THE FIELD OF ELECTRICITY

Completion of an Electric Fire Ladder by a Boston Inventor.

ELECTRICAL PLOWING AND WELDING

American Motors Invading the British Capital—Electricity in Prison Hospitals—Courts Wrestling with Vexing Question.

Builders of sky scrapers and owners of country hotels are rejoicing over an electric fire ladder, the work of David H. Irving of Boston. This ladder makes it possible for the fire department to fight flames in the top story of any building, relates the Globe-Democrat. It could easily tackle an outbreak from the top window of the famous St. Paul building in New York, notwithstanding its twenty-four stories, and never feel the inconvenience of it. The genius who evolved it is the inventor of a theater mirror adjusted to the back of an orchestra chair, to aid in putting on hats.

"Sky scrapers" are benefactors of mankind. They bring business centers close together and economize space for the ever-growing city. They make it possible to preserve the near suburbs for dwellings without compelling the business man to take a Sabbath day's journey twice a day going and returning from his work.

But the trouble with the sky scraper has been its inaccessibility in case of fire. No fire ladder that was ever constructed would reach above the fifth story of a building, and the fire laddies had to depend upon the precarious alternative of hitching ladders from windows sill to window sill, gradually working upward, or rushing up inside the collapsing building.

The living ladder promises to do away with all embarrassment. It is compact and can be taken to a fire by the usual fire team of broad-backed horses. It is heavy, but not more so than the fire engine, now much heavier than the old hook and ladder, of cumbersome fame.

One mighty advantage for the new ladder is that it takes up much less space than the hook and ladder and can turn corners where the other would come to a standstill. Everybody has seen the "hook and ladder" dashing wildly up a street looking for a side street wide enough to turn in.

This fire ladder is an electric one, in Boston worked by a dynamo, but in smaller places it is run by steam, or by a storage battery. It also has a forty nine hand attachment by which it can be unwound where there is neither steam nor dynamo. This makes it available for the summer hotel, to aid in the escape of the inmates upstairs.

HOW IT WORKS.

The plan is, in simple language, this: A great spool is wound with ladders that are fastened together with joints. A big rope connects with the end of the ladder-like coil. When needed, a pole at the back lifts the rope which lifts the end of the ladder. The ladder meanwhile is being unwound by a windlass at the other end of the ladder wagon.

The wagon upon which the fire ladder is taken to the scene is about ten feet long and about four and one-half feet wide.

On it is a drum or reel five feet in diameter. It extends down into the body of the wagon two and one-half feet, and there is a handle so arranged that it can be attached at any time for winding or unwinding.

Upon the reel there is a series of ladder sections, or small ladders, with one or two rungs at each end, toggle or knee-jointed and scarfed or mitered, so that, when unwound, they will fit into each other, creating a rigid ladder when supported by the guide ropes.

On the top of the front of the carriage there is a double guide rope derrick, very strong, the sheers or ends of which are capable of being raised to a vertical position or adjusted to any angle to support the ladder when raised. The derrick is upon one end of the wagon, the ladder upon the other. When both are raised they support each other by the guide ropes.

At the foot of the derrick is a geared double rope drum, attached to the lower part of the derrick, to carry two guide ropes which run to the top of the sheare and other friction pulleys to the eyes in the top section of the ladder.

At the back of the ladder there is a windlass or hoisting frame, consisting of two uprights and fitted on top with an adjustable ladder carrier. The under side is slotted to admit a geared sprocket, the teeth of which are made to take each rung of the ladder and unwind the same by hand or electric power.

To the unskilled mind the mechanism appears extremely simple, as it is, indeed, to a mechanical one. A fireman turns a crank upon one end of the wagon, and immediately the two poles rise, the ladder begins to hoist itself in the air, while, automatically, the upright at the front keeps the ladder in place with its ropes.

There might be a fire extinguisher with automatic attachment fitted to the end of the ladder which, on being quickly run up, would play upon a fire. This would be sufficient to extinguish a window curtain blaze or to clear a room of smoke in case there was rescue work to be done.

Experts say that the much-vexed fire escape question will be settled, not from within, but from without. The ropes, balconies, parachutes and patent lowering machines will all give way to the patent automatic external hoisting ladder. Boston's ladder is a good one, and when rolled up is as compact as a sprinkling cart and much more attractive in appearance. Used in case of fire in a frame hotel, it could act as a fire escape for hundreds by wheeling it along from window to window.

PLOWING BY ELECTRICITY.

