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B y

EDWARD N. TRUMP.

(In            Chapters)

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Chapter I.        Founding and Organization of the Company.

Chapter II.       Improvements and Original Designs of Apparatus.

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## Early History of THE SOLVAY PROCESS COMPANY.

### Chapter I.

FOUNDER: Mr. William Brown Cogswell was the Founder of the Company, having conceived the idea of establishing the manufacture of Ammonia-Soda in the United States, and invited Mr. Rowland Hazard, of Peace Dale, R.I., to help him finance a Company.

ANCESTORS: The first record of the Cogswell family is the birth of Sir John Cogswell, at Westbury Leigh, Wiltshire, England, in 1592, the family coming to America and settling at Ipswich, Mass., in 1635.

FATHER: David Cogswell, born in 1807, died in 1877, lived at Oswego where W. B. Cogswell was born September 22nd, 1834. His mother, Mary Barnes Cogswell, died in 1862. The family moved to Syracuse when Mr. Cogswell was four years of age.

EDUCATION: He attended school at the Joseph Allen School, Grin Root's School at Seneca Falls, and Hamilton Academy. He also studied Civil Engineering at Rensselaer Polytechnic Institute at Troy, for three years, leaving in 1852 without graduating, but received the Degree of C. E. in 1884.

APPRENTICE: From 1852 to 1856 he served as an Apprentice in the machine shop at Lawrence, Mass., under John G. Hoadly. One of his shopmates was F. M. Power, one of the first men employed at Syracuse to go to Europe and study the Process.

From 1856 to 1859 he was associated with George Barnes as Manager of the Machinery Department of the Marietta & Cincinnati Railroad, at Chillicothe, Ohio, and one year later he became Superintendent of the Broadway Foundry at St. Louis, Mo.

In 1860, with William A and Harvey Sweet Bros. & Co., which later became Whitman & Barnes Co., he was the Mechanical Expert.

# WAR RECORD:

At the outbreak of the Civil War he received, thru Judge Sedgewick, an appointment as Mechanical Engineer in the United States Navy, and established and superintended a floating machine shop at Port Royal, S.C., and five other shops at widely separated places along the coast.

The floating machine shop, erected on an old whaler, was fully equipped with machinery assembled by Mr. Cogswell and shipped down; even a small foundry, which made castings of 500 pounds, being included.

It was very useful to the fleet, as the ships could be brought alongside the "Machine Ship" and the machinery repaired without their having to be very far from their blockading stations.

In 1862 he was transferred to the Navy Yard at Brooklyn, in charge of all mechanical repairs and construction, and remained there until 1866. After two years more in New York he was made Superintendent of Construction of the Clifton Suspension Bridge, just below Niagara Falls, and also the construction and operation of the Franklin Furnace at Clinton, N.Y.

# MET ROWLAND HAZARD:

In 1874, when he was 40 years of age, he met, through the good offices of John E. Sweet, Mr. Rowland Hazard, of Peace Dale, R.I. Mr. Hazard had asked a Brown University Professor to find him a Superintendent for his lead works and mine at La Motte, Mo., and Sweet, at Cornell University, heard of it and brought them together. Five years of successful work followed.

In 1877 Mr. Cogswell, having nearly died with congestive chills, and losing his wife while he was ill, took a vacation in 1879, and went over to Germany for a year.

AMMONIA-SODA: Just before he left the United States, in February 1879, he attended a meeting of the American Institute of Mining Engineers at Baltimore, where he heard a paper read by Oswald J. Heinrich, of Driften, Pa., in which was described the manufacture of Soda Ash by the Ammonia Process by Gerstenhoefer, of Germany.

In this paper was described the process as carried on in Germany, and he was struck by the list of raw materials necessary, which his knowledge of Syracuse told him were all to be found there.

In thinking this paper over, after he got to Hanover, he concluded that as no Soda was made in the United States it would be a good business to start, and that Syracuse would be a good place to start it. He therefore began negotiations with a German Manufacturer, who, however, went insane before they were completed.

Mentioning his disappointment to a German friend he learned that the most successful manufacturers of Ammonia-Soda were the Solvay Brothers of Belgium.

SOLVAYS: Ernest and Alfred Solvay had started a small works at Couillet, in Belgium, in 1863, and after a hard struggle were, in 1880, beginning to be successful, and had started several works in other Countries, including a plant built at Northwich, England, in combination with Dr. Mond and Mr. Brunner.

Mr. Cogswell visited the Solvays in Brussels, but after several days conference they refused to go into a works at Syracuse, and he returned to Hanover disappointed.

After an interval of two or three months he was more desirous than ever of starting the project, and wrote the Solvays again, asking if they would not reconsider the matter.

**SOLVAYS CONSENT to locate Works in Syracuse:**

He received a reply asking for reference, which he furnished, and finally had a letter asking him to come to Brussels, where he received a commission to return to the United States and make a study of localities, and raw material supplies. His report of Syracuse was favorable, enough for the Solvays to consent to build the first works there.

**INVITED ROWLAND HAZARD to join Company:**

Mr. Cogswell had invited Rowland Hazard, of Peace Dale, to come in with him to help in the financing of the plant.

Solvay et Cie took one-third, Rowland Hazard one-third, and Mr. Cogswell was to have a third, which Mr. Hazard was to carry for him on notes.

Mr. Cogswell invited some friends in Syracuse to take a small interest, and act as Directors for the new Company.

**TRUSTEES: The first Trustees were five in number:**

Rowland Hazard,	President,	Peace Dale, R. I.
Wm. B. Cogswell,	Treasurer,	Syracuse, N.Y.
Wm. A. Sweet,	Director,	"
Earl B. Alvord,	"	"
George Dana,	"	"
O. V. Tracy,	Secretary.	
Judge Charles B. Sedgewick,	Attorney,	
John L. King,	"	

**INCORPORATION: The Company was incorporated under the Laws of the State of New York, September 1st, 1881.**

Capital \$300,000. 3000 shares of \$100 each.

