State of Kansas v. State of Colorado : abstract of complainant's testimony

Section 4, Pages 91 - 120

A summary of testimony given by Kansas residents in the State of Kansas v. State of Colorado U.S. Supreme Court case. The court case centered upon Kansas' claim that Colorado irrigators were using more than their fair share of water from the Arkansas River. In their testimony, numerous Kansans commented on the decline in the flow of the Arkansas River between 1870 and 1900. In 1907, the court decided the case in Colorado's favor, refusing to order Colorado to restrict its use of Arkansas River water. However, the court left open the possibility that at some point in the future the economic damage caused to Kansas by Colorado's use of the river might give Kansas the right to relief. Under this doctrine of "equitable apportionment" of economic benefits from water resources, Kansas sued Colorado in 1943. This suit led to the negotiation of the Arkansas River Compact which was approved by Congress in 1949. Kansas sued Colorado again in 1986 claiming that Colorado violated the terms of the compact. The court ruled in Kansas' favor.

Creator: Kansas. Office of the Attorney General

Date: August 15 - September 21, 1904

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ARTHUR H. GREENE, ARKANSAS CITY, KANSAS.
Arkansas City, Aug. 23, 1904. Pages 1020 to 1023 of the record.

I am 68 years old and live 11 miles north-east of Arkansas City on the Walnut river. I have lived there since November, 1882. My farm lies on both sides of the Walnut river. Since I have lived there I have been well acquainted with the flow of the Walnut river, and during all these years there has been no decrease in the flow of that river. It is a local stream and is supplied by rains and springs. It rises in Butler County, I believe, and during the fall of 1904 was very high. There is now perhaps double the amount of cultivated land along the Walnut river that there was in 1882, because and that was then in pasture has been broken out for crops.

FRANK J. HESS, ARKANSAS CITY, KANSAS.
Arkansas City, Aug. 23, 1904. Pages 1023 to 1031 & 1074 to 1090.

I am 46 years old and have lived in Arkansas City since the spring of 1877, and am now in the real estate business. I am well acquainted with the city and all of its institutions here. The canal through this city was constructed in 1881. V. M. Ayers and James Hill each built a flour mill on the canal right after it was finished. The canal was constructed for the purpose of furnishing water power, and these flour mills took water from this canal. The canal is about 4 1/2 miles long and empties into the Walnut river, and the water then flow into the Arkansas river. The Ayers mill was a frame building. William Speers built a stone flouring

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mill, and Landis, Hill & Beale built a very large stone flouring mill on the canal. A little later the Plummer Chair Company built a large three story stone chair factory on the canal. The Kirkwood Manufacturing Company built a two story building to manufacture wind mills, and run by the water power of the canal. The electric light plant built a frame and stone structure to generate electricity for use in the city, and was operated by water power from the canal. H. T. Roberts built a frame planing mill which was operated by water power from this canal. There were also several large elevators built in conjunction with the flour mills for elevating grain. One of these elevators had a capacity of 150,000 bushels. All these plants were operated by water power from the canal.

I have been acquainted with the flow of the Arkansas river since 1877. Excluding the year 1904 there has been a great deal less water in the river during the last ten years than there was during the dry season of the year for the first ten years I came here. The Arkansas river is an insignificant stream. In the early days here we did everything we could to have Congress appropriate money to clean out the river, so that we could have navigation at Arkansas City.

We built the "Kansas Millers" to haul lumber up from the state of Arkansas and to haul our flour down the river. There was money appropriatedand expended in dredging the Arkansas river and removing snags from it. Mr. Wood was one of the officers. He had charge of that work, representing the United States Government.

When the "Aunt Sally" came up the river I think she was loaded with some lumber, and was to be loaded with flour to go down the river again. We had no trouble in taking a load of flour down the river.

The chair factory is not running now, the company broke up. The planing mill has been removed up into the town. The wind mill factory is still running. I think the flow of the Arkansas river is about one-third what it used to be.

The mills that were located on the canal and used water power at first have now put in auxiliary steam power on account of the insufficiency of water in the canal. During the last few years the canal has taken all the water out of the river at its head-gate, with

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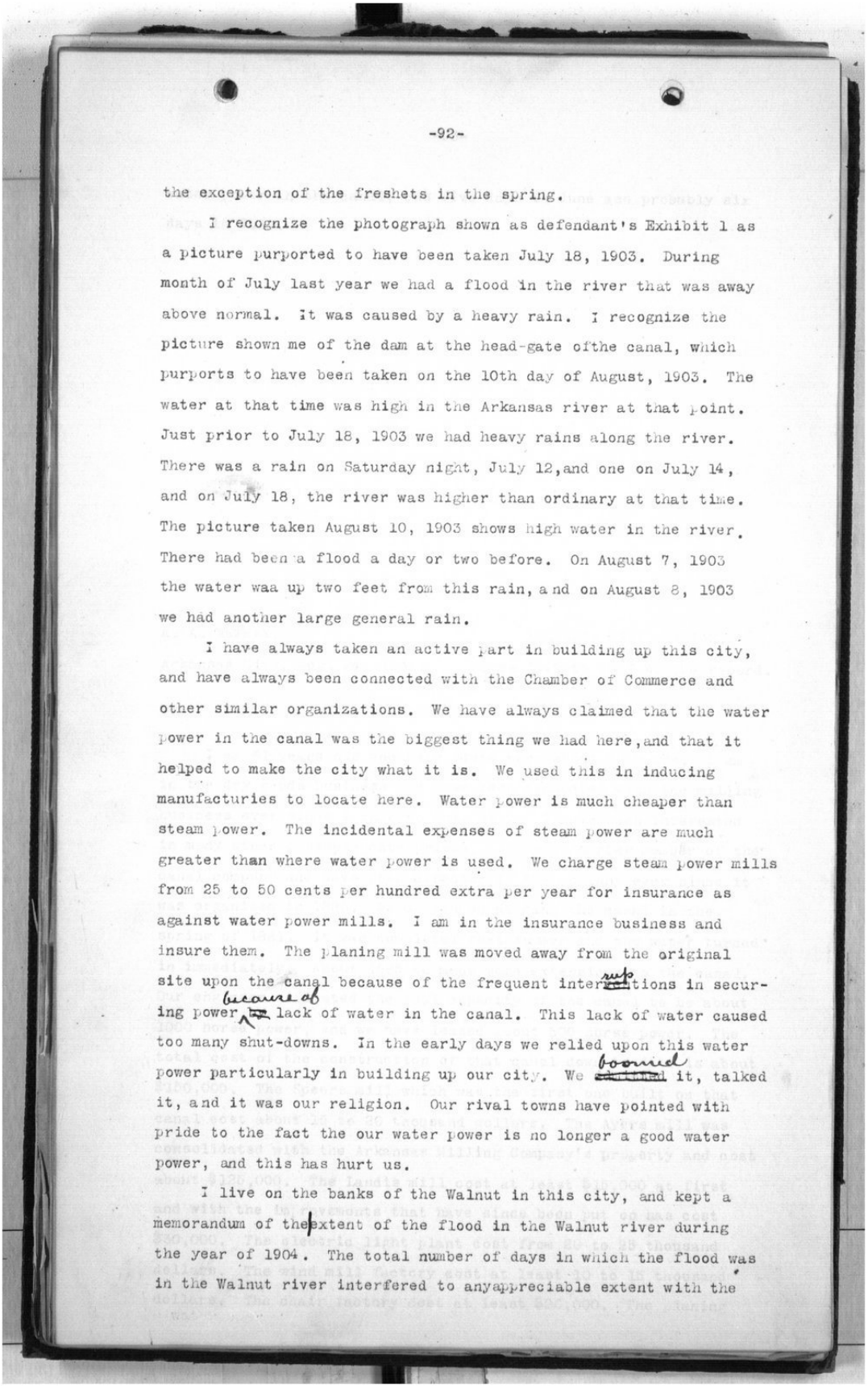

the exception of the freshets in the spring.

I recognize the photograph shown as defendant's Exhibit 1 as a picture purported to have been taken July 18, 1903. During month of July last year we had a flood in the river that was away above normal. It was caused by a heavy rain. I recognize the picture shown me of the dam at the head-gate ofthe canal, which purports to have been taken on the 10th day of August, 1903. The water at that time was high in the Arkansas river at that point. Just prior to July 18, 1903 we had heavy rains along the river. There was a rain on Saturday night, July 12,and one on July 14, and on July 18, the river was higher than ordinary at that time. The picture taken August 10, 1903 shows high water in the river. There had been a flood a day or two before. On August 7, 1903 the water waa up two feet from this rain, and on August 8, 1903 we had another large general rain.

I have always taken an active part in building up this city, and have always been connected with the Chamber of Commerce and other similar organizations. We have always claimed that the water power in the canal was the biggest thing we had here,and that it helped to make the city what it is. We used this in inducing manufacturies to locate here. Water power is much cheaper than steam power. The incidental expenses of steam power are much greater than where water power is used. We charge steam power mills from 25 to 50 cents per hundred extra per year for insurance as against water power mills. I am in the insurance business and insure them. The planing mill was moved away from the original site upon the canal because of the frequent interruptions in securing power because of lack of water in the canal. This lack of water caused too many shut-downs. In the early days we relied upon this water power particularly in building up our city. We boomed it, talked it, and it was our religion. Our rival towns have pointed with pride to the fact the our water power is no longer a good water power, and this has hurt us.

I live on the banks of the Walnut in this city, and kept a memorandum of the extent of the flood in the Walnut river during the year of 1904. The total number of days in which the flood was in the Walnut river interfered to anyappreciable extent with the

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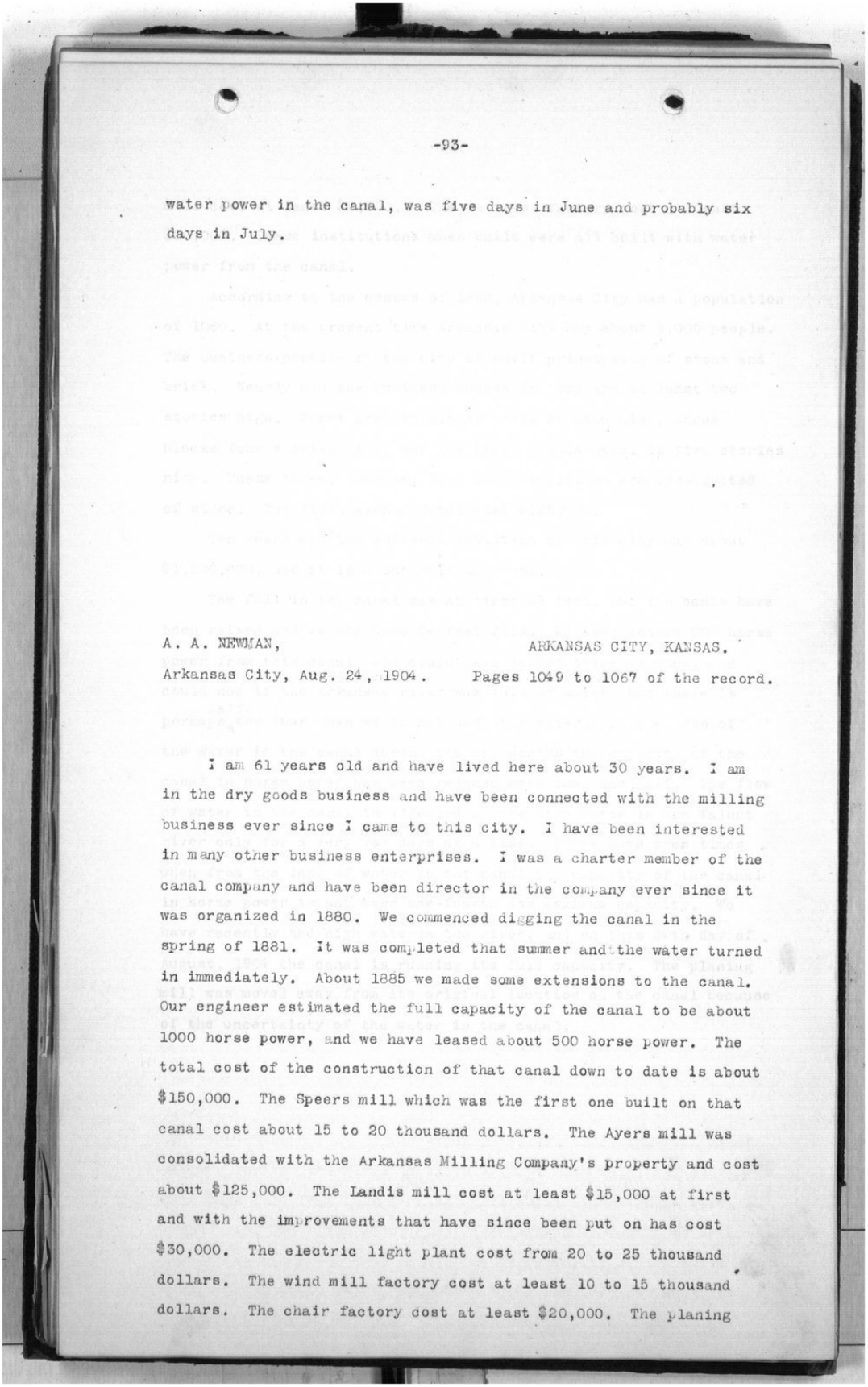

water power in the canal, was five days in June and probably six days in July.