Various and many have been the unfounded rumors regarding the use of electric power for agricultural purposes and for plowing, but it appears that at last a practical apparatus has been put to use in many parts of Germany. Electric plowing is particularly adapted to the needs of the extensive beet-root estates in Germany which are devoted to the manufacture of sugar, as these are of large extent and represent capital large enough to warrant the use of labor-saving appliances. Furthermore, on such estates there is usually a large steam central station plant and electric power for lighting purposes, and this plant is usually idle at the period of the year when plowing is done. From this it is evident that with the addition of a system of overhead conductors in the fields electric plowing can be economically adopted over these large areas.

In the system followed the overhead conductors do not extend into all the fields, but are tapped by temporary wires laid on the ground where required. The plowing outfit comprises a motor wagon, an anchor wagon and a plow which is drawn backward and forward between them and which cuts five furrows at a time. On the motor wagon is fixed a forty-horse power motor with the necessary switches and driving gear both for hauling the plow and traveling about from field to field. The anchor wagon carries an anchor and sheave around which the hauling cable runs. It is possible, with a conductor of about 1,500 feet and a plow rope of 1,000 feet, to plow 222 acres from one center of operations.

Mr. Horsig of Berlin, the manufacturer of the apparatus here described, claims that with a fixed steam engine of 250 horse-power and five plows 6,000 acres of medium heavy ground can be plowed to a depth of fourteen inches at a cost of about 90 cents an acre. Of course electric plowing is only adapted to work on a large scale and particularly where power is available.

ELECTRICAL WELDING.

In the domain of electric welding the field for the use of the electric arc in commercial industries is very great, and the making of iron barrels, the cheapening by its use of the manufacture of iron bathtubs, pulley wheels, boilers and tubing is quite probable. Already there is a factory at Uxbridge, England, having a capacity of 240 barrels per week, that is turning out electrically welded steel barrels. The body of the barrel, says London Engineering, is rolled out of steel plate, and buckling is prevented by causing the rolls to bear only on the center of the sheet passed through them, thus extending the metal there, and there only, the sheet remaining its original length. Under these conditions it shapes itself naturally into the barrel form and only requires the edges to be sheared straight in a special machine and to have its longitudinal seam welded.

This latter operation is effected electrically by clamping the bent sheet with its two opposing edges some one-quarter of an inch apart, a small strip of steel being held over the opening and melted by means of an electric arc, while a man stands by to hammer it as soon as ready. By welding on other pieces in this way the seam is finally completed, and the cask is finished by adding its head and its bung bosses. The heads are first cut in a circular shearing machine and then corrugated and dished in a 400-ton hydraulic press. The dished edges fit inside the barrel head, and a ring of sheet metal three-quarters to one inch wide is also placed around the head of the barrel outside. The ring, the barrel and the head are then melted together by the electric arc. The bung bosses are also welded on. These are steel stampings, and, being much thicker than the sheet forming the barrel body, it is the practice after the weld is finished to place a heavy mass of hot iron on top of the work until the whole is cooled down. A certain annealing effect is thus secured, by which possible contraction strains at the joints are avoided.

A VALUABLE INVENTION.

A. W. Alcock of Sydney has invented an electric machine for finding the positions of vessels in the vicinity of forts said to be far ahead of any other appliances of a like nature ever before invented. The Sydney Telegraph, which sent a reporter to inspect the new contrivance, says:

"One man can sit at the telescope out of harm's way, and by simply turning, elevating or depressing the same in accordance with the motion of the vessel, can cause to be indicated on dials, placed one to each gun in a fort, the exact range and bearing of the vessel from each particular gun. The means of communication is a wire from the telescope to an indicator, along which an electric current flows, being set in motion immediately the telescope begins to move. The indicator shows the centimeter register. The first movement shows the 'range' of the vessel, and by switching the arm hand on the dial, shows the bearing, the whole thing being done automatically and instantaneously.

"Of course, the bearing indicated electrically has to be submitted to a mathematical calculation, but, by means of prepared rules, this is accomplished almost instantaneously. It can be adapted simultaneously to any number of guns in any position on one or both sides of a waterway."

LUMINOUS HUMAN BODIES.

One of the most beautiful of the multitude of experiments to which scientists have been incited by the opening out of new developments in Roentgen ray work is that described by Dr. Luys before the Society de Biologie in Paris. Dr. Luys has long been convinced that actual light is thrown off by human beings, and has at the present time theories by showing the presence of luminous emanations which surround the human body. In a dark room various subjects placed their fingers for about twenty minutes on an ordinary photographic plate lying in a bath containing the usual solution of hydroquinone, and after this exposure the negative was developed in the usual way. Not only were the fingers and the lines of the skin reproduced, but also their pores, and what is still more interesting, around the fingers was a sort of zone or halo a third of an inch wide. Dr. Luys regards this as a proof that we live in a luminous fluid, which is sufficiently defined to enable a photographic print to be made of itself and the fingers, as if under the influence of ordinary light. Dr. Luys has tried the same experiment on patients whose hands were paralyzed, benumbed or insensible to touch, but in every such case no image appeared on the plate.

