

THE HISTORY OF THE KNAPHEIDE WAGON CO.

by

Harry David Condron, B.A.

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EARLY HISTORY OF WAGON MAKING IN AMERICA

During the 17th and 18th centuries the production of wagons and other horse drawn vehicles in America was extremely small. Roads were so few and poor that the demand for vehicles of all kinds was very limited. The few wealthy people who could afford private coaches imported them from England. Thus dependant on an occasional order for an ox cart, horse drawn litter or barrow, sleigh or crude wagon, American wheelwrights degenerated into repair men.¹

In the latter part of the 17th century the few wagons or carts which were in existence were very crude and awkward, and had immensely wide wheels. All had been made by local blacksmiths and wheelwrights, some of whom built up reputations by the excellence of their work and thus became the first carriage makers of this country.²

Even in General Braddock's time wagons were extremely scarce. When he called on Virginia and Maryland they could collect but twenty-five at first, and finally with

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1. Labert St. Clair, Transportation Since Time Began, 53.
 2. Seymour Dunbar, A History of Travel in America, I, 46-53.

the help of Benjamin Franklin he got together about one hundred and fifty.¹ Similarly "there was no thought in Boone's mind of creating a route which would be practicable for wagons, for no such things were then used in that part of the country."² However by 1800 wagons were becoming increasingly plentiful, of which the most colorful and probably best known was the big, boat-shaped canvas-covered Conestoga wagon.³ Dunbar notes that in 1807 "the roads of Ohio were full of pilgrims from everywhere, some trudging alone, others mounted, still others in...Conestoga wagons which became very numerous during the next half century."⁴

The origin of Wilson, Childs and Company is reasonably typical of the beginning of wagon manufacturing in that period. In 1829 D. G. Wilson and J. Childs, the former a wheelwright and the latter a blacksmith, formed a partnership for making farm wagons, carts, etc.

From this humble beginning grew a real factory and every part of these (army) wagons is now (1860) made with the same exactitude of dimensions as the gun carriage of a pack of artillery. The buildings are provided with all the requisite machinery for expeditious work, as will be inferred from the fact that they have the capacity

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1. Dunbar, Travel, I, 196.
 2. Ibid., VI, 137.
 3. John Omwake, The Conestoga Six-Horse Bell Teams of Eastern Pennsylvania.
 4. Dunbar, Travel, I, 331.

of making 150 army wagons per week.

In the lumber yard is kept at all times an immense stock of lumber, amounting at times to 20,000 feet of hard wood planks and boards, 30,000 hubs, and 50,000 spokes. These, before being used, are thoroughly seasoned from one to five years, the usual allowance being one year for every inch of thickness.¹

While the larger establishments in the industry were adopting machinery and engaging in mass production by 1850, most of the wagons manufactured in the middle west were still made in small scattered shops where general blacksmithing and wagon making were combined. Three that might be mentioned because of their later success are: Henry Mitchel Co., established in Kenosha, Wisconsin, in 1837,² Peter Schuttler's Wagon Manufactory, Chicago, "known from Texas to Oregon,"³ and the firm of H. & C. Studebaker, blacksmith and wagon builders, established in South Bend, Indiana, in 1852, "with a capital of \$68 and two forges."⁴

The manufacture of farm wagons, freight wagons, and pleasure vehicles was centered more largely in the West

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1. J. Franklin Bishop, A History of American Manufacture from 1608-1860, I, 784. Another company that had attained the rank of a large factory in 1864 was the National Wagon Works, Philadelphia, Pennsylvania.
 2. Elmer A. Riley, The Development of Chicago and Vicinity as a Manufacturing Center Prior to 1880, 70.
 3. Arthur Charles Cole, The Centennial History of Illinois--The Era of the Civil War 1848-1870, III, 367-368.
 4. Albert Russel Erskine, History of the Studebaker Corporation, 7.

than heretofore. The demand for freight wagons to be employed in hauling mining equipment and merchandise in the West increased rather than declined with the construction of the railroads through this section, and large works for making them were erected in Indiana, Illinois, and other western states.¹ By 1870 Illinois ranked fourth among the states in the number of establishments manufacturing carriages and wagons.²

Quincy, the county seat of Adams County, of that state, lies on the Mississippi River in the center of the great corn belt of the United States. Staple field crops are corn, wheat, oats, hay, clover seed, and potatoes.³ By the middle of the nineteenth century Quincy had become an important shipping point for nearby Illinois, Missouri, and Iowa trade. In the winter 1851-52 between 19,000 and 20,000 hogs were packed and shipped out of Quincy, mostly to the South. Huge quantities of beef, crackers, flour, whisky, carriages and wagons, and other things were shipped by steamboat.⁴ In addition Quincy was fast

1. Victor S. Clark, History of Manufacturing in the United States, II, 128.

2. Cole, History of Illinois, III, 367-368.

3. W. H. Collins and C. Perry, History of Quincy, 261.

4. 1853 - shipped by steamboat: 3,153 barrels of beef, 6,850 of crackers, 28,923 of flour, 20,296 of whisky, 101 carriages, 594 wagons, 5,092 stoves, 4,165 plows, 4,119 hides, 8,039 bales of hay, 116 hogsheads of tallow, 3,600 boxed candles, 430,000 feet of lumber, 358,000 lathes and shingles, \$91,000 of castings, engines, etc., 40,866 bushels of wheat, 71,386 of corn, and 137,299 of oats.

developing into an industrial center. There were flour and steam saw mills, machine shops, foundries, furniture factories, and others too numerous to mention.¹

The location of Quincy in the heart of the agricultural belt, together with its industrial production, its available lumber supply, and its river traffic, very early made it a center for manufacturing wagons.

The Root and Carter, and the Walker wagon factories were in full operation by 1834 and in 1837 John Apple and Timothy Rogers opened wagon factories to accommodate the ever increasing demand. By 1853 three carriage factories, two extensive "wagon and plow factories," and seven smaller ones were in operation.² By 1857 there were nine large wagon shops and eight small ones. The nine large ones employed 83 hands, paid an estimated \$41,750 in wages annually, and produced 1,435 wagons worth \$107,625 in that year. In addition the eight small factories employed 21 hands, paid \$9,560 wages, and produced wagons valued at \$19,500.³

These wagon and carriage factories enjoyed a prosperous period until the coming of the automobile. Since then

1. Collins and Perry, History of Quincy, 146.

2. Ibid., 147.

3. Ibid., 239. That this was probably an estimate is indicated by the fact that if the total value is divided by the number of wagons the price is exactly \$75 per wagon for both the large and small factories.

they have all ceased to exist save one, and it has continued its existence only by changing over to the manufacturing of truck bodies and trailers. That company, the Henry Knapheide Wagon Co., became one of the most prosperous and substantial businesses of the city of Quincy in its day.¹

1. The nine large shops were: Timothy Rogers, John Cleveland, B. F. Slach, J. G. Galbreath, F. Roth, H. Othen, G. Bennitig, Henry Knapheide, T. Neal.

CHAPTER I

ORIGIN AND GROWTH OF THE KNAPHEIDE WAGON CO.

Henry Knapheide was born in Zingrich, Muenster, Germany, August 16, 1824, and grew to manhood in that country, where he was taught the trade of wagon maker. After completing his masterpiece, he traveled as journeyman through various cities of Europe and in 1845 came to America. Upon arriving at New Orleans he found employment and worked at his trade some two years. From New Orleans he came to St. Louis, where he again worked at his trade. Here he met and married Catherine Achepohl in 1847.¹

In 1848 he again moved, this time to Quincy, Illinois, which he made his permanent home. He took a German-English course in Gem City Business College in 1872, became a member of the German Methodist Church, and was a naturalized citizen of the United States. He died in 1890 at the age of sixty-six years.

Henry and Catherine Knapheide had six children, all of whom are now deceased except Dr. Melinda C. H. German and Mrs. Anna H. Hoffmeister. Two of the children, Dr. German, a daughter, and Dr. William S. Knapheide, became

1. David E. Wilcox, Quincy and Adams County, II, 941.

prominent physicians in the city of Quincy. The second oldest child, Henry E. Knapheide, was born in 1856, attended the Quincy Public Schools, and was graduated from the Gem City Business College. He became associated with his father in business and on the death of the latter in 1890 managed the business for his mother until its incorporation in 1893 when he was elected President and Treasurer, which position he held until his death in 1939 at the age of 83. Another son, Edward J. Knapheide, assisted around the factory for many years but never assumed a position of importance. Henry E. Knapheide was married in 1883 to Augusta Beck. From this union there were eight children. Two of the boys later became associated with their father in the wagon business. Harold W., the older of the two, became secretary of the firm in 1913 and acting manager in 1932, both of which positions he continues to hold. Lowell J. Knapheide, the younger of the two sons, joined the firm in 1920 and has been employed in the office and shop ever since. Harold's son, Harold W. Knapheide, Jr., a graduate of Grinnell College, joined the firm in 1937 as salesman.

Thus we see that after almost one hundred years, the Knapheide Wagon Company is being operated and controlled by direct descendants of the founder, down to the fourth generation. During all this time the stock has been owned

entirely by the family with the few exceptions noted in a later chapter.

Upon his arrival in Quincy in 1848 Henry Knapheide set up a wagon making shop on lot number 636 on the south side of State Street. Two years later he bought the lot from John Wood, first settler in Adams County and later Governor of the state of Illinois, for \$150.¹ On this forty by one hundred ninety foot lot a small two-story brick building was built, which served as the shop until 1860.

By 1859 it was apparent that more room would be necessary and on March 1 of that year Knapheide bought two lots at 705-707 State Street for \$2,600.² These two lots measured 80 by 150 feet together. On one of these lots was a two-story brick building somewhat larger than the first one mentioned. On the second floor the wood work and painting were done, while on the ground floor the blacksmithing and assembling were carried on. The tires were set out in the yard, while hubs, spokes, and other woods were seasoned in the sheds in the yard. It is interesting to note that these two buildings are still standing and still in use after almost 100 years. Knapheide was unable to pay for these lots and gave a

1. Real Estate Records in the Adams County Court House, Quincy, Illinois.

2. Ibid.

mortgage for \$2,400 due March 1, 1864. Business was good enough that he was able to cancel the mortgage January 22, 1863.

In 1881 another still larger plot of ground was purchased, this time between 5th and 6th, and State and Maiden Lane.¹ This plot was 188 feet by 200 feet and cost \$3,000. A mortgage was given for \$2,000 which was cancelled in 1883. On one corner of this plot of ground a large three-story brick home was built in 1887. Henry Knapheide planned on building larger quarters for his wagon factory but was unable to do so before his death.

