The Memoirs
of
Orley Clifton Houghton

Orley C. Houghton and his Residence

Edited by: William D. Houghton

Second Edition

Dedicated to my son Ian

Printed in the United States of America.

ISBN: 978-0-557-13047-4

Introduction

This work contains the 40-page, memoirs of 19th Century inventor and engineer Orley Clifton Houghton. The memoir was hand-written to his son Bruce Robertson Houghton, Sr. in the 1950s. Sadly, I believe that several pages of his autobiography have been lost or destroyed, as the document ends abruptly. It was meant to be a brief history of the heritage of the Houghton Farm in Wisconsin and an overview of Orley's early work as an inventor, in designing and producing mechanized farm equipment. It certainly was never meant to be published, but just as an historical reference for his son. As one of Orley's grandsons, I believe this document should be preserved and shared with future Houghton generations, as well as being a fascinating window into American 19th Century rural life.

Orley was born on the Houghton Farm, in LaGrange, Wisconsin, on March 19, 1877. He was the son of Horace and Elizabeth Houghton and attended grade school in a small, one-room, schoolhouse in LaGrange Wisconsin, a small, unincorporated town in Walworth County, WI. The schoolhouse is no longer there, but it was about three-

quarters of a mile from the family home and farm, which is still standing and in residence today. Orley came from a very religious family and was a member of the LaGrange Methodist Church, in LaGrange. He was kind and gentle man, and like the rest of his family, would never swear of use a whip on the draft horses that tilled the land or pulled his farm machinery.

Orley often spoke to this author of taking a horse and buggy from the Houghton Farm in Wisconsin to the Chicago World's Fair in 1893, when he was only 16-years-old. The World's Fair was meant to celebrate the 400th anniversary of Christopher Columbus' 1492 arrival in the New World. On opening day, President Grover Cleveland pressed a golden telegraph key that sent the first courses of electricity throughout the Fair powering fountains, machines, electric railways and thousands of lights. It was the first use of electricity on such a massive scale, and must have been a thrilling site for this young man of 16. Orley told us of his amazement at visiting the International Exhibit, which was a devoted exhibit on electrical current, motors, and lighting. Orley recalled with astonishment viewing the huge exhibits of General Electric, Westinghouse, and Western Electric. He saw one of his heroes Thomas Edison at the General Electric exhibit and told of how one of the first, incandescent light bulbs only lasted "a few seconds" after it was turned on, before it burned out.

Orley was amazed that 71 years later he would watch, on live TV, the first, successful, unmanned landing, by Ranger 7, on the moon in July 1964. He insisted on

staying up till late at night to watch the landing live on TV. As an engineer and inventor, he would say that his lifetime was filled with man's greatest achievements.

In 1898, Orley attended college for one year in Madison, Wisconsin, to study drafting and then moved away from his family's farm in 1899 to work for his mentor and fellow inventor, John F. Appleby. He become a journeyman draftsman and inventor in Harvey, Illinois, just outside Chicago, and worked at Harvester King Works, and then at Austin Works. He finally landed the ultimate inventing position at the Deering's Harvester Company, the world's largest implement manufacturing plant. This massive 19th Century company swept ahead of most competitors. By 1890, the company's Chicago plant, with 9,000 employees, had a daily capacity of 1,200 machines of various kinds, which it sold all over the world. In his memoirs, Orley discusses in detail these early years as an inventor of farm equipment and machinery, and his interactions with the head of the company, Mr. William Deering (1826-1913).

On April 15, 1914, Orley married Marion Maude Robertson in Chicago, Illinois, and they would have three surviving children: Elizabeth Jane, Bruce, and Mary Grace (Meg).

Figure 1 Orley and Marion Houghton on their honeymoon. 1914

Figure 2 Marion Maude Houghton (1884-1928)
Courtesy of the Heidi Samuel Collection

His wife Marion would pass away on March 8, 1928, and he subsequently married a school teacher, Faith Chamberlain, also of Chicago, on June 29, 1929. Orley and Faith would have one girl, Nancy, who would later marry Robert Cushman. During the second half the 20th century, the three of them would live in the house that Orley had built on the farm in LaGrange, WI, that Orley loved so much.

Figure 3 Orley Houghton's home in LaGrange, Wisconsin @ 1925

As editor, I have tried to copy his manuscript just as Orley had written it. The chapter titles and sentence structure are completely those of Orley. Any errors made in copying his original, handwritten, document are, of course, strictly the fault of the editor. Occasionally, I have added some bracketed information, footnotes, or photos to assist in clarifying the meaning of his autobiography. The photos, unless otherwise credited, are from the personal collec-

tion of Orley's two grandsons, Bruce R. Houghton, Jr. and William D. Houghton, and Orley's great-granddaughter, Heidi Samuel.

Unfortunately, only 40 pages of his hand written autobiography have survived. I do not know if he just stopped writing or if the rest of his autobiography has been lost. Orley did keep detailed journals for his entire life, but those too have been lost. His memoirs are really divided into two sections: the first on his family and his early life; and the second part on his early inventions and life as an engineer with other inventors, including his mentor, John. F. Appleby. The Latin motto "*Magre le Torte*" on the Houghton coat of arms, which is pictured on the title page, translates into "Despite the Wrong"—appears to apply to the fascinating life of Orley C. Houghton.

William D. Houghton
—Grandson of Orley Houghton

Figure 4 Orley Houghton, 1941. Courtesy of Heidi Samuel.

The Houghton Family in LaGrange, Wisconsin

Walworth County

Township of LaGrange

Section 14-23

Orley C. Houghton has presented Proof of Present ownership of real property in Wisconsin as described above. The property was acquired in 1838 by William Houghton, who is my Grandfather and has since remained in continuous family ownership to the present.

This William Houghton (1802-1889) was born in Bakersfield, Vt. He married Orilla E. Cornish. They came to LaGrange in 1838 bringing four children: Harriet, Lucetta, Horace, and Chester. To me, my father Horace (1833-1918) was the ideal character in the male sex. Ideal, because he lived the Good life and was the natural-born teacher. When a mere child, he taught me how to plow the straight furrow by looking ahead [and] how to turn at the end by letting the team do all the work. He taught me in

one easy lesson how to load the old musket, which I rested over the rail fence and exterminated gophers. Last of all, how to get over that fence with the deadly firearm—Safely.

Best of all, he was lenient when I spent days and days in the work shop making a wind-mill and various models of machinery to exhibit at the [Walworth] County Fair. Oh, my secret labors were not in vain. I won my share of the blue ribbons and did bring home the money to invest in more and better tools. At a very early age, I purchased a lawn mower. Probably the first one in the neighborhood. Then, equipped with a machine, my services were in demand. I believe my first contract was, with Mr. Lauderdale, to mow and care for the [Round Prairie] cemetery lot.

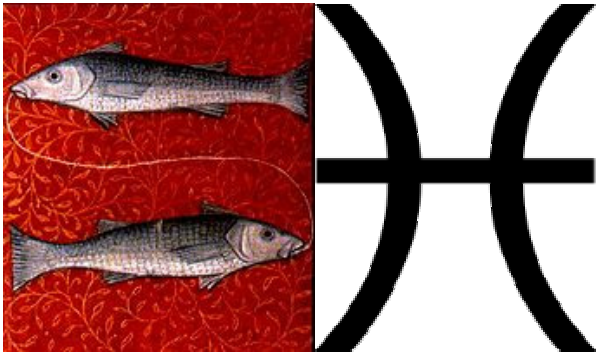
Attempting to write concerning these childhood days and doings, I turn to my favorite volume, *The Essays of Montaigne*. He says:

> *"I condemn all harsh measures in the bringing up of a tender soul that is being trained for honor and freedom. There is something that savors of slavishness in severity and compulsion; I hold what cannot be done by reason, but wisdom and tact can never be done by force. I was brought up in that way. They tell me that in all my early childhood I did not taste the rod but twice and very gently. I owe the same treatment to the children I have had. I have never known any other effect on the rod but to ren-*

der the soul more cowardly and more deceitfully obstinate."[1]

Well, the one and only close escape in my life was one morning when my dear mother said: "Orley, last evening I did feel like taking you to the wood-shed and spanking you."

