THE DASH TOWARD TARLAC

GEN. MACARTHUR'S QUICK MOVE TO SAVE THE RAILROAD.

Conception and Capas Taken After Some Fighting—Movement Carried On Over Muddy Roads—Failure of the Rebels to Make a Stand at Boasted Bomban.

MANILA, Nov. 13.—When the troops reached Mabalacat, in the Malolos Valley, Gen. MacArthur decided to make a dash for the insurgent capital, the town of Tarlac. It was well known that the Filipinos were in bad shape and rather demoralized. Lieut. Slavens with his scouts had witnessed the destruction of a lot of valuable rolling stock at the Bamban bridge, and all reports seemed to affirm the idea that the insurgents were about to abandon the railroad, destroy as much of it as possible, burn Capas, Murcia and Tarlac and strike out for the mountains. The only way to prevent the loss of the railroad was to push forward so rapidly that the enemy would be entirely occupied in making their escape and have no time for burning.

On the morning of Nov. 11 MacArthur sent Col. Smith with the Seventeenth and Lieut. Hamilton with two 3.2 guns to attack and capture Conception. This town lies to the east of the railroad between Capas and Tarlac and after taking it, Smith was to proceed in a westerly direction to the railroad and occupy Capas, thus cutting off the retreat of a force of insurgents heavily entrenched at the Bamban river. Smith left Mabalacat an hour before daylight, and his guns could plainly be heard booming away to the east and north, but growing somewhat fainter as he advanced. Col. Bell, with the Thirty-sixth, marched out about the same time and occupied the hills to the west of the railroad. He posted Major Bishop's battalion on a hill 600 feet high, which pitched rather abruptly and ended in a ragged descent near the side of the railroad. Bishop had a Hotchkiss mountain gun and a Colt's automatic and from his lofty position commanded a view of the entire valley to the river bed a mile beyond. Col. Bell, with the second battalion, continued advancing along the northwestern slope of Bishop's hill, rounded the short valley running at right angles to the main position, and crossed the river some two miles below the insurgent works. He was now on the same side with the enemy and their watches in the bamboo lookout towers must have seen him, but they took no apparent notice. Probably relying on the heavy underbrush and absence of trails, they felt secure, believing that he would have to abandon the attempt to reach them from that side.

In the meantime, at 8:30 o'clock, Gens. MacArthur and Wheeler began the main advance from Mabalacat, marching straight up the railroad and along a muddy wagon trail about half a mile to the east and parallel with the road. A battalion of the Ninth Infantry and Capt. Evans's battalion of the Twelfth deployed in a line of skirmishers through the cane fields to the east, while one battalion of each regiment came up with the wagons as a reserve. Capt. Andrews of the First Artillery, with the 3.2-inch guns, made his way over the torn-up bed of the railroad. When this centre column had come on a line with Bishop's hill a halt was made while Bishop's battalion, outlined like a picket fence on the backbone of the hill, poured a heavy long range fire into the insurgent trenches on the north side of the river. The Colt's gun managed by Lieut. Biddle, kept up a constant rattle, frequently punctuated by the Hotchkiss, but provoking very little return from the enemy, who remained well concealed behind their works. In addition to the natural advantage, the insurgents' position was so strongly intrenched that MacArthur hesitated to make a rush attack until the fight was a little more under way, though Gen. Wheeler asked permission to throw the Ninth and Twelfth across the river without delay. For over half an hour the only engagement was from Bishop's hill and occasionally a line of white puffs from across the river seemed to indicate that the insurgents were ready to hold their ground. Bell's battalion had been lost in the brush for a couple of hours, when Andrews's Battery threw in half a dozen shrapnel. After the first shots about a hundred insurgents were seen to leave the west end of their line of works and disappear in the brush along the very hillside where every one was straining his eyes to see Bell emerge. They had not been gone more than fifteen minutes when there was a rapid exchange of shots and back they came on a dead run across their trenches. In a moment the whole line of works was alive with white hats and shining gun barrels as the brown men struck out for Bomban. Less than fifteen hundred yards behind them came Bell's men, cheering and shooting as fast as they could get over the muddy hillside. MacArthur quickly moved forward with the Ninth and Twelfth, but these were soon lost in a nine-foot canefield and saw nothing of the retreat, nor did they fire a shot.

A train was waiting at the Bomban station, but the insurgents dashed by up the track, leaving the cars and smoking engine behind. When the foremost of the Thirty-sixth men were about one thousand yards from the train the engine pulled out, giving a series of long mocking toots. Afterward it was learned from the Spanish prisoners that the train contained a large number of women and children, sick and wounded soldiers and the garrison's supply of provisions. And this was the end of Bomban, boasted Bomban, that has for months been spoken of as the place where a great fight must occur. Englishmen who knew the country have said: "Look out for Bomban for it is a stronger position than any that you have ever tackled." Insurgents have quietly laughed and hinted: "Just wait until you go up against Bomban."