In 1850 most of the wagons were still made in small scattered shops where general blacksmithing and wagon making were combined.² Knapheide was no exception to this general rule and thus in the first records available (1862) we find him associated with a blacksmith by the name of Stoetzel.³ Until 1868 an association of this kind was carried on though not always with the same blacksmith. As a matter of fact three different blacksmiths worked with Knapheide between 1862 and 1868, when he took over the complete job of producing wagons. Stoetzel "ironed off"

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1. Real Estate Records in the Adams County Court House, Quincy, Illinois.
 2. Riley, Development of Chicago, 70; Dunbar, Travel, I, 46.
 3. Day Book 1862-68. In possession of the Knapheide Manufacturing Co., Quincy, Illinois, 1.

wagons for Knapheide until December 31, 1862. George Goodapple did part of the blacksmith work from April 25, 1862 to February, 1865. From this time until January 31, 1867, he did all of the blacksmith work for Knapheide. Another man by the name of Kaiser did the balance of the blacksmithing between November, 1862 and February, 1865.¹ Knapheide furnished the lumber, did the woodwork, and sold the wagons, while the blacksmith furnished the iron and did the blacksmithing.

At this time all wagons were manufactured only after the orders had been received, and were custom made according to the wishes of the purchaser. The sale price was divided between the blacksmith and the wagon maker. A very few times the division was equal, a few times the wood worker received more, but the great majority of times the blacksmith received the lion's share.² This division was continued until 1867, when Knapheide began to do his own iron work.

1. Day Book 1862-68, 4-6; 90-115.

| <u>Date</u> | <u>Total Price</u> | <u>Blacksmith</u> | <u>Knapheide</u> |
|-------------|--------------------|-------------------|------------------|
| 1862 | \$ 48.50 | \$25.75 | \$22.75 |
| 1862 | 70.00 | 37.87½ | 32.12½ |
| 1862 | 24.14 | 15.00 | 9.14 |
| 1862 | 25.00 | 11.40 | 13.60 |
| 1862 | 30.00 | 15.00 | 15.00 |
| 1864 | 125.00 | 66.50 | 58.50 |
| 1864 | 142.50 | 76.75 | 65.25 |
| 1864 | 137.00 | 73.25 | 63.75 |

Day Book 1862-68, 1-7.

Since each wagon was custom built there was likely to be a variation in each wagon. Some wagons would have more iron than others. Some would have the top board ironed off, others would have a band of iron around the outside of the haws (sometimes spelled hounds), still others would have iron bolster plates or iron sliders. In other words the more iron that was placed on the wagon, the higher the price and the larger the proportionate share of the blacksmith.

The fact that during the years 1862 to 1867 at least three blacksmiths "ironed off" wagons for Knapheide would seem to indicate that this was not a business partnership as we understand the word today, but rather a business association in which Knapheide sold the wagons and did the woodwork while these three blacksmiths did the iron work. Whether Knapheide employed any labor himself before 1862 is not known as no records are available. However, in August, 1862, he hired two men to work as he needed them. These men were to receive 75¢ per day. Their monthly pay ranged from a low of \$5.00 to a high of \$25.00.

Slowly, as business increased, Knapheide added additional help. During the years 1863, 1864, and 1865, he regularly employed three men, whose pay ranged from \$4.00 to \$10.00 per week. When the men did not work they did not get paid. During the years 1866-68 four men were

regularly employed.¹ Their pay ran from \$10.00 per month to \$40.00 per month. While there are no records showing the total number of men employed during the seventies and eighties, it is safe to assume that as the sale of wagons increased the number of men increased. During the years 1862-65 an average of 60 wagons a year were produced with three employees. It would seem then that during the seventies when an average of 130 wagons a year were produced, probably six or seven men were employed.

The shortage of skilled labor which was felt all over the country during the Civil War did not seem to work any hardship on Knapheide. Neither was the increase in living costs of 50-300% reflected in the wages paid.² Whereas a worker by the name of Dralle was hired in 1862 for 75¢ a day, Oblander was hired in 1863 for \$5.00 per week, and the pay of the men employed during 1863-65 varied from \$4.00 to \$10.00 per week. This wage of \$10.00 per week is the top wage recorded during the seventies as compared to an estimate that the average annual wages of mechanics had advanced from \$468 in 1860 to \$720 in 1886.³ Rather, Knapheide's wages came more nearly approximating those suggested by Bogart and Thompson, of \$279 in 1850, \$375 in

1. Day Book 1862-69, 83-94.

2. Cole, History of Illinois, 368.

3. Clark, History of Manufacturing, II, 179.

1870, and \$509 in 1890.¹ Several of these men boarded at the Knapheide home from time to time and were charged \$3.50 per week for the privilege.

This willingness to work for low wages is probably due in great part to the supply and demand but it also may have been due in part to the nationality of the men. It will be remembered that Henry Knapheide was born in Germany, and such good German names as Oblander, Gruene-wald, Achepohl, Shupman, Wellenreyter, and others, pre-dominate on the payrolls.

Another cheap source of labor supply was the appren-tice. Numerous letters were received by Knapheide asking him to take a young man as apprentice. During the sixties the apprentice boarded and roomed at the Knapheide home. From 1866-68 three apprentices were employed. The agree-ment with each was identical. For the first two months he was to receive nothing but his board, room, and laundry; during the next ten months he received \$4.00 per month, the next six months \$5.00, and the last six months \$6.00 per month. If he completed his two years he received in addition \$44.00 making a total for the two years of \$150. Days that he did not work he had to make up. Consequent-ly the days he missed due to illness, accidents, holidays, or religious days prolonged his time just that much. A

1. E. L. Bogart and C. M. Thompson, The Centennial History of Illinois--The Industrial State 1870-1893, IV, 388.

careful record was kept and when an apprentice, George Schroeder, cut his finger and lost three days, it was recorded in the day book.¹

In 1874 we find a change in the agreement. The apprentice is no longer given room, board, and laundry. Instead his pay is raised to \$3.00 per week for the first six months, the next twelve months \$4.00 per week, and the last six months \$5.00 per week. Nothing is said about any money at the completion of the term as in the earlier agreement. The above is for an apprentice woodworker, the pay for an apprentice blacksmith being \$1.00 per week more.²

During the twelve years from 1868-1880 nine different apprentices were employed. The fact that their names do not continue to appear on the payroll would indicate that most if not all went out to find jobs elsewhere. One man even requested Knapheide to take his son, as he would have a better chance to get a job after completing his training at a wagon shop such as Knapheide's.

In addition to the labor hired above, some of the work was contracted on a piece basis. For example one Henry Schupman made five wagon beds at \$3.00, one at \$3.25, and one at \$2.25, total \$20.50, in 1866. The wagons were

1. Day Book 1862-68, 72.

2. Ibid., 169-172.

also painted on a piece basis, the standard price in 1868 being from three to four dollars a wagon.¹ In 1870 wheels, seats, and frames were produced on the same basis, wheels \$4.00 a set, beds \$1.50, seats \$1.00, and frames \$5.00,² and in 1882 one William Schaffer ironed off 28 wagons for \$280.³ The fact that these items appear scattered through the book with no apparent consistency or continuity makes one wonder if this wasn't the unusual practice rather than the usual one. Perhaps Knapheide resorted to it when he was sorely pressed for time during a rush season.

Quality and Sale of Wagons

The day books 1862-79 contain a list of all wagons sold, to whom, and their prices during this period. Ordinarily the largest number were sold during the late summer and fall months and the smallest number during the winter and spring months.

The issuance of legal tender notes and the inflation of prices during and after the Civil War⁴ is much more

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1. Day Book 1862-68, 71.
 2. Day Book 1869-80, 64.
 3. Day Book 1880-90, 64. When this is compared to the amount paid the blacksmith in 1862-67, page 11, it should be remembered that then the blacksmith furnished his own iron, whereas at the later period Knapheide furnished the iron.
 4. Dewey, Davis Rich, Financial History of the United States, 288-91.

accurately reflected in the price of wagons than in the wages paid employees. Thus in February, 1862, the average price of wagons was \$65.00, and by December it had risen to \$70.00. During the year 1863 sixty-five wagons were sold. During the first three months the average price of wagons was \$75.00. By the first of May the price had gone up to \$80.00, and by December, 1863, to \$90.00. In line with advancing prices on February 27, 1864, the first \$100 wagon was sold. By June the price was \$110, August \$125, September \$140, and November \$150. During the first five months of 1865 the average price was \$150. However, in June, 1865, the price dropped to around \$110, gradually rising to \$115 in August, \$120 in September, and \$130 to \$140 from October, 1865, to March, 1866. The price then began a decline, \$130 from March to April, \$110 to June, back up to \$120 through August, and \$125 through October where it remained through December. Large as this price rise is, it is slightly less than the rise in prices throughout the country, which rose between 1860 and 1865 216.8%.¹ Beginning January, 1867, the price dropped again, the average for 1867-68 being \$100, 1869-70 \$90.00, 1871-73 \$85.00, and 1874-77 \$75.00. In 1878 they dropped to \$65.00, which price they held rather consistently for the next thirty years.²

1. Dewey, Financial History of the United States, 288-291.

2. Day Books 1862-79.

From 1862 till his death Henry Knapheide enjoyed a rather steady increase in the production and sale of wagons. In 1862 fifty wagons were sold, in 1865 seventy, in 1870 one hundred and one, in 1875 one hundred and thirty, and in 1879 (the last record) one hundred and sixty-eight. The panic of 1873 was reflected in the wagon business by a drop in sales of over thirty units for the year.

It would be difficult to weigh accurately all the causes leading to this success. Certain it is that the quality of the wagons would rank high; another contributing cause would be the establishment of agencies, still another the opening of the first military wagon road through the mountains¹ in 1862, the increasing population of the surrounding territory, and the relative prosperity of the farmers.

The quality of the wagons made by Henry Knapheide is well attested to by the increase in volume indicated above. However a letter written in 1865 throws a little more light on the subject.

"Mr. H. Knapheide

Dear Sir:

I desire a good wagon to cross the plains and knowing the popularity of your work, which it so justly merits, I

1. Addison Howard, First Wagon Road Through the Mountains, 189-195.

want you to have one made for me, by the 10th of March. I will be for it between the 10th and 25th. I shall want it fixed for working four mules. Please answer this and let me know whether you can comply with my request and what the said wagon will cost me.

Yours truly,
William Haley¹

There are several references to wagons sold to go to California during 1864 and 1865.² There are also two references to wagons to go to Pike's Peak, spelled by Knapheide "Peik Spiek."³

Another letter written in 1875 suggests that the customer prefers the Knapheide wagon to the Studebaker wagon. Other letters too numerous to mention testify to the satisfaction of the customer with his Knapheide wagon.

By 1874 Knapheide was offering this warranty with a wagon:

"This is to certify that I have this day sold to Mr. J. Patton one wagon for which I promised to do all repairing, for one year free of charge, that is by using it fairly for the size of the wagon.

Henry Knapheide⁴

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1. Letter from William Haley, Durham, Illinois, to Knapheide, February 20, 1865. Letter File 1862-70.
 2. Day Book 1862-67, 105.
 3. Day Book 1862-67, 105.
 4. Letter File 1870-80. May 20, 1874.

However, even the best of wagons sometimes go wrong and there are some, though not many, letters complaining of faults. One complained about the paint not holding up, another that the king bolt broke, and another that the tires loosened, and so on.