A. A. NEWMAN, ARKANSAS CITY, KANSAS.

Arkansas City, Aug. 24, 1904. Pages 1049 to 1067 of the record.

I am 61 years old and have lived here about 30 years. I am in the dry goods business and have been connected with the milling business ever since I came to this city. I have been interested in many other business enterprises. I was a charter member of the canal company and have been director in the company ever since it was organized in 1880. We commenced digging the canal in the spring of 1881. It was completed that summer and the water turned in immediately. About 1885 we made some extensions to the canal. Our engineer estimated the full capacity of the canal to be about 1000 horse power, and we have leased about 500 horse power. The total cost of the construction of that canal down to date is about $150,000. The Speers mill which was the first one built on that canal cost about 15 to 20 thousand dollars. The Ayers mill was consolidated with the Arkansas Milling Company's property and cost about $125,000. The Landis mill cost at least $15,000 at first and with the improvements that have since been put on has cost $30,000. The electric light plant cost from 20 to 25 thousand dollars. The wind mill factory cost at least 10 to 15 thousand dollars. The chair factory cost at least $20,000. The planing

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mill cost at least $2,500. The mattress factory cost at least $20,000. These institutions when built were all built with water power from the canal.

According to the census of 1880, Arkansas City had a population of 1060. At the present time Arkansas City has about 8,000 people. The business portion of the city is built principally of stone and brick. Nearly all the business houses in town are at least two stories high. There are ten blocks three stories high; three blocks four stories high; and the Fifth Avenue Hotel is five stories high. These three, four, and five story buildings are constructed of stone. The Fifth Avenue Hotel cost $125,000.

Ten years ago the assessed valuation of this city was about $1,500,000, and it is about half that now.

The fall in the canal was at first 22 feet, but its banks have been raised and we now have 24 feet fall. We have leased 500 horse power from this canal, and could have leased twice as much, and could now if the Arkansas river was full of water, but there is perhaps half the year when we do not have the water. By the loss of the water in the canal during the dry months the capacity of the canal in horse power has been reduced more than one-half. The flow of water in the canal is affected by the high water in the Walnut river only for a very few days at a time. There have been times when from the loss of water in the canal the capacity of the canal in horse power is not over one-fourth its maximum capacity. We have recently had high water in the river, and on this 24th day of August, 1904 the canal is running its full capacity. The planing mill was moved away from its original location on the canal because of the uncertainty of the water in the canal.

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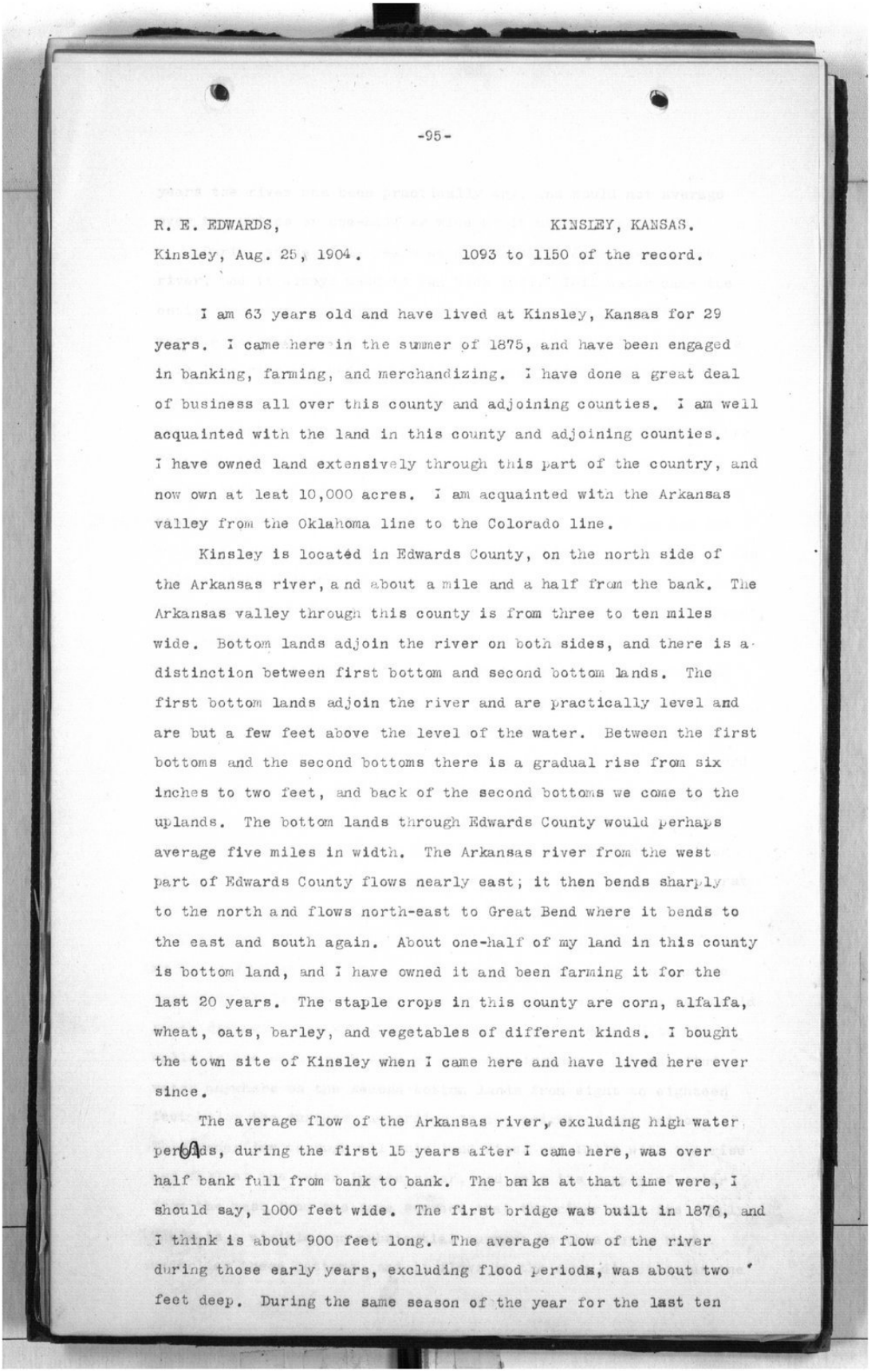

R. E. EDWARDS, KINSLEY, KANSAS.

Kinsley, Aug. 25, 1904. 1093 to 1150 of the record.

I am 63 years old and have lived at Kinsley, Kansas for 29 years. I came here in the summer of 1875, and have been engaged in banking, farming, and merchandizing. I have done a great deal of business all over this county and adjoining counties. I am well acquainted with the land in this county and adjoining counties. I have owned land extensively through this part of the country, and now own at leat 10,000 acres. I am acquainted with the Arkansas valley from the Oklahoma line to the Colorado line.

Kinsley is located in Edwards County, on the north side of the Arkansas river, and about a mile and a half from the bank. The Arkansas valley through this county is from three to ten miles wide. Bottom lands adjoin the river on both sides, and there is a distinction between first bottom and second bottom lands. The first bottom lands adjoin the river and are practically level and are but a few feet above the level of the water. Between the first bottoms and the second bottoms there is a gradual rise from six inches to two feet, and back of the second bottoms we come to the uplands. The bottom lands through Edwards County would perhaps average five miles in width. The Arkansas river from the west part of Edwards County flows nearly east; it then bends sharply to the north and flows north-east to Great Bend where it bends to the east and south again. About one-half of my land in this county is bottom land, and I have owned it and been farming it for the last 20 years. The staple crops in this county are corn, alfalfa, wheat, oats, barley, and vegetables of different kinds. I bought the town site of Kinsley when I came here and have lived here ever since.

The average flow of the Arkansas river, excluding high water periods, during the first 15 years after I came here, was over half bank full from bank to bank. The banks at that time were, I should say, 1000 feet wide. The first bridge was built in 1876, and I think is about 900 feet long. The average flow of the river during those early years, excluding flood periods, was about two feet deep. During the same season of the year for the last ten

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years the river has been practically dry, and would not average over two-thirds or one-half as wide as it used to be.

During those early years we always had a June rise of the river, and it always used to run bank full. This water came the entire length of the river, and we generally considered that it was the melting snow in the mountains. During the last few years this June rise has been comparitively very light, and runs but a short time when we have it. The river banks all along the river have narrowed. On a farm that I own adjoining this town there are from 100 to 200 acres of timber now growing in what was the bed of the river when I came here. The trees are from a half inch to nearly a foot in diameter. The approaches to the bridge are now actually running through timber, and the abutment at the end of the bridge is on soil that has been filled in at least three feet deep. This filling in of the river has been caused by the lack of current, and the debris in the river naturally drifting to the banks and adhereing. This decrease in the flow of the river occurred from ten to fifteen years ago, and since that time there has not been very much change in the quantity of the water. I had a ranch for a number of years, and have been dealing in cattle,and have a herd now of between two and three thousand. I began farming about 20 years ago, and gave attention first largely to alfalfa. I have also raised on the average a hundred acres of corn each year for the last 20 years,and have 400 acres in corn this year. Our first bottom lands are on an average about three feet above the surface of the river as it used to flow. On the most of our bottom lands we could find water anywhere at a depth of four feet, and I have seen many wells dug not more than 2 1/2 feet deep where a man could reach down with his arm and dip the water out. We used to dig wells in the early days when we were cutting hay. You can find water anywhere on the second bottom lands from eight to eighteen feet below the surface, according to the height of the bottom. This underflow through all this land rises and falls with the rise and fall of the water in the river, and gets its supply of water from the west from the same sources that the river gets its supply. There is a visible and substantial current to this water that underlies these bottoms, and it flows in the same direction as the

river. I think that is undoubtedly true. During the early years our crops on the bottoms got their supply of moisture from this underflow. We had comparatively little rain then. I always raised good alfalfa crops after I began putting it out, and always felt that it was supplied with moisture from the river. For the last 15 years I have had on an average 1000 acres in alfalfa each year. There are no marshy lands in Edwards County. The best alfalfa lands are the lands that lie from a half mile to a mile and a half from the river, according to the condition of the bottom. Where the soil is too sandy I have not had as good success with alfalfa as where it is a little further back from the river and has more alluvial deposit in the soil. Where the soil is good I think the best alfalfa land is where the underflow is from 15 inches to two feet below the surface of the ground. If the underflow rises too near to the surface of the soil it will kill the alfalfa when the sun shines. The water should not be nearer than about two feet from the surface in the average soil. Where the soil is good, land with the underflow on an average of six feet from the surface would not be as good alfala land as where the underflow was nearer the surface. Alfalfa derives its benefits from the thousands of little tendrils that are within two feet of the surface, and as the water is below them and the soil drying and heating above, the water could not have the influence on it that it would if it were nearer the surface. The flow of the river has materially decreased, and is considerably lower; there is no question about that. The lowering of this underflow has diminished the production of alfalfa upon these bottom lands very largely, and has had a deleterious effect upon all crops, but not as great an effect as upon alfalfa. If the underflow should be decreased and should go lower it would have a still worse effect upon the production of these crops.

We have always had better crops along the river when it was running nearly bank full than when there was comparatively little water. The moisture from the river permeated the entire surface of the ground. It is a porous soil and the water permeates or saturates all through it. I know that to be a fact. The soil is damper when the river is full than when it is not. Since the water has been falling in the river my alfalfa crops have been slowly

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growing less and less every year from the lack of moisture in the soil and the absence of water in the river. This condition exists as to the alfalfa crop throughout the entire length and width of the valley. I think there is an increased rain fall throughout this part of the country during the last few years, and especially on the uplands; and if we had the same sources of supply in addition to the rain fall the river bottoms would still hold their supremacy as to productiveness. I think the growth of timber along the river bottoms has had some effect in producing the increased rain fall.

There was quite a loss in population along about the year 1885 to 1888. I sold ~~the~~ a piece of property for a goodly sum of money, and put $25,000 in land, and then got the bulk of the land that I now own. I got but very little of my land by foreclosure or tax sale or buying tax titles.

I have been in Colorado at different times, and I believe visited that state first in 1878. I saw more or less of the irrigating ditches and heard considerable about them. I never attended any irrigation congress or any irrigation meeting.