Pisces[2]



Pisces, symbolized by two fish swimming in opposite directions, was the pictorial representation given by the Ancients to this sign. They are natural wanderers and lack

[1] Quoted from Michel de Montaigne (1533-1592), *The Essays of Montaigne*, as translated by Charles Cotton (1630-1687).
[2] Pisces is the 12th sign of the astrological Zodiac and is represented by a pair of fish swimming in the opposite direction, but who remain held together at the mouth by a cord.

concentration and directness. They are restless physically and inattentive mentally.

But who would not wish to be ruled over by Neptune, the God of the Sea, that world of waters which is so exact a physical symbol of the emotional psychic plan hailed in ancient times as the "the savior." Pisces is preeminently the sign of salvation, the true heart of body, soul, and sprit as united by man.

The ocean, even when calm, is never absolutely still; ebb and flow are perpetually in motion.

There is something fitting about this sign representing the struggles and defects through which the aspiring soul in bondage must come into its full fruition, whether here or in another life.

It was at the sign of Pisces, when Neptune rules the world, March 19th, 1877; I was born at the old Homestead in LaGrange Township. The winter was long and cold—the roads were still blockaded with snow when Dr. Peardon drove with horse and cutter through a gap in the West line fence and came jogging toward the house. Of such nature was the stork that brought me—and ended long days of waiting. And be it said that after a period of financial distress, real hope and progress came to our country. From years previous, our country had been shattered by a terrible panic. The savings of everyone had gone in the crash of the railroads, banks, and insurance companies. Half the

property changed hands through the foreclosure route. Landlords were not even trying to collect rents.[3]

The summer previous, intense heat and drought destroyed the crops. My brother said he could carry on his shoulders all the grain that he did harvest. No one had money for the necessities of life— much less to go gallivanting off to an Exposition. But this was the year of the great Centennial in Philadelphia. Here, President Grant pulled a lever starting a Corliss engine, which was the Eighth Wonder of the World. All of a sudden, the public decided that it wanted to see the show. One eighth of the entire population visited this Exposition. From whence came the money—nobody knew. But real money had come out of hiding the instant the owners found something to buy and spend it for.[4]

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[3] Orley is likely referring to the Depressions of 1873-1879 and 1893-1898.

[4] The 1876 Philadelphia Centennial Exposition, the first exposition of its kind in the United States, was held to mark the 100th anniversary of the Declaration of Independence. It celebrated not only a hundred years of American independence, but also the country's recovery from Reconstruction and its emergence as an internationally important industrial power. Ten years in the planning, the Centennial Exposition cost more than eleven million dollars and covered more than 450 acres of Philadelphia's Fairmount Park. More than ten million visitors visited the works of 30,000 exhibitors during its six month run. The focal point of the exposition was Machinery Hall, where visitors could marvel at the engineering wonders of the age: electric lights and elevators powered by the 1,400-horsepower Corliss steam engine, locomotives, fire trucks, printing presses, mining equipment, and magic lanterns. Introduced to the public for the first time were typewriters, a mechanical calculator, Bell's telephone, and Edison's telegraph. These and thousands of other artifacts became the basic collection of the new Arts and

Figure 5 1893 World's Fair Ticket; Courtesy of Wikipedia

It is interesting to note how Arthur B. Farquhar of York, Pa., a classical scholar, went into business before the Civil War. He built a shop for making farm machinery. To break this stagnating depression, he hitched up horse and buggy and started south. He did not try to sell anything, but visited each plantation and as a guest analyzed the situation. He made a record of their needs, and took payment in the form of notes if the owner wished to order the implements. The undertaking was successful and the latent energy of the shop was transformed to real live activity.

It was the following year 1878 that [Charles H.] Parker and [Gustavus] Stone of Beloit, Wis., made their first Reaper and Binder embodying the [John F.] Appleby

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Industry Building of the Smithsonian Institution, which this author has visited in Washington, DC.

twine knotter and henceforth un-bending the backs of the laborers in the harvest fields.[5]

Bruce [Houghton Sr.], if ever you are discouraged and impatient with the seeming slow progress of events, just recall that it was twenty years previous (1858) that Uncle Chester Houghton, a youth of 23 years, assisted another boy of 17 years (John F. Appleby) as they worked away in Pierces' Shop in Palmyra [WI]. Shall we say Uncle Chester did assist, or did he aggravate the pester John? For Chester was sick and sentimental. He was inclined to become a lawyer. He was constantly reading Blackburn. We quote from his diary of May 5th, 1858:

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[5] The original knotter was invented in by John F. Appleby in 1857 as he sat on the back steps of the Houghton Farm, in LaGrange, WI. It revolutionized the task of tying a knot in a piece of twine or cord that would hold harvested grain crops together after they had been cut in the fields. In 1857, when eighteen-year-old Appleby was working as a farmhand on the Houghton Farm, in LaGrange, Wisconsin, he declared that the reaper would be far more efficient if it could tie cut grain stalks into sheaves. As the story goes, he was inspired to invent a twine knotter by the sight of a girl playing with a Boston terrier pup and a jump rope. Apparently, when the girl accidentally dropped the rope on the dog's head, he shook himself and backed away, inadvertently leaving the rope in a knot on the ground. Appleby then carved from wood a sample knotter that supposedly could replicate the dog's twisting and turning motions, and he later fabricated the device in iron at a gunsmith shop. Merrill Denison writes that "upon such a seemingly trivial incident was based the 'beak' of the Appleby knotter, a mechanism which helped to people the Canadian and American wheat lands and dot them with thousands of grain elevators." This knotter, which many believed could never be invented, is now on display at the Wisconsin Historical Society.

"Today, I have been a Palmyra. Bought a pair of calf-skin boots $3.50. Harry Pierce, and John, and myself agreed to combine our skills in inventing our Reaper and gun[?], of which we are to share co-equal profit or loss, as the case may be."

June 2nd, 1858. "I am almost discouraged about My Reaper. Because Harry is so lazy."

June 14th, 1858. "Father and I started for town (Milwaukee) to sell my brooms. We had a hard time of it. Left 13 doz. I went all over a steamer and a machine shop."

June 29, 1858. "Studied some and have written a lot upon my speech for the 2nd of July at Lake Pleasant."

Saturday, March 27, 1858. "Worked hard all day setting apple trees for father."

Well, this ambitious lad did not survive to enjoy the fruit of his labor. That plot of ground became a stock yard. At threshing time, which was usually in the early autumn, I had a delightful job of gathering the beautiful fruit which was stored on our cellar shelves—and that method is very good. The apples should be carefully examined, from time to time, and every one showing a sign of decay should be removed. This brings to mind this story of a thrifty old aunty who did pick out the defective ones and prepared them for pies. In this way she ate rotten apples all winter

long. My recollections, quite the contrary, are of perfect fruit. I never tasted superior.

