] D, K.

At the same time an order sheet from Laboratory Specialties, Inc., located at 144 South Wabash St., Wabash, Indiana was offering these slide rules at retail prices with quantity discounts. The same model numbers were used.

An extensive search of the Festus, Missouri City tax records did not find a record for the Festus Manufacturing Company. It is believed the taxes were paid by the S. T. Waggener Stores Company while it was under their control.

However, a search of the Jefferson County, Missouri Assessment records for 1939 did find a record in the *Merchant's Assessment Book* on page 198. It states that the Acu-Rule Mfg. Co. had a valuation of \$500 and paid a state tax of \$75 and a county tax of \$250. This tax record is the result of Paul Jones registering the new company that remained for a short time in Jefferson County at the Festus location.

### The St. Louis Period

After the 1940 incorporation the company was operating at 623 Del Monte Way, St. Louis. Paul Jones, Jr. was the President and the Secretary & Treasurer was Mr. Schnure. From this time on there was no longer any association with Festus.

In 1944 the company was still operating under the Acu-Rule Mfg. Co. name with Paul Jones, Jr. as President but Russell S. Queen was Vice President & General Manager. Katherine Drew Jones was Secretary and Treasurer. Katherine was Jones' wife. They resided at 502 Lake Ave., St. Louis.

Paul Jones, Jr. died on June 28, 1945 at the age of 49. The company continued and in 1946 the President and Treasurer was Willfred J. R. Boos. Katherine Drew Jones was now the Vice President and Secretary. A manual for the G.W. Photo Slide Rule, marked as copyright 1946 by the authors, states the Acu-Rule Mfg. Co. of St. Louis is the sole manufacture.

### A new Era Begins

The city directory of 1947 says W. J. Boos is President and Treasurer, Nicholas Muschong was the Vice President, and Paul Lazare the Secretary. Katherine Jones is no longer with the company and there seems to be no fur-

ther connection to the Jones family. From this time a new era began for the Acu-Rule Mfg. Co. under the direction of Nicholas Muschong. It was to become a large-volume producer and builder of a quality slide rule. Nicholas Muschong took an early and big risk in producing slide rules using the laminated vinyl film substrate made by Bakelite. At the time no one knew if the layers might separate. Fifty years later they are still in good condition. A model 90A and a model 4 are examples.

In April, 1950 the Acu-Rule Mfg. Co. filed to establish the name Acu-Math Co. but that name seems never to have been used as the company name. ACUMATH did become the new brand name for slide rules replacing the brand name Acu-Rule. This is documented by a manual for a rule that uses the brand name ACUMATH and states that it was published by Acu-Rule Co., St. Louis, Missouri and Mt. Olive, Illinois. The new brand name and its oval design are credited to Nick Muschong.

### A Likely Opportunity

In Mt. Olive another slide rule company was being established. The Mount Olive *Herald* reported on October 5, 1945 that the Slide Rule and Scale Engineering Co., headed by G. L. Lockhart, was making plans to move into the new industrial park. Their previous location was New Carlisle, Indiana.

Lockhart's company had a leading position since 1930 in improving the ease of reading slide rule scales. They designed 127 different rules for industrial use. In 1940 the company took steps to start doing its own production, and on July 25, 1946 was incorporated to make slide rules in Mt. Olive. The officers of the company were George L. Lockhart, George M. Lockhart, and Archie T. Burgess.

On February 14, 1947 the biggest fire in Mt. Olive history destroyed part of the factory. Rebuilding began and production resumed in remaining buildings. At that time Lockhart said the rules have been placed with some of the country's largest distributors and described his company as one of only three companies doing this kind of work. However, things did not go well for Lockhart and on April 14, 1950 the company was declared bankrupt and an action for dissolution was filed in June, 1950. On September 13, 1950 the creditor's negotiations began. It is suspected that Nicholas Muschong was a purchaser of some equipment and patent rights in the liquidation but this is not yet proven. Muschong was later to become the owner of the Acu-Rule Mfg. Co. and establish the ACUMATH brand, and bring it to a high level of quality.

### Mt. Olive, Illinois

On March 29, 1954 the Acu-Rule Mfg. Co. requested and was granted certification to operate in the State of Illinois, and the registered office was to be in Mt. Olive. The company officers were President W. J. Boos; Vice President Nicholas Muschong; Secretary Paul Lazare; with the same persons being the company Directors. Acu-Rule moved into the factory formerly used by G. L. Lockhart's company. The factory address is listed as Box 142, Mt. Olive,

Illinois.