In an hour after the troops were in the town, a hospital had been established, the four wounded were being attended, the body of Lieut. Davis, who was killed on Bishop's Hill, was brought in, a provost guard was established under direction of Col. Liscomb of the Ninth, and MacArthur's report was flying over the wires to Manila from the Bomban telegraph office. Col. Bell fed his battalion, shifted the packs on his mule train and was off for Capas by 1 o'clock to save the railroad.

It was learned from the half dozen Spanish prisoners who had been left behind in the retreat and from telegrams found in the insurgent headquarters that two Colt's automatic, one 1-pounder, two breechloading Krupp and half a dozen old muzzleloaders had been taken north on a train the day before. The Colts and one-pounders are supposed to be the guns taken from the ill-fated Urdaneta, captured some time ago in the Orani River.

Three hours after entering the town the first of the half troops successfully forded the Bamban River and crawled up into the public square. Your readers will scarcely appreciate this last sentence, for it is impossible to picture the vexations, difficulties and discouraging obstacles that constantly and everlastingly present themselves to our Quartermasters, struggling with a snail-like, absolutely unreliable transportation.

While Bell was capturing Bamban Col. Smith was pushing northward and meeting with considerable resistance. After lively skirmishes at two small rivers he advanced on Conception, where a battalion under Gen. Conception was entrenched. Half an hour's fighting and struggling through the mud, tugging out one leg as the other went in, induced the enemy to evacuate, and leaving a small garrison in the town, the scrappy little Colonel of the Seventeenth pushed on to Capas. Between Capas and Conception the road disappears entirely and a swamp is allied with Aguinaldo. Smith left his wagons and guns stuck in the mud in various picturesque attitudes and finally slid into Capas. Snow shoes, slightly modified so as to serve in mud, are what the men need more than brogans. At Capas the instruments of the insurgent telegraph office were still ticking, but the train had pulled through an hour before and only a couple of hundred of the Bamban garrison were left. These managed to escape to the southward behind Smith's line with a loss of not more than half a dozen. The march into Tarlac was then made without opposition.

The work of the cavalry that started out with Smith was excellent. The big horses foundered their way through mud that rubbed their bellies, but yet they kept the enemy within range, and when Bell got into Capas Lieut. Rutherford's and Lieut. Hawkins's troops were there to meet him.

LIVE TOPICS ABOUT TOWN.

Spectators at the Metropolitan on Saturday afternoon must have been gathered from the remote suburban regions if they expected to get their money back when Mme. Calvé was too sick to sing and Miss Adams took her place. There never was a time when a change of caste entitled any holder of tickets to get his money back at the Opera House. If the opera announced be sung by persons who are competent or otherwise, it is supposed that the management has fulfilled its part of the contract. So money will not be refunded, although tickets will usually be changed for any succeeding performance the holder may select. In Louisville recently a citizen brought suit against the management of the theatre because Mme. Calvé's place was taken by Miss Adams and won his suit, although the French prima donna was ill and unable to appear. But in New York it has been accepted as the rule that nobody shall ever have the price of tickets returned under such circumstances. It was a coincidence that on Saturday the two prima donnas were American girls. Miss Strong's birthplace is a neighboring city and she was educated here. Her departure for London several years ago was the result of a disagreement in her family. She is of independent means and was pursuing her vocal studies only with the idea of cultivating a beautiful voice. When Francis Korbay, her teacher, decided to settle in London, she followed him there rather than continue her education with another instructor. It was after her instruction had advanced to a certain point that the idea of a professional career suggested itself to her and she appeared, unlike most of her country women, in English opera. Later she sang in German after a few appearances in Italy. Miss Adams, who received her musical education in France, made her début in Paris and had sung chiefly in the Riviera towns and London before she came here. This season she is to be heard for the first time here in German.

One jeweller had a customer for more than $12,000 worth of jewelry last week and the articles had been delivered. Three days afterward, when the situation in Wall Street was at its worst, the jeweller received a visit from his patron requesting that all the articles be taken back. "I do not know when I shall be able to pay you," he said, "or if I shall ever be able to. I have been wiped out practically, and it would be ridiculous under the circumstances for me to attempt to make such presents. After the necessary amount of polite protest the jeweller sent around for the articles and added them once more to his stock. In another house orders amounting to more than $200,000 are said to have been cancelled during the week preceding Christmas, but that sum seems exaggerated. One Fifth avenue jeweller admitted that a number of his orders had been cancelled and said that this was directly the result of the condition in Wall Street, "but it has been a good year in spite of this recent set-back," he said, "and the jewelry establishments have, as a whole, done well. I had one customer last week who bought a Christmas present for himself that was notable. It was a ruby scarfpin, not large, and plainly set, but the color was beautiful. He paid $10,000, and it was only a fair price for it. Of course there were not many scarfpins sold at that price, but the year was a good one for us."