During this period most of the wagons were sold within an area close to Quincy. In Illinois wagons were sold as far away as Camp Point, Beverly, Kingston, Newton, Fowler, 40 miles east, Versailles, Augusta, Bushnell, and Kinderhook during 1862. Later, the following towns appear: Pittsfield, Fowler, Sommerville, Colchester, Kinderhook, Woodville, Hancock, New Hartford, Macon, Perry, Mt. Sterling, Payson, Denver, Liberty, Stone Prairie, Mt. Station, Marceline, Warsaw, and Columbus. In Missouri, wagons were sold in the following places: Monroe county, Marion county, Clarkeville, Lewis County, Chillicothe, LaGrange, Brookfield, Newark, Ray county, Edina, Trenton, Richmond, Alpha, Millville, Locust Hill. Once in a while an old wagon was taken in on a new one. Thus on April 19, 1862, "One wagon made for Honantz for \$42.00 and an old wagon."¹ At odd times letters are found desiring to buy an old wagon, the price of which usually ran from \$10 to \$20.²

1. Day Book 1862-67, 3.

2. Letter from H. Newman, Lisbon, Iowa, to Knapheide, dated October 10, 1870, desiring to buy the best second hand wagon he had for \$20. Other letters are found throughout the years. Letter File 1870-80.

It is also interesting to note that wheel barrows must have been repaired and occasionally sold. On August 22, 1867, one wheel barrow was sold for \$5.50.¹

Besides making new wagons, a large amount of repair work was done. Picking a few at random we find "shaft fixed twice until it was all new, \$3.00, one bolster \$1.50, one timbal fixed \$0.50, four new wheels \$28.10, bellows on the wagon, seven spokes, painted it twice, \$19.65," etc.²

Agencies and Credit

During the first twenty years of the Knapheide Company all wagons were made only after an order had been placed either verbally or by letter directly by the customer. The establishment of agents was a later development and the first indication of such seems to have come from individuals who desired to sell Knapheide wagons.

The first inquiry of which there is any record came from Goodman and Nicklin, Clarksville, Missouri, dated September 7, 1870, asking about the sale of wagons and commission, and offering references. Apparently Knapheide did not choose to reply to this letter because a week later another letter from the same man was received by

1. Day Book 1862-67, 8. Other references to wheel barrows repaired are found scattered through the day book.

2. Ibid., 10.

Pope and Baldwin, asking them to forward it to Knapheide.¹

The answer which Knapheide finally did make to this letter is particularly interesting.

Dear Sir:

Your letter at hand saying you would like to have the price of wagons. My regular price for an extra good wagon in Quincy is \$85.00 and a spring seat \$90.00. I haven't made as many wagons this year as formerly because the price at present is too low to make any profit. Just at present I am out of finished wagons but I have a few half finished. By the end of the week I would have two or three finished. But I cannot make at present as many as I would have an opportunity to sell because a great many inquire after wagons.

"Last week I sold six wagons and today very likely I could have sold a few if I had had them ready. Therefore I am not in position to send you wagons on commission. I would like to make your acquaintance and perhaps you could sell wagons for me. I expect later to make more than I have made of late. Perhaps you may have the opportunity to get a wagon that had been ordered by someone else."²

This would tend to indicate that Knapheide was not particularly interested in establishing agencies at this time as he had no trouble selling directly all the wagons he was able to make. It is worth noting that in 1870 he made one hundred and one wagons or seventeen more than his largest production before that date. However, this

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1. Letter from Goodman and Nicklin, Clarksville, Missouri, to Knapheide, September 7, 1870. Letter File 1870-80.
 2. Letter File 1870-80. Apparently wagons were ordered and either not called for or the customer was not in a hurry and then they would be available to some one who was in immediate need of one.

was the year that Studebaker established a branch at Kansas City, Missouri,¹ and other companies were establishing agencies,² and quite probably the idea grew with Knapheide because other letters show the gradual establishment of agencies over all the surrounding countryside. As pointed out earlier, his production increased considerably and that is probably the reason he decided to sell through agents.

Thus a letter of 1874 informs Knapheide that the writer will be in to talk with him about "some wagons for others."³ By 1876 E. M. Ewing, Shelbyville, Missouri, was ordering wagons rather regularly and by the 1880's agencies had been established in many towns in Illinois, including Golden, Camp Point, Augusta, Loraine, Baylis, and Warsaw, and in Shelbyville, Lawrenceton, Dawn, LaBelle, Clarksville, and other towns in Missouri.⁴

Apparently the agents were made up of all kinds of people. The letters received from the various agents indicated they ranged from farmers who had bought Knapheide wagons themselves and had found them admired and desired

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1. Erskine, Studebaker, 13.
 2. Letter File, 1870-80.
 3. Letter File, 1870-80. Letter from A. E. Bacon, Augusta, Illinois, to Henry Knapheide, November 7, 1874.
 4. Letter Files 1870-90.

by their neighbors, to men who handled "Hardware, Groceries, and Harness, all kinds of Farm Machinery, etc."

"Agricultural Implements, Lumber, Doors, Sash and Blinds, Cement, Lime, etc.," "Plows and Blacksmithing," and even a county sheriff for good measure.¹

By the 1880's the agents were ordering the wagons as they needed them, but they usually had one or two of the wagons on hand on consignment. The agents either had the wagons shipped to them, traileed them through, or had their customers go to Quincy for them. One wonders how our automobile dealers of today would like to work on the commission paid the agents. They usually had to assemble the wagons, store them until sold, go on the note or security if sold on time, collect the note when due, and return the money to the factory, for usually a ten per cent commission ranging from around \$6.00 to \$12.00 per wagon.

Credit

The problem of farmers financing their purchases is not a modern problem solely by any means. As early as the first records available wagons were sold on a deferred payment basis. On February 6, 1862, "The widow of W. D. Black paid on her note \$11.60 and interest \$8.40."² Again

1. Letter Files 1870-90. The sheriff was J. M. Ennis, Shelby County, Missouri.

2. Day Book 1862-68, 2.

on January 23, 1862, a wagon was sold to F. Williams for \$73.00, paid \$37.00, still due \$36.00.¹ However there are very few instances of wagons sold without cash until the 1870's. A letter written to one G. W. Keyes, 1867, indicates that Knapheide tried to get cash for wagons. "We are selling now wagons as you wish at \$115. If you take 2 or 3 wagons send the money at once."²

During the years following 1870 the company tended to become more liberal with credit. Probably part of this was a necessary incident to the establishment of agencies, as appeals for credit for customers began to come in. In 1872 the agent at Warsaw, Illinois, wrote:

"Dear Sir:

I write you a few lines to know if you would take a good note on a very good man that has a large lot of fat cattle to sell about first February next. He will give you his note for \$97.00 for wagon due February first next drawing 10% interest from date. If you will take the note as so much paid on wagon I will guarantee note good and will be paid when due. I will let him have the wagon and you the note. Pretty hard to find all money customers just now. Let me hear from you."³

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1. Day Book 1862-68.
 2. Letter from Henry Knapheide to G. W. Keyes, Kaboka, Missouri, July 10, 1867. Letter File 1860-70.
 3. Letter from William W. Reed to Knapheide, September 25, 1872. Letter File 1870-80.

By 1876 some of the agents were showing a little more independence in the matter of credit. Instead of asking for credit, an agent in Keokuk Junction, Illinois, wrote that he had sold the wagon but had not received the money nor had he taken a note. He said that he would give Knapheide his own note when he came down the next time.¹

Letters regarding notes were numerous and showed that that method of financing the purchasing of wagons was well established by the late 1870's. Knapheide tried to be careful in extending credit and numerous letters are found asking someone, usually a business man, the credit rating of some person desiring to buy a wagon and give a note as payment. Frequently the reply would indicate that additional security would be advisable, but generally the reply indicated the writer thought the note good.

While most of the notes apparently were paid when due, there are many letters indicating some were not. The year 1878 seems to have been a year when many were unable to pay. The following letter is written by a man apparently in business. It is quoted at length because of its interest and the light it throws on general conditions in this area that year.

Mr. Knapheide,
Sir,

I received your letter of the 4 instant.

1. Letter from Albers and Ihnen to Knapheide, March 4, 1876. Letter File 1870-80.

Am sorry to say that I am not prepared to pay the note off as I would like to as I told you when I was in Quincy that I had money out that I was looking for the first of January which if not collected would throw me in rather an embarrassed condition, and have not got anny of it yet but will try and borrow if I can and will bring the amount as soon as I get it you may depend on that and the present time is the hardest ever I tryed to doe my business I halve nearly one thousand dollars that is due me now soon and I dont know as I can collect the interest for the men who owe the money are poor but hones and I dont like to sue a man of that kind when he has tried to make the money and the crops failed him. wheat was a failure and hogs are nearly for they are only 3½ per hundred and that won't pay half the expenses when the colery kills half that a man has.

Yours respectfully,
H. H. Oney¹

Two other letters of the same year indicate that times were hard due to the low price of hogs and the epidemic of "colery" that year. Another defaulter felt that while conditions were bad he had prospects of a good wheat crop.² The financial status of still another is made clear by his statement that if suit were brought it would do no good as he had a mortgage on the place and only "too old plugs."³

While apparently Knapheide was quite patient about

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1. Letter from H. H. Oney, Stone Prairie, Illinois, to Knapheide, January 23, 1878. Letter File 1870-80.
 2. Letter from W. R. Grady, Killersville, Illinois, to Knapheide, April 21, 1878. Ibid.
 3. Letter from R. D. Reamy to H. Knapheide written on a scrap of paper, July 5, 1878 (the name of the town not legible). Ibid.

notes past due he did employ the services of a collection agency in 1876 to bring suit on two notes given him.

During the 1880's Knapheide took many notes for wagons. He objected strenuously to taking a note for more than one year. Again the interest ranged from 7 to 10%. While most of the notes were paid when due there were several that proved difficult to collect. Many methods were used to realize as much as possible. One note was turned over to the American Express Company for collection. Incidentally this made the agent at Dawn, Missouri, very angry. He assumed that Knapheide did not trust him to collect the note and return the money, and wrote a very warm letter about it, giving up the agency and reaffirming both his own honesty and the fact that the note was absolutely good.¹

In another case Knapheide was advised by the agent in Shelbyville, Missouri, to turn the note over to an attorney at law who would collect the note for \$20 if he did not have to bring suit or for \$25 if he did have to bring suit.² A third method of collection was by means of a collection agency located in Quincy, Illinois, which

1. Letter from Albert J. Carr, Dawn, Missouri, to Knapheide, April 12, 1886. Letter File 1880-90.

2. Letter from J. M. Ennis, Shelbyville, Missouri, to Knapheide, August 28, 1885. Ibid.

apparently handled several of the firm's notes.¹ A fourth method used was to sell the note to a firm in the town where the note was made. This was done at a discount. The firm then undertook to collect the note by taking in produce from the debtor and applying it on the note.²

Apparently the amount lost through notes and bad debts was relatively small because there are few instances of bad debts, and we find the firm issued credit during the next fifty years, or up until the present time.

Uses to Which Wagons Were Put

The principal wagon which Henry Knapheide built was the farm wagon. This wagon was built on both the narrow and wide track. The narrow track corresponded to the track of an automobile today, whereas the wide track was about 6 to 8 inches wider. These wagons also varied as to size of the skein, length and type of the box, hounds, brake, and seat.