PLUGGED METERS.

Down in Tennessee the courts are trying to settle the vexed question whether a person who steals electric current is guilty of larceny, or of merely what Artemus Ward used to call "confiscation." A learned judge in Germany has already pronounced that only a thing that can be handled can be stolen, and as electricity is invisible, it is manifestly out of the list of purloinable materials. While this decision has not been accepted in this country, the question has yet to be finally determined. The issue of a case which has occurred at Memphis will, therefore, be interesting. A local electric light and power company, which supplied current to two saloons, found that its bills were extremely slim, while the illumination of the saloons was always brilliant and their electric fans were constantly in use. An inspection showed that the meters had been so plugged that only a small proportion of the current passing through them was registered. The company is inclined to look upon this subterfuge as a piece of robbery, and the ruling of the courts is being invoked.

ELECTRICITY IN PRISON HOSPITALS.

The placing of a complete electro-therapeutic equipment in the hospital of the state asylum at Auburn, N. Y., is an indication not only of the growing use of electricity in medicine and surgery, but also of the fact that the treatment of patients in prison hospitals is becoming vastly more enlightened and humane than that known to prevail in many state institutions ten years ago. In the new outfit at Auburn provision is made for both faradic and galvanic current. The former is most efficacious in treating rheumatism, from which a large proportion of all prisoners are sufferers. It is also turned to account in a way unthought of before it solved an important problem on the sugar plantations of Demerara. There the field workers consist largely of East Indian coolies, who have been imported and placed on the estates under government supervision, and under indenture for a given period of service. The coolie is a born malingerer and is apt to develop peculiar and obscure symptoms when he prefers to be placed on the sick list and sent into hospitals to taking his turn with the cultivation gang in the hot cane brakes. At one time the hospitals were always full of ailing Asiatics, who had managed to pass the medical inspection. But a powerful faradic machine was imported and a rule was made that all new patients must be subjected to its current. From the time the first coolie tried the shock there was plenty of room in the hospital.

The same current is to be used at Auburn for detecting the convicts who simulate insanity, and it is needless to say that under such an ordeal the shammers are not to be envied. In many prison hospitals diseases of the eye are prevalent and often most tedious. It is expected that in such cases the administration of the galvanic current will lead to a much less prolonged and more effective method of treatment than has heretofore been customary. This current can be applied in extremely small doses, and produces excellent results, also in nervous diseases. Provision is made for using the electric cautery, which is now in many instances superseding the knife and the application of nitrate of silver, and lamps are supplied with the outfit for the examination of the throat or the inside of the body or the illumination of any cavities which it may be desirable to inspect when the existence of abnormal conditions is suspected.

AMERICAN ENGINEERING IN LONDON.

The most recent addition to the system of underground railways with which London is provided, and the most important of all the present undertakings of a similar character in the world—the Central London railway (electric underground)—has especial interest for Americans. This is due to the fact that the entire system of electrical equipment will be American. With the exception of the elevators the entire electrical contract has been secured by the British representatives of the General Electric company. The road, laid in two deep subway tunnels, driven by the Greathead shield, stretches from Liverpool street in the heart of the city, through the very center of the great commercial district, west under Holborn and past Hyde park to Shepard's Bush, six and one-half miles. There are to be fourteen stations, which will be reached by elevators descending between seventy and eighty feet.

Instead of passenger-carrying motor cars with the motors mounted on the forward axle, locomotives similar in appearance to those used on the Bell line tunnel service of the Baltimore & Ohio will be used to haul the trains. The reason of this is that the tunnel is only eleven and one-half feet in diameter, and its bottom must accommodate the road bed, which reduces the clearance necessary with the motor cars. As the railway company was hampered by no considerations of grade, a new departure has been made in the arrangement of the station approaches. On each side of each station is a 3 per cent gradient, rising on the approaching side and falling again to the level of the road on the departing side. This unique method gives a retarding effect to all trains approaching the stations, equivalent to the application of considerable braking power, while materially aiding in the acceleration of the trains as they leave the platforms. It also gives a saving in power of about 33 per cent. The schedule speed of the trains will be fourteen and one-half miles per hour, with stops at each station of twenty seconds. The electric elevators, which will be installed by a New York company, will be forty nine in number. Each will have a capacity of 15,000 pounds, or about 100 passengers per trip.