About 1879 we dug an irrigating ditch about four miles up the river, and it ran down to this town. No crops were ever irrigated from it, for there was a rise in the river and the current came down through the ditch and came very near washing the town out, and we closed the ditch up as quicklyas possible.

The water level under the first bottom lands was about two feet below the surface, and that existed until about 1890, and we then had better crops than we would otherwise have had. During the years before 1890 there was hardly a season when there was no water in the river for any long continued period, and we were practically sure of good crops on the first bottom lands down to about that time. We can find water now anywhere on these bottom lands within 10 or 15 feet of the surface, and it cannot be found within 2 1/2 to 5 feet unless within a few rods of the river. In any water hole dug on the bottom lands within a few miles of the river the water will rise to the level of the river. I have often noticed that our crops looked greener immediately after the June rise than before. I do not know how fast the underflow travels

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through the soil or how long it would take for a rise of the water in the river to show in a hole dug a half mile from the river, but I do know that after a rise of water in the river that the water did rise in the holes dug that distance away. Our crops would show a brighter green for a mile and a half back from the river within 24 hours after the water had risen in the river. I have frequently observed this, and my alfalfa would show it perceptibly. If you were to dig a hole even with the surface of the river and then the river should rise, the water would rise in that hole--that is absolutely true. When the water in the river is high you will strike that water a good deal quicker than when it is low. We have to go deeper to get water now as a general thing than we used to. I do not know that the underflow comes from the river alone, but think it comes from the sources of supply and permeates the whole valley. When the water is all taken out of the river it diminishes the supply of water in the soil all over the country. I have observed that the underflow has a fixed current in one direction. I have dug numerous holes on the river bottom and the water seemed to come in from the upper side and flow across from the west.

Coon Creek used to be a constantly flowing stream, now it runs only a part of the time. It heads up in the direction of Dodge City, and flows practically parallel with the Arkansas river, and between this town and the banks of the river. It now runs comparitively little of the time and there is no water in it a mile west of town.

I think there has been a considerable increase in the number of acres of land cultivated in this county within the last 15 years. The bottom lands along the river are largely used for hay, that being more valuable than anything else. Perhaps in the county there is twice as much land under cultivation as there was 20 years ago. I do not think that the surface water derived from rains would have any permanent or perceptible effect upon the natural flow of the river, and only have an effect perhaps in the case of floods. I think practically all the water in the Arkansas river comes from Colorado and has its sources of supply in the mountains. The underflow is now on an average about two feet lower than it was on these first bottom lands during the first

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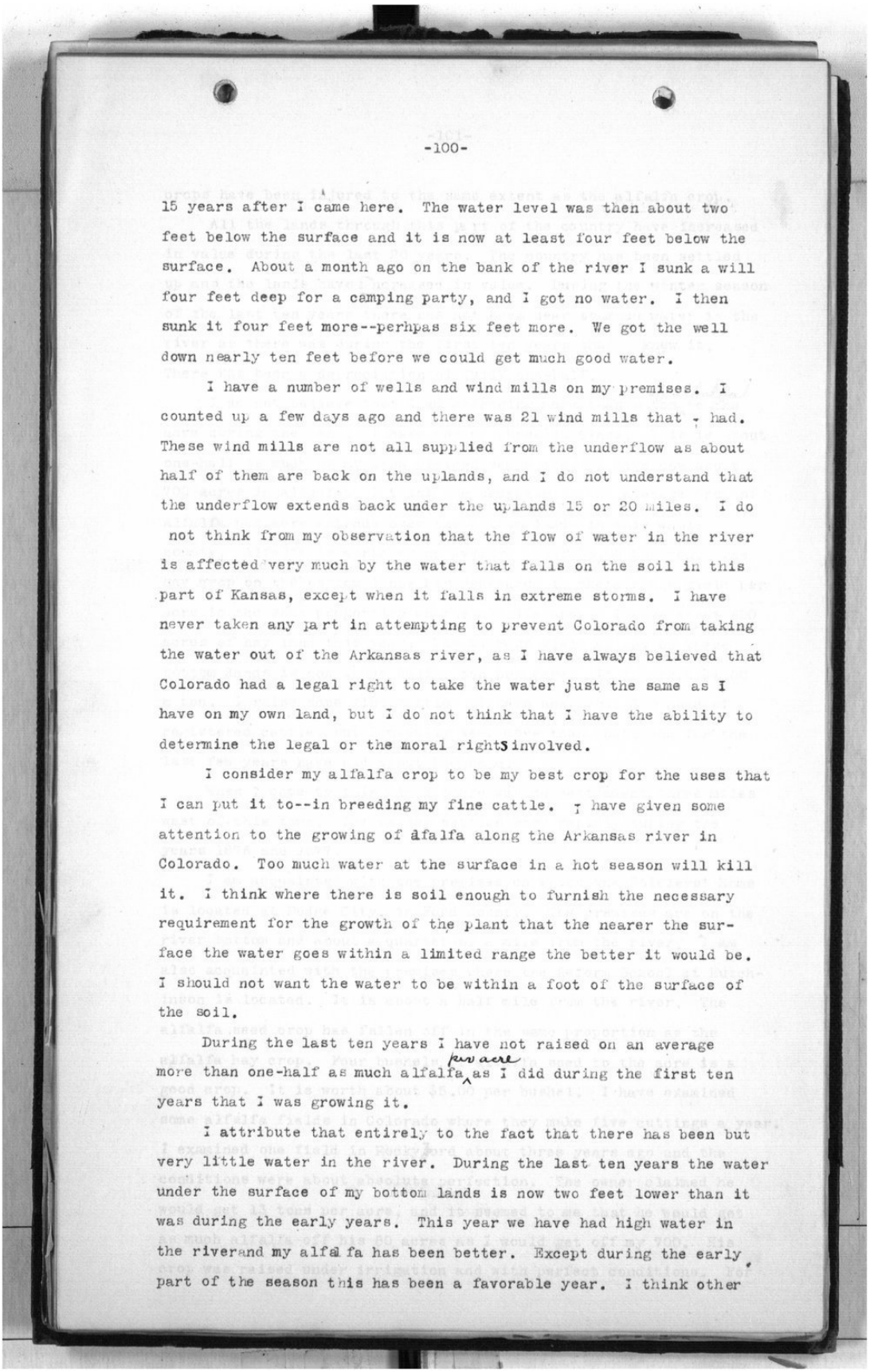

15 years after I came here. The water level was then about two feet below the surface and it is now at least four feet below the surface. About a month ago on the bank of the river I sunk a will four feet deep for a camping party, and I got no water. I then sunk it four feet more--perhpas six feet more. We got the well down nearly ten feet before we could get much good water.

I have a number of wells and wind mills on my premises. I counted up a few days ago and there was 21 wind mills that I had. These wind mills are not all supplied from the underflow as about half of them are back on the uplands, and I do not understand that the underflow extends back under the uplands 15 or 20 miles. I do not think from my observation that the flow of water in the river is affected very much by the water that falls on the soil in this part of Kansas, except when it falls in extreme storms. I have never taken any part in attempting to prevent Colorado from taking the water out of the Arkansas river, as I have always believed that Colorado had a legal right to take the water just the same as I have on my own land, but I do not think that I have the ability to determine the legal or the moral rights involved.

I consider my alfalfa crop to be my best crop for the uses that I can put it to--in breeding my fine cattle. I have given some attention to the growing of alfalfa along the Arkansas river in Colorado. Too much water at the surface in a hot season will kill it. I think where there is soil enough to furnish the necessary requirement for the growth of the plant that the nearer the surface the water goes within a limited range the better it would be. I should not want the water to be within a foot of the surface of the soil.

During the last ten years I have not raised on an average more than one-half as much alfalfa per acre as I did during the first ten years that I was growing it.

I attribute that entirely to the fact that there has been but very little water in the river. During the last ten years the water under the surface of my bottom lands is now two feet lower than it was during the early years. This year we have had high water in the river and my alfalfa has been better. Except during the early part of the season this has been a favorable year. I think other

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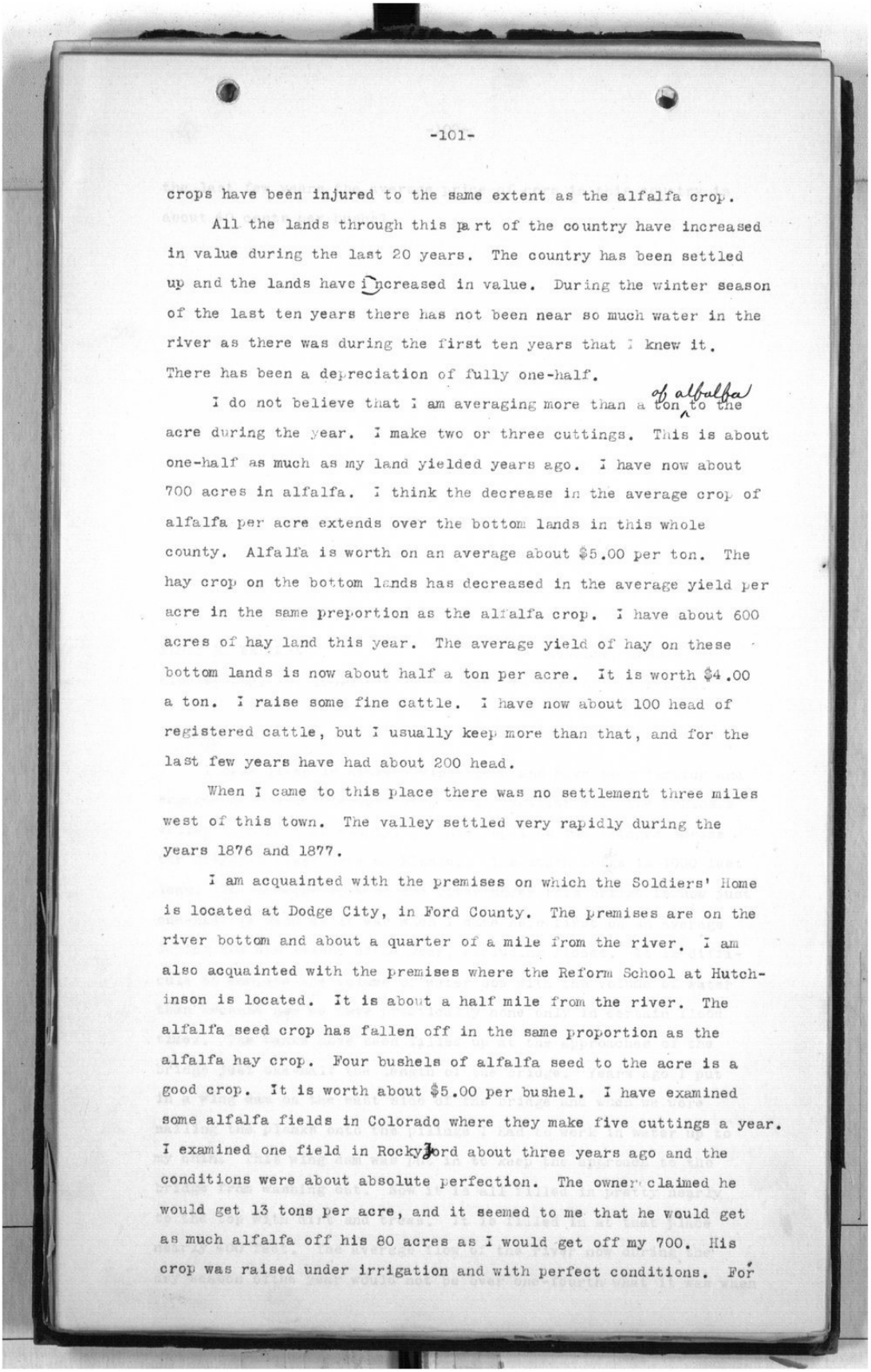

crops have been injured to the same extent as the alfalfa crop.

All the lands through this part of the country have increased in value during the last 20 years. The country has been settled up and the lands have increased in value. During the winter season of the last ten years there has not been near so much water in the river as there was during the first ten years that I knew it. There has been a depreciation of fully one-half.

I do not believe that I am averaging more than a ton of alfalfa to the acre during the year. I make two or three cuttings. This is about one-half as much as my land yielded years ago. I have now about 700 acres in alfalfa. I think the decrease in the average crop of alfalfa per acre extends over the bottom lands in this whole county. Alfalfa is worth on an average about $5.00 per ton. The hay crop on the bottom lands has decreased in the average yield per acre in the same preportion as the alfalfa crop. I have about 600 acres of hay land this year. The average yield of hay on these bottom lands is now about half a ton per acre. It is worth $4.00 a ton. I raise some fine cattle. I have now about 100 head of registered cattle, but I usually keep more than that, and for the last few years have had about 200 head.