Except for the complete diary of 1858, I have puzzled and defeated in any attempt to find much concerning the following years of this remarkable youth. But now, we have the following data from the Michigan Historical Collections, Ann Arbor, Mich. The only information that I have found about your uncle's army career is in the following, from p. 65 of Volume 27 of Record of Service of Michigan Volunteers in the Civil War:

> *"Houghton, Chester W. Houghton Entered Service in Company C, Twenty-seventy Infantry, at organization, as Second Lieutenant, Aug. 14, 1862, at Houghton [Michigan] for 3 years, age 20. Mustered Oct. 10, 1862. Commissioned First Lieutenant Oct. 10, 1862. Aide-de-Camp on Staff of Colonel Pierce, Commanding Second Brigade, Second Division, Ninth Army Corps, January 1864. Commissioned Captain, Apr. 20, 1864. Discharged for disability, Oct. 3, 1864, on account of wounds received in action at Spotsylvania, Va., May 12, 1864. Captain and Commissary of Substance of Volunteers, Feb. 15, 1865. Discharged Oct. 9, 1865"*

Your Uncle apparently saw plenty of action. The above phrase "Discharged for Disability on account of wounds" must refer to the fact that shrapnel injured his left arm so that it was amputated. We have evidence of this

loss in the way of a cast iron paper weight. We also have his sword and dress military sash.[6]

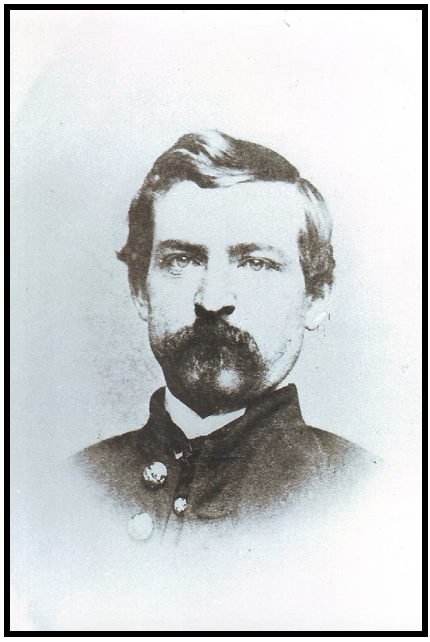


Figure 6 Civil War Captain Chester W. Houghton
27th Michigan Infantry, Company C

[6] Sadly, in December 2008, Orley's son, Bruce Houghton Sr., suffering from acute dementia, began selling all the Houghton family heirlooms, including Chester Houghton's Tiffany engraved, Model 1850, Civil War Officers Sword. Orley's Grandsons, Bruce Houghton Jr. and William Houghton were able to purchase the sword before it was lost to our family. All other Houghton family heirlooms, past down for generations, were privately sold by Bruce Houghton, Sr.—as he did not want any future Houghtons to enjoy them.

Figure 7 Chester W. Houghton's Foot Officers, Presentation Model 1850, Collins & Co. Sword from His Men in the 27th Michigan Infantry. Engraved by Tiffany & Co., New York

"Discharged Oct. 9, 1865, he returned to Vermont.

"Died November 19, 1865, aged 30 years." J.H. Baxter (Surgeon at Derby Line [VT] certified to his death because of Typhoid at Stamstead, Canada. Burial with his wife Elisa Foster at Derby, or Derby Line, Vermont.

Figure 8 Headstones of Chester & Elisa Houghton, in Derby Line, VT

Dear Children

Just turn time back to a day in 1837 when William (Esq.) Houghton and Orilla E. Cornish Houghton did say goodbye to all that was dear to them in Bakersfield, Vermont, and moved Westward to locate eventually 42 miles inland from Milwaukee. This is related in only a few worlds to which the imagination may add much, for these were from little tots, all under eight years of age; Horace, my father, was only four.

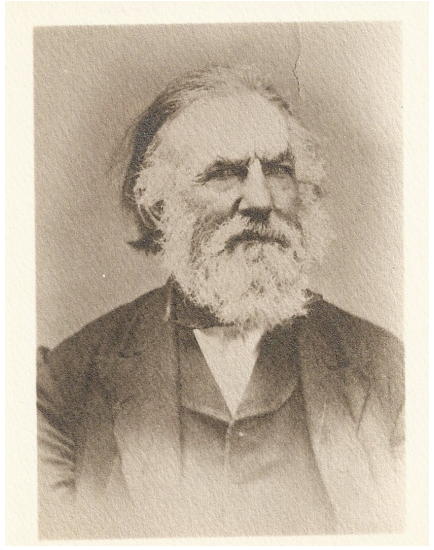
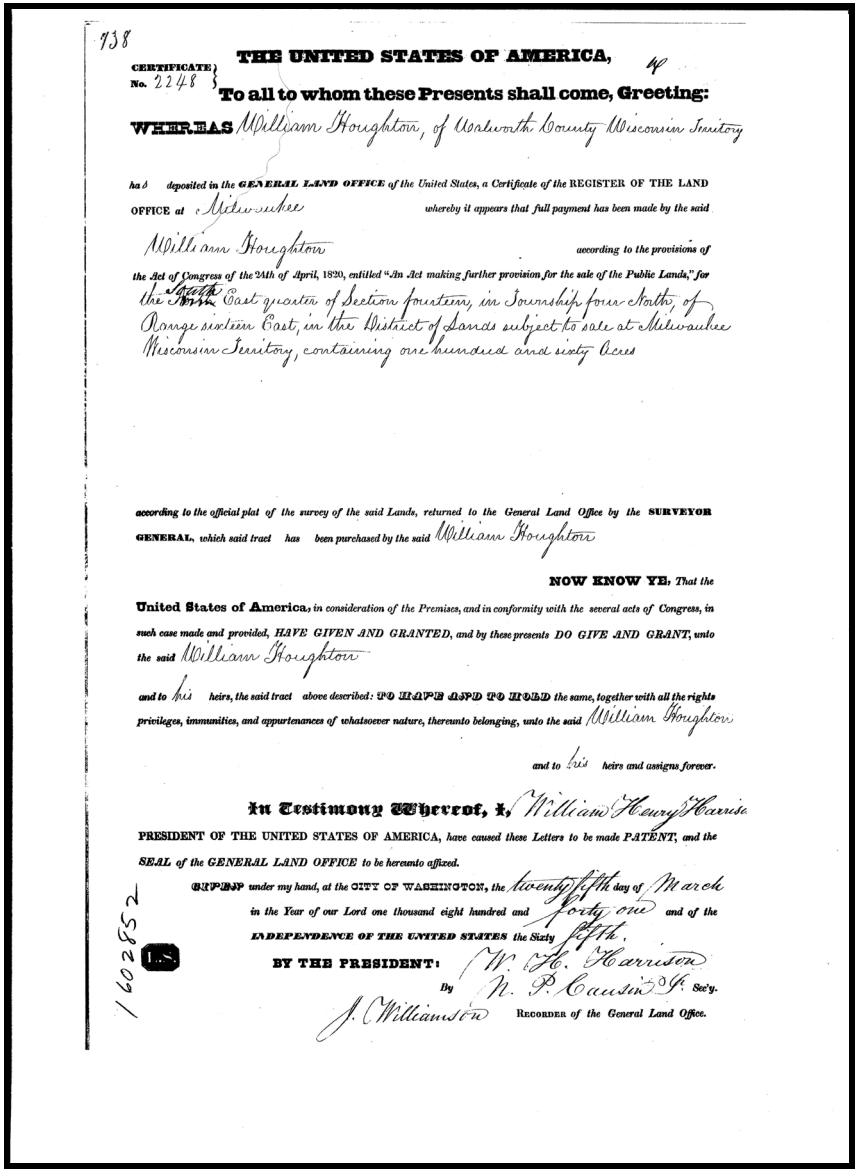


Figure 9 William Houghton (1809-1889), Orley's Grandfather



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CERTIFICATE No. 2248

THE UNITED STATES OF AMERICA, 40

To all to whom these Presents shall come, Greeting:

WHEREAS William Houghton, of Walworth County Wisconsin Territory

has deposited in the **GENERAL LAND OFFICE** of the United States, a Certificate of the REGISTER OF THE LAND OFFICE at Milwaukee whereby it appears that full payment has been made by the said William Houghton according to the provisions of the Act of Congress of the 24th of April, 1820, entitled "An Act making further provision for the sale of the Public Lands," for the South East quarter of Section fourteen, in Township four North, of Range sixteen East, in the District of Lands subject to sale at Milwaukee Wisconsin Territory, containing one hundred and sixty Acres

according to the official plat of the survey of the said Lands, returned to the General Land Office by the **SURVEYOR GENERAL**, which said tract has been purchased by the said William Houghton

NOW KNOW YE, That the **United States of America**, in consideration of the Premises, and in conformity with the several acts of Congress, in such case made and provided, HAVE GIVEN AND GRANTED, and by these presents DO GIVE AND GRANT, unto the said William Houghton

and to his heirs, the said tract above described: **TO HAVE AND TO HOLD** the same, together with all the rights privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said William Houghton

and to his heirs and assigns forever.