The property at 36 and 38 Cherry street which was sold to a builder last Friday will again revert to the use which first attracted attention to it half a century ago. A model tenement is to be erected on this site. The first model tenements erected in New York were built in 1851 by a Quaker at 36 and 38 Cherry street, though the use to which these buildings were afterwards put belied the philanthropic plans of the man who constructed them. For many years they were notorious in the records of the police department and in the reports of the Board of Health. The decline of Cherry Hill as a desirable residence neighborhood brought into these model tenements a tough class of people until finally they were recognized as the headquarters of the Swamp Angel gang. They were the worst pest holes in New York during the cholera, and it was a dull week when some of the tenants of these buildings did not get into the police courts. The conditions in these buildings became so bad that the Board of Health closed them in 1896. Two years later R. Fulton Cutting leased them for a term of years and reconstructed them, so far as possible. After his lease expired he gave them up and four years ago they were torn down. Several skeletons which were found under the big sewer were assumed to be evidences of crimes committed years before. Double alley was on the one side of them, Single alley on the other, and Paradise alley in the rear.

The Charity Organization Society has very comprehensive records of many professional beggars and just at this time of the year it is no small part of the Society's work to warn against them people to whom they may appeal for aid. Many of these frauds are very respectable in appearance and several of them, who have given the Society trouble, pass as ministers. The Charity Society sent out last week a warning against a woman who sends clever begging letters signed variously Mary McCann, Dunn and Fox. She usually says that she was at some time in the employ of the people she addresses and she tells a very circumstantial story of her distress and the circumstances which reduced her to it. She describes the illness of her husband and winds up with the usual story about being behind in her rent and having to go into the street unless she can get money. Long practice has given her skill in wording these letters, and apparently she makes them support her. The Charity Society has exposed her each year, but that does not prevent her from swindling. The holiday season is a harvest time for these frauds. Another professional beggar who has worked the game cleverly for several years dresses as a groom or a coachman. He has recently been employed by some well-known man, he says, and owing to his employers having gone abroad unexpectedly, he was unable to get references. Then he broke his leg and he has just come from the hospital. This fellow's knowledge of the names and habits of people who do keep coachmen in New York is almost as complete as a directory, and probably he once did work as a coachman. Evidently he finds it easier living by charity, however. These begging frauds are not in the same class with the "regular" who picks up his living in the street. They dress well and their appearance is such that if a person yields to their request for "temporary aid" he feels that he must give them something more than small change.

A man who arrived from England last week said that R. F. Hamilton, better known as Tody, who for many years has described the wonders of the Barnum & Bailey show, was now busy learning German and his joy at the possibilities of compound words in that language was great. The Greatest Show proposes to go through Germany next season and Mr. Hamilton is now busy on his posters. Owing to the possibilities of the German language, which was apparently constructed to fit the requirements of the big show, the handbills are to be twice the usual size and the reading matter on them will alone be worth the price of admission. Mr. Hamilton has constructed one word to describe the performances which go on at the same time in three rings, which contains forty-six syllables and 198 letters. The bill on which this word is printed is so effective that Mr. Hamilton says that he will have no heart to make word pictures in English again. His friends are betting that the German Emperor will give him a first-class decoration for his services to the German language when he sees this bill. The show itself has become quite English during its long stay abroad and it sent to its old friends in this country last week very attractive Christmas cards.

While Wall Street was discussing the lack of money last week the big department stores were bothered not from the lack of money but because they could not get enough of the right denomination. They wanted pennies and as usual at this time of the year the market was very short of these coins. The banks were unable to supply the demand and the Sub-Treasury had to come to the rescue. In some cases the big stores had to pay a small premium to secure enough small change. The Sub-Treasury secured $10,000 in pennies from Washington during the week, and the Post Office was another source of supply. The handling of large quantities of small coins is a nuisance to the banks, and it was only for their regular patrons that they were willing to do it. One big store put in an order for $1,000 worth of cents early in the week, but it could only secure about half of that amount.

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POLITICAL NOTES.

Goebel's vote in Kentucky was 26,000 less than that cast for Bryan in the same State. Taylor's vote was 25,000 less than that cast for Mr. McKinley, and the vote for John Young Brown was 7,000 more than that cast for John M. Palmer for President in 1896.

There has been no revival since the election of the talk of having a permanent Democratic State Committee headquarters in New York city and the project appears to be abandoned, temporarily at least. The Republicans maintain a State Committee headquarters in New York all the year round and under the skilful direction of a permanent secretary they are in touch with the organization's representatives in other parts of the State. Among the Democrats, the committee headquarters is maintained for only a few weeks during the progress of the canvass.