When I came to this place there was no settlement three miles west of this town. The valley settled very rapidly during the years 1876 and 1877.

I am acquainted with the premises on which the Soldiers' Home is located at Dodge City, in Ford County. The premises are on the river bottom and about a quarter of a mile from the river. I am also acquainted with the premises where the Reform School at Hutchinson is located. It is about a half mile from the river. The alfalfa seed crop has fallen off in the same proportion as the alfalfa hay crop. Four bushels of alfalfa seed to the acre is a good crop. It is worth about $5.00 per bushel. I have examined some alfalfa fields in Colorado where they make five cuttings a year. I examined one field in Rocky Ford about three years ago and the conditions were about absolute perfection. The owner claimed he would get 13 tons per acre, and it seemed to me that he would get as much alfalfa off his 80 acres as I would get off my 700. His crop was raised under irrigation and with perfect conditions. For

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the last few years the average price of corn in this country is about 40 cents per bushel.

FLOYD E. WELLMAN, KINSLEY, KANSAS.

Kinsley Aug. 25, 1904. 1151 to 1173 of the record.

I have lived in Kinsley since 1885 and have been farming and engaged in the cattle business. I am familiar with the Arkansas valley through this county. I have repaired the bridges across the Arkansas river here at Kinsley. The south bridge is 1000 feet long. The average flow of the river under this bridge is now just one-half as wide as it was when I came here first on an average during the dry season ofthe year, excluding floods. It is difficult to compare the volume of water now with the volume of water then because now we have practically none only in certain flood times. The banks have been filled up at the approaches of the bridge just one-half the length of the bridge. Years ago I put in a wing dam on the east side of the bridge and when we were nailing the planks onto the pilings I had to work in water up to my chin. This wing dam was put in to keep the approach to the bridge from washing out. Now it is all filled in pretty nearly to the top with dirt and trees. It is filled in at that place nearly 400 feet. The average flow of the river now during the dry season ofthe year would not be over one-fourth what it was when

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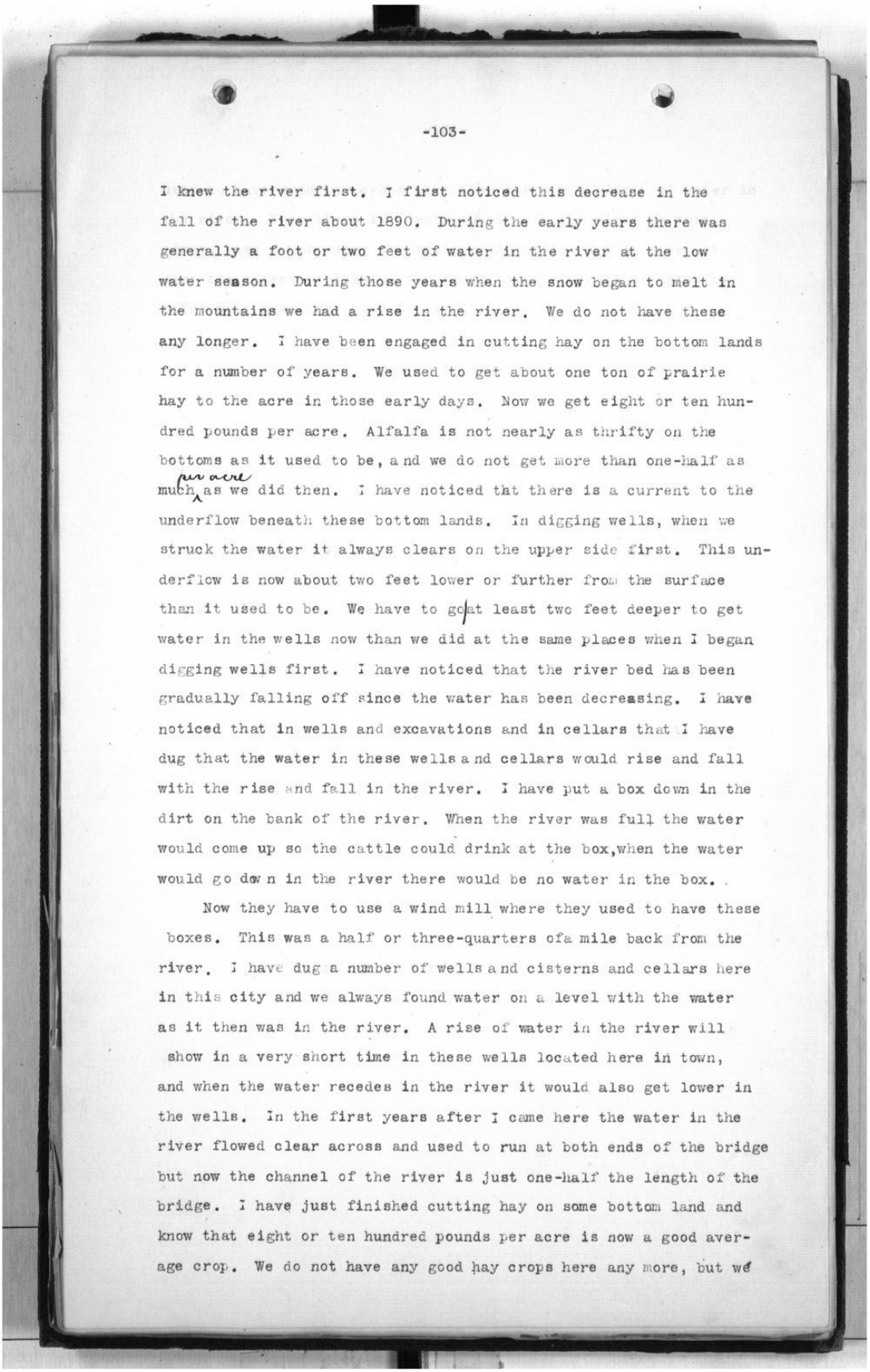

I knew the river first. I first noticed this decrease in the fall of the river about 1890. During the early years there was generally a foot or two feet of water in the river at the low water season. During those years when the snow began to melt in the mountains we had a rise in the river. We do not have these any longer. I have been engaged in cutting hay on the bottom lands for a number of years. We used to get about one ton of prairie hay to the acre in those early days. Now we get eight or ten hundred pounds per acre. Alfalfa is not nearly as thrifty on the bottoms as it used to be, and we do not get more than one-half as much per acre as we did then. I have noticed that there is a current to the underflow beneath these bottom lands. In digging wells, when we struck the water it always clears on the upper side first. This underflow is now about two feet lower or further from the surface than it used to be. We have to go at least two feet deeper to get water in the wells now than we did at the same places when I began digging wells first. I have noticed that the river bed has been gradually falling off since the water has been decreasing. I have noticed that in wells and excavations and in cellars that I have dug that the water in these wells and cellars would rise and fall with the rise and fall in the river. I have put a box down in the dirt on the bank of the river. When the river was full the water would come up so the cattle could drink at the box, when the water would go down in the river there would be no water in the box.

Now they have to use a wind mill where they used to have these boxes. This was a half or three-quarters of a mile back from the river. I have dug a number of wells and cisterns and cellars here in this city and we always found water on a level with the water as it then was in the river. A rise of water in the river will show in a very short time in these wells located here in town, and when the water recedes in the river it would also get lower in the wells. In the first years after I came here the water in the river flowed clear across and used to run at both ends of the bridge but now the channel of the river is just one-half the length of the bridge. I have just finished cutting hay on some bottom land and know that eight or ten hundred pounds per acre is now a good average crop. We do not have any good hay crops here any more, but we

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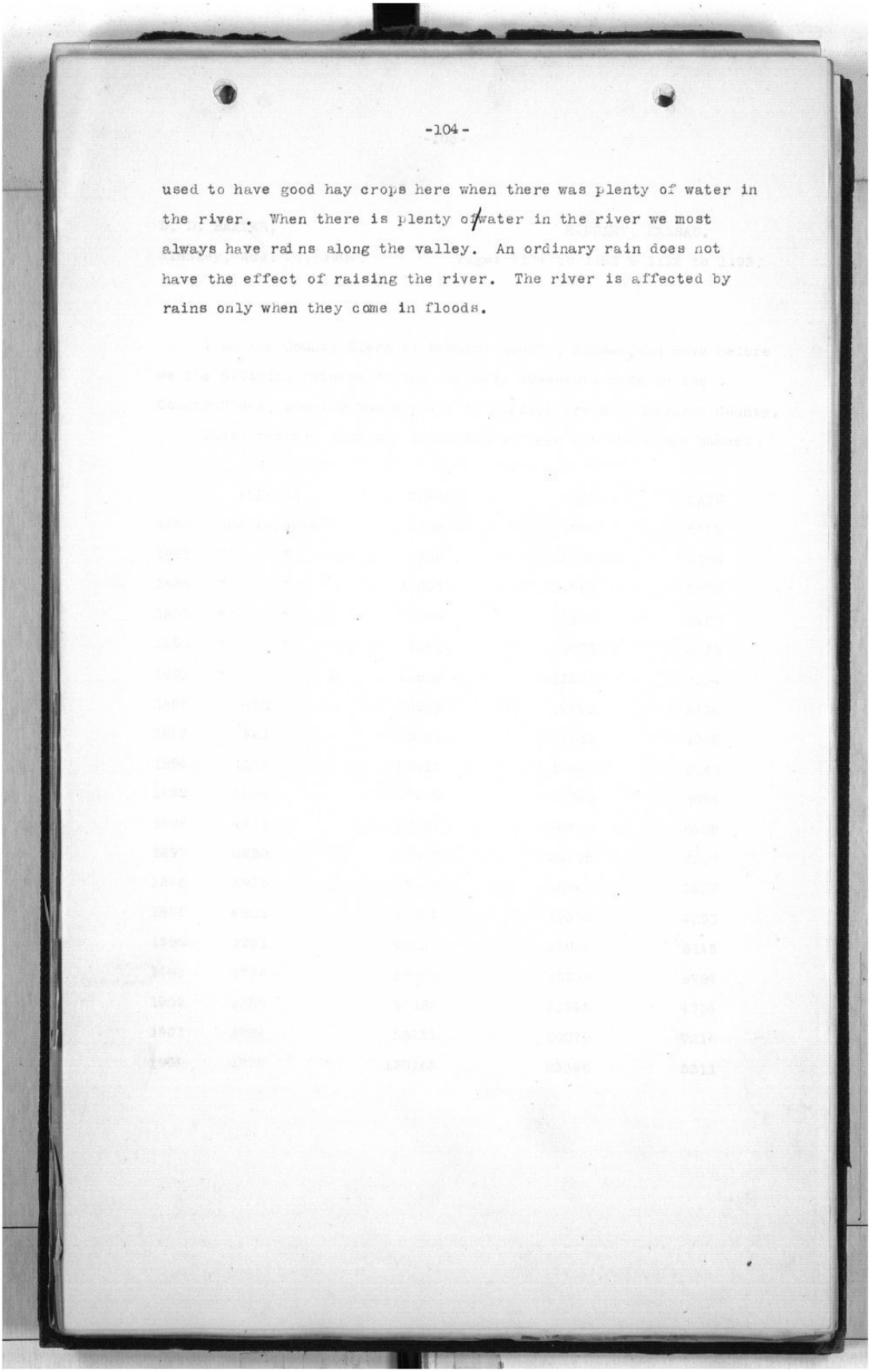

used to have good hay crops here when there was plenty of water in the river. When there is plenty of water in the river we most always have rains along the valley. An ordinary rain does not have the effect of raising the river. The river is affected by rains only when they come in floods.

