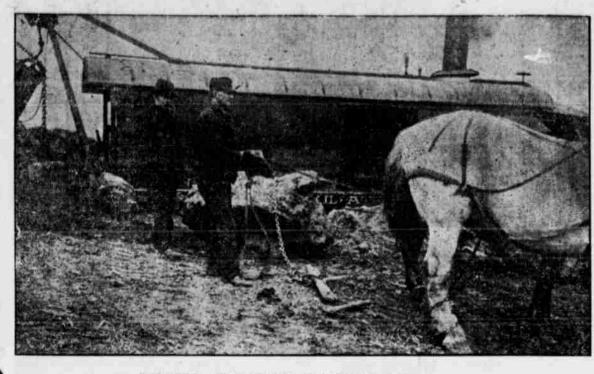
# Machinery Supercedes Mules in Building of the Modern Railroad



LOADING DUMP WAGONS FROM GRADER.



DRAGGING AWAY CHUNK OF DYNAMITED DIRT.

some of the things that are nowadays

deemed trivial by the men who change the

face of nature in order that the Iron Horse

in the construction of the locomotive.

American Type Wins Easily.

can locomotive was taken to Liverpool and

in Omaha and was listened to 'y a crowd lested.

After this incident Rev. Mr. Presson went

regular church services held.

OME of the dead and gone railroad simply the increased tractive force, due builders achieved wonders in their to the better distribution of the weight on days, but it can easily be doubted the drivers and the consequent adhesion if their most stupendous under- to the rail. This was the first of Ameritaking approached in magnitude can triumphs in the engine building line.

Curves as Easy as Hills.

Another signal advantage of the American may have a smooth road over which to type of locomotive was its flexibility. Not snort. A slight difference in mechanical that a locomotive is built limber as a development had a great deal to do with a piece of whalebone, but it is so constructed divergence in railways between America as to be able to compensate in balance for and Europe that has not yet been entirely ordinary inequalities in the surface of the overcome. In England, when the earlier rails, and to turn curves of a degree so experiments with locomotives were going small that at that time they were thought on, the builders were unable to make them impossible. This permitted a variance in climb a grade of any considerable acclivity, the construction of the roadbed. Whereas, and it was consequently determined to the early English roads were laid out as build roads as nearly level as possible. A closely as could be to the crow's flight, similar idea in connection with the con- the American roads followed the line of struction of the engine resulted in the the least resistance, and wandered around building of the tracks as nearly as possi- the country in a vagarious sort of way. ble in a straight line. English experience Bad hills were dodged where it was poswas largely adopted on the continent; it sible; easy grades and good river crossis even related that a Dutch engineer ings were searched for and adapted when heaped huge mounds of earth over frame- they could be, and other stunts were done of the country in the late '50s and '60s. Here no more grading than was abs First of all, the four-wheel coupled engine was able to climb grades the English type could not possibly surmount. This was most conclusively proven after the purpose well, and furnished railroads that deteriorating wear. did a work that cannot be estimated in Hills that used to rise in majesty, notch-American type had been so successful as to challenge British attention. An Ameri-

## New Conditions Bring Change.

set up on a track there. At almost the very outset of the run was a hill over Growth brought new conditions, and which no British locometive had ever these could be met by the railroads only hauled a train. It was the sticker of the with new construction and new equipment, line, and required such attention as the New lines could not achieve the relief Union Pacific used to bestow on Sherman needed; old lines had to be reconstructed hill in Wyoming, or the Santa Fe in cross- and brought up to modern standards. This ing the Raton range between Colorado and worked a revolution in the methods of New Mexico. When the day for the test constructors, for the demands made on came the American engineer asked to have them excelled anything ever achieved by a normal load coupled in behind his ma- the early builders, and not only did they It was such a load as two of the have to do more work, but it had to be British make had a hard time in dragging done in a shorter time. Within the last ten over the hill. The Englishmen stood by years every one of the fifteen lines running ready to exult at the prophesied failure, out of Omaha has been practically reconbut to their astonishment the Yankee- structed throughout its entire length, and built four-wheeler whisked the train up some feats have been accomplished that the hill at a good rate of speed. It was are still being debated in the technical

wright, presiding elder of the central con-

wish was granted, though he occasionally

Pioneer Nebraska Minister Honored by Neighbors

of about 300 emigrants, who were on their His long and eventful life began in the

schooners, and a handful of Indians. This lated that he was converted to Methodism

was in 1850 and he, too, was on his way to at the early age of 6 or 7 years, and he has

the coast with a large colony of eastern been connected with that church since. He

a duly ordained minister a pulpit was made then emigrated to Illinois, where he was

from a cast-off government wagon box and first licensed to preach by Rev. Peter Cart-

ter held a council with those who heard the manently to preach. This was forty years

sermon and returned with protestations of ago, and he has been a resident of the state

who preach Great Spirit," they said, shak- of service he asked eight years ago to be

came friendly with the great Indian chief, good health in spite of their advanced age.