Under the existing system of representation in Democratic National Conventions, which is based upon the number of electors in each State, Massachusetts has thirty delegates instead of fifteen, which would be its proportionate representation on the basis of the actual Democratic vote cast. Under proportionate representation Delaware, from which there are 6 delegates, would have 2 only. Maine, which has 12 delegates, would have 5, and Rhode Island, which has 6, would have 2.

The defeat of the Willingham Prohibition bill by the upper branch of the Georgia Legislature disposes, for a time at least, of the plan of extending the temperance system throughout all the counties of that State. It is one of the peculiarities of Georgia politics that although the sentimental support of prohibition in the State is extensive and two-thirds of the counties now prohibit the sale of intoxicating liquors, there is, properly so-called, no separate temperance party in the State, the prohibition vote in 1896 being less than 5,700 in Georgia.

The newly elected Street Commissioner of Boston is Edward W. Presho, (Rep.) who was born in Charlestown and who was graduated from Tufts College in 1881. He served in the lower branch of the Massachusetts Legislature in 1890, 1891 and 1892, and was Secretary of the Republican City Committee in 1898. He has been a member of the Board of Aldermen continuously since 1894.

Another effort is to be made in Congress to secure the admission as a State of New Mexico, whose territorial area is 122,000 square miles, of which only 120 square miles is water, a condition duplicated in the neighboring territory of Arizona, also a candidate for statehood. New Mexico became part of the United States through the wholesome and progressive policy of expansion in 1848. It was organized as a Territory in 1850 and it had by the last Federal census 153,000 population. In the election of 1898 for Territorial Delegate the Republican candidate was successful by more than 2,000 majority and the Territorial Legislature is now overwhelmingly Republican. Arizona is represented in Congress by a Democratic Delegate.

In the December election of 1898 there was a majority of 500 against licensing liquor saloons in Lowell, Mass. This year the proposition to license them was carried by a majority of 1,900 and the Democratic candidate was elected by a majority of 150. Last year the same candidate was elected by 1,200. The ways of Massachusetts voters are somewhat peculiar.

Jollification meetings have recently been held in Steuben county, Indiana, to celebrate the closing of the last saloon within the county. The crusade was begun several years ago and Steuben, which is the most northeasterly of Indiana counties, is now the only one in which there are no saloons.

A resident of Staten Island has filed a claim against the city of New York for $1.22 for his services as a witness.

Two national conventions have already been called for the month of June, 1900—the Republican Convention in Philadelphia on the 19th and the Prohibition Convention in Chicago on the 27th. The city now in the lead for selection as the place for holding the Democratic National Convention is Kansas City, which has never before had a national convention of either political party.

Under the amendment to the laws of 1898 adopted by the last Legislature the New York Board of County Canvassers will meet on the seventh Thursday after election day, Thursday, Dec. 28, to canvass the votes of the soldiers and sailors.

The Governor-elect of Maryland will have the appointment of a considerable number of State officials and commissioners, and quite a number of the aspirants are to be found among his neighbors, Eastern Shore men, and it is safe to say that while the Governor will not neglect other parts of the State he will certainly see that his old friends on the Shore have the pick of the plums. Lloyd Wilkinson of Worcester county, his friends think, will be Speaker of the House of Delegates.

The oldest member of the Massachusetts House of Representatives is Samuel W. Twombly of Winchester who is 77; the youngest member of the house is Arthur Clark of Deadham who is 22. One of the Massachusetts legislators—one only—was born in Ohio. There are two icemen in the new Legislature.

The Board of Aldermen which will enter upon the discharge of its duties in January is the first elected after the consolidation of the city and the second to exercise jurisdiction over the whole territory included in the Greater New York. The previous Board of Aldermen, the last one local to New York county, was elected in 1894 and its members remained in office for the period of three years, and it is now pointed out that many of these members enjoyed afterward (and some are enjoying now) a larger share of political distinction than usually falls to the lot of a New York Alderman. They are to hold their annual reunion and banquet on Dec. 28. All the members of the Board are alive to-day. Several hold more important offices than that of Alderman. One of them is Justice of the City Court. Still another is Commissioner of Charities at a $7,500 salary. Another is a Member of Assembly. One is an Aqueduct Commissioner, five are now Councilmen or Aldermen, and four others are holding lucrative municipal appointments.

Gen. F. C. Latrobe, seven times Mayor of Baltimore, is a candidate for the Speakership of the Maryland House of Delegates. The contest for the Presidency of the Senate is between Mr. Crouthers of Cecil county and Mr. Hubner of Baltimore.

Among the appropriations estimated as required by the Treasury Department for the year 1900 is $62,200, the smallest separate item in the Government's miscellany account, for prevention of deposits in New York harbor.

There is only one Republican Assemblyman in the part of New York city south of Fourteenth street; there is no Republican Assemblyman on the East Side of New York in any district on the line of the East River from the Battery to 129th street. Geographical lines are often deemed worthy of consideration in New York politics.