Peter W. Muschong, Nicholas's father, joined the firm in 1956. After 1956 the Missouri registered office location is moved around to the homes of the officers: first to 4969 Tholzan Street, St. Louis; in March, 1959 to 8855 Bracken Circle, Afton, Missouri; and in 1964 the office is relocated to 13050 Woodley Lane, St. Louis. The Missouri address was probably a requirement for a Missouri incorporated company.

In 1958 there were 25 employees working for the company. In 1963 Eugene Castiglione became General Manager of the Mt. Olive plant and he continued to improve the product. The Mt. Olive plant did not make any slide rules branded as Acu-Rule. They did make 24 varieties of ACUMATH slide rules ranging in price from \$1.00 to \$15.00. Although sometimes mistakenly considered common plastic they were actually made by laminating eight layers of a special vinyl film product that was produced by Bakelite. Their magnesium core slide rules were made in a similar way by adhering the film to both sides of the magnesium core to produce a stable body.

#### **High-Volume, Quality Production**

According to Mr. Castiglione the Mt. Olive plant did produce slide rules for other companies. Three models of slide rules were made for the Dietzgen Company and marked as Dietzgen 1757, 1767, and 1772. The Fullerton Acu-400 and Acu-1311 were produced by the Acu-Rule Mfg. Co. Compass and Boise Cascade companies bought ACUMATH branded slide rules for resale. A student-grade slide rule was made for K & E. A "Concrete Volume Calculator" slide rule was also produced. A special slide rule was made for C. V. Ore in Harvey, Illinois. Some special slide rules were made for private companies. By 1966 the officers and the Board of Directors are all named Muschong. Nicholas is President and Treasurer, Peter W. is vice-president and Maria is Secretary.

#### **The Handwriting On the Wall**

After seeing the Texas Instruments electronic handheld calculators, Nicholas Muschong understood the impact that the handheld electronic calculators would have on the slide rule as soon as the price came down. He sold his company to George and Mary Staab of Mountainside, N.J., on June 25, 1968. This is Sterling Plastics in Mountainside, N.J. They operated in Mt. Olive for about a year and then moved the plant equipment to New Jersey. While in Mt. Olive they produced slide rules under the ACUMATH brand and under Mr. Castiglione's supervision continuing a high quality product. After moving to New Jersey all production was branded as Sterling Plastics and no ACUMATH branded slide rules were made in N.J.

An instruction manual for an ACUMATH 400 is marked

Manufactured by Sterling Plastics Co.  
Manufactures of Quality School Supplies  
Mountainside N.J.

Another manual is marked as being published by

ACUMATH Division of Sterling Plastics Co.  
Sheffield St., Mountainside N.J. 07092.

After only a short period a filing was made by the Staabs on April 18, 1969 to dissolve the Acu-Rule Mfg. Co. and it was officially liquidated on September 24, 1969 as a Missouri corporation by the Missouri Secretary of State. Six months later a filing was made in New Jersey to withdraw the Acu-Rule Mfg. Co. and this was approved in March, 1970.

At some point Sterling Plastics was bought and operated as a division of the Borden Chemical Company; however, the Sterling Plastics name was retained. Large numbers of low end plastic slide rules were produced by Sterling Plastics.

#### **In Summary**

The life span of the Festus Manufacturing Company was about two years, having started in Festus, Missouri in 1938 and into 1940. Jones took the company to Saint Louis as the Acu-Rule Mfg. Co. and operated it for five more years until his death. There were then a number of management changes and relocations until it was dissolved in 1969. The name Acu-Rule Mfg. Co. was used from 1940 to 1969.

#### **Timeline for the Festus Mfg. Co. and the Acu-Rule Mfg. Co.**

**1938** Paul Jones, Jr. started the Festus Mfg. Co. making Acu-Rule slide rules

**1939** Paul Jones takes control of the company in June and renames it Acu-Rule Mfg. Co. By August he has hired a New York Sales Agent and was selling in gross quantities.

**1940** The company is chartered as a Missouri Corporation in April and moved to 623 Del Monte Way, St. Louis, Mo.

**1944** Company officers are listed as President, Paul Jones; Vice President and General Manager, Russell Queen; Secretary & Treasurer, Katherine Jones.

**1945** Paul Jones dies July 28th. Harry S. Gleick is vice-president.

**1946** President is now Willfred J. R. Boos.

**1947** Nicholas Muschong is now the vice-president. Katherine Jones leaves the company.

**1950** The Acu-Rule Mfg. Co. files to establish the Acu-Math Co. in Illinois on April 14 but the name was never used except as a brand name. (This is the same day G. L. Lockhart declared Bankruptcy.)