Many wagons were built for the purpose of hauling freight across the prairies and were used in the gold rush to California as well as later trips to the West. These

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1. Letter from George M. Janes, Quincy Collection Agency, to H. Knapheide, January 9, 1885. Letter File 1880-90
 2. Letter from T. J. Wright & Co., LaBelle, Missouri, to H. Knapheide, February 25, 1888. Ibid.

wagons were heavier and stronger made than the ordinary farm wagon.

Another type of wagon built was the coal wagon used mostly by local coal dealers, though some were sold to mining companies in this part of the country. These wagons were usually made of oak, including the gears, box, and wheels. They were so constructed that the front wheel could turn clear under the wagon so as to make a very short turn.

Logging trucks were also manufactured at an early day. These were so constructed that they could be driven over a large log. Then one end of the log was picked up by grappling hooks and in this way a team of horses could drag a large sized log rather easily. The wheels were six to eight feet high which presented a flatter surface, causing them to sink into the ground less than lower wheels.

Wagon Manufacture

It is virtually impossible to obtain a complete picture of the methods used in manufacturing wagons in the earlier days of the industry in Quincy. Putting such evidence as one can find together--much of it is reminiscences of older employees in the business--we find the following picture.

Before the introduction of the cast iron skein

(apparently introduced in this section of the country by Henry Knapheide during the 1860's)¹ an iron band was run over the top of the wood axle, around the end and back underneath, in such a fashion that the weight of the wagon rested on the iron band. A hole was then drilled in the end and a lynch pin was dropped through. A washer was placed between the lynch pin and the wheel and in this manner the wheel was held on.

The iron skein was made of molded cast iron which was fitted on the end of the axle. With the skein an iron box was pressed into the hub of the wheel so that the wearing surface was iron upon iron. Later the lynch pin was discarded and the skein was threaded and a nut was used to hold the wheel in place.

The size of the wagon was determined by the diameter of the skein just inside the collar. The collar or shoulder was a band around the skein which held the wheel in place on the inside, the nut and washer being on the outside. The length of the skein varied with the diameter. Thus a $3\frac{1}{4}$ " skein was ten inches long. A $3\frac{1}{2}$ " skein would be $10\frac{1}{2}$ inches long, etc. Thus the greater the diameter of the skein the heavier the axle and wheel and the

1. D. F. Wilcox and Judge Lyman McCarl, Quincy and Adams County--History and Representative Men, II, 941; Collins and Perry, History of Quincy, 261; statement by Harold Knapheide to author, June 5, 1941.

heavier the load which could be carried.

The assembling of the wagons was particularly interesting. In many cases wagons were made only on order. In some instances orders were placed a year in advance for especially good wagons, and the customer was given the privilege of selecting his own wood from the stocks kept on hand. As he was not always an expert on wood, he sometimes selected poorer wood than the manufacturer; consequently this job was usually left to the wagon maker.

The woodwork was turned out first. In the early days the axles and spokes were hewn by hand. However by 1866 Knapheide was having it done by planing mills.¹ After the woodwork was finished the blacksmith ironed it off.

First of all the front gear was assembled. This consisted of the axle, front hounds, either bent (round) or square, and sand board. The hounds were a U shaped piece of iron attached at the front to the tongue and used in turning the wagon. The sand board was a large block of wood set parallel to the axle on top of the hounds. In order for the wagon to track true the distance between the center of the ends of the axle and the center of the tongue must be exactly equal. After this was done a hole was bored through the center of the axle, and sandboard through which a king pin was later dropped.

1. Letter from Quincy Planing Mills to Knapheide, July 8, 1866. Letter File 1860-70.

Next the rear gear was assembled. This consisted of an axle, two hounds, and a rear bolster. The rear gear was aligned by having the distance between the center of the ends of the axle and the center of the ends of the coupling--or reach--pole being exactly equal.

Next the wheels were placed. The making of the wheels was one of the most difficult parts of making a wagon and required the greatest of skill. In the early days the hubs were worked out by hand. After the hubs had been shaped they were morticed with a chisel, the spokes were then driven in place, and the rim of the wheel added. The front rim was made out of six joints (felloes) and two spokes to the joint; the rear wheel was made up of seven joints, two spokes to the joint or fourteen spokes in all. The standard height of the front wheel was 44 inches and of the rear wheel 56 inches. This was later changed to 44 and 52 and in later years to 40 and 44 or 48 inches. The joints of the rim were held together by dowels. A chip of wood was driven into the end of the spoke to hold it tight until the tire was set on.

The setting of the tire was a picturesque scene requiring a great deal of brawn, sweat, and extraordinary skill to insure a good job. The first step was straightening the tire (cold) with a sledge hammer and an iron block. Next the tire was bent into a circle. Then the wheel was measured after all joints of the wheel were

tightened by driving a chisel into one joint, thus forcing them snug. The tire was scarfed (ends drawn out), then welded to a size that when cold would draw all the joints up snug. This required very skillful judgment.

After welding, the tires were placed horizontally on bars of iron which raised them off the ground so that the heat of the fire could get underneath and up through the center. Wood was piled around them and set on fire. When the tires were nearly red hot they were taken off and placed on the wheel which was then rotated in water until the tire was cold. During this time the tires were pounded when necessary, to keep them in line and assure a perfect fit.

While this was going on, the tongue, single trees, double trees, and neck yoke were being assembled. The bed, consisting of bottom, sides, end boards, and irons, was placed on the running gear and the wagon was finished. The wagon parts had all been painted before being assembled.

The wagons were delivered in various ways. Farmers and agents for 20-30 miles around came in for their wagons and drove them home. At times the roads would be so bad that they would have to wait weeks and perhaps decide to have them shipped. Dealers frequently drove in and took four or five wagons home at one time. Two of the wagons

were usually assembled and pulled by the horses one behind the other. The other two were knocked down and piled into the two assembled wagons. One dealer from Bethel, Missouri, created quite a unique sight by loading his buggy on top of that and then driving home. Frequently, however, wagons were shipped either by boat or by rail. When delivered this way they were usually knocked down and shipped. One wagon usually made 15 pieces: 2 gears, 1 reach, 1 tongue, 1 front bolster, 1 bundle double trees, single trees and neck yoke, 4 wheels, 1 bundle sides, 1 bundle ends, 1 bundle irons, 1 bottom, and 1 seat.

Raw Materials and Supplies

The purchasing of supplies must have been a very important part of Knapheide's work, particularly after he took over the iron work and blacksmithing in 1867. There are numerous letters of inquiry to and replies from firms all over the country. Even as early as the 1870's firms had advertising pamphlets, and salesmen traveling through Quincy with wagon supplies. Samples of products were frequently sent to the Knapheide firm for a free trial.

It will be remembered that until 1867 Knapheide did only the woodwork of the wagons. Until that time the only thing he had to buy was the lumber. It will also be remembered that much of the wood was hewn by hand. Most of the lumber was bought within the radius of a few miles

of Quincy.

The only kind of lumber bought was white oak and hickory. The procedure varied little. Usually a letter was received offering to sell lumber in car load lots. The producer either quoted a price (usually \$25.00 to \$30.00 per M) or asked Knapheide what he would pay. The lumber was then sawed out and shipped. Knapheide inspected the lumber and rejected any that he did not think satisfactory. Later an inspector was sent to look at the lumber before it was shipped. The lumberer was expected to pay his transportation and expenses at \$2.25 a day.¹ After the firm was incorporated in 1893 this was paid by the firm. Practically all of the lumber was bought immediately after being cut and hence was green. It was stored in sheds and allowed to age. In general the standard seasoning was one year to the inch. Knapheide generally allowed for a 20% shrinkage. Defects in the lumber not visible at the time it was cut would show up later.

One of the first letters found asking the firm to buy lumber offered to take a wagon in as part payment.² Apparently the idea was quite pleasing to Knapheide because in later letters we find the process reversed. Now the

1. Letter from H. Knapheide to G. W. Osterhaut Centre, Rolla County, Missouri, July 14, 1884. Letter File 1880-90.

2. Letter from J. R. Sencenich, Versailles, Illinois, to Knapheide, July 21, 1870. Letter File 1870-80.

lumberer was asked to take one or more wagons as part payment. Suffice it to say that many of them agreed to do so.

Power driven machinery was a modern luxury in which Henry Knapheide did not indulge. However, by 1866 he saw the advantage of power machinery and while he himself did not buy any he sent his lumber to be cut by local planing mills. After this date there are innumerable bills from Quincy planing mills for surfacing, ripping, sawing, and planing lumber.

An illustration of the charge made for this kind of work is a bill from the Quincy Planing Mill, Sash, Door, and Box Factory, dated December 20, 1866: 1300 ft. surfaced @ \$4.50, \$5.85; 1450 ft. planed, \$6.50; 1200 ft ripping, \$6.00, etc.¹ By 1876 the mass production of various parts of the wheels and gears made them cheaper than they could be turned out by hand. Thus we find Knapheide buying hubs, spokes, neck yokes, and single trees from Hanna & Bruner's factory in Wabash, Indiana, devoted exclusively to that kind of work.²

1. Invoice from Quincy Planing Mill to Knapheide, December 20, 1866. Letter file 1860-70.
2. Invoice from Hanna & Bruner, Wabash, Indiana, to Knapheide, February 18, 1876. Letter File 1870-80.

| Hanna & Bruner, April 17, 1876 | | |
|--------------------------------|----------|----------|
| 100 sets 8 x 10 in. Hubs | ● \$1.00 | \$100.00 |
| 100 " xxx Ex. Select Spokes | ● 2.50 | 250.00 |
| 3 2/12 Doz. Neck Yokes | ● 1.15 | 3.60 |
| 5 Doz. Oval Singletrees | ● 1.00 | 5.00 |

While he did not buy any power machinery prior to his death he was interested in it and in 1884 addressed a letter to the Studebaker Brothers Manufacturing Company at South Bend, Indiana, in regard to a Boxing Machine. A member of the firm wrote a very courteous letter back pointing out the superiority of the "Little Giant" machine over the "Syracuse."¹

It will be remembered that Knapheide introduced the cast iron skein to the wagon industry in this part of the country during the early 1860's. It is interesting to note that by 1869 a local firm of Smith, Haynes and Company advertised in their bill head "Iron and Brass Castings, Thimble Skeins." Several sets of skeins were bought from this firm in 1869 at \$3.85 per set. Knapheide bought a wide variety of things from local merchants. Invoices as early as the 1860's and 70's show that nail rods, skeins, chains, nuts, bolts, castings, tongues, paints, rivets, screws, and other pieces of iron as well as the planing and other wood work were bought from Quincy firms.

However, large quantities of iron were bought from other firms, chiefly in St. Louis. One invoice for June 4, 1870, from William Colcord and Company, St. Louis, is for \$240.06.² Another firm which has furnished huge quan-

1. Letter from Studebaker Factory, South Bend, to Knapheide, July 27, 1884. Letter File 1880-90.

2. Letter File 1870-80.

titles of iron even down to the present day is the Sligo Iron Store Company, St. Louis. Hubs, Spokes, hounds, neck yokes, single trees, and other lumber were bought in large quantities from Hanna and Bruner. One invoice for February 18, 1876, was for \$450.40.¹ Wagon brakes were bought from Geisler and Company, Muscatine, Iowa, "Manufacturers of Geisler Brothers Self-Drop Patent Wagon Brake." These brakes were bought for as low as 35¢ in lots of 100 and 2¢ less in lots of 500. Paint and varnish was bought from the Murphy, Sherwin & Co., varnish makers, of Cleveland. Seat springs were bought from Boal, Andrews and Cooke, "Manufacturers and Jobbers of Farming Tools, Stoves, and Hollow-wear," of Chicago.