POPULISTIC LEGISLATURES

Promises and Performances in Seven States Reviewed.

THINGS DONE AND LEFT UNDONE

Not Materially Different from Lawmaking Bodies Bearing Other Party Names—The Failures Explained.

Viewed as a whole, the work of the populist legislatures which have been in session this year is not much worse than that of many other legislatures which do not bear the populist stamp. The miracles of legislation promised from the populist stump have not been performed, and much of the mischief foreshadowed in populist platforms has been left undone. Three explanations have been advanced for the failure, writes George E. Bearn in the New York Independent. One, that it was due to bribery; another that the populists were unable satisfactorily to frame the legislation they desired, or could not reconcile the conflicting interests and the jealousies; and a third, which is the most plausible, that the populist leaders, sobered by responsibility, and having less reverence than the rank and file for platform declarations held their followers in check.

While populist measures have come to the front in a majority of the thirty-five or more legislatures which have been in session this year, notably in those controlled by the silver democratic allies of the populists, this review is confined to the doings of the distinctively populistic lawmaking bodies in the states of Idaho, Kansas, Montana, Nebraska, South Dakota, Washington and South Carolina, the last named being included, as the Tillmanites have more in sympathy with the populists than with any other political organization.

Maximum railroad freight rate bills, prime favorites with radical populists, ran the gauntlet in only one of the legislatures. Another legislature reduced the freight rate on agricultural products. With these exceptions the restrictive railroad enactments have in them more of sentiment than of menace, while much of the latter may be softened by the courts. Stockyards escaped with even less injury than the railroads received; insurance interests, though often threatened, were not seriously impaired; the rights, or what the populists would call the "privileges," of the mortgage creditor, were somewhat curtailed, but not to the extent fondly hoped by the populist mortgagor; and the initiative and referendum, without which no populist scheme of reform would be complete, was given legal sanction in Nebraska alone.

RAILROAD REGULATION.

Of the anti-railroad contests the liveliest was waged in Kansas, in an attempt to pass a maximum freight rate bill. It found favor in the house, but was halted in the senate through the influence of conservative populist leaders, whose efforts availed against the combined opposition of the populist press and of the populist governor with his patronage. The bill finally accepted by the house under a formal protest as the most that could be had, gives the railroad commission power to fix rates, subject to review by the courts. It is not very objectionable to the railroad companies. Even the maximum freight rate law passed in South Dakota can give little ultimate satisfaction to its supporters. Pending a judicial decision as to its constitutionality it is inoperative, and if passed upon favorably can only apply to shipments entirely within the state. Omnibus bills reducing freight and passenger rates passed by the Washington house, were rejected by the more prudent senate; but the latter body subsequently sought to appease populist clamor by agreeing with the house in the passage of a bill reducing freight rates on agricultural products. In Nebraska, which already had a maximum freight rate law, anti-railroad sentiment found further expression in amendments to the law placing the burden of proof on the complaining railroad to show that rates or regulations established by the Board of Transportation are unreasonable, and making the penalty for a violation of an order of the board a fine of from $500 to $5,000. In addition, the powers of the board as to rates and regulation of railroads were extended to apply to telegraph, telephone and express companies. Another notable piece of legislation was the adoption in South Carolina statute of the restrictive features of the national interstate commerce act, the purpose being to confine local litigation over discrimination and the like to state courts, where sentiment may be expected to favor the shipper.

HITTING THE STOCKYARDS.

In the stock-raising states stockyards stand next to railroads, in populist estimation, as the oppressors of the poor, and, consequently, their regulation became one of the chosen missions of the populist lawgivers. Only in two states, however, was the mission accomplished, and in one of these with prospective disastrous results to other than the proprietors of stockyards. In Nebraska a reduction in charges was voted, amounting to 20 per cent in yardage and to 50 per cent in the price of grain and hay, and in Kansas a law was enacted for state control and regulation, which law is now under a review in the courts. One of its early effects was a diversion of business from Kansas to Missouri, the legislature of which latter state, although it was tainted somewhat with populism, declined to join with the Kansans in the raid on the yards.