In Testimony Whereof, I, William Henry Harrison PRESIDENT OF THE UNITED STATES OF AMERICA, have caused these Letters to be made PATENT, and the SEAL of the GENERAL LAND OFFICE to be hereunto affixed.

GIVEN under my hand, at the CITY OF WASHINGTON, the twenty fifth day of March in the Year of our Lord one thousand eight hundred and forty one and of the INDEPENDENCE OF THE UNITED STATES the Sixty fifth.

L.S.

1602852

BY THE PRESIDENT: W. H. Harrison

By N. P. Causin Jr. Sec'y.

J. Williamson RECORDER of the General Land Office.

Figure 10 March 25, 1841, Land Deed from President Harrison to Orley's Grandfather, William Houghton

With their gold, a large tract of land was bought from the Government at One Dollar Twenty Cents per Acre. It originally extended all the way to Lauderdale Lake. The water right was a valuable asset, which had to be forfeited when times grew hard and taxes could not be met. The farm was reduced to the present 200 acres of Oak Opening and which is so familiar to you.

At that time, railways and concrete highways and automobiles were not known. The wheat and brooms and other farm products were tediously hauled by wagons to Milwaukee and traded for the necessities of life. To help out in a financial way, a tavern sign swung from the door of the Houghton home. This was especially to attract and accommodate the caravans of those hauling lead. Mineral Point being the most important lead mines north of Galena, Ill. Also the center of population and of more importance than Milwaukee. Men of ability gather there. Only a few miles north of Mineral Point was the home of Henry Dodge, the first and last Governor of Wisconsin Territory. A few miles South West was Leslie (?) or Belmont, where in 1836, was located the first Capitol of the State.[7] Wisconsin then combined Iowa, Minnesota, and the two Dakotas, but all this for Northwest Territory was uninhabited and predictions were adverse to anything hopeful for its future.

[7] Wisconsin was admitted to the Union as the 30th state on May 29, 1848. While the capitol building rests in Madison, the old two-story house where the lawmakers first met in 1836 still stands in Belmont, WI.

Figure 11 Wisconsin's First Capitol in 1836, Belmont, WI

There was a Horace Greely and his *New York Weekly Tribune* with a circulation of 200,000 strong and shouting: "Go West Young Man, Go West!" Everyone had heard and thousands acted on his advice.

It was in 1844 that the Applebys and Wisharts came West by way of the Erie Canal and the Great Lakes. This is stated casually considering that my little Mother is the important character. Certainly—where would I be today had she remained in Clinton, N.Y. And from Oriskany [NY], the Appleby family.[8] Little John Francis [Appleby was] 4 years of age.

[8] Oriskany is a village in Oneida County, New York, United States. The population was 1,459 at the 2000 census. The name is derived from the Iroquois word for "nettles." The Village of Oriskany is in the Town of Whitestown, southeast of the City of Rome. Route 69 passes through the village, which is south of the Erie Canal.

I am always thrilled with any account of this waterway of 363 miles extent which connects the Hudson with Lake Erie and the Great Lakes region.

- How the first surveyors drove the five lines of stakes. Two outer rows 60 ft. apart to indicate the space to be cleared. Between these, two more rows 40 ft. apart bounding the exact width of the canal and a single line marking the center of the waterway.

- How the inhabitant mocked the project.

- How the job was completed in 1825 and the celebration by a triumphal run of five canal boats.

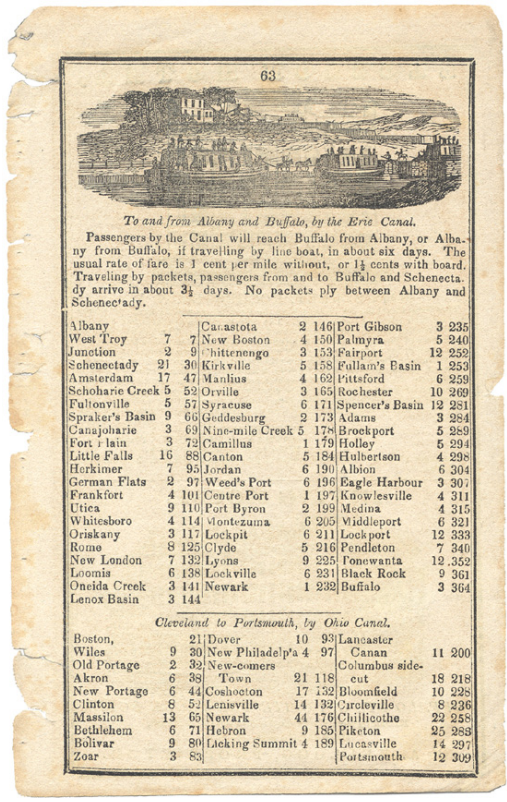
- How cannon signals requiring 3 hours passed the news of the opening from Buffalo to New York and a responding message in return.

- How the great $11,000,000 project involved 83 locks. And especially those at Lockport by means of which boats crossed the mountains. By beams of 5 locks, each 12 ft. high.

- How the debt was discharged in 1836.[9]

[9] On July 4, 1817, Governor Dewitt Clinton broke ground for the construction of the canal. When finally completed on October 26, 1825, it was the engineering marvel of its day. It included 18 aqueducts to carry the canal over ravines and rivers, and 83 locks, with a rise of 568 feet from the Hudson River to Lake Erie. Originally, it was only four feet deep and 40 feet wide, and could float boats carrying

The fare, including board, was 4 cts. per mile. Other rates were 37 ½ cts for dinner, 25 cts. for breakfast, 12 ½ cts. for lodging.



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To and from Albany and Buffalo, by the Erie Canal.

Passengers by the Canal will reach Buffalo from Albany, or Albany from Buffalo, if travelling by line boat, in about six days. The usual rate of fare is 1 cent per mile without, or 1½ cents with board. Traveling by packets, passengers from and to Buffalo and Schenectady arrive in about 3½ days. No packets ply between Albany and Schenectady.

Albany			Canastota	2	146	Port Gibson	3	235
West Troy	7	7	New Boston	4	150	Palmyra	5	240
Junction	2	9	Chittenengo	3	153	Fairport	19	259
Schenectady	21	30	Kirkville	5	158	Fullam's Basin	1	253
Amsterdam	17	47	Manlius	4	162	Pittsford	6	259
Schoharie Creek	5	52	Orville	3	165	Rochester	10	269
Fultonville	5	57	Syracuse	6	171	Spencer's Basin	12	281
Spraker's Basin	9	66	Geddesburg	2	173	Adams	3	284
Canajoharie	3	69	Nine-mile Creek	5	178	Brockport	5	289
Fort Plain	3	72	Camillus	1	179	Holley	5	294
Little Falls	16	88	Canton	5	184	Hulbertson	4	298
Herkimer	7	95	Jordan	6	190	Albion	6	304
German Flats	2	97	Weed's Port	6	196	Eagle Harbour	3	307
Frankfort	4	101	Centre Port	1	197	Knowlesville	4	311
Utica	9	110	Port Byron	2	199	Medina	4	315
Whitesboro	4	114	Montezuma	6	205	Middleport	6	321
Oriskany	3	117	Lockpit	6	211	Lockport	12	333
Rome	8	125	Clyde	5	216	Pendleton	7	340
New London	7	132	Lyons	9	225	Tonewanta	12	352
Loomis	6	138	Lockville	6	231	Black Rock	9	361
Oneida Creek	3	141	Newark	1	232	Buffalo	3	364
Lenox Basin	3	144						

Cleveland to Portsmouth, by Ohio Canal.

Boston,		21	Dover	10	93	Lancaster		
Wiles	9	30	New Philadelp'a	4	97	Canan	11	200
Old Portage	2	32	New-comers			Columbus side-cut	18	218
Akron	6	38	Town	21	118			
New Portage	6	44	Coshocton	17	132	Bloomfield	10	228
Clinton	8	52	Lenisville	14	132	Circleville	8	236
Massilon	13	65	Newark	44	176	Chillicothe	22	258
Bethlehem	6	71	Hebron	9	185	Piketon	25	283
Bolivar	9	80	Licking Summit	4	189	Lucasville	14	297
Zoar	3	83				Portsmouth	12	309

Figure 12 "To and from Albany and Buffalo, by the Erie Canal", 1846. Fares for packet boats travelling between Albany and Buffalo, from the National Almanac, 1846, pg. 63.