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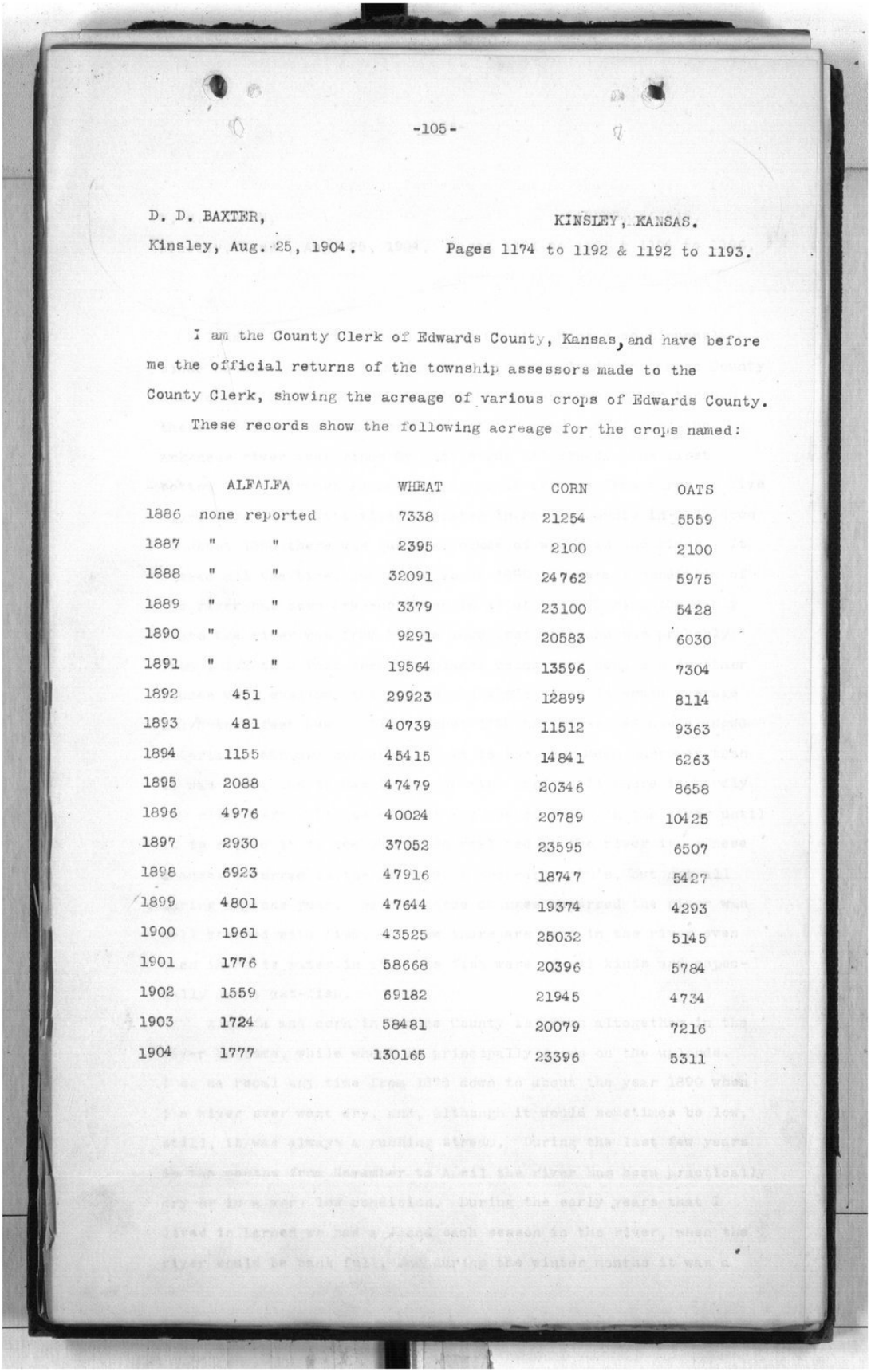


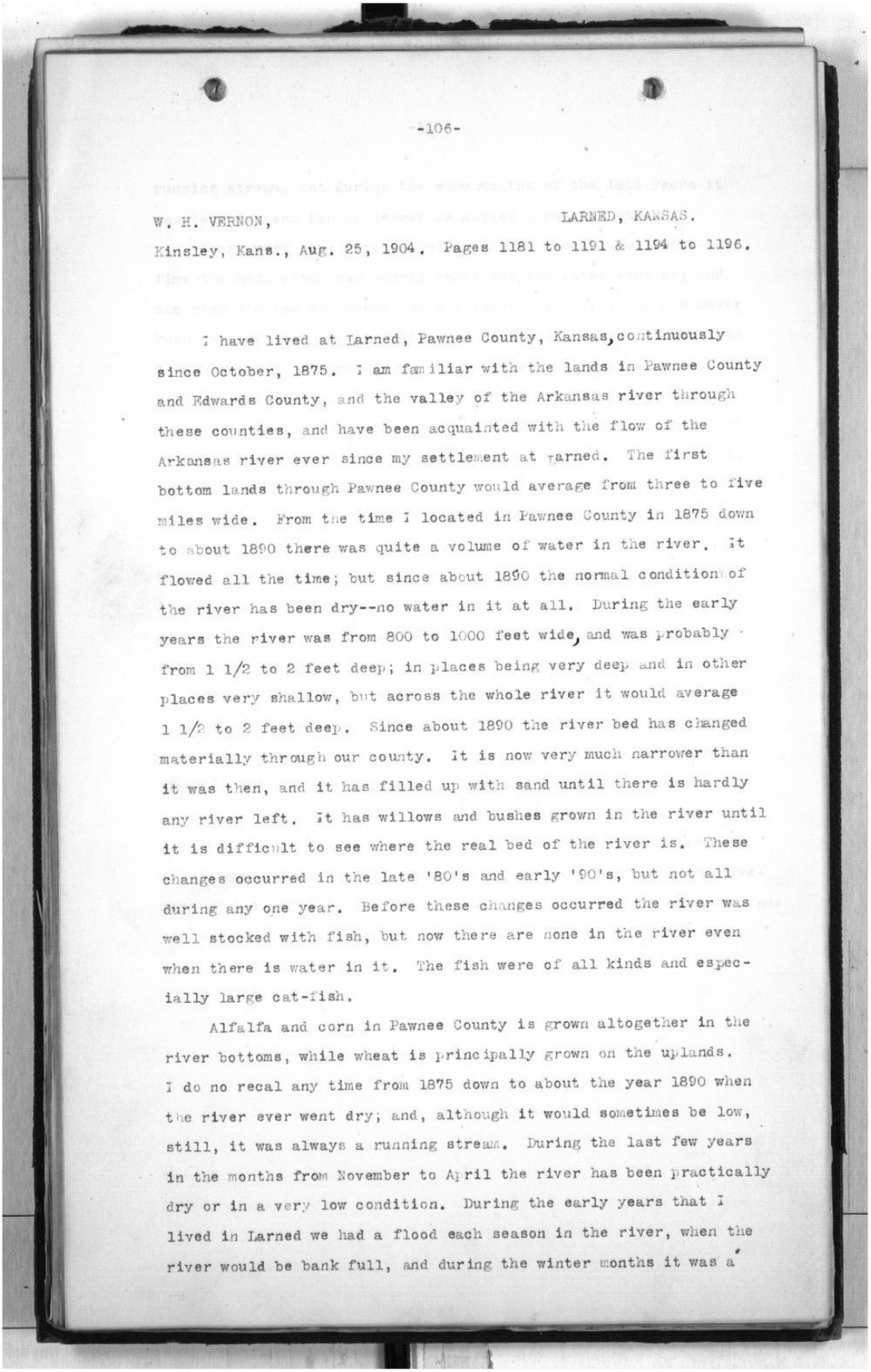
D. D. BAXTER, KINSLEY, KANSAS.

Kinsley, Aug. 25, 1904. Pages 1174 to 1192 & 1192 to 1193.

I am the County Clerk of Edwards County, Kansas, and have before me the official returns of the township assessors made to the County Clerk, showing the acreage of various crops of Edwards County. These records show the following acreage for the crops named:

	ALFALFA	WHEAT	CORN	OATS
1886	none reported	7338	21254	5559
1887	" "	2395	2100	2100
1888	" "	32091	24762	5975
1889	" "	3379	23100	5428
1890	" "	9291	20583	6030
1891	" "	19564	13596	7304
1892	451	29923	12899	8114
1893	481	40739	11512	9363
1894	1155	45415	14841	6263
1895	2088	47479	20346	8658
1896	4976	40024	20789	10425
1897	2930	37052	23595	6507
1898	6923	47916	18747	5427
1899	4801	47644	19374	4293
1900	1961	43525	25032	5145
1901	1776	58668	20396	5784
1902	1559	69182	21945	4734
1903	1724	58481	20079	7216
1904	1777	130165	23396	5311

State of Kansas v. State of Colorado : abstract of complainant's testimony



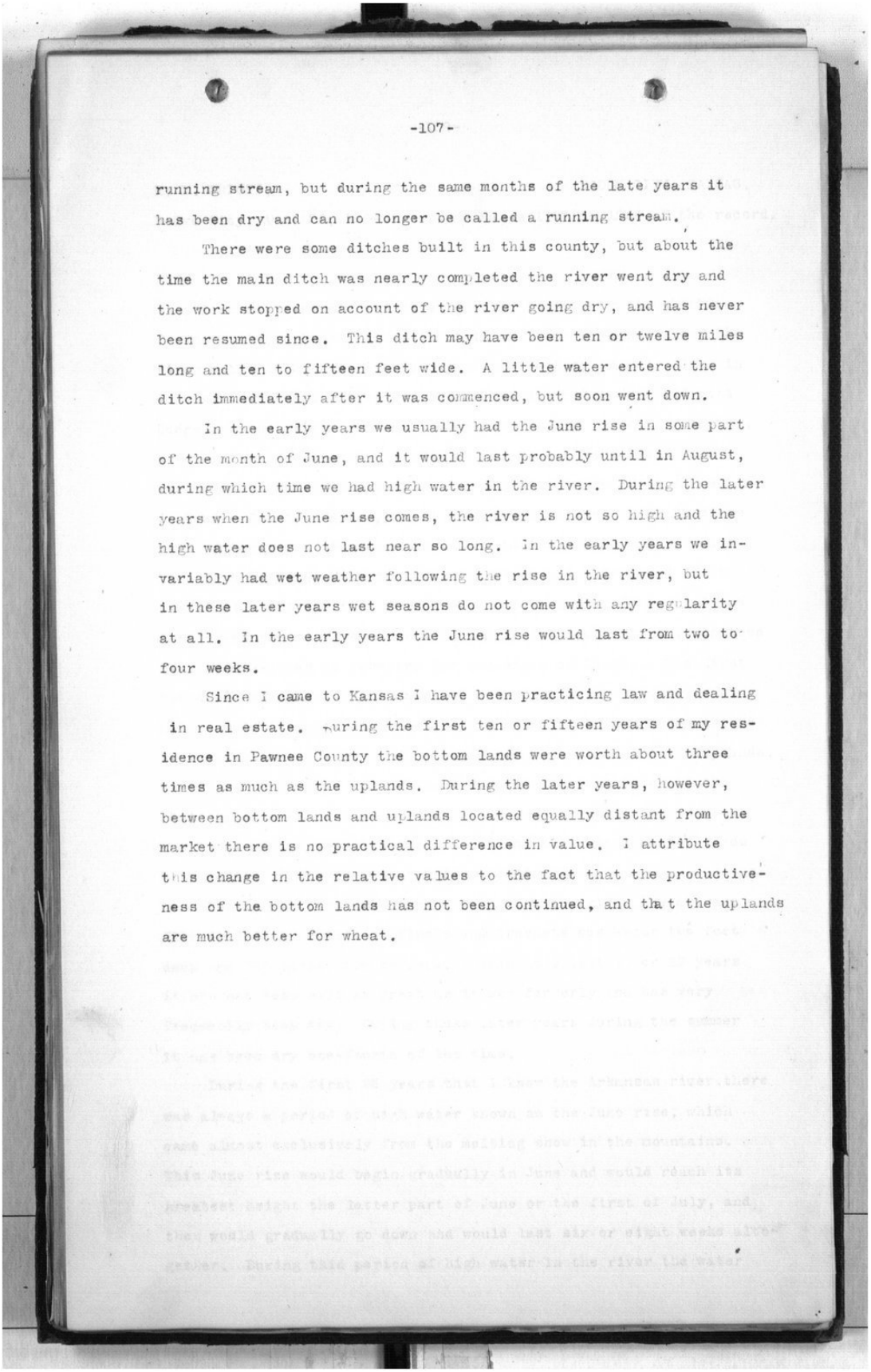
W. H. VERNON, LARNED, KANSAS.

Kinsley, Kans., Aug. 25, 1904. Pages 1181 to 1191 & 1194 to 1196.

I have lived at Larned, Pawnee County, Kansas, continuously since October, 1875. I am familiar with the lands in Pawnee County and Edwards County, and the valley of the Arkansas river through these counties, and have been acquainted with the flow of the Arkansas river ever since my settlement at Larned. The first bottom lands through Pawnee County would average from three to five miles wide. From the time I located in Pawnee County in 1875 down to about 1890 there was quite a volume of water in the river. It flowed all the time; but since about 1890 the normal condition of the river has been dry--no water in it at all. During the early years the river was from 800 to 1000 feet wide, and was probably from 1 1/2 to 2 feet deep; in places being very deep and in other places very shallow, but across the whole river it would average 1 1/2 to 2 feet deep. Since about 1890 the river bed has changed materially through our county. It is now very much narrower than it was then, and it has filled up with sand until there is hardly any river left. It has willows and bushes grown in the river until it is difficult to see where the real bed of the river is. These changes occurred in the late '80's and early '90's, but not all during any one year. Before these changes occurred the river was well stocked with fish, but now there are none in the river even when there is water in it. The fish were of all kinds and especially large cat-fish.