Expert opinions in Chicago differ as to the probable time of the completion of the elaborate engineering work known as the drainage canal, which has been in progress for some years. The date now fixed for the formal opening is Jan. 15, 1900, according to an interview with Gov. Tanner's special inspection commission.

The restoration of Democratic supremacy in Maryland bodes no good to the colored voters of that State and the present intention of the Democratic leaders, as declared in advance of the meeting of the Legislature, is to pass an amendment to the Constitution to provide an educational qualification for suffrage. The Democratic leaders have not yet definitely decided that it will be wise for the party to attempt so radical a step in the year of a Presidential election in which the position of Maryland is uncertain.

A correspondent writes to THE SUN to dispute the statement that T. S. Brennan has been as long in the city's service as J. T. Nagle, clerk of the Statistical Commission. He avers that in 1861 when John U. F. White, the predecessor of Mr. Brennan, was Warden of Bellevue Hospital, Mr. Nagle was on the sanitary corps of the Board of Health. Such discussions are profitless. They serve no good purpose and no solution of such questions is possible in view of the fact that so few of the impartial contemporary witnesses are surviving.

The cost of collating the suffrages of one hundred and fifty United States soldiers in Cuba is put for New York State at $5,000, or $33 a vote. As the soldier votes are scattered all over the State, they do not affect the result of the election in any single instance, as far as is now known, and the next Legislature will be asked to provide a method whereby the delay and expense caused by the canvassing of the soldiers' vote may in future be avoided.

GREAT FIGHTS WITH SNOW.

MILLIONS SPENT IN KEEPING WESTERN RAILROADS OPEN.

Snowsheds Valued at $10,000,000 on One Line—Power of the Rotary Plough—Loss of Life With the Old-Fashioned Bucker.

Thirty-two miles of snow sheds, costing $64 a foot, or a total of $10,813,440, represents the price one transcontinental railway had to pay before it could run its trains over the Rocky Mountain division of its road. That was merely the first cost; since that outlay fully $1,000,000 has been spent annually in keeping the sheds in repair and the exposed tracks free from snow.

The various roads crossing the Rockies have their seasons of play and their seasons of work. During the summer months, when even in the higher passes the sun and warm winds serve to keep the permanent way clear and free, there is little to do save the ordinary run of repairs and reconstruction, but along about the first of October all this is changed.

Little flurries of snow on the level and a gradual but continuous spreading of white on the tops and in the upper crevices of the mountains give warning that the hard, desperate battles of the winter months are at hand. The superintendent takes a trip over the road with his assistants and a careful inspection of the sheds and tunnels is made. In divisional headquarters the rotaries and the old time "buckers" are overhauled and prepared for use, and as the middle of the month approaches the watchmen who patrol the tracks are doubled.

There is no mistaking the signs. Even a novice could see that something important is pending. In the divisional shops, in the offices and even at the smaller stations along the line there are evidences that the period of work is soon to supersede the ease of the summer days.

In the various baggage cars are placed great wooden safes packed with condensed foods. Beef in the form of extract, canned soups, condiments and hard bread, enough to feed one hundred persons for ten days, are carefully deposited in these moving storehouses, and from then until the coming of spring they are inspected and overhauled once each week by men detailed for the purpose.

At the isolated stations and guarded sidings reserve supplies of provisions, coal, wood and water are laid in. Then finally arrives the day when everything is reported in readiness for the descent of winter.

The first call for the fighting contingent of the vast railway army is always attended by scenes of excitement. Lowering skies and chill winds have foretold the fall of snow, and when the various crews arise some morning they find the earth covered with a mantle of white.

It is then the work gang boss overhauls his men and sees that each unit in the force is provided with the necessary shovel and spade. It is then, too, that the crewof each snow plough and each reserve engine go over the last time the various bits of machinery and the divers couplings upon which their lives are soon to depend.

Within twelve hours, if the fall is continuous, the ploughs go out. Each is accompanied by a gang of shovelers, and a straight drive is made for those passes and cuts where experience has foretold the greatest depth. If the snow is moist and flaky, quick work is made of the banks, but if cold weather has really set in and the snow has been frozen into rounded granules, the proposition is entirely different.

In the first case the damp masses remain where they have been thrown by the plow, but under the latter conditions it is impossible without the most strenuous efforts to keep the glistening, frozen pellets from sliding back on the tracks. Cases have been known when a comparatively light fall of snow has blocked a mountain track for forty-eight hours.

In the old days when the rotaries were weapons of the future and the snow had to be literally "bucked" by main force from the tracks, casualties were frequent. The type of plough used was a home-made affair—a product of the railway shops. It consisted of a reinforced and strengthened box car as a base, upon one end of which was built an iron-tipped plow-shaped something like a lofty cow-catcher. Near the top the slides were so arranged that the snow masses were directed into the air at an angle.