Of legislation aimed at the insurance companies there was almost a total failure. A valued policy law adopted in Washington differs not materially from the enactments elsewhere which antedate the birth of the populist party; while the Nebraska statute declaring unlawful so-called insurance combinations on rates is but a pattern of a bill which passed one house of the Connecticut legislature, whose sessions are held in the insurance city of Hartford. The most radical of the insurance measures proposed found many friends in Topeka, but not enough for their enactment. One of these measures sought to substitute a legislative flat for the life expectancy table and the fire risk, proposing at the outset a reduction of one-third in fire rates and of one-fourth in life rates; another would have made the state an insurance company, somewhat on the Swiss plan, with premiums assessed like taxes; and a third proposed that all life insurance companies invest one-half of their net premium receipts in the state of Kansas securities, which were to be deposited with the state treasurer and taxed.

ANTI-TRUST LAWS.

Nebraska followed its anti-combination insurance law with a general law against trusts, and Kansas and South Carolina adopted similar statutes. Each provides for the forfeiture of the charter of any corporation becoming a party to a trust and declares void all contracts made in violation of the act. The law in each of the three states is modeled after the one in Georgia, which state had the lead in the current legislative assaults on trusts, because of the priority of the session of its legislature.

In the line of enactments lamely devised to aid the mortgage debtor, but of a nature to injure him in the end, the Washington legislature took the lead. It abolished what are known as deficiency judgments, the effect of the enactment being to confine a judgment on a foreclosed mortgage note to the property pledged as security for the mortgage. The evident purpose was to cheat the creditor who had loaned money on property of inflated value. As passed by the senate the bill was made to apply to existing mortgages, some of the populist leaders declaring in the debate that the bill would be toothless if applied only to future notes, but the house, the more conservative body in this instance refused to attempt a clearly illegal interference with existing contracts. The inevitable effect of the enactment will be to increase the rate of interest on mortgage notes and to make it more difficult for Washington people to borrow, and these conditions are intensified by two other enactments, one granting a judgment debtor the right of possession of the property during the time of redemption, and the other exempting from attachment personal property to the value of $1,000, in addition to the statutory homestead exemption.

STAY LAWS.

In Kansas the time of redemption of property under judgment in foreclosure is eighteen months. An effort by some of the more sensible of the populists to reduce this to twelve months failed. The answer to the argument that this unreasonable and unjust "stay" law operated to raise the interest rate was the advocacy of a bill to reduce the legal rate of interest from 10 to 8 per cent. This also failed, and the only new Kansas enactment regarding mortgages is a confiscation measure requiring the recording of all mortgage assignments in the county where the security is situated within six months after the signing of the law, the penalty being nullification of the debt. As the bill was presented, the time limit was sixty days; but it is conceivable that even in the longer period many holders of mortgages will fail to learn of the new requirement. It is possible, however, that the law will be inoperative, as the draft of the bill signed by the governor contained a clause which had been struck out of the measure as passed by the house. Other Kansas attempts at confiscation (which failed) were bills requiring the recording, for purposes of taxation, of all evidences of debt, including the bad debts of merchants and the loans of banks, under penalty of nullification, and preventing a landlord from attaching more than two-thirds of the crop of a tenant. Nebraska followed Washington in abolishing deficiency judgments, and a like measure passed one house of the Idaho legislature, but was defeated in the other body. The income tax, believed of populists, was adopted in South Carolina alone, care being had to make it apply only to the rich by the exemption of incomes up to $2,500.

INITIATIVE AND REFERENDUM.

Kansas, Washington and Montana rejected the initiative and referendum, and in South Dakota the subject was conveniently shifted from the legislature to the people in the shape of a proposed constitutional amendment. As legalized in Nebraska, the system is a modified form of the Swiss cantonal government and applies only to cities and villages. It is optional, being operative when adopted by the voters or by the council. When adopted it vests in the voters all the powers of the legislative authority of the municipality. Fifteen per cent of the voters may propose an ordinance, order, resolution or contract, which proposal is to be filed with the clerk of the municipality. On the petition of 20 per cent of the voters the proposal must be submitted to a vote of the people at a special election; otherwise it awaits a regular election unless in the meantime it should be enacted by the council. That is the initiative. In the referendum it is provided that no ordinance, contract or the like, originating in the council, except such as relate to the immediate preservation of the public health or peace, or appropriations for current expenses not exceeding the corresponding appropriations of the preceding year, shall become operative until thirty days after its passage. In the interim 10 per cent of the voters can demand the submission of the order to the people at a special election, or 5 per cent of the voters can suspend its operation until its approval at the next regular election. It is a cumbersome system, apt to be expensive in operation, and not likely to be adopted except in a few municipalities where the radical populists are in control.

ODDS AND ENDS.