Freight

During this period river traffic was a very important means of transportation. From nine to ten months out of the year the boats plied their trade up and down the Mississippi. During the spring months boats could come all the way from New Orleans. After the water had fallen boats of a shallower draft traveled from St. Louis to Davenport.

Consequently large quantities of goods were shipped by river to Knapheide. Shipments ranged from a low of 275 lbs for 10 "bdle." of spokes to 9,000 lbs. for 300

1. Letter File 1870-80.

"bdle." spokes. Thousands of pounds of iron were sent by river boat. The names Rob Roy, Great Eagle, Arkansas, Josephine, War Eagle, Gem City, and others appear very often on bills of lading directed to Henry Knapheide.

The railroad did not reach Quincy until 1856. However by the time Knapheide began to use large quantities of material the railroads had become an established means of transportation. Wagons were shipped out and lumber and iron was shipped in. The Chicago, Burlington and Quincy and the Wabash, St. Louis and Pacific railways were the two lines into Quincy. Both of these lines carried large quantities of material to the wagon industry.

By 1890 the Knapheide Wagon Company was firmly established. Agencies had been set up and credit extended. Additional land had been purchased on which to build a modern plant. A reputation for building good wagons was established in many places in the Quincy area. Not the least important, continuation of the business beyond the death of its founder was in prospect as the founder's son, Henry E. Knapheide, had already spent from eighteen to twenty years in the shop learning the business.

CHAPTER II

THE HEIGHT OF THE WAGON BUSINESS, 1890-1915

At the death of Henry Knapheide, 1890, the net value of the firm was approximately \$5,000.¹ In the same year there were 4,572 wagon establishments in the United States having an average capitalization of \$18,000, employing an average of 16 men per shop, and turning out approximately \$25,000 worth of wagons a year.² In the same year carriage and wagon making ranked twenty-third among the leading industries in Illinois turning out carriages and wagons to the value of \$91,041,725.³ Thus it is seen that Henry Knapheide had a smaller than average factory. While the records giving the number of men employed and the volume of wagons turn out a year are not available, it is safe to assume that they also were smaller than the average for the United States as a whole.

After his death it was decided to keep pace with the

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1. Will of Henry Knapheide, in the office of the Adams County Clerk, Quincy, Illinois, 1891.
 2. Bureau of Census, Manufactures, 301.
 3. E. L. Bogart and G. M. Mathews, The Modern Commonwealth 1893-1918, 91.

times and incorporate the firm. Accordingly on February 4, 1893, a meeting was held at which the proprietors were present: A. M. Knapheide, widow of Henry Knapheide, Henry E. Knapheide, a son, and Dr. M. C. K. German, a daughter. These three agreed to subscribe \$20,000 stock¹ and the firm was incorporated the same year. The by-laws provided among other things the following:

"The name of this company shall be the Henry Knapheide Wagon Co.

The object shall be to manufacture and deal in Wagons and Vehicles.

The capital stock shall be \$20,000, consisting of two hundred shares of \$100.00 each.

The location of the principal office shall be at Quincy, Illinois.

The duration ninety-nine years."²

The hopes for the future are clearly visible in the third and fourth by-laws.

At a meeting held February 14, 1893, H. E. Knapheide, M. C. K. German, and A. M. Knapheide were elected directors of the new corporation. Henry E. Knapheide was

1. H. E. Knapheide, \$9,000; M. C. K. German, \$10,000; A. M. Knapheide, \$1,000.

2. Minutes of the Board of Directors Meeting, in the possession of the Knapheide Mfg. Co., Quincy, Illinois. February 1, 1894.

elected Temporary President and Treasurer at a salary of twenty dollars per week, and M. C. K. German as Temporary Secretary without compensation.

At the first annual meeting held February 1, 1894, Henry E. Knapheide was elected Permanent President and Treasurer and M. C. K. German Permanent Secretary. No change was made in salaries. The treasurer reported a net profit of ten per cent on capital stock and on motion the report was approved and ordered to be placed to the credit of the stockholders' notes.¹ This and later similar disposition of profits would seem to indicate that at least not all the capital stock had been paid in. A dividend of from five to ten per cent was declared every year until 1899 with the exception of 1897 when none was declared due to the small earnings for the year, namely \$24.73. (To this date the dividends were regularly credited to the notes of the stockholders.)

On January 9, 1900, Dr. M. C. K. German and her husband Henry German assigned their entire interests and certificates of stock in the Henry Knapheide Wagon Co., consisting of one hundred shares, to H. E. Knapheide.

One of the first things which Henry E. Knapheide undertook was the erection of a modern plant such as his father had hoped to build. This building was forty feet

1. Minutes of the Board of Directors Meeting, February 1, 1894.

wide and eighty feet long and was completed in 1892. On the third floor were the paint shop and storage room for finished woodwork; on the second floor were the various wood working departments; while on the ground floor the blacksmith work and assembling were done.

In 1895 the President was authorized to build such additions to the factory as seemed necessary not to exceed \$300. The erection of sheds twenty feet by one hundred and forty feet provided for storage of lumber and other supplies including both finished and unfinished wagons.

By 1900 more room was found to be necessary and in that year a three story addition of fifty feet by forty feet was added to the west end of the original factory building. This addition was also of brick, and an elevator was installed to facilitate the movement of materials up and down from floor to floor.

It will be remembered that Henry Knapheide did not use any power machinery. In 1895 the President of the firm was authorized to purchase machinery to the amount of about \$1,500.00. Saws, cross cut and rip, a planing machine, drill presses, and other equipment were installed. This made it unnecessary to send lumber out to be finished by local planing mills as had been done by the founder since 1866, except in case of emergencies or during a rush

season. Additional machinery was purchased as the need for it arose and by 1906 the inventory shows machinery, benches, tools, and fixtures listed at \$5,205.12.¹ However the small amount mentioned directly above would seem to indicate that even at its height of prosperity the amount of machinery in producing wagons was relatively small.

That the wagon making industry remained a small shop industry is indicated by the fact that in 1900 the average capitalization for establishments was only \$18,000 and in 1905 only \$25,000.² It is further illustrated by the fact that in 1914 over 70% of the wagon factories reported products valued at less than \$20,000 for the year.

Henry E. Knapheide initiated several other changes besides the introduction of power machinery. It will be remembered that his father made wagons only after he had received an order for them and in 1870 admitted the loss of several sales because he did not have wagons finished. The son began producing wagons so they would be ready in advance. At one time in 1915 he was authorized by the Board of Directors to produce in advance as many as two

1. Machinery subsequently added included among other things the following:

| | |
|----------------|----------------|
| Wheel press | Belt sander |
| Hub borer | Axle lathe |
| 2 tire benders | Spoke driver |
| Skein setter | Boxing machine |

2. Bureau of Census, Manufactures, 1905, 301.

hundred if he felt events justified the same.¹

The next step was the standardization of wagons. The old method had been to build them as the customer directed. Under the new method wagons were standardized and the agents were required to send in a minimum amount of information including: type of box, size of skein, width of track, type of brake, height of wheels, square or round hounds, length and width of lower and top box boards. Anything which the agent did not mention was built according to a pre-arranged standard.

Standardization led to another change, mass production. Formerly the men worked on one wagon at a time. Under the new procedure they would turn out a large number of a particular piece such as boxes, sandboards, bolsters, etc. This resulted in considerable economy in the production of a given number of wagons.

However there was a change which many other wagon makers made during the period 1880-1900 that neither Knapheide made. That was producing light spring wagons and putting springs on their heavy wagons. Both men refused to put springs on their wagons, believing they would be less durable with them than without.

Beginning with the year 1900 and continuing through

1. Minutes of the Board of Directors Meeting, January 3, 1915.

1915 were the bonanza years for the firm. Starting off with a net profit of \$12,007 in 1900, net profits ranged from a high of \$12,397 in 1908 to a low of \$1,627 in 1915. Dividends varied from a low of ten per cent to a high of sixty per cent. Between 1905 and 1913 no dividends fell below twenty per cent. The assets of the firm rose from a questionable \$20,000 in 1893 to \$55,607 in 1906 and \$66,714.74 in 1915.

In 1909 it was decided to recapitalize the firm at \$25,000 "to take up the increase of the capital stock of said company."¹ Accordingly all the old stock was called in. New stock with an increase of twenty-five per cent was issued pro rata to the old stock holders.

The coming of the automobile cut seriously into the earnings of the firm. Beginning with 1909 the profits began to go down hill and by 1915 had almost disappeared. This wave of prosperity closely parallels the prosperity of the wagon industry of the country as a whole, which in 1890 produced \$102,680,341 worth of wagons, in 1900 \$113,234,590, and in 1905 \$125,332,976.² Between the years 1909 and 1914 we find a 7.9% decrease in the number of establishments manufacturing wagons, with a decline of

1. Minutes of the Board of Directors Meeting, July 2, 1909.

2. Bureau of the Census, Manufactures, 1905, 301.

17.7% in the value of their products.¹

Labor

Under the corporation the labor policies continued very much the same as before. While apprentices were still hired on much the same terms as before, they did not board at the Knapheide home. A strict record was kept of days lost and every day lost the apprentice had to make up. Consequently his second six months period would not start until he had made up the days lost in the first six months. Days were lost because of illness, holidays such as Christmas and New Years, and religious days. By 1900 the apprenticing of boys was a thing of the past, due in part, at least, to the boys being more interested in wages than in a trade.²

Instead of being paid by the day the men were paid by the hour. The average wage paid during this period, 1890 to 1900, was from ten to twenty cents an hour. Thus in 1900 there were twenty-five men and boys on the payroll whose wages ranged from \$3.00 to \$13.00 for the week, with the foreman receiving \$15.00. These twenty-five men and boys received a total of \$202.00 or an average of \$8.00 per week. Three men received \$12 or more per week, seven

1. Bureau of the Census, Manufactures, 1914, 755.

2. Statement made to the author by Harold Knapheide, June 5, 1941.

received between \$10 and \$12, and the other fifteen less than \$10 per week. Some of the men only worked part time due to the fact that there was not enough work to keep them employed full time. The wheelwrights still worked on a piece basis, all others on an hour basis.