Otherday. At the time of an Indian upris- They were the parents of fourteen children,

ing he recalls that it was this chief who eight of whom, five daughters and three

The Indians who listened to the sermon ference of that state.

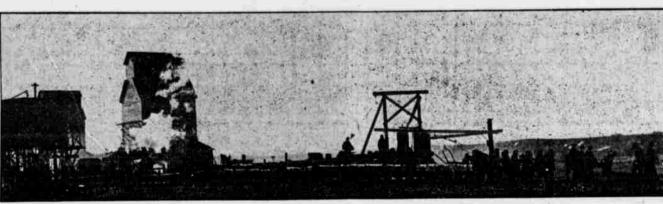
to Minnesota to live and took up a claim in fills the pulpit yet.

saved the lives of a large number of white sons, are still living.

EV. HARRISON PRESSON, prob- people by warning them of a massacre the

passed his 90th milestone on Feb- warning the people were able to fice, though





TRACK LAYING AT WINSLOW, NEB., ON GREAT NORTHERN.-Photo by C. F. SAUERS.

magazines. In a very large measure the the general level of the road is fixed, with cars run instead of dump wagons. Cuts are required was done, and many a mile of to point on the line. So on a road as nearly track was laid on a bed but little raised level as can be laid, and as nearly straight from the surface of the surrounding coun- as can be built, more cars can be hauled by try. This sort of road building served its a single engine and at less expense of

reduced to the conditions of mere humcharge. The route is determined, and then take the place of horses and mules, and level. It is simplicity itself. The only

original English idea is being adopted in its maximum of grade and its minimum of made and fills built up in weeks nowadays the west, and the road of easy gradients curve, and the rest is computation. So that used to require years. Great embankand long tangents is the type aimed at. much earth must be removed here and so ments grow almost overnight under the new A commercial reason exists for this, it much must be filled in there. A contractor regime work in order that he might have the that violated in every way the European being an established factor that the maxi- undertakes to remove this earth at so When the contractor undertakes a really tunnels he found on the English line he canon. This was particularly true in the mum load to be pulled by an engine is dewas sent to copy. In America quite a West, where a tremendous activity in rail- termined by the heaviest grade, and the taking completed within a stipulated time. his outlit with one, two or three or even different practice resulted from a difference road building came with the development wear and tear of the rolling stock is de-

## Old and New Ways of Digging.

In the good old days the dirt was ploughed up and dragged away by a primitive form of scraper, if the haul was short, or shoveled into wagons if the haul was the growth of the central western empire. ing the horizon with great gaps, have been long. The first improvement on this method came a little longer than twenty-five years mocks; gorges between these hills have ago, when an Iowa genius invented a been filled with earth, and some wide val- scraper that could be suspended between leys have been spanned with immense em- two wheels, and this simplified matters bankments. Lines that used to twist in wonderfully. The wheel scraper was a dis- another lot of cars is pushed in for the and out like the trail left by the poet's tinct boon to the grading contractor in its next load. Out at the end of the track the scrpent have been straightened until now time, and is still of much service, but it cars are dumped automatically, and this they are almost devoid of Hogart's line of couldn't do the work fast enough. Within process is kept up without cessation till beauty. The shortest distance between two the last few years it has been forced into the work is finished. As often as need be formance. A tracklaying machine is now points is the idea. To achieve this is merely second place in the calculations of the con- the track in the cut is lowered and that used, just as a grading machine is used. a bit of calculation by the engineer in tractor, and steam has been called upon to on the fill is raised, and finally they come

pendent in a large degree on the curves to old-time way of doing things. But right be rounded during the journey from point here the resemblance ends.