Some other illuminating features of populist thought are found in isolated examples of attempted or completed legislation which defy classification. Distrust of the judicial authority appears in a Kansas enactment limiting contempt of court to acts done in the presence of the court, and providing that punishment for contempt in excess of a fine of $50 or imprisonment for one day shall not be imposed without the sanction of a jury. The factional characteristic of populism is evidenced in another Kansas law requiring employers of more than ten persons to pay wages weekly, that number being chosen instead of the six named in the original draft of the bill so that it would not apply to farmers in the busy season. South Carolina's legislature furnished like evidence in a bill for an occupation tax, which passed one house, and which sought to levy a license tax on every occupation in life, except that of farming, not even the humble occupation of the negro laundress being exempt. Idaho made the employment of aliens by municipalities or corporations a misdemeanor, and Washington declared invalid contracts requiring the payment of an obligation in gold. Strangely enough this vain form of pro-silver legislation was enacted in only one of the distinctively populist legislatures. In Kansas an attempt was made to turn back the dial of time by forbidding the use of type-setting machines by the state printer, and this failing, a provision was inserted in the printing appropriation bill limiting the price to be paid by the state printer for machine work to 10 cents a thousand ems, at which price it may not be possible to use the machines. Perhaps the most unique action of all, however, in reference to financial matters was the decidedly populistic performance in South Dakota, where the legislature refused to accept the report of the state treasurer as to the public funds in his custody until he had exhibited the actual cash. He was required, at some risk and considerable expense, to assemble in his office the funds deposited in several banks, even certificates of deposit not being satisfactory evidence to the bucolic legislators. They had the graciousness, however, to vote an appropriation to reimburse the treasurer for the expense incurred.

JAPS NOT FORMIDABLE.

Light Thrown Upon Their Methods of Doing Business.

An American manufacturer, writing from Japan, says that those alarmists who would make the world believe that the Japanese can do anything, don't know what they are talking about, and that the people of the Flowery Land, unless they change their entire nature, can never, at all events, their models can never become formidable commercial rivals with any civilized power. The real fact is that the Japs do nothing; they only half do it, and therein lies the cause of their failure.

The Jap thinks of nothing but the present, of what he can make now, and how by making his commodities a little inferior he can add a few more cents to his profit. If he has to pay more for his labor, the idea of economy or the bold declaration that he can no longer sell at the original price never strikes him. It not only extends the whole of his ingenuity in trying to diminish the quality without any loss in the appearance. There is no such thing as standard quality. You are never sure of getting the quality you are asked to pay for. So much is this so in Japan that a man seldom buys an article without unwrapping and examining it on the spot. The correspondent continues:

"The Japanese mind is so small that it is difficult to weigh it with American scales; in fact, it may be said that it is made up of trifles. And it is the attention—the laborious attention—the Jap gives to these trifles which makes him incapable of ever becoming anything more than a unit in whatever he may be concerned in. As an illustration of what I mean, I will give examples which are of daily occurrence. You want to buy an article, and you ask how much it is. The answer is, say, 14 cents. Then you ask how much the articles are by the dozen, fully expecting that you will get them for 10 cents. You are not a little amazed when the merchant tells you 13 cents the dozen. You get mad, call the man a fool, and insist that you ought to get a reduction by taking a quantity. Not so with the Jap; that is not his way of doing business. If you take one, he reasons, that is 14 cent, but if you take a dozen, he will have to count them, and then it will be 13 cents. It is the same with the manufacturer. You give him an order for a hundred of a kind, and then wish to make it a thousand. Immediately he demands an advance in the price. Should he, however, reluctantly agree to take the increased order at the original price, you will probably get the first hundred articles fairly up to sample, but as the delivery goes on the quality is sure to fall off.

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SHORTY ALLEN'S LAST RUN

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INCIDENT OF THE BURLINGTON STRIKE

Careless of Orders and Everything Else, He Worked Steam Half Way Down, and Then It Was Too Late to Stop.

Eastward from Robb on the Burlington, the road drops down steadily for five or six miles. There follows the little rise to the top of Wray hill, and then comes the sharp sag of a mile or more to Wray and the level valley of the North Fork. Every man on the Burlington & Missouri knew Wray hill as "Shorty Allen's Delight" and Meehan, roundhouse foreman at McCook, used to say, with a growl, that it would be Shorty's undoing some day. This is how the prophecy came true, as related by the New York Sun:

Shorty floated into Lincoln one day in the spring of '88, when the big strike on the "Q" was two or three weeks old. He contrived to convey the impression that he had come "off the Reading" in the strike of the Knights of Labor that began and failed a little before the Brotherhood men of the Burlington route joined in a similar issue with their company. Many Knights applied for work on the "Q" just as later, Brotherhood men went on the Reading. So Shorty got an engine and began to haul freight from McCook up to Akron and back, and to revel in the delights of Wray hill. He loved that hill. He would work steam half way down it with thirty five loads behind him and go thundering past the siding at the bottom shouting aloud with joy.