Alfalfa and corn in Pawnee County is grown altogether in the river bottoms, while wheat is principally grown on the uplands. I do no recal any time from 1875 down to about the year 1890 when the river ever went dry; and, although it would sometimes be low, still, it was always a running stream. During the last few years in the months from November to April the river has been practically dry or in a very low condition. During the early years that I lived in Larned we had a flood each season in the river, when the river would be bank full, and during the winter months it was a

State of Kansas v. State of Colorado : abstract of complainant's testimony



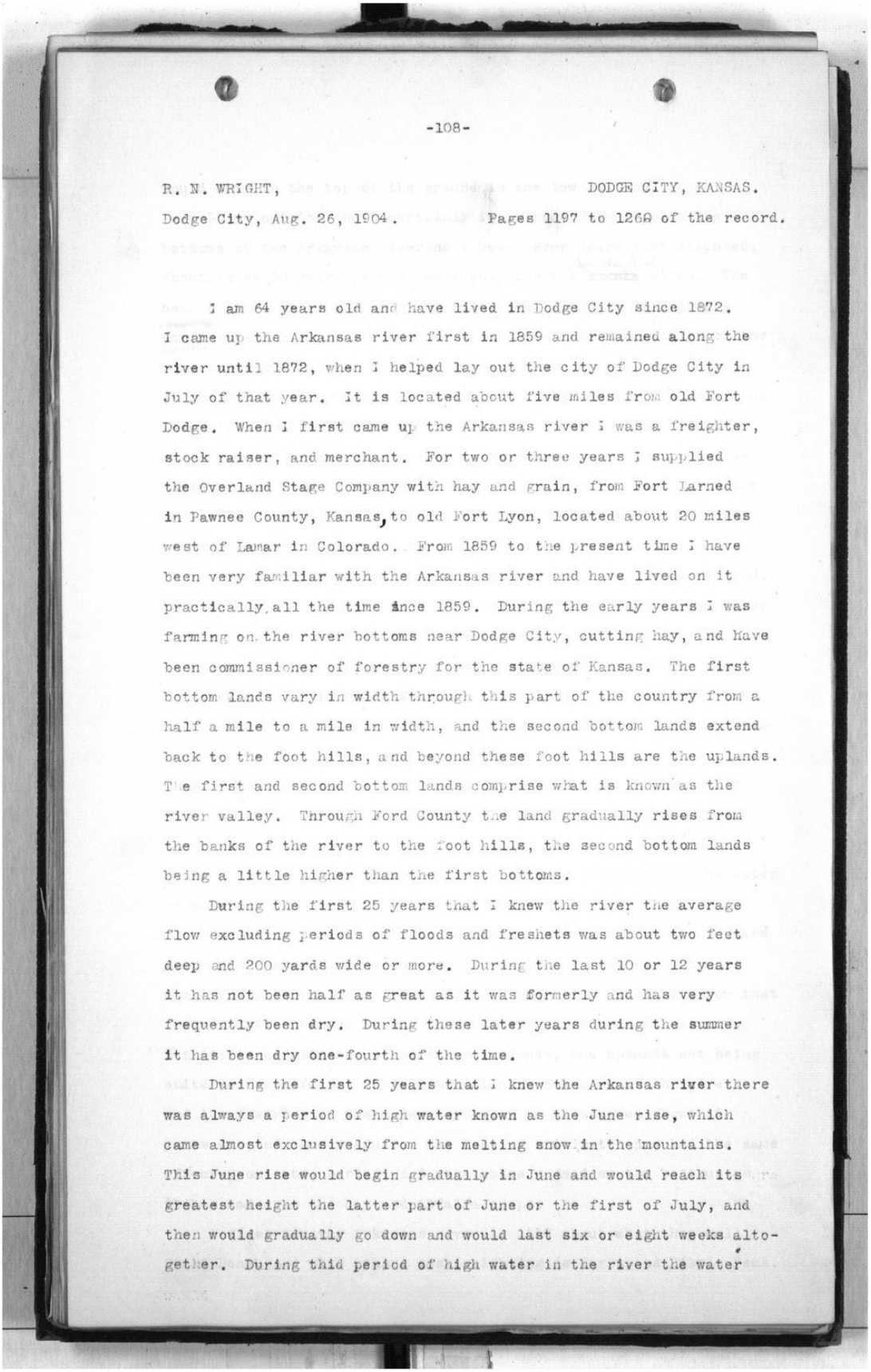
running stream, but during the same months of the late years it has been dry and can no longer be called a running stream.

There were some ditches built in this county, but about the time the main ditch was nearly completed the river went dry and the work stopped on account of the river going dry, and has never been resumed since. This ditch may have been ten or twelve miles long and ten to fifteen feet wide. A little water entered the ditch immediately after it was commenced, but soon went down.

In the early years we usually had the June rise in some part of the month of June, and it would last probably until in August, during which time we had high water in the river. During the later years when the June rise comes, the river is not so high and the high water does not last near so long. In the early years we invariably had wet weather following the rise in the river, but in these later years wet seasons do not come with any regularity at all. In the early years the June rise would last from two to four weeks.

Since I came to Kansas I have been practicing law and dealing in real estate. During the first ten or fifteen years of my residence in Pawnee County the bottom lands were worth about three times as much as the uplands. During the later years, however, between bottom lands and uplands located equally distant from the market there is no practical difference in value. I attribute this change in the relative values to the fact that the productiveness of the bottom lands has not been continued, and that the uplands are much better for wheat.

State of Kansas v. State of Colorado : abstract of complainant's testimony



R. N. WRIGHT, DODGE CITY, KANSAS.

Dodge City, Aug. 26, 1904. Pages 1197 to 1268 of the record.

I am 64 years old and have lived in Dodge City since 1872. I came up the Arkansas river first in 1859 and remained along the river until 1872, when I helped lay out the city of Dodge City in July of that year. It is located about five miles from old Fort Dodge. When I first came up the Arkansas river I was a freighter, stock raiser, and merchant. For two or three years I supplied the Overland Stage Company with hay and grain, from Fort Larned in Pawnee County, Kansas, to old Fort Lyon, located about 20 miles west of Lamar in Colorado. From 1859 to the present time I have been very familiar with the Arkansas river and have lived on it practically all the time since 1859. During the early years I was farming on the river bottoms near Dodge City, cutting hay, and have been commissioner of forestry for the state of Kansas. The first bottom lands vary in width through this part of the country from a half a mile to a mile in width, and the second bottom lands extend back to the foot hills, and beyond these foot hills are the uplands. The first and second bottom lands comprise what is known as the river valley. Through Ford County the land gradually rises from the banks of the river to the foot hills, the second bottom lands being a little higher than the first bottoms.

During the first 25 years that I knew the river the average flow excluding periods of floods and freshets was about two feet deep and 200 yards wide or more. During the last 10 or 12 years it has not been half as great as it was formerly and has very frequently been dry. During these later years during the summer it has been dry one-fourth of the time.

During the first 25 years that I knew the Arkansas river there was always a period of high water known as the June rise, which came almost exclusively from the melting snow in the mountains. This June rise would begin gradually in June and would reach its greatest height the latter part of June or the first of July, and then would gradually go down and would last six or eight weeks altogether. During thid period of high water in the river the water

State of Kansas v. State of Colorado : abstract of complainant's testimony

would come to the top of the ground in the low bottoms.

In my opinion there certainly is an underflow beneath the bottoms of the Arkansas riverand I have never heard that disputed. About 18 or 20 year ago they were building the ~~Eureka~~ South Side ditch. The head of that ditch was about 20 miles west of Dodge City on the ~~south~~ south side of the river. Before they got within seven miles of the head of that ditch the underflow was so great that in excavating it would swamp the mules and they had to take out a waste gate about nine miles below the head of the ditch to let the water from the underflow out of the ditch before they could go on with the excavation. The water in the ditch from this underflow came up to the bellies of the mules and there was quite a flow in it, and this waste gate was put in to take that surplus water off.

This underflow extends as far back as the bottom lands extend. On the first bottoms during those early years, in digging for water in the river sometimes we would only have to dig one or two feet when the river was full, and as the river receded we would have to go deeper. This underflow rose and fell with the water in the river and undoubtedly had a current in an easterly direction, which is the direction of the flow of the river. This underflow produced a sub-irrigation for crops. During those early years the bottom lands along the river were mainly natural meadows producing hay. These bottom lands I think do not produce one-half as much hay as formerly, and this loss in the hay crop is from the lack of water or moisture underneath.

They began raising alfalfa on these bottom lands about 20 years ago and the alfalfa grew much more luxuriantly then than it does now. These bottom lands produce about one-half the alfalfa now that they didthen, because it had more moisture then than it has now. But little alfalfa is raised on the uplands, the uplands not being suitable for alfalfa. This diminution in the flow of the river and the lowering of the underflow began to be noticed about 15 years ago, and came gradual. The loss of this water has had the same effect upon oats, barley, and vegetables raised on the bottoms as it has had upon the hay and alfalfa crops.

I first saw the Arkansas river in 1859 about what they call Great Bend, and with others was freighting as far up as Pike's Peak.

State of Kansas v. State of Colorado : abstract of complainant's testimony

On that first trip I had three or four oxen and a wagon and went as far as to Denver and the mountains near there. We followed the river from Great Bend up to Pueblo and then followed the Fountain. We traveled pretty slowly, occupying at least four weeks. I made the next trip up the river with an ox team in 1862, taking my family with me. This time I went up the river as far as to Canon City. For two or three years after this I freighted vegetables from Canon City down to old Fort Lyon, and about 1864 I brought a herd of cattle out from Missouri. After that I worked for a couple of years for the overland mail company--Barlow, Sanderson & Company. I put in all the stations for the company between Fort Lyon and Larned, and supplied them with grain and hay and so was on the river a great deal of the time both winter and summer. This employment lasted until 1867. After that I lived right on the banks of the river at the Cimarron crossing, three miles west of the city of Cimarron, and 30 miles east of Garden City.

In the fall of 1859 the river got pretty low in September, but did not go entirely dry. Once in every three or four years it would almost go dry during the fall, but in those early years the June rise kept up a good deal longer than it does now from what we call the mountain rise.

There was no habitation then until we got to Fountain City, except a little trading post at the mouth of Walnut Vreek at Great Bend. When I went down the river in 1859 the river was low in places but it was not dry. I saw no cultivation of crops near the mouth of the Fountain at that time, but was told that the Mexicans had a little garden there. In 1862 and 1863 I saw the first irrigated crops in Kansas between Canon City and Pueblo on Beaver Creek. This is where I got the vegetables that I freighted to Fort Lyon for a year or two. Each man had his own ditch which was two or three or four feet wide. I used to fill the government contracts for hay at Fort Dodge, and the hay in the bottoms was more than twice as heavy as it is now. There was no stock in the country but the buffaloes. In 1863 I hauled vegetables up to California Gulch near Leadville, and there was a great deal of timber along the gulches. In 1862 there was not much farming on the Arkansas river, but they were farming on the Fountain and Beaver Creek.

State of Kansas v. State of Colorado : abstract of complainant's testimony

There was not much farming until after the Santa Fe railroad was built, about 1874.

During the last 10 years at sometime during July and August, there has been considerable water running down the river at Dodge City, but most every year the river goes dry at this point, and the June rises do not last as longas they used to. The year 1874 was the grasshopper year and was very dry, but there were not many times during those early years when the river got as low as it did in 1874.

I was a witness before the United States Senate Committee when it visited Dodge City in 1889. The irrigating ditches up about Dodge City were using water as early as 1884, and I think the Soule ditch was completed in 1887. This ditch was about 25 or 30 feet wide at the bottom, 4 or 5 feet deep, from 75 to 100 miles long, and run about a mile north of Dodge City. The ~~Eureka~~ South Side ditch was on the south side of the river near Dodge City, and was entirely an underflow ditch. They were successful in getting the water and irrigating a considerable amount of land, and it was completed for about 25 miles. The head of this ditch was above Dodge City. It was about 12 feet wide at the bottom and had about 2 feet of water in it, running within a mile and a hlaf of Dodge City on the south side of the river. They got a little too greedy and cut a canal from the head of the ditch into the Arkansas river, and the sand drifted into the ditch and spoiled it.

There are a good many wind mills in this country now pumping water out of the ground, and there are two large plants in Dodge City taking water from below-- the Santa Fe railraod and the Dodge City water works.

I testified before the United States Senate Committee on irrigation and reclamation of arid lands, and my testimony is found on page 154 of volume 3, where I testified that there had been two or three crops of emigrants in this country and that general farming was not successful.