But right ber that at one time would have been a pierced the side of the mountain known respectable equipment for a railroad itself; to work. A temporary track is laid and the steam shovel is set upon it. Another track within reach of its giant arm is laid down, terminating somewhere out on the grade. Sidings and passing tracks are put down and a practical railway system is established. Dump cars are pushed up to the steam shovel and loaded at a rate that almost passes belief. When one string is loaded a locomotive whisks it away and



BREAKING GROUND TO LOCATE STEAM SHOVEL

change is that it accomplishes in a re- moves forward. In fact, it rarely stops, markably short time work that could not once its day's journey is commenced. A have been done by the slow, old way of locomotive steadily pushes the arrangeshovel and scraper, owing to its enormous ment forward, and track is laid at a rate

#### Unique Achievement in Wyoming.

This method varies according as the conditions of the job vary. For example, one of the tremendous fills on the Union Pacific's new line in Wyoming, the great Dale creek embankment that now takes the place of the Dale creek bridge, which was for years one of the famous spots on the Overland line, was constructed in a way that is unique. The fill is stupendous for its height, but is a rather short one. So steep was the side of the gorge at either end of the fill that it was out of the question to lay tracks. The contractors simply strung a wire cable across the chasm, and by it established an aerial raliway, along which hundreds of thousands of cubic yards of sand and gravel, broken stone and boulders were hauled and deposited where they rest today, a monument to the energy contractor, in a desire to obtain material ready to build the new line for the Union explosives blew the whole top off the moun- der way yet, although the contractors have tain, sending it tumbling into the gorge, and three steam shovels and two locomotives thereby accomplishing that which would on the site of their operations. The prehave taken weary months of time, even when pursued by the modern way of doing things with a steam shovel and dump cars.

## Modern Way of Laying Track.

While advance has been made in the way of preparing the roadbed, the methods of putting down the ties and rails have also been improved, until the famous milea-day feat of the Union Pacific builders is considered a very commonplace per-The advantage a tracklaying machine has over a grader is that it lays its own rails rails. An endless stream of this material real machine is, the heavy rails and ties straight line and an even grade from are easily swung into position. The rails Omaha to Fremont will be another triare spiked to the ties, and the machine umph for the steam shovel.

that astonishes everybody except the chief engineer and the principal contractor, who are always in a hurry. After the rails are down and the machine has been pushed past, a gang of surfacers comes along and fixes up the track, so that within a few moments after the rails are first placed in position the road is ready for freight and passenger traffic.

#### West Full of These Monuments.

Everywhere in the west today the results of this new way of building railroads can be seen. Deep cuts and high embankments are numerous, and over the new lines glide trains that never could have been hauled on the old. The work is only well under way, for not all the roads have been built or rebuilt, and the heavy grading outfits are likely to be kept busy for some years to come. The pictures published with this article were taken at a point near Omaha where the contractors are just getting Pacific road that is to do away with the famous Ox Bow curve and shorten the road some ten miles in the stretch between liminaries have introduced the element of high explosives, though, for dynamite has been used in breaking up the frozen dirt. and many huge chunks have been hauled away without any proceedings save attaching a big chain, much as is done in hanfling saw logs. At present the steam shovels are loading dump wagons, which are spilling the dirt not far away. Just as soon as the weather will permit the contractors expect to put a large force of men at work and during the early spring months dirt will fly at a rate that will make it worth while to visit the scene. Long before the summer is well advanced and runs over them. Back of the machine the new line will be finished and modern is a long string of cars, laden with ties and methods will have overcome an obstacle that was considered insurmountable when is sent along a runway built to carry the the Union Pacific road was originally laid stuff, and at the forward car, where the out. The flight of the fast mail on a

## Entertaining Little Stories for Little People

HERE was not another dog in the

village so smart as Dr. John's "Wag"-"Master Wag." people called him. He was as homely an ably the first Methodist preacher savages had planned for that night. The in- care to see, but he took part in everything to deliver a sermon in Nebraska, habitants of the town of Henderson were that was going on in such an intelligent is still living at Auburn, having the intended victims, but owing to the way, and was so polite and well bred, and knew so many interesting tricks to enterruary 15. The sermon was delivered on the town was burned. During his entire tain you with, that you never stopped to what is now the site of the Douglas, house residence in the state he was never mo- think of his personal appearance.