The payroll varied from week to week and month to month depending upon the amount of work to be done. During the winter months when fewer wagons were produced the payroll varied from \$135 to \$175 per week. During the summer months when the production of wagons was at its peak, the payroll varied from \$225 to \$275 a week. By 1910 the hourly pay had risen to between 15¢ and 22½¢, with the foreman receiving 25¢. In August sixteen men earned 20¢ an hour or more. Twelve received between 15 and 20¢, and only two received less than 15¢. The wheelwright was still paid on a piece basis. Looking at the average weekly pay we also find improvement. Three men, including the foreman, wheelwright, and salesman, received over \$15 per week. Eleven men received between \$12 and \$15 per week. Six men received \$10 to \$12 per week, and ten men less than \$10. Thirty-one men and boys received a total of \$331 for the week's work, or slightly over an average of \$11 per week. This compares very favorably with the yearly average of slightly over \$500 per year for carriage and wagon workers in the city of Quincy¹, and

1. Bureau of Census, Manufactures, 1905, 83.

slightly under \$500 per year for the wagon workers all over the United States.¹

By 1915 the hourly pay had again risen. The foreman now received 30¢ an hour, five men 22½¢ or more, ten men 20¢, three men 17½¢, and only one 10¢ an hour. Out of twenty men receiving a weekly wage, the foreman got \$18.00, thirteen men \$12 to \$15, four \$10 to \$12, and only two received less than \$10 per week. Twenty men and boys received a total of \$252 for one week's work or an average of slightly over \$12.50.²

During all this period labor unions were coming into existence. The American Federation of Labor was being formed and growing to a position of national importance. However, the Knapheide Company steadfastly refused a labor union in their plant. Two reasons were given for this antipathy toward unions. The first was that unions were nothing but trouble makers. While many persons would be inclined to dispute this contention today, the members of the firm feel that there is enough evidence of unnecessary agitation to give considerable credence to their view. The other reason expressed was that the men should be paid according to their ability to produce. As has

1. Bureau of Census, Manufactures, 1905, 301.

2. Pay Roll Books, in the possession of the Knapheide Mfg. Co., 1890-1915.

been amply shown the wages of the men did vary considerably. This contention also has enough evidence to give it a certain amount of weight. However, another reason which was not expressed may have played a part. That was the fear that a union would force wages up as they have succeeded in doing in too many industries to need mention.

Another interesting angle of the labor policy of the firm is shown by an act of the Board of Directors in 1912. When the State of Illinois passed a Compensation Law in that year, the Board of Directors passed a resolution to the effect:

That this corporation elects not to provide and to pay the compensation according to the provisions of an act of the General Assembly of the State of Illinois, entitled 'an Act to promote the general welfare of the people of this state by providing compensation for accidental injuries or death suffered in the course of employment, which act was approved on June 10, A.D. 1911, and is in force on and after the first day of May, A.D. 1912, and not to accept the provision of said act and not to provide and pay the compensation to any of its employees who have elected, or may elect, to accept the provisions of said act, according to the provisions of said act, and, so far as it can lawfully do so, not to be bound in any way by said act, or by any of the provisions thereof, and hereby directs its president and secretary to file with the State of Illinois a notice in writing to this effect.¹

This resolution was duly sent to the State Department of Labor but it availed them nothing and they were forced

1. Minutes of the Board of Directors Meeting, April 29, 1912.

to pay compensation for their employees. This hazard was met by taking out compensation insurance.

However the relations between labor and the management have always been reasonably congenial. There has never been a strike, walk-out, or lock-out. Wages have been voluntarily raised from time to time, and, as pointed out above, compared very favorably with average wages in the wagon industry both in the City of Quincy, Illinois, and in the country at large. When the men were sick or in trouble their pay was advanced to them on several occasions.¹ The relations between management and men were quite democratic, with many of the men calling the managers by their first names.

While there was no profit sharing with the men as a whole, the salesman was assigned five shares of stock during his period of employment, and the secretary ten shares. Both of these men held stock during the period of greatest prosperity and consequently their dividends were no inconsiderate sums, amounting some years to as much as two or three hundred dollars.²

However, the labor turnover indicates that conditions did not keep more desirable opportunities from appearing

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1. Statement by the management to the author, June 5, 1941.
 2. Minutes of the Board of Directors Meeting, 1909-13.

elsewhere. Of twenty-six men working in August, 1900, only ten were working two years later, and only five in August, 1910. Similarly of thirty-three men working in August, 1910, only twelve were still with the firm in 1915 and only five in 1922.

Variety of Wagons

Henry E. Knapheide greatly enlarged the variety of farm wagons. Shortly after 1900 over 30 different varieties of wagons and trucks were manufactured. Besides those made by his father he introduced among others a low metal wheeled wagon. This was considerably cheaper than the wood wheeled wagon and was considered by some to be more immune to the effects of the weather.

Boiler trucks were another innovation. These trucks were built in such a way as to form a cradle on which a boiler could be placed so that it would not roll off. The wagon was adjustable as to length and the braces were adjustable so as to accommodate boilers of different sizes.

Platform wagons were built with a platform extending out over the wheels on which could be carried theatrical scenery and other bulky materials.

Between 1900-1934 ox carts were manufactured for the Ampere Mfg. Co. and the J. R. Little Wheel Works and were sent to South America and also to Africa.

Beginning about 1900 a tank wagon was produced for

spraying orchards. This was usually a two reach wagon so that it could be turned very short. A great many running gears were produced to be used in the work connected with the erection of the transmission lines leading to the Keokuk power station.

Wagons were also produced to be used around the oil fields of the Southwest.¹

Heavy freight wagons continued to be produced and in 1906 the company manufactured its largest. It had a capacity of 20 tons and was sent to Texas. The tires were an inch and a quarter thick and had an eight inch face. The wheels were low and the rims were 8 inches in thickness.²

In addition to the above varieties, trucks and wagon boxes of lower qualities were added after 1910 in an effort to meet competition with low priced wagons of inferior quality to the Knapheide box and truck.

Sale of Wagons

By 1900 there were dozens of agents in nearby towns in Missouri, Iowa and Illinois. In December of 1901 and

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1. Statements on this page made by the manager to author June 5, 1941.
 2. When asked how much he could put in the wagon, the purchaser replied: "The whole state of Texas if I could get it in." Statement by Harold Knapheide to author, June 5, 1941.

January of 1902 wagons were shipped by rail to eighteen different towns in Missouri, nineteen in Illinois, one in Iowa, and one in Oklahoma.¹ By 1910 agents were found in these and other towns. Sales varied from one or two wagons per year to \$3,228.60 worth of products by Brackman and Sons, Mt. Sterling, Illinois, and \$3,087.00 by Coil & Fairbair in Perry, Missouri.

By this time a salesman was being sent out to call on the trade. Around 1900 he only worked during the spring months. He called on the agents and attempted to have them order in advance about what they sold during the past year or an average of the past few years. Twenty wagons could be shipped in one railway car and the salesman attempted to get an agent to take either a car or half a car in order to cut down freight charges.

About this time agents began buying wagons at a net price rather than on the retail price less 10% commission as formerly. He was allowed a 5% discount which paid the

| 1. | <u>Missouri</u> | <u>Illinois</u> |
|-------------|------------------|-------------------------|
| Lewistown | Eldorado Springs | Lorraine West Point |
| Durham | Clarence | Warsaw Paloma |
| Hunmell | Edina | Myer New Couton |
| Shelbina | Bowling Green | Pittsfield Bayliss |
| LaBelle | Louisiana | Kinderhook Bowen |
| Frankford | Bullion | Goldea Carthage |
| Canton | Perry | Plymouth Ursa |
| Kahoka | Rothville | Camp Point Augusta |
| Custer | Hannibal | Barco Coatsburg |
| Monroe City | | Harton Station Lorraine |

Book on sale of wagons, 1907-15.

freight charges. He then sold the wagon at the best price he could get in view of the competition facing him in his locality. In 1907 Henry E. Knapheide entered into a contract with the J. R. Little Wheel Co. of Quincy to manufacture wagons using their wheels and to be sold by them. The first year the Little Co. bought \$4,681.00 worth of wagons, the second year \$4,337.00, and the third and last year \$79.00. In this year it ceased doing business. Another contract made the same year, with the Empire Mfg. Co. of Quincy, engaged in the export business to South America and Africa, proved to be much more profitable and enduring. This contract provided for the purchase of a wide variety of trucks and wagons from Knapheide, at one time over thirty types. These were then sold by the Empire Mfg. Co., many, if not most of them, going abroad to South America and elsewhere. This contract continued until 1934.¹ The volume of business carried on is clearly shown by a look at a few years business. In the last six months of 1907 \$6,618.65 worth of wagons were purchased; in 1909 \$21,525, and in 1914 \$12,525. A book of 100 pages is devoted entirely to the orders received by Knapheide from the Empire Mfg. Co. for the years 1914-16.²

1. Statements on this page made by Harold Knapheide to author, June 5, 1941.

2. Order Book of Empire Mfg. Co., 1914-16.

Shortly after 1900 the Henry Knapheide Wagon Co. began getting out advertising. They did not use newspaper advertising but relied on pamphlets, folders, and catalogs. The one gotten out in 1903 is particularly interesting. On the front is a picture of the factory in which the imagination had been allowed a free range. The plant was pictured as a huge affair giving the impression of being much larger than it actually was. The picture shows railroad tracks running along the side of the building and a street car line in front, neither of which was ever there. On the inside is an excellent description of the Knapheide wagon including the leading features "Light Draught, Durability, Strength, Neat Finish, and Perfect Proportions." Another line provided "Every part of every wagon sold under a binding guarantee." On the back are three pictures of wagons. The first one shows a wagon with the tire off and the words "When this happens it isn't a Knapheide." The second shows a wagon breaking down under the load with this sentence "The fellow bought this wagon because it was cheaper." The third picture shows a wagon with a heavy load being pulled briskly by a team of horses and has this caption: "Thoroughly satisfied. You always will be with a Knapheide."¹

Another folder gotten out in 1914 has excellent

1. Advertising Folder issued by Knapheide, 1903.

photographs of wagons and gears manufactured by Knapheide. The various features are described simply and clearly and no reference whatever is made to other wagons.

Just what relative share the establishment of agencies, sending out salesmen, issuing advertising matter, and the prosperity of the times, played in the wagon industry, it would be difficult to determine. Suffice it to say that this period, 1900 to 1913, was the height of prosperity for the Knapheide Wagon Co. As pointed out in a previous section this was the period when the greatest profits were made. It was also the period when the largest numbers of wagons were produced. For example almost 550 wagons were manufactured in 1907, 525 in 1910, 418 in 1913, and 248 in 1915. By 1915, however, the peak of wagon manufacturing was over and trucks had begun to displace wagons. From this period on the wagon industry as a whole, including the Knapheide Co., declined rapidly.

As during the previous period a large amount of repair work was done. Bolsters were replaced, new boxes furnished, tires reset, wagons painted, and other types of repair work carried on to the extent of \$3,000 to \$6,000 per year.

Raw Materials and Supplies

During this period of time lumber was still bought locally with the exception of finished spokes, hubs,

single and double trees, and neck yokes, which were bought from Paddock & Howley Iron Co., St. Louis, Missouri.¹ The price of hickory and oak showed little change before 1902. In that year these two woods were \$30 per M and \$20 per M for No. 2.² In 1904 white oak tongues were \$35.00 per M, hickory axles \$30.00, and red oak \$25.00. In 1908 the prices were still the same but by 1912 hickory axles were \$40.00 per M, bolsters \$37.50, and planks \$30.00.³ Wagons were still being taken as part payment on a bill of lumber in many instances. The wide distribution of lumber mills is indicated by the fact that during the years 1899-1909 the Knapheide firm bought lumber from or had letters offering to sell lumber from seventy-six different towns in Missouri and forty different places in Illinois.⁴ Much material was still being bought locally such as rod iron, iron tires, tongue caps, skeins, shackles, fellow plates, drills, etc. Pole caps and stay chains were bought from Kelley, Maus & Co., Chicago, heavy bar iron from the Sligo Iron Store Co., St. Louis, and the Wabash Iron Co., Terre Haute, Indiana. Paint and varnish were bought from

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1. Invoice from Paddock & Howley Iron Co., St. Louis, Missouri, to H. Knapheide, August 21, 1896. Letter File 1890-1900.
 2. Lumber Purchasing Book 1899-1912, June 10, 1902.
 3. Ibid., August 21 and January 16.
 4. Book listing firms from which lumber could be bought, 1899-1912.