The term "sheet water" and "underflow" may have been applied by different persons to this water beneath the soil, but it was certainly known to be an underflow after the south side ditch was constructed, where it was seen that there was a current to the

State of Kansas v. State of Colorado : abstract of complainant's testimony

water beneath the ground. But the velocity is not as great as that of the Arkansas river proper. I have not seen the report of the official of the Federal Government, Mr. Schlichter, but should think that the underflow had a greater velocity than from 10 to 12 feet in 24 hours. I have noticed that there was several little creeks and springs south-east of here and perhaps 25 miles back from the bed of the Arkansas river which seemed to flow right out of the ground. The country between the Arkansas river and the head of these streams was filled with a porous, sandy soil, and these streams are higher than the Arkansas river directly across the country. This led me to believe that these streams were an underflow from the Arkansas river. They may have been supplied from the Arkansas river near the head of these streams or from the river a long distance above. There was no other source for these streams except the river as I could see. The underflow in the valley may be supplied from the entire drainage of the Arkansas river. If a well should be dug a few hundred yards from the river, the water level in that well might be a little higher than the level of the water in the Arkansas river directly opposite the well; and this shows that the underflow comes from above in the valley and not at right angles directly from the river.

On the south side of the river there is a line of sand hills extending from Great Bend to the Colorado line, and extending back in some places many miles from the river. These sand hills may have been blown out of the bottom of the river.

In the early years there was very little timber close to the banks of the river and none on the uplands. In those days there were immense herds of buffalo, and the buffalo and the fires destroyed the timber along the river with the exception of a few trees. The timber that is found along the river now has grown up within recent years.

The Santa Fe railroad was built as far as Dodge City about the year 1872, and the bottom lands along the river were entered and settled about that time. The Santa Fe railroad from Newton to the Colorado line follows along the north bank of the Arkansas river practically in the path of the old Santa Fe trail.

The Soldiers' Home is located near Dodge City on the banks

State of Kansas v. State of Colorado : abstract of complainant's testimony

of the Arkansas river on the N. W. Quarter of Section 3-27-24, and the state of Kansas has been in possession of these premises since 1889. Prior to that time these premises were the United States Military post of Fort Dodge. These premises are nearly all in the first and second bottoms.

The ditch that was dug on the south side of the river above Dodge City got its supply of water from the underflow which seemed to be very abundant when the ditch was dug. There seemed to be a supply of water for several years, but it finally got less and less until it dwindled away entirely. This ditch went dry from lack of water in the underflow. For the first two years this ditch was dug, it run three feet of water, 12 to 14 feet wide at the bottom, with a pretty strong current parallel with, and finally emptied into, the Arkansas river. This ditch is now dried up. The Eureka ditch, known also as the Soule ditch, is entirely dry and has been dry for 10 or 12 years. These ditches went dry from lack of water from the river.

During the first 25 years of my experience along the Arkansas river I have cut hundreds of acres of hay which grew four or five or six feet high. This was good bottom hay, and that hay crop was more than twice as great as it is now. The hay has not been as good along the river for at least the last ten years.

During those early years we used to cut all the ice in the river that we needed; and about 1872 the Santa Fe railroad floated most if not all of their ties down from the mountains. Dodge City has about 3000 population at the present time.

The ditch on the south side of the river was dug down four or five feet below the bottom of the river so as to get the underflow, foe the purposes of irrigation. For at least 20 miles the water was sufficient for the purposes of irrigation. After the ditch was connected with the Arkansas river the sand drifted into the ditch, finally filled, and dried up.

I began to notice it more in the last ten years than previously because I had a great deal of hay land myself, and it has got so absolutely worthless now that I have had to plow it up and put it in something else. It does not pay to cut 1/2 or 3/4 of a ton where we used to get 2 and 3 tons.

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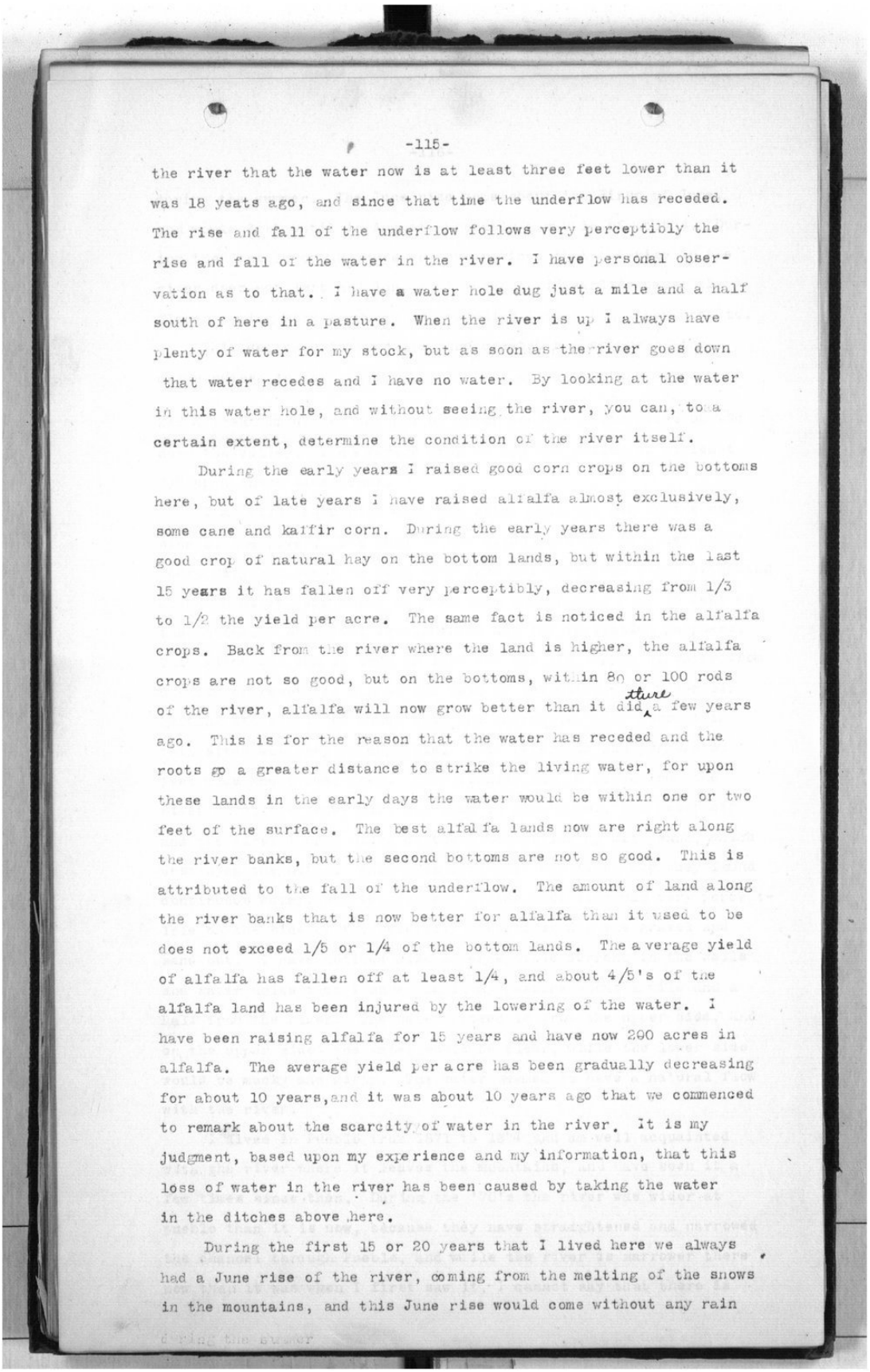
C. M. BEESON, DODGE CITY, KANSAS.

Dodge City, Kans. Aug. 26, 1904. Pages 1262 to 1313 of the record

I havelived in Dodge City, Ford County, Kansas, since November, 1875. I am 56 years old; came from Colorado here; and have been farming and raising cattle. I have been acquainted with the Arkansas river and the Arkansas valley from here to the mountains. The valley between the bluffs on each side of the river is about four miles wide. The valley narrows as you go up the river. Crops grow on the bottom lands in this state without irrigation, but you strike the sage brush country close to the state line, but beyond that the sage brush goes down almost to the river. During my residence here I have lived on the river, and during the first fifteen years that I knew it, excluding floods and freshets, the average depth of the river would be three or four feet deep. During the last ten or twelve years it has fallen off at least 1/2, and most of the year, practically speaking, the river is dry and there is not running water enough to call it a running river for more than 1/3 or 1/2 of the time during the same months of these later years. The average width of the river between the banks in Ford County was about 1500 feet, but now it is not more than 1/4 as wide as it was 25 years ago.

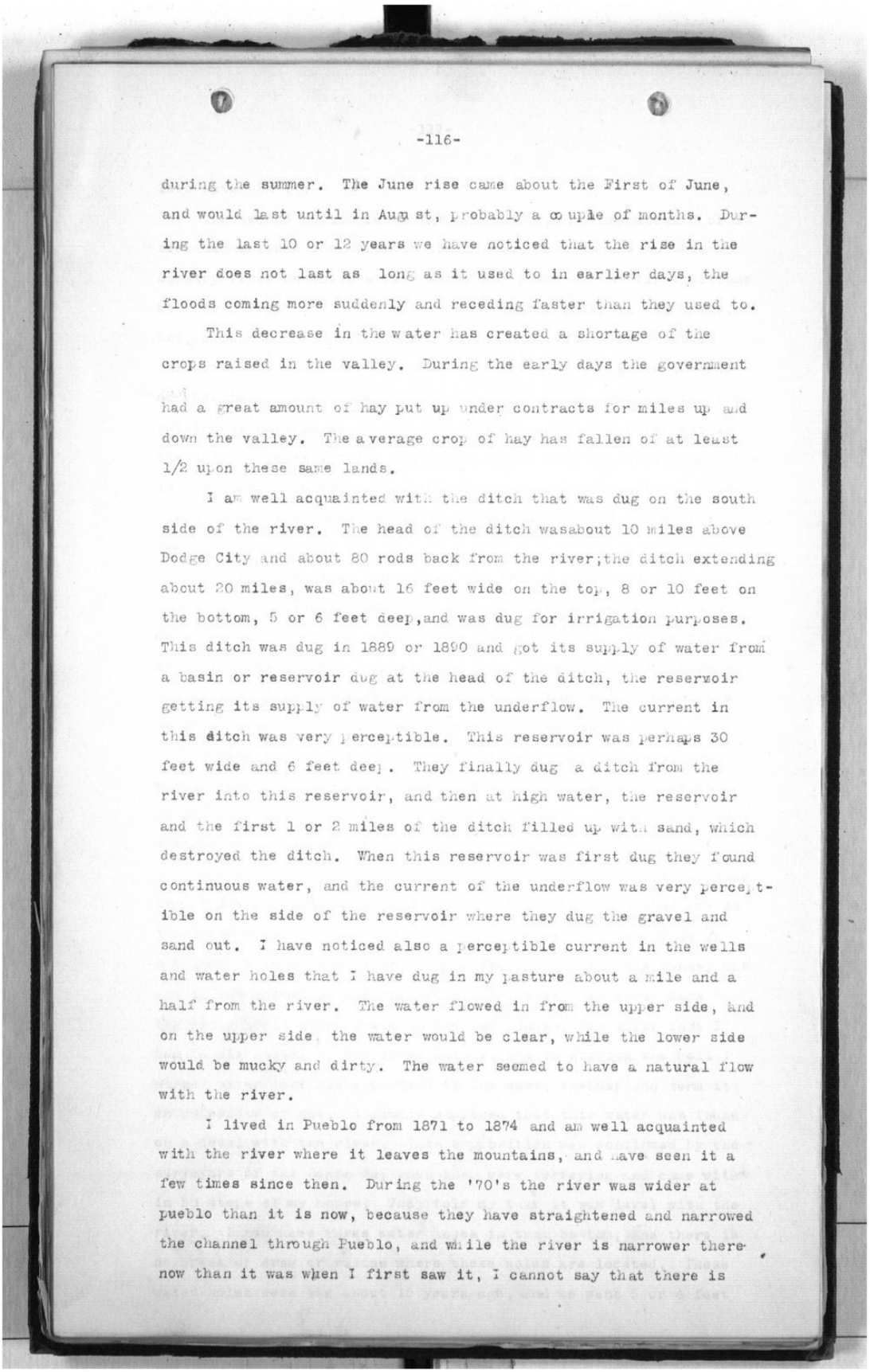
I am well acquainted with what is known as the underflow. It is the water drifting under the ground, under the sand, which you can strike anywhere in the bottoms very easily; and flows back to the foot hills and bluffs very perceptibly in a course parallel with the river. The current of the underflow is very perceptible, which I have noticed in digging wells for water. In 1884 I dug a cellar for a brick block in this city and the underflow was so strong and effective that we placed water-closets in the basement of our buildings. We dug down to the quicksand to use these water-closets in washing off the offal. The current carried it off, but of late years you could not do this at all, for the water has sunk away and there is no water there. When those cess-pools were dug, the water would stand in them two or three feet deep, and we used those cess-pools until the water works system was put in, ten or twelve years ago. I have noticed in my wells on the south side of



the river that the water now is at least three feet lower than it was 18 yeats ago, and since that time the underflow has receded. The rise and fall of the underflow follows very perceptibly the rise and fall of the water in the river. I have personal observation as to that. I have a water hole dug just a mile and a half south of here in a pasture. When the river is up I always have plenty of water for my stock, but as soon as the river goes down that water recedes and I have no water. By looking at the water in this water hole, and without seeing the river, you can, to a certain extent, determine the condition of the river itself.