Single particles of heavy and tightly packed drift was to be tackled it was the custom to place one of these crude affairs in front of from six to ten engines and charge the drift with a flying start of a mile or two. If the drift consisted of granulated snow frozen into separate particles, the enormous mass of iron went through it like a heated knife through butter. In the wake of the plough came an army of shovellers whose duty it was to bank the scattered masses far enough from the track to prevent them from sliding back. This was difficult enough and victory came only after herculean labor.

Sometimes it happened that the drift in the cut was composed of damp snow and had had time to settle and become packed. Then the perils of snow bucking became perils in truth. The "bucker" with its powerful motive force of seven or eight locomotives was hurled at the drift and one of two results followed. Either the drift was broken or the bucker crumpled up like a toy of cardboard. The fate of several men depended upon what Artemus Ward called "their natural born luck."

Stories are still told of the catastrophes occurring during one hard winter many years ago; of how in one instance a bucker, three engines and fourteen men were buried in a mass of snow for ninety hours and that when the rescuing party finally reached them the imprisoned men were encased at their posts like the baker of Pompeii.

To-day there are no such tragedies. The invention of the rotary plough has made the clearing away of snow obstructions a comparatively easy task. In appearance the rotary plough is like a huge box car strengthened with heavy iron girders and plates. The front end is square and open, and within can be seen a great steel winged wheel somewhat similar to the ordinary windmill. The edges of the opening slope inward, and are strongly reinforced with iron. The "auger" or wheel revolves upon an axle, and as the plough is forced against the drift the snow is eaten away and blown through funnels pitched at an angle above the machine. It is seldom that more than two engines are required to drive the rotary, as it works by cutting instead of brute force, like the the old-time bucker. Railroad men are great admirers of the new order of machine, and they never fail to praise its efficiency.

"Before our people bought one we used to count on at least a dozen lives each winter," said a division superintendent of the Denver and Rio Grande Railway. "We lost eight in one smash-up the Season before the first rotary came on the road. Since then we haven't had a man killed in that particular line of work. And they cost the company less, too. Of course the first price is large, something like $10,000, I believe, but that amount is made up in no time, you might say. Now it takes only a couple of engines to each plough where it used to require at least seven. In those days the coal and salaries, not to mention the wear and tear on the engines, meant a great deal."

The new rotary ploughs are also reputed to have been the means of saving lives in quite another way. Since their introduction on the mountain railways especially in the West, there are innumerable cases where snow-bound trains and even snow-bound villages have been saved from actual starvation by the efficiency of the rotary ploughs.

During the winter of 1897-98, which was particularly severe, a gang of track cleaners which had been sent out to bank the snow near Rector, a station on the Canadian Pacific Railway, became hemmed in by two enormous slides. The great masses of snow on the mountain peaks near by descended, completely blocking the egress from the cut in which the men were working. A trackwalker who had seen the accident carried information to the nearest station, and a rotary backed by a number of shovellers was soon on the scene. It required thirty hours of continuous work to clear the cuts, even with the means at hand. Without the aid of the powerful rotary the task would have taken at least five days and the gang of sixty men would have perished with the extreme cold.

On what is known as the mountain division of the Canadian Pacific Railway, during the season—that is from about Oct. 15 until April 15—the snowploughs make two trips daily. The two hundred and odd miles of the division are divided into four sections with a rotary and a bucker to each section. This system, together with the aid afforded by gangs of trackmen and shovellers, serves to keep the road comparatively clear.

The ordinary fall of snow and even the banking and drifting are of small importance, however, when compared with the slides which occur from time to time. It is these phenomena which send a thrill over the entire line and cause as much interest and excitement in the general manager's offices as in that of the section boss of the locality. Mountain railroads are built for the most part along the banks of some convenient stream. This necessitates a long and sinuous roadbed directly at the bases of innumerable mountain peaks. The almost continuous fall of snow during the winter months in the upper reaches causes the deposit of great masses upon the sloping summits and in the crevasses. In time a strong breeze from a particular quarter, or a sudden rise of temperature will loosen the mass and without warning hundreds of tons will slide down upon the tracks at the foot of the mountain.

In the majority of cases the only damage resulting is the blocking of the road until the ploughs can clear it, but at times lives have been lost and property destroyed. In December of last year an enormous slide almost annihilated the little town of Roger's Pass on the Canadian Pacific. The place was a divisional point and there were besides the regular station, a wooden round house, repair shops and a score of small frame dwellings. One afternoon, at twenty minutes past three, several men working near the turn table heard a peculiar sound in a ravine far above their heads. They stood listening for a few seconds then, as the truth dawned on them, they turned and fled down the track. With an indescribable and terrifying roar a great mass of snow and ice swept around a bend in the ravine, carromed against the opposite side and came thundering down upon the town. In a twinkling, station, round house, repair shops, dwellings and a number of cars were swept into the shallow gulch below the tracks. The division superintendent, who happened to be in the vicinity, telegraphed up and down the line for aid, but it was several days before the wreckage was finally cleared away. Effects of the slide are still visible at the pass.