SUBSCRIPTIONS to STOCK:

The first subscription was -

Solvay et Cie, - - - - -	1020 shares.
Rowland Hazard, - - - - -	1000 "
W. B. Cogswell, - - - - -	950 "
W. A. Sweet, - - - - -	10 "
Geo. Dana, - - - - -	10 "
E. B. Alvord, - - - - -	10 "

CONTRACT with SOLVAY et Cie:

A contract was entered into with Solvay et Cie, of Bruxelles, Belgium, which provided that they should have the right to subscribe to one-third of the Stock, and should also receive one-half the profits after 10% dividends had been declared to the Stockholders.

It was also provided that if a block of Stock was given to Solvay et Cie, which would bring their holdings up to nearly 50% of the Capital, that this provision with reference to one-half the excess profits would be cancelled.

PLAN for WORKS:

Solvay et Cie agreed to furnish all plans for the works, a license for all Patents free of royalty, and to interchange information, and exchange visits, allowing the men who had signed contracts to study in their plants.

FIRST WORK: The first actual work was a search for Salt by drilling a well near Jamestown, with the idea of locating the works close to the limestone if salt could be found, and it was commenced in July 1881, before the incorporation of the Company. No salt was found, and it was decided by Mr. Cogswell to purchase land near the lake, where there was a better water supply, waste land for D. S. Waste, with canal and railroad close together--more than one railroad--and a good foundation.

PROPERTY PURCHASED:

He selected the Gere farm as a proper site, and it was purchased August 6th, 1881. This land included all the area

between the Auburn Railroad and the canal, and from Blast Furnace Road (now Willis Ave.) to the piece afterwards purchased by Fraser & Jones, used for a steel plant and later purchased from them by the Company.

In the center of this was a depression about 15 feet deep, with a large spring at the bottom, surrounded with some fine trees and a small house - the home of a widow Mrs. Elias Throop.

It consisted of 7.85 acres, and was purchased at the same time by W. A. Sweet, for the Company, and later transferred.

#### AURORA BRINE WELL:

A well at Aurora, N.Y., was drilled by W. A. Sweet in the search for salt, as possibly a better location. This was purchased from him August 20th 1883, and deepened by the Company without finding salt.

#### F.R. HAZARD Elected Trustee:

Mr. F. R. Hazard, second son of Rowland Hazard, was elected Trustee in place of Earl B. Alvord, on August 21, 1883, and as Assistant Treasurer April 9, 1884.

#### INCREASE OF CAPITAL:

The Capital Stock of the Company was increased -

December 28th, 1881,	to -	\$ 400,000
July 2nd, 1884	" -	500,000
September 25th, 1885,	" -	700,000
November 1th, 1886,	" -	1,200,000

The writer was given a chance to subscribe to 50 shares of stock by Mr. Cogswell July 2nd 1884, and received his share of other increases.

Mr. Cogswell was not able to keep up his proportion, as Mr. Hazard was unwilling to carry it for him, and it was distributed among other stockholders.

Brunner, Mond & Co. became stockholders Dec. 22, 1886.

What follows is within the personal recollection of the writer, since he was identified with the Company:

JOHN E. SWEET:

Prof. John E. Sweet, who has been so intimately connected with the vital moments in the lives of his many friends, and to be intimately associated with Mr. Cogswell all his after life, contributing no small part to the success of The Solvay Process Company, says of Mr. Cogswell:

"I first heard of Mr. W.B. Cogswell in 1850, and was always ready to believe he would be one of the great men of his time. I became acquainted with him when he was with my brother W. A. Sweet. While I was at Cornell in the Seventies, Mr. Rowland Hazard approached a Brown College Professor, who had formerly been at Cornell, for a man to take charge of his lead mines in Missouri, and through Professor Morris I heard of it, and believing Mr. Cogswell was the man I managed to get them together."

Professor Sweet afterward designed the first Compressor, and helped us design the Apparatus Pumps, the "A" frame Vacuum Pumps, and furnished many Straight Line Engines, and made a large part of the apparatus used in the new plant.

John E. Sweet was one of the most lovable men; his action in Mr. Cogswell's case was exactly repeated in the bringing together of Mr. Cogswell and the writer, and others of the men who have been prominent in the Company.

Always unselfish, willing to listen and anxious to give all the help in his power. His clear mind saw through the most intricate problems, and reached a solution with lightning rapidity and always in the simplest manner.



The Solvay Process Company owed a debt to John E. Sweet that it never has, or can pay, and the help he gave us contributed largely to the success of the Company.

Mr. Cogswell had the faculty of picking out men for places he had to fill, who were capable and efficient. He believed in paying them well, and was always devising plans like the Participation Contracts to make them interested in their work, and to foster co-operation between them.

To this characteristic, and the advice of Sweet, is owing the harmony, the "Esprit de Corps", and the good work done by the Staff during the first hard years of development of the Company.

The writer can never be grateful enough to his beloved Professor Sweet for his kindly help. He was a mechanical genius, and was always ready to give good advice, and to help solve any problem--and they were only too numerous.

Mr. John L. King, as Attorney, and Mr. O. V. Tracy, as Secretary, and then as Treasurer, were the most lovable of men, and contributed largely to the success of the Company. They were always looking out for the happiness and pleasure of the younger men, who were invited to their homes and made happy by their friendship.

Mr. George Dana gave much help as a good business man, as did W. A. Sweet and E. B. Alvord. And Mr. Rowland Hazard watched over the financial affairs of the Company, and in spite of rather hard times the first years carried the Company through to success.