During the early years I raised good corn crops on the bottoms here, but of late years I have raised alfalfa almost exclusively, some cane and kaffir corn. During the early years there was a good crop of natural hay on the bottom lands, but within the last 15 years it has fallen off very perceptibly, decreasing from 1/3 to 1/2 the yield per acre. The same fact is noticed in the alfalfa crops. Back from the river where the land is higher, the alfalfa crops are not so good, but on the bottoms, within 80 or 100 rods of the river, alfalfa will now grow better than it did a few years ago. This is for the reason that the water has receded and the roots go a greater distance to strike the living water, for upon these lands in the early days the water would be within one or two feet of the surface. The best alfalfa lands now are right along the river banks, but the second bottoms are not so good. This is attributed to the fall of the underflow. The amount of land along the river banks that is now better for alfalfa than it used to be does not exceed 1/5 or 1/4 of the bottom lands. The average yield of alfalfa has fallen off at least 1/4, and about 4/5's of the alfalfa land has been injured by the lowering of the water. I have been raising alfalfa for 15 years and have now 200 acres in alfalfa. The average yield per acre has been gradually decreasing for about 10 years, and it was about 10 years ago that we commenced to remark about the scarcity of water in the river. It is my judgment, based upon my experience and my information, that this loss of water in the river has been caused by taking the water in the ditches above here.

During the first 15 or 20 years that I lived here we always had a June rise of the river, coming from the melting of the snows in the mountains, and this June rise would come without any rain



during the summer. The June rise came about the First of June, and would last until in August, probably a couple of months. During the last 10 or 12 years we have noticed that the rise in the river does not last as long as it used to in earlier days, the floods coming more suddenly and receding faster than they used to.

This decrease in the water has created a shortage of the crops raised in the valley. During the early days the government had a great amount of hay put up under contracts for miles up and down the valley. The average crop of hay has fallen of at least 1/2 upon these same lands.

I am well acquainted with the ditch that was dug on the south side of the river. The head of the ditch wasabout 10 miles above Dodge City and about 80 rods back from the river;the ditch extending about 20 miles, was about 16 feet wide on the top, 8 or 10 feet on the bottom, 5 or 6 feet deep,and was dug for irrigation purposes. This ditch was dug in 1889 or 1890 and got its supply of water from a basin or reservoir dug at the head of the ditch, the reservoir getting its supply of water from the underflow. The current in this ditch was very perceptible. This reservoir was perhaps 30 feet wide and 6 feet deep. They finally dug a ditch from the river into this reservoir, and then at high water, the reservoir and the first 1 or 2 miles of the ditch filled up with sand, which destroyed the ditch. When this reservoir was first dug they found continuous water, and the current of the underflow was very perceptible on the side of the reservoir where they dug the gravel and sand out. I have noticed also a perceptible current in the wells and water holes that I have dug in my pasture about a mile and a half from the river. The water flowed in from the upper side, and on the upper side the water would be clear, while the lower side would be mucky and dirty. The water seemed to have a natural flow with the river.

I lived in Pueblo from 1871 to 1874 and am well acquainted with the river where it leaves the mountains, and have seen it a few times since then. During the '70's the river was wider at pueblo than it is now, because they have straightened and narrowed the channel through Pueblo, and while the river is narrower there now than it was when I first saw it, I cannot say that there is

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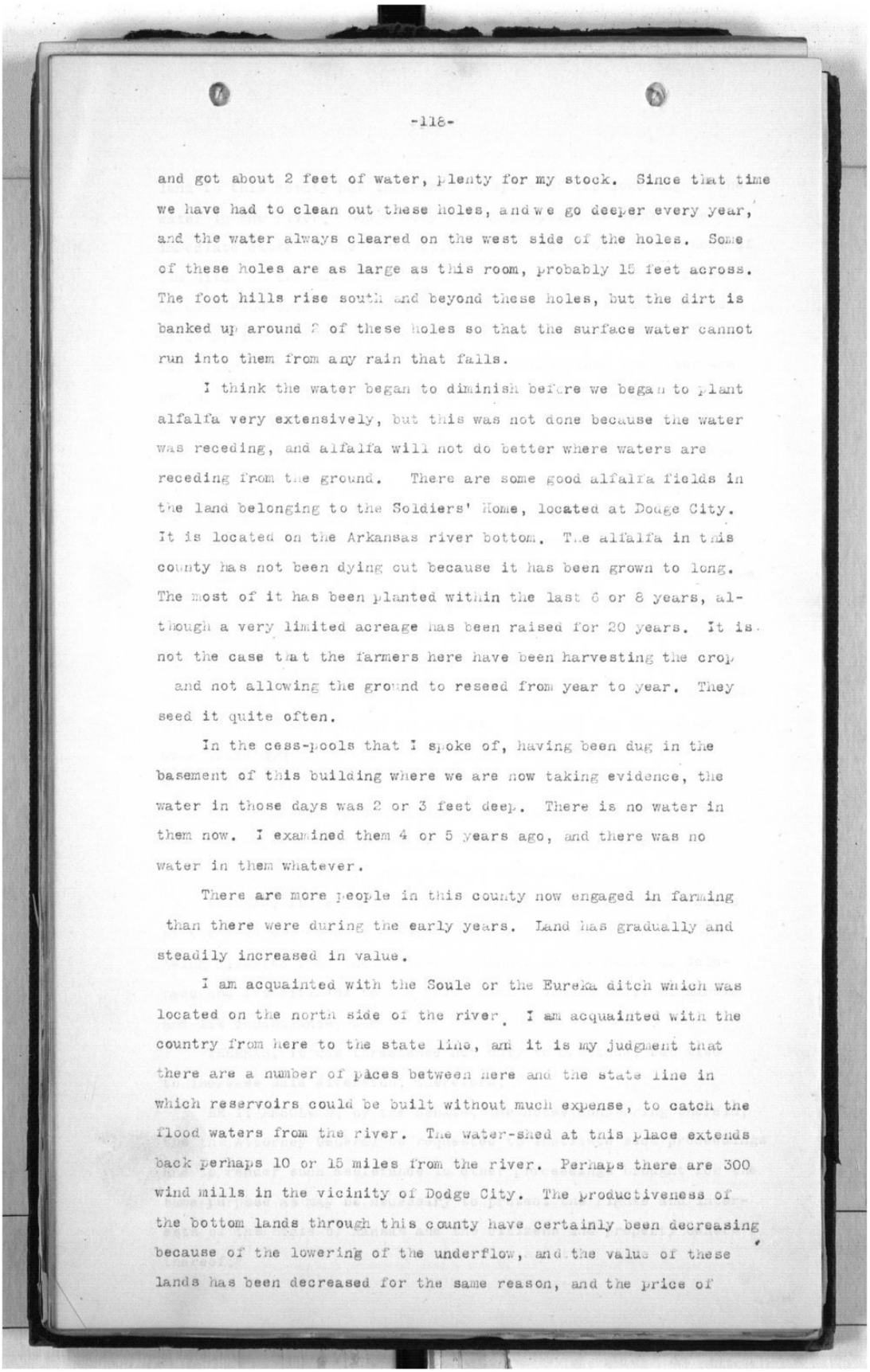
less water in it.

The sedond bottom lands through this county are about 8 or 10 feet higher than the first bottom lands. When I came to this country first we would strike water any place on the first bottoms at 2 or 3 feet, and there was always running water in the draws. Now, at these same places water is found at from 4 to 6 feet. These first bottoms are on an average about 6 feet above the bed of the river. The valley, as a whole, is not as good now for the raising of alfalfa as it was 6 or 8 years ago. The river within the last 10 years I think has fallen off 2 feet in depth, and within the last 20 years has fallen off 3 or 4 feet in depth at this place. The river used to run so that it could fall off 3 or 4 feet in depth.

I think the river has fallen off from a foot to a foot and a half in its average flow from 1884 to 1894, and about as much more from 1894 to 1904. I crossed the river on an average three or four times a day. I understand from my reading and my observation that this decrease is attributed to the taking out of the surface water in the ditches between here and Pueblo.

I have given considerable attention to these matters, and was a member of the legislature, and was on the ways and means committee, and advocated prosecuting this case. I was sheriff of this county from 1891 until 1895.

The bottom lands on the north side of the river at this place are a little higher above the level of the river than they are on the south side of the river. The place where I dug my wells on the south side of the river, a mile and a half from the banks, was not in any slough or old channel of the river. In early days the water would often stand in the low places, but after that I had to dig a well to supply my cattle, and in digging the well I struck water that had a current to the east, whether you term it an underflow or not. I always supposed that this water was found on a level with the river. This supposition was confirmed by the surveyors of the Santa Fe, when they were surveying and came within 50 steps of my house. They told my that it was level with the river. I now have three water holes in that bottom, and there is no break or draw or ravine where these holes are located. These water holes were dug about 15 years ago, and we went 5 or 6 feet



and got about 2 feet of water, plenty for my stock. Since that time we have had to clean out these holes, andwe go deeper every year, and the water always cleared on the west side of the holes. Some of these holes are as large as this room, probably 15 feet across. The foot hills rise south and beyond these holes, but the dirt is banked up around 2 of these holes so that the surface water cannot run into them from any rain that falls.

I think the water began to diminish before we began to plant alfalfa very extensively, but this was not done because the water was receding, and alfalfa will not do better where waters are receding from the ground. There are some good alfalfa fields in the land belonging to the Soldiers' Home, located at Dodge City. It is located on the Arkansas river bottom. The alfalfa in this county has not been dying out because it has been grown to long. The most of it has been planted within the last 6 or 8 years, although a very limited acreage has been raised for 20 years. It is not the case that the farmers here have been harvesting the crop and not allowing the ground to reseed from year to year. They seed it quite often.

In the cess-pools that I spoke of, having been dug in the basement of this building where we are now taking evidence, the water in those days was 2 or 3 feet deep. There is no water in them now. I examined them 4 or 5 years ago, and there was no water in them whatever.

There are more people in this county now engaged in farming than there were during the early years. Land has gradually and steadily increased in value.

I am acquainted with the Soule or the Eureka ditch which was located on the north side of the river. I am acquainted with the country from here to the state line, and it is my judgment that there are a number of places between here and the state line in which reservoirs could be built without much expense, to catch the flood waters from the river. The water-shed at this place extends back perhaps 10 or 15 miles from the river. Perhaps there are 300 wind mills in the vicinity of Dodge City. The productiveness of the bottom lands through this county have certainly been decreasing because of the lowering of the underflow, and the value of these lands has been decreased for the same reason, and the price of

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land in this county has increased in spite of the lowering of the water in the river. Dodge City has a population of 3000. The immediate cause of the destruction of the reservoir at the head of the ditch on the south side of the river, was because it filled up with sand from the river. But this was not the cause of the ditch drying up. The sand only filled the reservoir and the ditch for a very short distance. The bottom lands along the river are not nearly so good for raising alfalfa as they were a few years ago. The Eureka ditch on the north side of the river is now destroyed. It never ran more than 2 or 3 years, because the water gave out at the source. I was one of the viewers in condemning the land in the construction of the ditch, and the work, after it was first commenced, was prosecuted vigorously and continuously until the ditch was completed. There are about 500 inmates at the Soldiers' Home located at DOdge City, Kansas. Perhaps there were 80 to 100 acres irrigated from the ditch on the south of the river and probably 10000 acres from the Eureka ditch on the north side of the river. There is plenty of water beneath these bottom lands now if you go deep enough to find it. I had to put two of my wind mills down 4 feet deeper in order to secure a sufficient supply of water.

SENATE CONCURRENT RESOLUTION NO. 14.

Relating to the Diversion of Waters in the Arkansas River in the State of Colorado.

WHEREAS, It is a matter of common noteriety that the waters of the Arkansas river for some time past have been and are now being diverted from their natural channel by the State of Colorado and its citizens to the great damage of the State of Kansas and its inhabitants, and

WHEREAS, it was threatened not only to continue, but also to increase said diversion, therefore,

BE IT RESOLVED, by the Senate, the House concurring therein, the the Attorney General be requested to institute such proceedings and to render such assistance in other proceedings brought for the same purpose as may be necessary to protect the rights and interests of the State of Kansas and the citizens and property owners thereof."