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30 tons of freight. A ten foot wide towpath was built along the bank of the canal for horses, mules, and oxen led by a boy boat driver or "hoggee."

Well, this was certainly a lovely way to travel. If this in interesting, how much more thrilling was the advent of the steamboat upon the Great Lakes. Those cumbersome, wood-burning engines consumed a cord of wood or more per hour. The necessary fuel was sufficient to load down the boat and hinder the view from the state-rooms. At regular intervals, the stops had to be made to refuel.

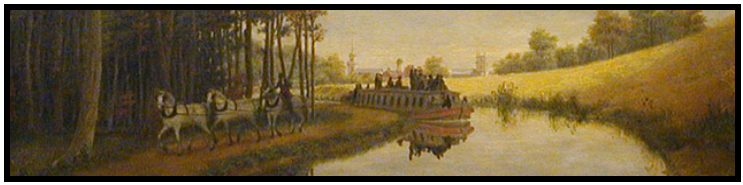

Figure 13 George Harvey painting 1837, *Pittsford on the Erie Canal.* Courtesy of the Memorial Art Gallery of the University of Rochester

"Luderon's stories abound in the narrations of travel concerning the construction and operation of early western steam-boats. The Steamer Catfish, which plied the placid Illinois in 1836, was capable of attaining a speed of six miles per hour—downstream."

"Noah M. Ludlow, a pioneer western dramatist, tells of a steamer run-up the Cumberland River in 1822, whereon after repeated vain attempts to breast the current, the captain at length procured the aid of tow yokes

of oxen, and the vessel under combined steam and bull power moved triumphantly on her way" [10]

It was during this decade of great progress that a tide of immigrants poured from the sea board into the Great Lakes Region and among them—my Mother, just a girl of 9 years. Oh yes! She well remembered the vessel that brought them, but which so nearly succumbed to a bad storm and how all hands laid to and bailed out the water to keep her afloat. This travel by canal boats and steamboats lent a certain dignity to the steady flow of immigration. Certainly, these parents were not seriously encumbered with excess baggage. Only the very necessities and heir-looms were brought. How we cherish the things which have been preserved! The spinning wheel and the hand-made boring tools that now hand in my basement shop.[11]

Agriculture is man's occupation of increasing and harvesting for his use the fruits of the earth. It is the most

[10] Orley Houghton quoted these two stories in his memoirs, but did not cite the original source.

[11] Ironically, Orley's son, Bruce Sr., whom he wrote this memoir to, would sell these very Houghton family heirlooms that had been handed down for over 300 years. Bruce Sr., who was 88 years old and suffering from advanced dementia and health problems, thought his two sons were trying to steal his possessions. He sold or threw the items away so that his sons and their children would not have these priceless family heirlooms, including Horace Houghton's wedding hat that is mentioned above in Orley's autobiography.

fundamental and important of occupations. It alone results in the creation of new material and wealth.

Mining secures the stored products of the earth, but once removed, they are not replaced. Manufacturing industries take these raw materials of the mines and by adding labor to them, change the form and increase their usefulness. But no new substance is created and were it not for tillage of the soil, most men would, in a few years, perish from the earth. It is one of the oldest occupations of man. When we speak of agriculture, we usually thing of cleared and cultivated fields of corn, wheat, oats, barley, grasses, potatoes, and fruit. We see horses, cattle, sheep, swine, poultry, and bees. In the mind's eye, we see a dog romping with children and assuming responsibility of the place.

The good farmer is the one who lives well first and sells only the surplus. He keeps up the productivity of his land and passes it on to his children in better condition than when he got it. He deems it a divine privilege to work in the open fields—and orchards and vineyards.

Well, father did all this. He lived at a time when some farmers planted crops in the particular quarter of the moon, with the expectation that they would be assured of more abundant harvests. National laws in 1862 established colleges of agriculture in every state in the Union. Science and research followed hard on the heels of superstition.

There was time for romance and plenty of jolts of the unexpected. It seems all quite natural that Elizabeth Wishart should have eyes on Horace Houghton, as he drove

with dignity a span of black horses past the shop. According to Uncle Chester's diary, it was on June 12, 1858, that he went to Geneva [Wisconsin] with Horace to buy his wedding hat and that the wedding was on the 17th.

Figure 14 Horace and Elizabeth Houghton; Orley's Mother and Father

These young people did not delay in building the new house. No veneer construction for them. The walls thick and all of Milwaukee brick. It is well designed and above criticism, except for the small chamber windows. But mother thought the upper story was a very good place to store seed corn and grain. She did not know it was to be occupied by six children.

Father borrowed heavily in order to buy the farm and build this house. The chimney in this house rose up in

the north wall of my bedroom. It was warm to the touch upon retiring. Even as a boy, I remember how Mother warmed my pillow by pressing it against this heated wall. Oh, how a boy remembers little acts of kindness! Of course, the wood fire died down in the big round stove as this chimney lost its heat long before morning. When the alarm sounded at 5:30, I rolled off the high straw tick, whisked into my clothes without delay, for reasons fully explained.

The Houghton Farm operated neither by threat nor by physical force. While attending the country school, I had regular chores to do and regular practice on the organ or piano. Today, I almost marvel at the schedule which I made and followed out:

5:30 to 6:30 Made a fire to warm the parlor.

6:30 to 7:30 Practiced piano. (or horn).

7:30 to 8:30 Breakfasted and fed the claves.

8:30 to 4:30 School.

4:30 to 5:30 Practiced piano.

5:30 to 6:30 Supper and fed calves.

6:30 to 8:30 Home work and play time.

I had much to show for my play-time. When the thing (miniature model) was completed, I was proud to have the work inspected. This is borne out by the fact that

for several years I exhibited my garden products and handy work at the [Walworth] County fair. Many blue ribbons and cash prizes were won and the money invested in keen, shining saws, squares, planes, chisels, and hammers. I did like to work with carpenter tools, but all buildings were so quiet and unresponsive. What I loved was mechanisms which required wheels, belts, and shafts. It was always so hard to find just the required parts, so they had to be made to order. Mother repeated: "Necessity is the mother of invention."

Figure 15 Orley Houghton's Birthplace, the Houghton Farm, Walworth County, LaGrange WI. Photo taken by author in 2009.

Returning to the comfortable fireside on bitter cold, wintry days, found my sisters busily engaged dress-making and making blocks for quilts, while Mother read aloud from her favorite volumes of [Charles] Dickens. It is certainly not her fault that I am not a better scholar. Neither is it Father's neglect that I am not a better Bible student. Time for morning and evening worship was always in the schedule

for the day. No matter how busy the season, this reading of the Scripture and prayer was never omitted. And should Father be missed a few moments after the dinner, it was to commune with his Maker behind closed doors.

Did his possession of 200 broad acres need regular periods of solitude? If so, how much greater are such needs today? Roger Babson says from a purely statistical view:

> *"Much of the prosperity of the nation is due to the family prayers that were once daily held in the homes of our fathers. To a very large extent, this custom has gone by. Whatever the arguments pro and con may be, the fact nevertheless remains that such family prayers nurtured and developed these spiritual resources to which the prosperity of the nation is due."*[12]

One winter, we had such a fall of show that the fences were completely covered. A good year for skiing. My father had stored a quantity of nice clear lumber with which to build a hog-rack. During that winter, the choice lumber was all converted into skis, much to my financial advantage. Not a word was said concerning the sacrifice of this select material. But when vacation days came, father said: "Mr. King has a new, and very perfect hog-rack…come, let's take a good look at it…then you make one for us." This method worked. A very complete list of material was furnished: lumber, bolts, rods, and paint.

[12] Roger Ward Babson (1875-1877) was a well known entrepreneur and business theorist in the first half of the 20th century.

When completed, it was both hog-rack and hay-rack and so excellent that it served well for 40 years.