During the work of rescue the men came upon a box car which had been thrown bottom side up against a clump of firs. As the party labored in the expectation of saving some of the missing persons they suddenly heard a voice chanting dolefully. The words were strange, but there was no mistaking the pathos or meaning of the dirge. Eager hands soon exposed the interior. In the bottom entangled with a jumble of dishes, broken furniture, cooking utensils, &c., were two Chinamen. They were almost hidden from view in the débris, but their voices were still strong—a fact very encouraging to the rescuers. The car, which had been utilized as the kitchen of a work train, was invaded and the victims lifted to a place of safety. It was observed at once, however, that the terrible experience had temporarily deprived them of reason. Although every effort was made to convince the Chinamen of their changed conditions it was not until a week had passed that they recovered sufficiently to tell their story. It consisted of these five tersely uttered words:

"Us slide down like bellee!"

One of the curious features of winter necessities on mountain roads in the West is the fitting of the tunnels and some of the sheds with tightly closing doors. When the tunnels were first built it was found that icicles formed in the roofs, sometimes so large that they actually endangered the trainmen in the engine cabs. The providing of doors, which were closed after each passing train, served to retain the steam from the engine, thus partially heating the tunnels.

SHE IS A TRAIN SPOTTER.

The Work Done by a Class of Private Detectives Employed by Railroads.

From the San Francisco Chronicle.

A little over three months ago there alighted from an Oakland ferryboat a demure little woman, who passed along with the crowd with scarcely a glance to the right or left. Her petiteness attracted some attention, and her modesty more, but no one who observed the air of confidence with which she made her way to the public carriage stand would have imagined that she was a stranger, and that for the first time in her life she was visiting San Francisco.

Giving a few quiet directions and entering a cab, she was whirled away from the hustling throng and driven to a hotel. Later the register contained an unassuming "Miss Waller, Chicago." Her room was No. 11. Calling a private messenger, she despatched a message to a firm of lawyers, and that evening, promptly at 8 o'clock, a prosperous-looking, well-dressed gentleman entered the hotel, glanced at the register, and, ignoring the clerk's question, "Do you wish anything?" passed by the waiting elevator and walked up the stairs.

That was Tuesday evening. On Wednesday morning Miss Waller might have been seen boarding a Market street car bound for the ferry, where she purchased a train ticket and crossed to the mole. She returned late on Friday evening, and Saturday morning the same messenger took a sealed letter to the same lawyers, but this time there was no evening caller. Saturday evening she left town again for a few days, and these trips were continued until one day last week when, by mere chance, the object of her repeated outings was discovered. On his occasion she was the possessor of a ticket to a city near the Missouri River, and she smilingly confessed that she was bidding good-by to San Francisco for some time to come.

As an illustration of the care which she must exercise in order to enhance her value to the big railway corporations in this country, it is only necessary to state that in the ten years which she has devoted to the business of spotter, or, as she would probably prefer to have it called, private detective, she has doubtless made fewer friends than any other one in the country. And while she will not allow any one to get thoroughly acquainted with her, she does not make enemies. That would be ruinous.

It is an unwritten law of the railroads that every employee is open to suspicion until he has been proved guilty, and the people who take upon themselves the task of seperating the two classes—those who are found guilty and those who are as yet merely under suspicion—are objects of the greatest contempt with the army of toilers who seek a living on the trains. To offset this unpopularity, however, they have the inducement of large financial returns. There is no iron-bound rule governing the amount of money which they receive, but the more proficient of the class probably make from $2,500 to $3,000 a year.

At times a railroad will have an important case on its hand and the services of a first-class spotter will be invaluable to the company, and on such occasions, if successful, the financial returns increase wonderfully.

There is a much greater demand for this class of detectives in the East than there is here, and several reasons are given for this condition of affairs. In the first place, traffic being heavier, there are more trains run there and more men are employed by the companies. Besides, that section is more thickly populated and way trains are in many instances run hourly, if not oftener; but probably the truest cause for the increased dishonesty among railway conductors in the East is the low rate of salary which they receive.

There is a well-defined belief among Eastern men who travel extensively that any man who has reached that degree of prosperity where he can afford to wear creased trousers is hopelessly extravagant if he pay more than one-third fare after crossing the Mississippi River. I once heard a man who gave as one of the reasons for this assertion in a resort on the Atlantic coast, and, after enlightening his audience with a dissertation on the almost utter worthlessness of money in the West, so far as railroad travelling was concerned, he continued:

"Take any train on any road west of Kansas City, St. Louis, Chicago or St. Paul, and the rest is easy. Assume an air of indifference and smoke a cigar. If your conductor be a seedy-looking, have a beard, an old uniform with threadbare elbows and a hopeless expression on his face, pay your fare. He is an honest man. A thousand dollars wouldn't tempt him, and you are out a whole stack of dollars for getting on his train. Had you waited for the next one things would have been different. There you have a prosperous-looking fellow, who spent his last hour before leaving time in a barber's chair, and who, but for his uniform, would pass for a drummer, or even a banker. He looks as well-fed and as well-groomed as a king, and you need have no fear that he will decline your invitation to divide the cost of your ride to your destination, or at least to the end of his division."