Besides standing on his hind legs and catching a ball in his forepaws, giving a way to the Pacific coast in prairie state of Maine February 15, 1816. It is re- jump or moving from side to side to not miss it, and rapping at the door so that even Dr. John would think it was a person that wanted to come in Master Wag people. The emigrants stopped over Sunday was married at the age of 20 to Mary Eliza- mirded the doctor's horse as well as a boy on the present site of Omaha, and as he was both Russell, at that time 16 years old. He could have done it.

When Dr. John drove round to see his patients, Master Wag always sat upon the seat beside him, looking very intelligent and dignified, bowing whenever Dr. John white men and the chief and the interpre- Minnesota that he came to Nebraska per- great air of taking part in the conversa- it, won't hurt anybody." tion whenever the doctor spoke. When they came to a house where he had to friendship. "Indians no hurt white man ever since. Weighed down by his long years make a call Dr. John would get out, throwplaced on the superannuated list and his always seemed to understand perfectly that you will come, you can play with them, he was in Master Wag's charge.

But one morning when the horse the wilds of that state. While there he be- Mr. and Mrs. Presson are still enjoying brought out of the stable and was left to whispered Dorothy in mamma's ear, wait before the office door for the doctor I hang my handkerchief on a stick by the and Master Wag to come out, he became gate, will you come after us?" frichtened at a string of exploding fireand started on a run down the street.

naws on the back of the horse as he tore and old Rover. along grasping one line in his mouth and

But Master Wag couldn't stop him-the make apple pies for dinner. horse was too frightened-and they all tore way, men staring as if they had lost their senses, until a man with more presence of came after them. mind than the others sprang out into the grabbed the bridle, giving the herse's Head such a firm shaking that he was brought to a standstill.

ran back to meet the doctor, barking and afraid Mrs. Wright is tired of your noise," whining and even growling, in the most said mamma. earnest way, as if assuring his master that he had done his very best. "And you "I want to borrow them every day till your

didn't leave him until he was caught!" Dr. John understood.

He stooped and patted the dog's head before he went over to the carriage. Little Folks.

Dorothy and Dean.

Aunt Mollie was very ill and the twins had been cautioned to keep as still as little borrow us again," cried the twins, waving Iowa miss is an accomplished musician and

mice for fear of making her worse. They sat forlorn and sad in the big sitting room with some picture books, but it is very hard to whisper all the time if you are only 6 years old, even if you do love your auntle and want her to get well. The big tears were just stealing down

Dorothy's cheeks when mamma came in and said: "Hurry to the kitchen, dears." Out in the kitchen sat an old woman with cannot tell the very best thing from the Roosevelt. a kind smile, and she took Dorothy and very worst thing. Dean by the hands as she whispered: "I've come to borrow the twins for the day. They were greatly perplexed at the actions of the It was after he had spent several years in bowed to a person and listening with a can make as much noise as they please and

> girls " asked Dean. "No. But I wish I had, I have a nice ing the lines to Master Wag, and the horse big dog and a gray cat and parrot, so if

"Have you got some little boys and

though Polly bites once in a while." "I know it will be dreadful lonesome."

Mamma promised, records a writer in the crackers in the hands of some little boys Central Presbyterian, and presently the twins were trudging away through the Dr. John rushed out bareheaded, but too snow to the big house a few rods away, late to stop the horse. Master Wag, how- where Mrs. Wright lived. Two very sober ever, was quicker, and had hopped into little children took off their wraps in the the buggy and out on the shafts, and there warm kitchen, but in a few minutes they bitter. everybody saw him standing with his fore- were as happy as could be with the cat

"Who wants to bake a little pie?" said barking sharply as if calling "Whoa! said Mrs. Wright, and both children were soon supplied with patty and dough to for something serious."

After dinner they played games and headlong down the street, horse, dog and looked at pictures and a had a little party carriage. Dr. John, bareheaded, running on a table that had belonged to Mrs. and panting behind, women and children Wright when she was a little girl. Dorothy screaming as they sought to get out of the forgot all about her signal on the gatepost.

"We have only been here a little while, middle of the street farther along and mamma," said Dean. "Mrs. Wright said we might gather the eggs and do ever so many things if you didn't come after us." "A little while? You came over at 8 And then Master Wag jumped down and o'clock this morning and now it is 4. I am my oldest wig."

"Indeed I'm not," sale the kind old lady. could see for yourself," he said, "that I sister gets well. Please let them stay for plained to the wondering valet.

supper, for I have made animal cookies purpose for my little guests."