Father was progressive. He purchased one of the first DeLaval Cream Separators. This required a new large barrel churn and best of all, the building of a new milk house with a stone foundation and chimney. Then the ice house and large refrigerator. That cream separator was a wonder. This grind lasted close to half-an-hour, morning and night. This problem was much on my mind the year I finished high-school. So, a tread power was designed with the view of letting the Cotswold ram do the job.

Figure 16 The "Milk House" Built by Orley Houghton, on the Houghton Farm in LaGrange, WI.
Photo taken by author in January 2009

In order to build this machine, some rather accurate rollers and pulleys were required. A fret saw and lathe were needed. Well, mother said, "Necessity is the mother of invention." (She often misquoted, on purpose, and said "Mother is the necessity of invention.") In this case, I

made the lathe and saw attachment, then the tread power. It seems that resourcefulness was cultivated at an early age by this lack of the necessary tools.

To turn the wheels, why did I have designs on the peaceful sheep? In my childhood, when the fine wool Merinos dominated the flock, the ram with his big curly horns often had the courage to face anyone, but chose to make a rear attack when our hands were occupied. I never did like to hear him practicing on the gate post. How often I awoke in my trundle bed from a bad dream just in time to escape from him over a high fence. But this noble fellow of the coarse wool and horn-less, he was so un-offensive. We actually bestowed on him a great favor by breaking into the monotony of his solitude during long periods of absolute celibacy.

He gladly marched with even tread up this mechanical hill, delivering the necessary energy to separate the cream from the milk. This gave the attendant plenty of time to strain and fill the supply tank and also to feed the warm, skim milk to the nearby calves. Successful? Of course!

One year, in the attempt to take the place of a farm hand on the Homestead, was more than enough to convince me that, as agriculture was then pursued, it was too much brawn for my limited muscles. Oh, those long glaring hot days in September when big fields of corn were put into the shock by hacking with one hand and carrying the long, heavy stalks and corn in the arm!

It was a happy surprise that evening when John Appleby [1840-1917] and [his wife] Nettie drove in for a call. Ordinarily, this occurrence would not have meant much to me other than the appearance of the immaculate linen and best dishes at the meal time. But, here was the one man in the world who I admired and hoped to emulate. Five years previous [1893], I had seen him at the World's Fair in Chicago. Twelve years pervious, I had seen him at the [George] Esterly Works in Whitewater [Wisconsin]. This was the day that my father purchased the first twine binder and a mowing machine. We took time to visit the inside of the brick-wall factory from which came such wonderful sounds of the wheels of industry. Oh, that was a day to remember!

Now, on the quiet old farm, remote from all distractions was my opportunity to exhibit a <u>one-sheep, tread power</u>, which turned the cream separator at precisely 42 revolutions per minute (and in case of emergency the crank was always in place so to operate by hand).

In that age, the gas engine and electric motor had not arrived. The tread power was a helper and an asset. What is more, it held my hero's until he said: "<u>Go onto college, and I will have a place for you</u>."

In Madison, how my year's wages dwindled! Jobs of blue-printing and machine work did not help out. They money from the family coffer was borrowed. The one year was soon over. And Mr. Appleby notified of the fact, He

replied by letter that no position was open, but there was work for me.

So, with the violin for company and that Keuffel and Esser set of drafting instruments and a change of clothes in the grip, I was off for Chicago. Yes, I had no difficulty in finding Mr. Appleby and wife Nettie (on the South Side). A very fine Sunday dinner followed at which tow more young students attended.

Figure 17 Keuffel & Esser Drafting Set.

Figure 18 Keuffle & Esser Drafting Set that Orley would have used. Author's Collection

Monday morning, we were off to the shop, which proved to be the Harvester King Works—not in Chicago, but on the Illinois Central at Harvey, Ill.

Ah! He did have a place for me. It was commodious. IT was isolated and quiet where I might collect the parts and assemble a Harvester Queen 6' Binder. It was well understood that I had a good, live, prospective buyer for such a machine. This all worked out in a short time and the machine crated and shipped to Elkhorn, Wis. I was soon home to set up and start the new machine.

Returning to Harvey, I was slated to make a trip, with two older, experienced men, to the Dakotas. This was a rough experience from which I gladly returned to the more quiet life of the shop. Quiet it was—Too quiet! And finally it closed down for keeps.

Figure 19 Farmer and four-horse team binder harvesting wheat in Russell County, Kansas, 1912.
Courtesy Kansas State Historical Society (Halbe Collection 224).

Now What?

Mr. Appleby is going to Florida. Not failing to say that he has talked to his friend Mr. Carver, who was then Superintendent of the Austin Works, also in Harvey [IL]. He has a place for you. Just go over and check in.

Certainly, I did this and was assigned a beautiful lathe right beside the time-keeper's office door. Work was always plentiful and the pay good. So good, that my landlady got a raise. The small indebtedness to father liquidated. All voluntarily and unsolicited, I stopped into the office and make application for the Aetna Life Insurance Policy.

Spring returned and with it my Hero. He had agreed to build for Mr. Deering a combined 12 ft. Header & Binder. Soon, I was checking in at the Fullerton Avenue gate of the largest implement manufacturing plant in the world.

Figure 20 A 19th Century, William Deering & Co. Poster for Harvesting Machines

This time, Mr. Appleby is found occupying a large, light space on the second floor of the power house and over-looking the Chicago River. The only entrance was the open stair-way leading up the side of the building.

The only equipment, a blacksmith's post drill and hand driven, of course. Many castings were carried up those steps and down again to the Special Machine Dept. If long connecting rods and levers required forging, they were carried on my shoulder, down and over there and up and home again.

Recalling that first week end. After Mr. Appleby had departed, I proceeded to clean house and straighten-up the place. In doing so, a number of malleable iron casting were carried to the machine shop. Mr. Appleby arrived on

the scene, Monday: "Orley, where are those castings?" "Oh! They are in the shop to be drilled." At this, he seemed quite panic stricken for fear that they were ruined. It does often require weeks to procure malleable iron. The process of annealing is so slow. With this in mind, I had carefully checked and re-checked and spotted the holes. Even so I sighed with relief when they returned and were bolted in place. This brought the Appleby expression that was repeated through the years: "That's all right, Orley."

Figure 21 John Francis Appleby, Inventor and Businessman

Those first years of my career could have been fatal. High officials of the mighty organization walked up the open stairway to set eyes on the huge machine. One said: "Appleby where is that flunky of yours!" "Oh, he is about the plant looking after my affairs." When I suddenly appeared, this intruder was trying to persuade Mr. Appleby to loan him my services in the matter of designing a new mowing machine. Mr. Appleby did, half-heartedly, con-

sent. And I settled this matter in rather short order. Again he said: "That's all right Orley." This little experience did not lessen my rating. After all, it is nice to be in demand.

The very same intruder insisted that the big machine must be put through a test. (The suspension plan appeared to be very fragile.) So, it was toted down the stairway, piece by piece, and again assembled. Not on a mellow stubble field, but on the concrete pavement. Moreover, this man had instructed that the section hands to build the ramp to use rail road ties. When all was ready, he ordered me to drive up the incline and let the thing bounce down on the pavement. "Break the D. Thing!" Those were his words. We obeyed. And actually nothing serious occurred. And the machine went on it way to the paint shops.

The Harvest Season waits for no man. [In 1900] We are soon located in a beautiful field near Kenosha [Wisconsin]. Four heavy work horses from the barn stables seemed sufficient and the field opened. A surrey, or was it a Democrat Wagon, appeared. Yes. None other than William Deering [1826-1913] and Mr. Appleby were the occupants. They drove along side of the operating machine. How is did kick out the bundles! Motioning for me to halt, Mr. Deering, 74-years-young, came over to the machine and made his way cautiously between the platform and the horses heads. He mounted himself on a little tool box and motioned for me to proceed.

"Oh, Mr. Deering" Mr. Appleby shouted, "That is not safe." Mr. Deering just replied, "I will rest my hand on

this post." And so he rode between the horses' heads and the platform, where the grain fell onto the moving canvas and then swished up the elevators. There came a dash of summer rain and he still clung to his position. Well! He got first-hand information—Did he not! Let us say, "that machine sold on its own merits."