**1954** The Muschongs file to charter the AcuRule Mfg. Co. in Illinois with the registered office in Mt. Olive. Charter granted in April. Acu-Rule is on the Mt. Olive tax rolls.

**1956** P. W. Muschong joins the company. Mary Jane Muschong is Secretary. The office is relocated to 4969 Tholzan St., St. Louis. The company location is listed as Mt. Olive, Illinois.

**1959** The St. Louis office location is 8855 Bracken Circle, Affton, Mo.

**1964** The St. Louis office location is 13050 Woodley Lane, St. Louis.

**1968** George and Mary Staab of Mountainside, N.J. buy the company in June and operate for about a year in Mt. Olive.

**1969** The company is moved to Mountainside, N.J. In April the Staabs file to dissolve the Acu-Rule Mfg. Co. in Missouri and the final Certificate of Dissolution is issued in September.

**1970** In March the Staabs file in New Jersey to withdraw Acu-Rule Mfg. Co. as an Illinois Corporation.

#### Timeline for the Slide Rule & Scale Engineering Co.

**1930** The company is established.

**1945** G. L. Lockhart states plans to rent the Niemann Poultry Supply factory at 5th North St. on October 5 and locate in Mt. Olive, Illinois.

**1946** On March 15, an Open House is held in Mt. Olive to initiate production. In July they were incorporated to do business in Illinois.

**1947** Largest fire in Mt. Olive history destroys a large part of the plant; \$100,000 loss. Plans are made to rebuild and some production is started.

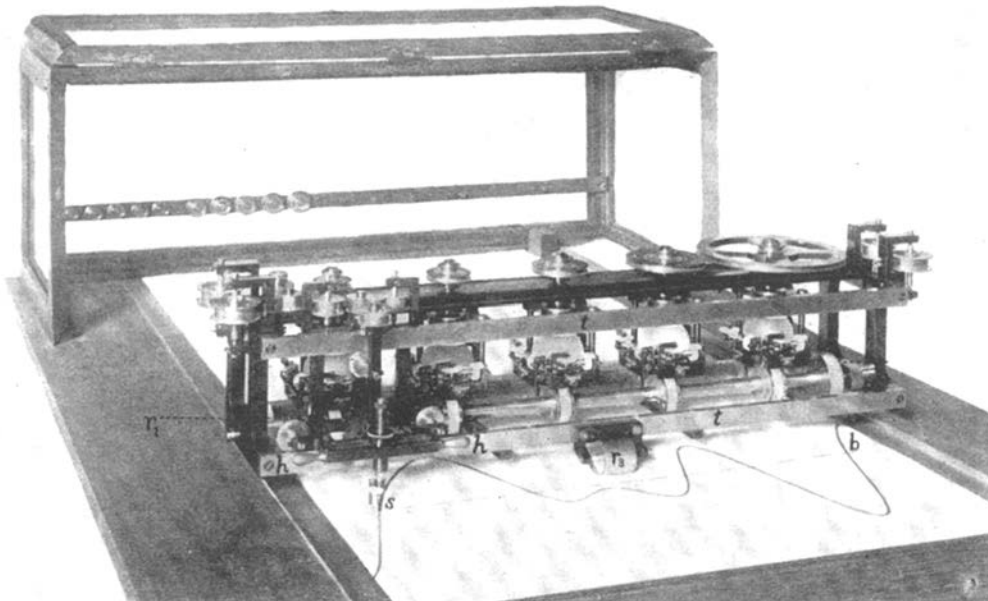
**1948** George Lockhart meets with Industrial Group requesting they rebuild their factory.

**1949** Lockhart requests a loan of \$12,000 to rebuild the plant. G. L. Lockhart is not on the tax rolls. George M. and Don Lockhart and the company are listed.

**1950** On June 30th, Chancery No. 97536 is filed for dissolution of the corporation. The plant is never rebuilt and the Slide Rule and Scale Engineering Co. is declared bankrupt in April. In September the creditors meet in Carlinville, Illinois.

**1953** No Lockharts on the Mt. Olive tax rolls. The Mt. Olive *Herald* reports that Acu-Rule Mfg. Co. will buy property and relocate from St. Louis.

**1954** In September the Mt. Olive Industrial Association votes to dissolve.



The Henrici Harmonic Analyzer set up to compute the first five terms of a Fourier series. From an article by Dayton C. Miller in the *Journal of the Franklin Institute*, September 1916, 182:3.