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GROWERS OF FREAK FRUIT.

COPYRIGHT OR PATENT LAW NEEDED TO PROTECT THEM.

Department of Agriculture at Work on a Bill—Improved Fruits, the Result of Long Research and Experiment, Which Bring Their Producers Little Financial Return.

WASHINGTON, Dec. 24.—The Department of Agriculture is at work on a bill designed to protect the products of freak fruit growers all over the country. It wants to secure by copyright or patent the work of men who spend their time trying to cultivate new species of fruit and plants—mainly fruit. Freak fruit growers is what the Department of Agriculture calls these men, and many of them are connected in some way with the department.

These men grow on their own farms, after a laborious series of experiments at grafting, such things as white blackberries, frost-proof oranges, apples which will grow down South, oranges which have no seeds, plums which are twice the usual size, strawberries of peculiar varieties, and various kinds of grapes. Men who devote years to the development of freak fruits, which are, of course, valuable on the market, ought to be secure in the enjoyment of their profits, yet there is at present no way to protect them from farmer pirates who may by accident or some other way obtain some of the stock.

The Department has not yet decided what form the proposed protection shall take. It does not know whether to issue a copyright or whether a patent will cover the case. The difficulty will be to describe in such detail the new fruit that it can be easily identified. In the case of the white blackberry—the most remarkable fruit developed during the past year—it is of course easy enough to identify it in case of contemplated infringement of the rights of the owner, but there are cases where it would be very difficult to prove that some other farmer has attempted to steal freak fruit and plant it upon his own land. As soon as the difficulties in the case are met by the comprehensive framing of a bill which will protect every one Congress will be asked to pass it.

It is probable that the Department will recommend the bestowal of a cash bounty upon every experimenter who succeeds in producing some fruit valuable to the human race. This may be either in the shape of a cash fund given in recognition of the efforts of the experimenter or of a cash payment, in return for which the experimenter will relinquish all right to his fruit to the Department of Agriculture, which will then distribute the stock over the country. It is recognized that if some experimenter produced a seedless apple, he would naturally want to realize as much as possible on his fruit by selling at almost prohibitive rates. The public would therefore lose the advantage of his discovery. If the Department of Agriculture undertook to act as a go-between, the affair could be arranged equitably for all concerned.

To talk of patenting or copyrighting a plant may sound rather queer to the average reader, but with the present advances in agriculture such a course is apparently necessary to enable the nurseryman to enjoy the fruit of his labor. This is brought about by the advances which have been made in the past decade in hybridizing or crossing plants of all sorts. It is a matter that has attracted the attention of scientists since the early part of the present century, and one sees the beautiful results in nearly all of the cultivated flowers which are made to vary in form and color and to increase in size year after year under the patient and skilful work of the scientific gardener. But this is the least important feature of the advances in this line. The crossing of various sorts of fruit trees and grains has produced some surprising results. One of the peculiarities of hybrids seems to be that frequently the offspring grows more rapidly than either of its parents. In fact, in the case of the California black walnut, which has been crossed with the eastern species, the hybrid plant produced a nut almost double the size of its parents, and the tree itself grew more than twice as fast as both parents together. The immense California plums which now rule the Eastern markets, and which are being exported to England and the Continent, are the product of Luther Burbank, the originator of the Burbank potato, and one of the most daring and successful of the present-day workers in this line. The Wickson plum, as it is known, is fully twice the size of either of its parents and is a more prolific plant. Mr. Burbank is working with several other plums, however, which promise so far to surpass the Wickson plum as it surpassed the parent stock.

It is not to be supposed, however, that the production of a new and superior species of fruit of any sort is the work of a single season or merely of swapping pollen at random among a lot of scrub fruit trees. The producer of hybrid fruit has his failures, as Beau Brummell had with his neckties, or as the famous oculist who averred that he "had spoiled a hatful of eyes before he operated successfully on one." An indication of this is found in a picture at the Agriculture Department, taken in the "junk heap" of Mr. Burbank's California orchard, showing an immense pile of raspberry, currant and blackberry canes, big as a small cottage, containing 130,000 rejected specimens which had developed nothing to make them worth preserving.

When one does produce an improved fruit, however, it pays for a good many failures. The catalogues of dealers in this line seldom quote a new plant at less than $500 or $400, while the control of several new standard fruits, berries, plums, quinces, and the like, have been sold at as high as $3,000. This was in the earlier years of the industry