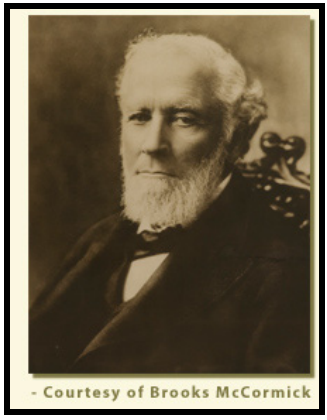

Figure 22 William Deering

Mr. Deering is said to have been modest and retiring and given to seclusion during business hours, but out of the office the soul of good cheer and affability. He was a good judge of men and not afraid to trust them. This confidence reposed in his employees inspired them both with strong personal attachment and with regard for this fortune involved.

Mr. Appleby relates an experience like this when the twine binder was new and Mr. Deering had manufactured the machine far in excess of Mr. Appleby's recommendations, they went South in Illinois to test out some

machines. The proof of the pudding, you know, is in the eating. Well, they went into the field, but the thing just would not tie. Such out heart, they carried the knotter to the hotel. Mr. Appleby and Mr. Pitkin (I believe it was) could not rest. The responsibility so heavy, they could not sleep. But Mr. Deering's deep breathing could be heard. He slept the peaceful sleep of the righteous.

Morning came and Mr. Deering said, "Boys, we brought with us two knitters. We will just put on the other one today." It all functioned well, and Mr. Deering had made no mistake in contracting with John Appleby.

Lord, keep and shield us from Discouragements.

The big machine is dismantled. The parts either crated or boxed for rail shipment to Kansas. How well I recall unloading this Push Header and Binder together with half a car-load of experimental harvesters. This was during the years when competition was great between the many manufacturers if harvesters. I had instructions to keep this Experimental Staff under cover and in some remote place and away from the highway, and with as much secrecy as possible. This was done, dragging the parts to a secreted spot and remote from the public highway. The work of setting up the various machines was well underway when a party of distinguished visitors arrived: Mr. Charles Deering [1852-1927 and son of William Deering], Mr. Howe, Mr. Appleby, Mr. McPhail, and Mr. Rand. They engaged a bus, ordered a basket of lunch from the hotel, and drove out to the secret show.

The first thing to occur was the appearance of a man on horseback. He threatened a suit for trespassing on the edge of his pasture. Charging us of throwing bits of wire that might endanger the lives of his stock. Mr. Howe and Mr. Deering had this matter to settle, and I was to use the fine-tooth rake, when the show was over.

All hands were busily engaged preparing the various attachments and machines for field performance. At the lunch hour, all I recall of interest was a sandwich containing sardines and mustered, and cup of cold water.

I was occupied in checking the big machine. The 30 foot platform canvas, the 14 ft. reel, in all its positions. Drive chains, not too tight and not too loose. Last, but not least, two good farm teams. Oh, those willing animals! And so accustomed to push the Header. The cart before the horse was so perfectly natural in Kansas harvesting. Those teams worked so in unison. They could almost swing around the corners without reins. We made several rounds. Then the spectators assembled. Mr. Appleby came running and shouting: "Orley, they say you are not taking a full swath." (That was not the place to make excuses.) The fact of the case remains that I was just using the usual precaution around an old stock [?] bottom, which might harbor a post, a fork, or a shovel, and worst of all—barbed wire.

Next time around, we split the field in two parts. With both inner and outer gatherers working, the binder

was carving a swath much over 14 feet. How the men waved their hats and cheered![13]

Evening came. The company dined and found comfortable chairs on the porch. Not a breath of air stirring. So quiet! Only now and then the voice of the mocking bird.

Except for the consciousness of the bills and bills to be paid, I was content. It was all decided that the machine move north to Fargo and I was slated to attend the move. So, I wired for funds and slept the sleep of the righteous. Only to awaken and off to the harvest field. Once more to carefully pack and crate, and tag every item for rail shipment. All is returned to the freight car and the door sealed. Then, I board the caboose with grip and camera.

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[13] In 1879, William Deering became sole owner of the Marsh grain harvester company and took a gamble by building 3,000 twine binders for the next harvest. These machines represented a major technological break-through and established a standard design for harvesters throughout the world. As Orley has stated, competition among the manufacturers of agricultural machinery grew fierce. Between 1880 and 1885, the number of machines manufactured in a year rose from 60,000 to 250,000, while the number of manufacturers dropped from over 100 to about 20. In the 1880s, the typical twine binder sold for $175-$325. But by 1900, the price had dropped to $120-$140. During the 1890s, the intense competition between Deering's company and his principal competitor, the McCormick Harvester Company, became damaging to both. As a result, when Deering retired, the two companies merged in 1902, thus forming the nucleus of the International Harvester Company, which Orley worked for.

At first, this hobo way of travel is novel. The conductor and the brakeman are talkative and jovial, but as night wears on—well, it is not exactly like relaxing in a Pullman car.

At Pipestone quarry [in Minnesota], I was glad to disembark and roam about the rocky pastureland. It was not at that time part of the Pipestone National Park.[14]

Finally, the machine arrives and is again loaded just out of Fargo. It is assembled and taken to the field for further demonstration as a push binder. Sometimes, as in this case where Headers are more commonly used, it was uphill work to find the party with a field of grain and ready to cut and bind. This very condition prevailed here. So, I hired a drag team, purchased twine, and pushed the machine far from town. It became necessary to cross a creek bottom. In doing so, the tail of the binder needle was caught and broken off by the under-brush. As I will recall this was a Saturday of ill luck. That night, when I reached the hotel, lo and behold, there was J. F. Appleby, all happy and gay—I related my struggles of the day. Well, said he, "Wire Chicago for the needle and I will notify our State Agent not to come until he hears from us." Well, as usual,

[14] Established by Congress in 1937 to protect the historic pipestone quarries, Pipestone National Park in Minnesota is considered sacred by many American Indians. Spanning centuries of use, American Indians continue to quarry pipestone which they carve into sacred pipes.

the young sprout had other plans. It was up to me to make progress and turn in the daily reports.

My suggestion and plan was to bring the broken needle into town, where we could braze on to it a steel rod (probably a rake tine) and when our company arrived, all will be well. Again, he replied, "That's all right Orley." I do not recall a time when our machine was not ready to put on a demonstration.

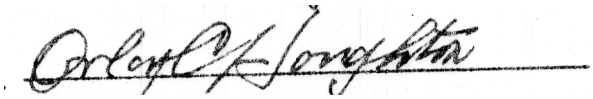
My Mother was, as you know, a cousin of J. F. Appleby. She often said to me, "Mother is the necessity of invention" and then she would calmly show or outline her plans. Well, perhaps the dear Mother's calm methods helped work out my problems of the day.

Fargo was not the end of my journey. Here on my dish is a sample of macaroni wheat from Carrington, N.D.

Fest [?] 64 lbs.

Yield 35 bu. [bushels]

Will it still germinate and grow?



Orley C. Houghton

Epilogue

In the early 1900s, Orley would suffer a very serious accident while plowing with one of the new, engine powered tractors that he so loved. While plowing on the "north 40 acres" of the Houghton Farm, the plow hit a rock, which sheered a draw-bar pin that connected the plow to the tractor. This feature also prevented the plow or the plowshare itself from breaking when it hit a big rock in the field. When Orley got off the tractor to reset the plow, he did not set the brake on the tractor. While he was trying to hook the plow up to the tractor, the tractor suddenly rolled back just a little and crushed his hand between the tractor hitch and the plow. He was all along the field and had to force his mangled hand out from between the two pieces of iron. He then started walking back to his house to seek medical attention—a distance of about one mile. When he got almost home, he realized that in his haste to get home, he had not shut the tractor engine off. Knowing that the water would boil out of the tractor while it was running and ruin the engine, we walked backed to the tractor, and shut the engine off and then walked back again to his home.