Billings, Taylor & Co., Cleveland. Wagon brakes were still being bought from Geisler & Co., Muscatine, Iowa, and shovel boards from N. A. Cruzan, "Sole Manufacturers of 'The Best' Shoveling Board," Decatur, Illinois. However, by 1906 Knapheide was manufacturing his own shoveling board. Skeins were bought from the Illinois Iron and Bolt Co., Carpentersville, Illinois. There was little change in price in these commodities and wagons stayed approximately the same in price--\$60 to \$65 until the World War.

CHAPTER III

DECLINE OF THE WAGON BUSINESS AND RISE OF
THE AUTOMOBILE, TRUCK BODY, AND TRAILER BUSINESS

While the establishment of railroads stimulated the wagon industry because of its tending to bring about an increase in population, and its making markets more readily accessible, the automobile, truck, and highway had exactly the opposite effect. In short, the coming of the automobile meant the demise of the wagon industry. The more the former grew the greater the decline of the latter.

A glance at a few census figures will make this clear. In 1909 there were 5,492 establishments making carriages and wagons in the United States. These firms employed 69,928 wage earners and turned out products to the value of \$159,941,547.¹ This was the peak year in the manufacture of carriages and wagons. More shops were in existence, more men were employed, and more wagons and carriages were produced than in any other year in the history of the United States. Ten years later 2,544 such factories employed 24,682 wage earners, and produced \$118,228,000 worth of carriage and wagon supplies.² The

1. Census of Manufactures, 1914, II, 755.

2. Ibid., 1919, I, 1010.

mortality among carriage and wagon businesses was particularly heavy during the next four years. By 1923 there were only 396 plants in operation, employing 8,109 workers, and the total value of their products was \$37,372,825.¹ Eight years later, in 1931, only 75 companies were doing business; they employed 1,431 men and women and produced only \$6,178,985 worth of carriages and wagons or slightly over one-thirtieth the amount produced in 1909.²

The decline in Illinois was almost as precipitous as in the rest of the United States. In 1909 there were 325 establishments producing wagons in Illinois, hiring 5,852 workers, and making \$16,831,283 worth of wagons. By 1914 the number of factories had declined to 296, the number of employees to 4,861, and the value of wagons to \$15,192,466.³ Seventeen years later, in 1931, only six companies had survived the storm. These six firms employed 447 wage earners and produced one-sixth of all the wagons manufactured in the United States, or \$1,813,116 worth,⁴ and of

1. Census of Manufacturers, 1931, I, 1027.
2. Ibid., 1931, I, 1027.
3. Ibid., 1914, I, 321.
4. Ibid., 1931, I, 1027.

| <u>Date</u> | <u>No. of Co.'s</u> | <u>Wage Earners</u> | <u>Value of Products</u> |
|-------------|---------------------|---------------------|--------------------------|
| 1909 | 5,492 | 69,928 | \$159,941,547 |
| 1919 | 2,544 | 24,682 | 118,228,000 |
| 1923 | 396 | 8,109 | 37,372,825 |
| 1931 | 75 | 1,431 | 6,178,985 |

these six the Henry Knapheide Wagon Co. was one.

If again we turn our eyes closer home we find that Quincy did not escape either: In 1905 there were eleven factories producing carriages and wagons¹ in that city. In 1917, six,² in 1923 two,³ and by 1927 only the Henry Knapheide Wagon Co. was left.⁴

And so we find the firm under discussion facing an extremely difficult period of readjustment in 1916. The manner in which it attempted to solve that problem, and the varying degrees of success and failure, tell an interesting and poignant story. Unfortunately for the clarity of that story the method of keeping accounts was changed that year and hence no longer is the number of wagons produced in a special year given. Consequently it will be necessary to draw conclusions from the data that are available.

A look at the financial status first will give us the picture in general. The gross assets of the firm were \$60,067.03 in 1916,⁵ \$85,519.60 in 1921,⁶ \$69,618.95 in

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1. Census of Manufacturers, 1907, II, 83.
 2. Illinois Bell Telephone Directory, 1917, 38.
 3. Ibid., 1923, 46.
 4. Ibid., 1927, 52.
 5. Minutes of the Board Meeting, February 3, 1916.
 6. Ibid., February 4, 1921.

1927,¹ and \$27,190.17 in 1939.² Gross sales are not available for every year, but enough are available to tell the story: 1918, \$104,266.85; 1920, \$125,381.04; 1922, \$46,101.97; and 1932, \$14,083.65. While the company recovered rather quickly from the depression of 1922--gross sales by 1925 were \$62,543.32--the depression during the thirties continued until 1940-41. No profits are mentioned in the year 1916, and since most years a profit is mentioned, it can be assumed rather safely that none was made. Profits in 1920 were \$3,762.67 and in 1922 a deficit of \$4,601.22 was recorded; a small profit was made during the next few years and in 1927, 1928, and 1929 profits were between \$2,000 and \$3,000, and no profits are mentioned after 1929.³ While no losses are mentioned either, the decline in the gross sales as well as the gross assets clearly tells of the struggles of the "depression" thirties.

Change From Wagons to Automobile Trucks and Trailers

In attempting to understand the financial downfall expressed above, the first thing to consider is wagons. The average price gradually rose from \$65.00 in 1915⁴ to

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1. Minutes of the Board Meeting, February 3, 1927.
 2. Ibid., February 2, 1939.
 3. Ibid., 1918-1939.
 4. Sale Book of Wagons, July, 1915.

\$100 in 1920.¹ The sale of wagons rose from 248 in 1915¹ to 350 in 1920, probably due to the prosperity of the farmers during the war, dropped to less than 300 in 1925, and 200 in 1930.² This decline between 1920 and 1930 was probably due to two major factors, the depression of the farmers after the war, and the introduction of a new type of farm wagon. This new type of farm wagon was introduced as a result of two factors. In the first place the depression gave the farmers less money to spend. Also, many of them were buying automobiles; consequently they bought fewer and wanted cheaper wagons. In the second place the use of automobile trucks to haul their produce to market made the old high wooden wheeled wagon less necessary. The high wooden wheels caused it to pull easier due to a flatter surface against the ground than would be true of a low wheeled vehicle, and its height made it easier to roll over obstacles or holes that might be in the ground. This ease of travel was particularly important on the long haul from the farm to market.

Since a cheaper wagon was desired by many farmers and ease of pulling was less important, a new low metal

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1. Sale Book of Wagons, 1915.
 2. The number of wagons given in 1920, 1925, and 1930 are rough estimates. There is no record available and the writer was forced to rely on the memory of the present manager and secretary who was secretary at that time also.

wheeled wagon called a truck was introduced to the trade. This truck had been manufactured and sold to the Empire Mfg. Co. to be shipped South and abroad as early as 1906. However, it was not sold in any large quantities in the vicinity of Quincy until 1914 and later.

The wheels of this vehicle were of metal and were produced in mass by such companies as the Electric Wheel Co. of Quincy, Illinois, which manufactured most of those used by the Knapheide Co. A comparison of costs shows the metal wheels costing an average of \$4.00 per wheel and the wooden wheels \$10.00 per wheel in 1920.¹ This resulted in a saving of \$24 on the wheels alone. In addition, a cheaper wagon box was placed on the truck, which resulted in the saving of another \$4 or \$5. Consequently a truck would sell complete for around \$68.50, whereas a wooden-wheeled wagon sold for \$100.00. The popularity of these trucks is shown by the fact that they outsold wagons between 1920 and 1930 by over a hundred a year, in 1920, 450, in 1925, 400, and in 1930, 375.²

In addition the Knapheide Co. attempted to meet the changing times by producing automobile truck bodies and trailers. This business was embarked upon slowly as the

1. Invoice Book, 1920, July 24, August 10.

2. Again these are estimates. The sale of wagons continued to decline and in 1938 the firm ceased making wagons of any kind.

demand arose. Grain bodies and stock racks were early introduced and were fairly standardized. The price of the former ranged from \$45 for a small cheap body to fit a Model T Ford to \$200 for a 12' by 7' combination body to fit a 157" wheelbase Chevrolet.¹ The combination body had top boards which gave it greater capacity and a stock rack so that it could be changed to hauling stock when desired. The smallest and cheapest stock rack sold for \$45.² From there they ran up to the \$200 job noted above. The average price for a combination grain body was \$87.50.³ The average price for a stock rack was \$150.00.⁴ At least one hundred and forty of the former and thirty-five of the latter were sold in 1938.⁵ Besides the above two bodies for the farm trade, express bodies, bakery bodies, van bodies, and coal and ice bodies were manufactured for the commercial trade. Whereas the former were rather well standardized, the latter were almost entirely custom built jobs and the prices vary accordingly.

While again figures are not available to show the proportion of each type of body produced, the farm trade

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1. Invoice Book, 1931, January 10.
 2. Ibid., January 31.
 3. Ibid., January 28, 1930 - January 31, 1931.
 4. Ibid.
 5. Ibid.

tended to decline and the commercial trade to increase. During the 20's these bodies were built almost entirely of wood; beginning with the 30's, the firm made a composite body of wood and steel. However just as the automobile manufacturers decided on all steel bodies, so did the Knapheide Co. decide that if they were going to stay in this kind of business they would have to go to the all-steel body. This was a difficult step to take, involving several thousands of dollars worth of new machinery, including three electric welding outfits, a large inventory of steel and iron, and equally as important and perhaps even more difficult to attain, a new technique. However the change was made definitely in 1938, the business grew slowly, and for 1941 it is expected to produce a volume of over \$100,000, or one of the largest in the history of the company.

As the wagon business dwindled during the 30's almost to the vanishing point, and as the company found its automobile truck and trailer body business growing, it was increasingly felt that the name "Henry Knapheide Wagon Co." was a distinct drawback, and so in 1937 the name was changed to the "Knapheide Mfg. Co."¹

Besides the change to automobile truck and trailer bodies, the Knapheide Co. attempted to adjust itself to

1. Minutes of the Board Meeting, February 5, 1937.

the different times by going into the jobbing business in 1918. Among the things they jobbed were straw spreaders, limestone spreaders, overload springs, dump bodies, and even washing machines, and their various parts. Some of these were dropped from time to time and others added. This business amounted to some \$20,000 in 1920,¹ \$10,469.72 in 1925,² \$527.21 in 1931,³ and \$10,703.93 in 1938.⁴

In addition the repair business has been continued even down to the present time. This business amounted to \$4,279.05 in 1919,⁵ \$5,798.31 in 1923,⁶ \$2,966.02 in 1931,⁷ and \$3,238.52 in 1938.⁸

Agencies and Credit

Agencies have been continued through this last period also. As change is found in the other fields during this period, so is it found in agencies. By 1920 agencies are found in at least twenty-eight towns and villages in Illinois, twenty-nine in Missouri, and one in Iowa.⁹

1. Minutes of the Board Meeting, February 5, 1937.
2. Invoice Book, October 9, 1919 - October 13, 1920--an estimate.
3. Minutes of the Board Meeting, February 4, 1926.
4. Ibid., February 2, 1932.
5. Ibid., February 2, 1939.
6. Ibid., February 4, 1926.
7. Ibid., February 2, 1932.
8. Ibid., February 2, 1939.
9. Invoice Book, October 9, 1919 - October 13, 1920.