It was Shorty's lot to haul way freight. He hacked and filled at almost every siding on the division, cutting out a car here and picking up one there, with fifteen miles an hour in his orders and all day to make the run. There wasn't anything at Wray but the siding and the dull red station house and little else, at Robb. It wasn't often that Shorty had to leave or pick up anything at either place, and he used to like to sail by both stations at top speed, and loaf further down the line to make up for it. He knew all the agents well and they would always report him to the dispatcher as having gone by at the proper time. All railroad men do that.

MIDSUMMER ON THE ROAD.

One day while his fireman was taking water at the big red tank at Eckley, Shorty went into the station for orders. He found out that there was nothing for him at Robb or Wray. He had nothing to leave at either station and he climbed back into his cab meaning to go through to Laird to meet the up freight. Sometimes he met it at Wray, but whenever he got the chance he ran by and trusted to luck that it would be held for him at Laird. It was in midsummer. The cactus was in bloom and the bunch grass was a deep green that toned down the hard heartlessness of the gray, hot sand and made the land almost inviting. The far blue sky gleamed like burnished steel, and overhead, when he chanced to look up, Shorty saw the red ball of wrath that men called the sun. He sat in his open cab window and watched the heat demons march and countermarch in endless lines above the grass tops and the cactus. The motion of his engine brought him a cooling breeze, that brushed the hair back from his forehead, where it struggled down under his cap, and he laughed at the heat. Only the fireman suffered.

Shorty was half out of the window when he passed the station at Robb. His feet were on the running board, his elbows were on his knees and his chin was in his hands. He was so absorbed in the contemplation of the landscape plunging past him, so lost in the joy of the wild, free, forward swing of the locomotive, that he did not see the agent run out of the station as the engine reached the end of the platform, he did not hear the agent's frantic shouts to him, he did not know that as the train shot by the despairing agent ran back to his window and mechanically turned the red board, a mocking signal that could not warn the train rapidly fading out of sight, of the danger that lay ahead. The conductor in the way car was working at his bills. The brakemen sat together on top of a box car watching for scared jackrabbits. They faced away from the station and neither saw nor heard the agent.

Shorty had thirty loads behind him. He climbed in from his perch in the window, glanced at the gauges and gave her a bit more steam. Down the drop before Wray hill the train thundered, gaining momentum every second. Shorty was getting ready for the rise to the top of the hill. He meant to make the finest plunge down the other side that ever had been made. He meant to leave the agent standing open-mouthed in his door, and to be halfway to Laird before the surprised operator could telegraph to the next station to hold the up freight for Shorty. Going up the hill he opened the throttle a little more. The fire in the furnace was roaring and she was fairly popping steam. Shorty dropped his lever forward a notch and gave her a longer stroke for the uphill pull. Then he was at the top. Any other man on the road would have shut off. Shorty pulled his throttle out. He hooked the reverse lever up to the top of the gauge, and down Wray hill he roared with a full head of steam and his engine working a ten-inch stroke. Then he climbed back into the window and sat with his head on his hands and his feet on the running board.

DASH TO DESTRUCTION.

But the agent at Robb had not caught the up freight at Laird, and when Shorty began the plunge down Wray hill the up train was waiting on the siding at the bottom. That would have been all right. Shorty had gone by under such circumstances a dozen times. But there was a "homeseekers'" excursion running special, and that was why the frightened agent at Robb had tried to desperately to stop the heedless engineer. The excursion had overtaken the up freight at Wray and was to pass it there. It waited on the main line with the freight on the siding. When Shorty came they were to "saw by."

But they had not reckoned how Shorty would come. With the engine leaping and lurching over the rails and the engineer oblivious to everything, the train shot down the frightful grade. The loaded cars rocked and reeled until the terrified brakemen lay down and clung to the running boards. Shorty sat as a man entranced. It seemed to him that he was suspended in the air and beneath him the earth was running a tremendous race. The roar of his unconing warned the men in the station. They saw what impended but Shorty still sat heedless. Then the fireman saw. With a wild yell he leaped across the cab and struck the engineer in the back. Shorty looked up and ahead and comprehended. The fireman was already yanking the whistle cord in a desperate call for brakes. Mechanically, but with lightning speed, Shorty shut off steam, reversed his engine and opened the throttle.