By the time he arrived home, he had nearly lost conscious from the pain and blood loss. The family doctor was immediately summoned, and it was his opinion that Orley's hand would have to be amputated, as the injuries to his hand were too severe to be repaired by surgery. Crushed and shatter hand bones and damage to the connecting tissues were severe. Although in intense pain, Orley refused to have the doctor amputate his hand. Instead, the doctor bandaged his injured hand tightly to a wooden board for a splint and then told Orley that if the hand became gangrenous, he would have to amputate it to save Orley's life. Orley suffered intense pain for months, but luckily the hand did not turn gangrenous. Orley recalled that after the bones had set enough in his hand that he could remove the bandages and the wooden plank that had immobilized his hand, he took out his pocket knife and cut that wooden splint into hundreds of small pieces. Although Orley's hand would be deformed for the rest of his life, he would have use of it. Again, this shows the incredible strength and willpower of his amazing man.

Orley would work as an engineer and inventor on many different types of mechanized farm equipment, including a cotton picker and a tractor he invented with tank-like treads that he called a "Creeping Crawler" or "Creeping Tractor." This piece of equipment would be the predecessor of the Caterpillar tractor.

Figure 23 Orley Houghton (standing) and associates with his "Creeping Crawler." Photo Courtesy of Heidi Samuel

Orley told a wonderful story of his early sales, in 1915-1916, of this "Creeping Crawler" to Mexican farmers. The Mexican farmers had purchased several of his tractors, but they repeatedly asked for additional replacement parts, such as the cast iron wheels and sprockets that drove the tracks. The Mexicans said that the wheels and sprockets were wearing out too quickly and ordered more and more replacement parts. Orley could not explain why these moveable parts were wearing out so quickly, so he planned to make a trip to Mexico to see exactly why the parts were failing. Just before he planned to leave from Chicago, US Government agents came the factory and questioned Orley why he was supplying Mexican revolutionary forces lead by the infamous Francisco or "Pancho" Villa with parts for

their tanks! Orley had no idea that his Creeping Crawler wheels and sprockets were being used to build the tanks that were attacking the US troops being lead by General John J. Pershing. Obviously, the shipment of replacement parts to Mexico was immediately halted, and Orley's trip to Mexico was cancelled.

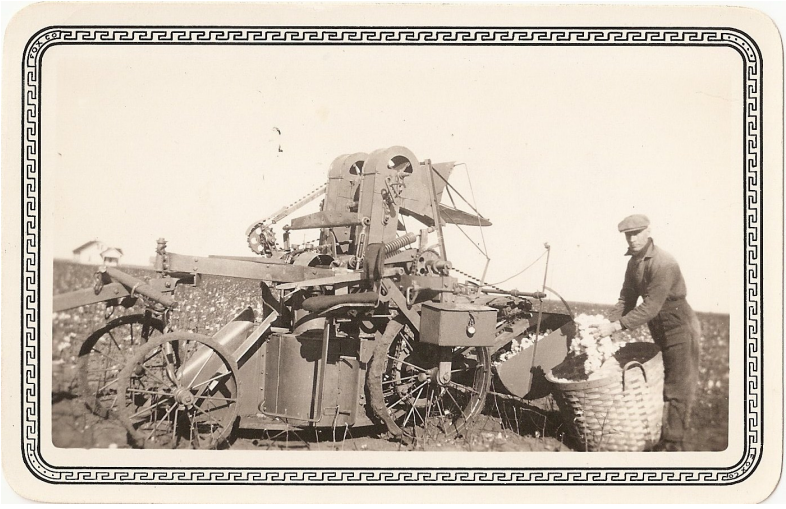


Figure 24 Orley Houghton testing his cotton picker in Texas. Photo courtesy of Heidi Samuel.

In the 1920s, Orley purchased a small apartment building in Chicago, Illinois. But the Great Depression of 1929 would ruin his business venture as a landlord, as none of his tenants could pay their rent as they had all lost their jobs in the Depression. As he could not pay the mortgage on the apartment building, the bank would repossess his building. The Depression would also claim his own job as a draftsman for Bucyrus International, Inc., a large, mining

equipment company, who could no longer pay him and could only give him stock to the company. Orley would be forced to sell this stock, worth millions of dollars in today's market, for only a few cents on the dollar in the early 1930s. Orley and his family would have to move back from Chicago penniless to his family's farm in LaGrange, Wisconsin.

Orley's younger brother Buell B. Houghton (1870-1933) would take over the family farm from their father, Horace Houghton, who would die in 1913. Buell would buy back the house that Orley had owned from a railroad company that held the mortgage, and give the house back to his brother, Orley. Orley was eternally grateful to his brother, and always mentioned him fondly.

Figure 25 Buell Houghton (1870-1933) Orley's brother

Orley was a proper English gentleman and an excellent cook, who would read the classics, only wear long-sleeve dress and work shirts, and would play the violin for

entertainment. He always dressed for dinner in the evening and had bright blue eyes and pure white hair in his later years. As his grandson, I remember going to his house for holidays and other special occasions. As I remember sitting on his lap, he was always very soft spoken and humble. He loved to care for his honey bees and orchard, and was an expert at grafting new varieties of fruit. Even in his 80s, he would climb up into the branches of his apple trees and prune them every winter. He said that a man should be able to toss his hat clean through an apple tree in the fall or winter without it hitting any branches. If this could not been done easily, then it was time to prune more of those small branches off. He must have been correct in his thinking, as his fruit trees always produced beautiful and large produce.

At age 80, although in good health, Orley decided to turn in his Wisconsin driver's license. He thought that a man of 80 could no longer safely operate a motor vehicle, so he just decided to be safe. I greatly admired him for this responsible action. It was just the kind of man he was—concerned more about the safety of others than for his own personal convenience.

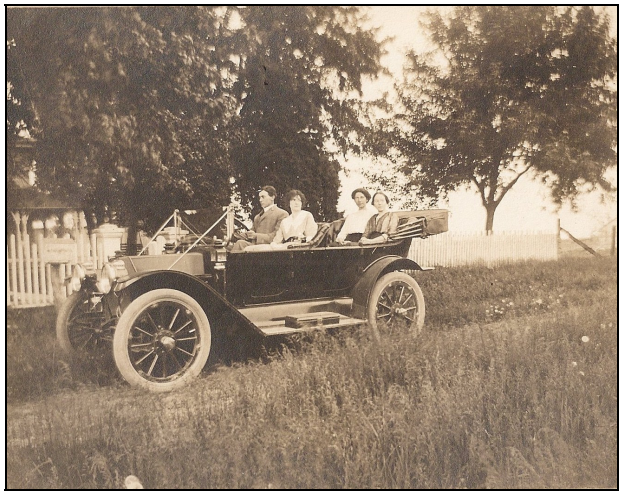


Figure 26 Orley Houghton driving an early touring car on a dirt road, which would become US Highway 12. Taken 1918-1920 in front of the Houghton Homestead in Walworth County, LaGrange, Wisconsin.
Photo courtesy of Heidi Samuel.

In February 1965, while at his beloved home that he built in LaGrange, Wisconsin, he suffered a major stroke and was taken by ambulance to Lakeland Hospital in Elkhorn, WI. He was not in pain, but could not recognize even his own son. He was so ill, that only immediate family members were allowed to see him—I never got to say goodbye to him. Eight days later, on February 12, 1965, he died in his sleep at the age of 87. When my father, Bruce Houghton Sr. returned from the hospital with the news, it was the first time I had ever seen him cry—I was only 13-years old at the time. Funeral services were held at the Smith Funeral Home in Palmyra, Wisconsin, and hundreds

came to pay their respects—including my mother Louise, my father Bruce Sr., my brother Bruce Houghton, Jr., and this author. The Rev. James Oliver presided over the memorial service on that cold and snowy February night. Orley was buried at Round Prairie Cemetery, in LaGrange, Wisconsin, next to his beloved mother and father.

Figure 27 Orley Houghton and his son Bruce R. Houghton @ 1945. Photograph courtesy of Heidi Samuel

Figure 28 Orley Houghton holding his Granddaughter, Betsy Robinson. Photograph courtesy of Heidi Samuel

Figure 29 Orley Houghton's Headstone at the Round Prairie Cemetery, in LaGrange, WI