It will be remembered that about 1910 agents began buying wagons at a net price and selling them at the best price they could get in the community. This policy was continued. However, the agents who sold the item jobbed by the Knapheide Co. were paid on a commission basis on parts which amounted to forty per cent.¹ New equipment including that manufactured by the firm was billed net.

With the beginning of the automobile truck and trailer business, there was a gradual shift in agencies. Whereas the wagon agents had been made up of all kinds of people, the new agents were entirely automobile agencies. The old agents tended to have an exclusive territory but there was no closed territory for automobile agents. Not only were more than one automobile dealer in a town or city allowed to sell Knapheide bodies and equipment; they were very definitely encouraged to do so. And so we find several cities and towns where there is more than one dealer putting Knapheide equipment on his truck chassis.² Again practically all new equipment was billed net. Occasionally a body would be sold direct and would not be handled by the dealer at all. On such sales the dealer was allowed a twenty per cent commission.³ On parts he was

1. Invoice Book, October 9, 1919 - October 13, 1920.
2. Invoice Book, 1930-31. Dealers were found in at least twenty-nine towns and cities in Illinois, ten in Missouri, and one in Iowa.
3. Invoice Book, January 38, 1930 - January 31, 1931 - January 24, 1930.

allowed the same commission as above. There was one change which benefited the Knapheide Co. very much. In the days of wagons, notes were given for the wagon and the company had to wait for its money, but the financing of automobile trucks by finance companies meant that the bodies and equipment were included in the financing and consequently the Knapheide Co. got its money at once. The value of this change is seen in the comparison of two years, both disappointing from the standpoint of business. In 1922 accounts receivable were \$4,260.48 and notes receivable \$1,453.40, total \$5,713.88;¹ ten years later, 1932 accounts receivable were \$2,802.00,² and no notes receivable are listed. While the business of the latter year was considerably less than the former, still it does show improvement in money outstanding.³

Labor

During this period the labor policies of the company remained the same as those during the preceding period. No labor union has as yet made its appearance and the present management is as much opposed to one as the

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1. Minutes of the Board Meeting, February 2, 1922.
 2. Ibid., February 2, 1932.
 3. Here again the absence of adequate records makes it difficult to draw an accurate picture. In addition to the above comparison we have the word of the present manager that there has been very marked improvement.

preceding one. However, since the passage of the Wagner Act they cannot legally prevent the men from organizing one. Henry Ford was greatly admired by the officers of the firm for his long opposition to labor unions. However even that stronghold has now been unionized. Sixty hours continued to be the standard week's work until the passage of the Federal Fair Labor Standards Act in 1938 which required the reduction of hours to forty-four the first year, forty-two the second year, and forty the third year. Under this act the men receive time and a half for over time. This has worked a serious hardship on this small firm whose business is necessarily seasonal and it is extremely difficult to put on extra men with sufficient skill and technique during rush seasons.

The increased taxes of the New Deal, both regular and those for social insurance, came at a time when the company could least afford to pay them. Consequently we find the officers bitter opponents of the New Deal.

However, as a review of wages will show, the firm did not cut wages materially at all during the disastrous thirties. While men were of necessity laid off, the older men and the married ones were the last to go. In refutation of the oft repeated contention that there is no place in industry for men over forty, almost half of the men employed in the Knapheide Co. are over forty and before the

large increase in business in the winter of 1940-41, all but two or three men were over forty.¹

The increase in the cost of living during World War I was followed by an increase in pay, both hourly and weekly, in the Knapheide Co. By 1918 the foreman was making slightly more than 40¢ an hour, or \$25 for a sixty-hour week. Two men received 35¢ an hour, ten men 30 to 35¢, nineteen 25 to 30¢, and only one, a helper, was receiving less than 25¢, his pay being 15¢ an hour. Four men received between \$20 and \$25 per week, eighteen between \$15 and \$20 per week, three between \$10 and \$15, and five less than \$10 per week. Thirty-three men received a total of \$505.95 or an average of \$15.33 for the week.²

Keeping pace with the inflation of the next four years, hourly and weekly wages continued to rise, while the depression cut business by two-thirds and profits disappeared entirely. In August, 1922, the foreman received 55¢ an hour, three men 40¢ or over, twelve men 30¢ or more, and only one man 25¢. Two men, including the foreman, averaged between \$30 and \$40 per week, two between \$20 and \$30, ten between \$15 and \$20, and only three under

1. Statement to the author by the present manager of the firm, June 2, 1941.

2. Pay Roll Book, 1911-22, August 10, 1918.

\$15. Seventeen men received a total of \$322 for the week's work, or an average of slightly under \$20 per week.¹ These wages compare very favorably with the national average in the wagon industry of slightly over \$1,100 per year.²

During the varying business conditions of the next eighteen years, the meagre prosperity of the twenties--in the wagon industry--and the depression of the deplorable thirties, the only change made in hourly wages was that of the foreman who was cut 5¢ an hour. Thus in 1937 the foreman received 50¢ an hour, one woodworker 45¢, and all others 40¢ per hour. All men received between \$21 and \$25 for the week except the foreman, who received \$36.25.³ This is considerably above the average for the wagon industry as a whole, which was slightly less than \$1,000 for 1931.⁴ The hourly pay in 1940 was virtually the same, though due to the Fair Labor Standards Act reducing the hours, the average weekly pay was reduced to between \$16

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1. Pay Roll Book, 1911-1922, August 13, 1922.
 2. Census of Manufacturers, 1931.
 3. Pay Roll Book, 1937-1940, July 24, 1937.
 4. Census of Manufacturers, 1931. The author recognizes the difference in years here, but it was as close together as he was able to find statistics and he does not believe there was any material difference between the wages paid by Knapheide in 1931 and 1937.

and \$22.¹ The foreman had been raised back to 55¢ an hour by 1940.

A rather general raise of 5¢ per hour was voluntarily extended to the employees July 1, 1941. Under the new wage scale the foreman will receive 62½¢ per hour, welders 60¢, layout man 60¢, woodworkers 50¢, and helpers 35¢ and 40¢. The pay roll will run about \$500-\$550 for twenty men for a full forty-hour week, plus time and a half for over-time.²

Raw Materials and Supplies

During this last period lumber continued to be bought from small firms located within a radius of forty to fifty miles. A few examples will suffice. In Illinois a few representative towns were Golden, Mt. Sterling, Winchester, Liberty, and Camden; in Missouri, Ashburn, Maywood, St. Patrick, LaBelle, Taylor, Whiteside, and Williamstown are among those mentioned.³ Oak and hickory tongues and axles were \$65 per M in 1920 and advanced to \$72.50 per M by 1928.⁴ Plank lumber of ash and maple was \$30 per M in

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1. Pay Roll Book, 1937-40, October 4, 1940.
 2. Statement made to the author by the present manager of the firm, July 5, 1941.
 3. Lumber Purchasing Book, 1920-1930.
 4. Ibid., March 31, 1920, December 16, 1924, February 9, 1926, April 30, 1930.

1924¹ and \$45 per M in 1926. This lumber was all select lumber and demanded a higher price than ordinary run lumber. It was usually inspected on the spot by either the foreman or one of the officers of the Knapheide Co. By 1937 the demand for local lumber caused the price to go higher than for the same quality of lumber shipped from the South. The southern lumber also seemed to be more immune to worms and other insects.² Consequently since that year little lumber has been bought locally.

One other change is worth noting. Not one single invoice after 1920 mentions a wagon being taken as part payment.

Conclusion

The parallel between the Knapheide Wagon Co. and the wagon industry as a whole is worth noting. The Knapheide Co. started as an association between two skilled workmen, a wagon maker and a blacksmith, with little or no capital, as did practically all of the other firms in the wagon industry. It kept pace with the curve upward of the wagon industry as a whole until 1909 and then followed that curve downward to the depths of despair in 1931. It was one of seventy-five still doing business that year.

1. Lumber Purchasing Book, 1920-30, March 3, 1924.

2. Statement made to the author by the manager of Knapheide Mfg. Co., June 5, 1941.

In other words it rode the crest of a wave and when the bubble burst found itself facing a very dismal future.

The wagon industry as a whole both influenced and was influenced by the expansion of population into the Middle West and Far West. Without wagons this expansion would have been virtually impossible because until the middle of the nineteenth century brought the railroad, no other means of transportation existed except the waterways. Even after the coming of the railroads, wagons were absolutely necessary to haul the products of farm and factory either to market direct or to a railroad station. On the other hand the wagon industry was made possible by the expansion of the population. As the latter grew in the Middle and Far West the demand for wagons grew and the industry as a whole expanded, including the company under discussion.

The Knapheide Co. was clearly affected by both wars and depressions. The total volume of business was very seriously cut down by the depressions of 1873, 1922, and 1929. On the other hand the price of wagons was very definitely raised by the two major wars in which the United States was engaged during the period under discussion: namely the Civil War and World War I.

The history of the Knapheide Co. clearly demonstrates the ability of a small corporation to adjust itself to

changing conditions. In making the changes which later proved successful, the managers of the firm showed resilience, initiative, and foresight. At each stage when new methods were needed the younger men in managerial positions were able and willing to adopt them. However, it should be clearly pointed out that it was only the strong financial backing of many thousands of dollars which carried the company through the last depression and placed it on the first rung of the ladder of success with a new product--truck bodies and trailers.

The labor policy was consistent throughout the almost one hundred years of the history of this venerable firm. Unions were consistently resisted, but the men were treated fairly and even kindly at times, paid wages as good or better than average, and considered by successive managers of the firm as their friends as well as employees.

The parallel between the firm today and ninety-three years ago is interesting. Then it was a new venture with little or no capital, wagons were made only on order and were custom built. Today in 1941 the assets of the firm have been reduced to a minimum, it is practically a new venture, the truck bodies and trailer bodies are virtually all made on order and are practically all custom manufactured. The only exceptions are grain bodies and stock rack bodies.



Is the Knapheide Mfg. Co. going to repeat the history of the Knapheide Wagon Co. and ride the crest of a new era in the field of transportation? Only time can tell the answer to that, but the author most sincerely wishes it good fortune.

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The undersigned, appointed by the Dean of the Graduate Faculty, have
examined a thesis entitled

THE HISTORY OF THE KNAPHEIDE WAGON CO.

presented by **Harry David Condron, B.A.**

a candidate for the degree **Master of Arts**

and hereby certify that it is worthy of acceptance.

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