And if you'll believe me, Dorothy's handkerchief never waved on the stick at all. "Yes, Wag," he said, "you did your whole Mrs. Wright cried and the twins cried an English builded as you would duty. You always do."-Mary Dameron in when Aunt Mollie got well and the children could go home with their mamma. would like to borrow them and never bring them back," said Mrs. Wright, but mamma could not spare them.

"We'll come next summer and let you rowed."

When Not to Cry.

girls in the world who want to do just reproduced on a phonographic record and the right thing and the very best thing. forwarded to the young lady's namesake in But they do not always know what just the White House. The record was acthe right thing is, and sometimes they knowledged in a nice letter from Mrs.

boys and girls who cry, now and then, at The grandfathers of the president and Van the wrong time; and I have asked many and Theodore Roosevelt of this county of the older people, but none of them could tell me the best time to cry. But the other day I met a man older

very old and very wise and he told me. "It is bad luck to cry on Monday. "To cry on Tuesday makes red eyes. "Crying on Wednesday is bad for chil-"If dren's heads and for the heads of older

people. Friday. It makes them unhappy.

"Tears shed on Sunday are salt and

"Never cry on Saturday. It is too busy

Children should on no account cry at night. The nights are for sleep. They may cry whenever else they please,

but not at any of these times, unless it is I wrote down the rules just as the old

man gave them to me. Of course, they will be of no use to boys and girls who are past 6, for those children do not cry. The wise old man meant them for the and was very much surprised when mamma girls who want to do the right thing and the very best thing.-St. Nicholas.

Mr. Sockafeller read something about himself in the paper. Frowning deeply, he summoned his valet. "I am in a rage," he said; "bring hither

The wig was brought. Assuring himself that it really was old beyond use, Mr. Sockafeller proceeded to tear it. "It's the conventional thing," he

Mrs. Nicholas Longworth's Iowa Cousin

their hands good-bye. "We like to be bor- a bright young woman of 10 years. She is possessed of a sweet voice that is being cultivated by the best of instructors. During a recent home entertainment Miss Roose-There are millions of little boys and velt sang "Yankee Doodle Boy," which was

The Iowa branch of the Roosevelt family Now, I have often thought there are little came from New Jersey in an early day. were brothers, and a correspondence is kept up between the Iowa families and the one in Washington. The heads of the and wiser than any of the rest. He was Roosevelt family separated in an early day, one branch locating on the Hudson and the other across the river in New Jersey. The Iowa family belongs to the New Jersey branch, and the founder of the western branch, William Roosevelt, came to Iowa in 1870 and located in this county. The family "It is said that if a child begins to cry was and is possessed of considerable Thursday he will find it hard to stop, money. The senior Roosevelt died in 1898 "It is not hest for children to cry on and was survived by two sons. Theodore and Van Vorst. The latter was born in 1847 and the former in 1856. Van is married

ISS ALICE ROOSEVELT, who to a daughter of Hon. S. Bloch, who was lives at Iowa Falls, Ia., is a one of the Iowa commissioners to the Paris cousin of the young lady of the exposition and later made a member of the White House, who has become Legion of Honor by the French govern-Mrs. Longworth. This little ment,



MISS ALICE ROOSEVELT OF IOWA

Pointed Paragraphs It's not good for lovers to be too good

Many a man who knows his place has his Strange to say, the speaking likeness of

a woman goes without saying. Be sure you are right-but don't be sure that everybody else is wrong.

Our idea of a fool man is one who waits little ones-the millions of little boys and for the bartender to tell him when he's had enough.

> Many a man looks upon a marriage license as a blotter with which he expects to blot out the past.

It frequently happens that a woman who was proud of a man as a beau is ashamed of him as her husband.

Some states have a law requiring women to remove their hats in a theater-and stumbling over a row of women between the acts.-Chicago News.

Poor Richard, Jr., Philosophy A straight life is the shortest distance be-

tween honesty and honor. Of the five senses, common-sense and a serse of humor are the rarest Those who get into society can't rub the

price-mark off the admission ticket. The marriage relation would take care of itself if it were not for the married rela-

A man who settles into misery and calls it philosophy is an optimist standing on his

The letters marked "personal and confidertial" are the ones the private secretary opens first.

If George Washington were to come back and see congress he would lose no time delivering another farewell address.

When a man tries to drown troubles on there should be one to prevent men from his way home, he always finds them sitting and grinning on his doorstep like drenched onts.-Saturday Evening Post.