"Jump, Jim, when she slows," he shouted. "I'll stay."

He had dropped the reverse lever clear into the corner and the engine was working with full steam against the tremendous momentum of the heavy train. The big machine heaved and quivered under the strain. The great drive wheels were forced to reverse backward, but locomotive and train plunged madly on down the hill. The fireman jumped. Shorty saw him roll over like a ball when he struck. The engineer had done all he could to stop, and might have jumped, too, but he wouldn't. The brakeman on top of the box car clung to the iron upright of the brakes. It was too far to jump.

The conductor of the excursion train ran toward the engine of the up freight.

"Jump!" he shouted to the men in the cab. "Get out for your lives!"

He was fumbling at a switch key, and they saw what he meant. Down they came and ran. On the conductor ran to the switch. It seemed as if his hands were paralyzed, but at last he got it unlocked. Over it came and he heard the click of the moving rails. Then he stepped back and saw Shorty Allen run full tilt into the up freight. There was a tremendous crash. Shorty's engine rode over the other and smashed it into fragments. Then it sat down on its own cab, with its forward truck in the air and one wheel whirling around like a millstone. The following cars piled up in a great heap and over it all rose a cloud of dust.

The scared homeseekers who had been jumping from their train in the fear of death rushed over to the wreck and stood for a minute speechless with terror and amazement. The raisethem conductor came up and ordered the trainmen to get their wrecking tools. It was possible, he said, that Shorty might not have been killed and perhaps they could do something for him. As he gave the order there was a laugh in the pile of wreckage, and out from under the floor of the tender of Shorty's engine crawled the man who had caused it all.

"It's a bad smash, ain't it boys?" he said, cheerfully. "Me? I ain't hurt. See how that tender floor holds up that stuff? Well, I was under there. Don't ask how I got there. I don't know. George," he called to the agent, "have you reported me?"

And that is how Shorty Allen went down Wray hill on his last run on the B. & M.

DR. POWELL

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Union Blk., Cor. Fourth and Cedar Sts., St. Paul, Minn., Jan. 14, 1897.

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CHIEF QUARTERMASTER'S OFFICE, OMAHA, Neb., June 19, 1897.—Sealed proposals, in triplicate, will be received here until 2 o'clock p. m. July 29, 1897, and then opened for furnishing Oats, Bran, Hay and Straw required in Department of the Platte during fiscal year ending June 30, 1898. U. S. reserves right to reject or accept any or all proposals, or any part thereof. Information furnished on application here, or to post and depot quartermasters where supplies are needed. Envelopes containing proposals will be endorsed "Proposals for——" and addressed J. M. MARSHALL, C. Q. M. July 15-19 m.

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Proposals for Lumber and Shingles.—U. S. Indian Service, Pine Ridge Agency, Pine Ridge, Shannon County, S. D., July 1, 1897. Sealed proposals, endorsed "Proposals for Lumber and Shingles," as the case may be, and addressed to the undersigned at Pine Ridge, Shannon county, South Dakota will be received until 2 o'clock p. m. on Saturday, July 24, 1897, for furnishing and delivering either at Rushville, Neb., or at this agency, within forty (40) days after notice of approval of contract, a quantity of assorted lumber and shingles, a full list and description of which may be obtained by making application to the undersigned. Bidders will state specifically in their bids the proposed price of each article and point of delivery. All articles delivered under any contract will be subject to a rigid inspection. The right is reserved to reject any or all bids, or any part of any bid, if deemed for the best interests of the service. Certified Checks—Each bid must be accompanied by a certified check or draft upon some United States depository or solvent national bank in the vicinity of the residence of the bidder, made payable to the order of the Commissioner of Indian Affairs, for at least five per cent of the amount of the proposal, which check or draft will be forfeited to the United States in case any bidder or bidders receiving an award shall fail to promptly execute a contract with good and sufficient sureties, otherwise to be returned to the bidder. Bids accompanied by cash in lieu of a certified check will not be considered. For any further information apply to Captain Wm. H. Clapp, acting U. S. Indian Agent.

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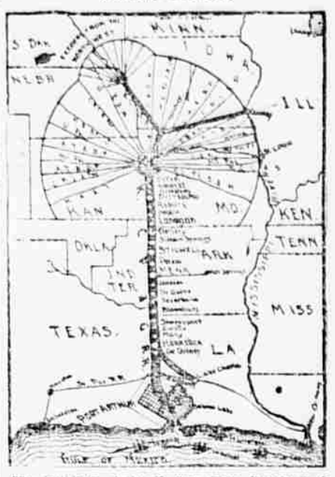
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