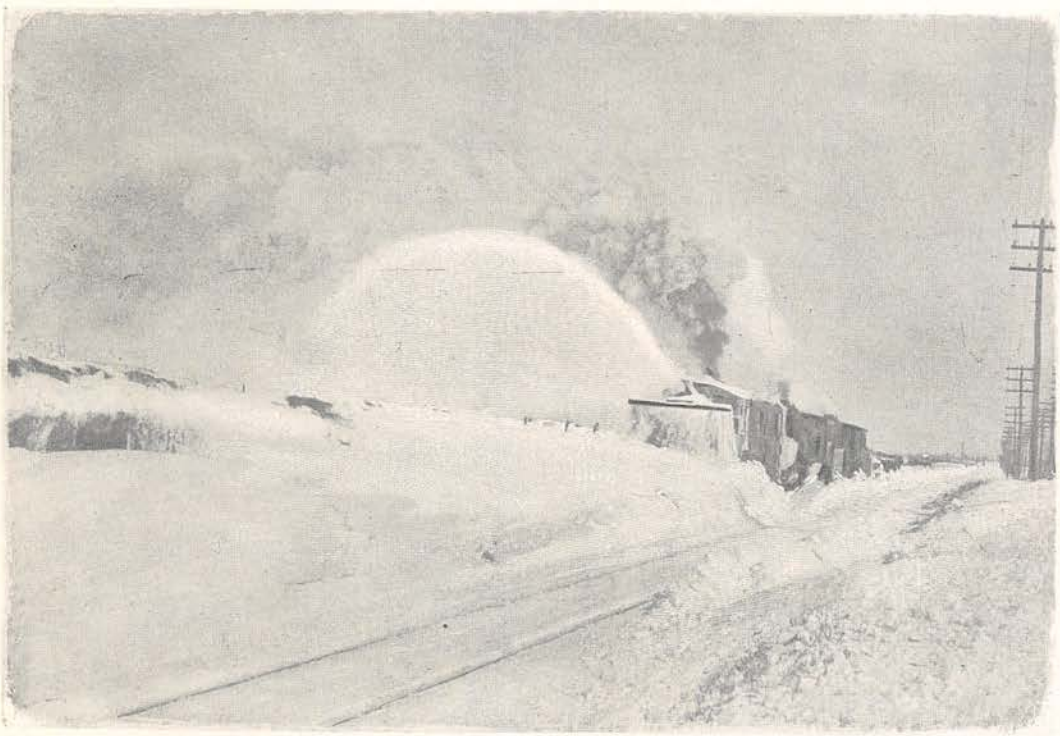
SNOW-PLOWS.*

By George E. Walsh.



A ROTARY PLOW THROWING THE SNOW CLEAR OF THE TRACK.

Riding on an engine at the rate of from sixty to seventy miles an hour is an experience exciting enough to convince most of us that nature never intended that we should be railroad engineers; but it is hardly an incident to riding on a snow-bucking engine when engaged in forcing a tunnel through immense snow-drifts with a wood-faced, steel-shod plow. The modern "rotary" has made the old snow-plows out-of-date, and robbed the Western blizzard of half its terrors. The great rotary makes a picturesque sight as it cuts through the snow like a cheese-paring knife going through its favorite medium, and the wonderful cataract of snow crystals that it hurls high into the air can be likened only to Niagara when its spray is carried like a mist in dense clouds far to one side.

When the bright morning sun, crisp and cold as a Klondike winter, comes out after a blizzard, and glints upon the sea of frozen snow, it forms a rainbow out of every curved hillside, and turns the cloud of flakes hurled up by the rotary into millions of descending diamonds.

But those who know aught of snow-bucking must feel a lingering sense of regret that science is robbing the great West of one of its most pic-

* The photographs illustrating this article are from scenes along the line of the Long Island Railroad Company, and are used by the courtesy of that company.

turesque winter scenes. For a quarter of a century fighting snow in the blizzard-swept States of the Northwest has been a task that has enlisted all the enthusiasm, heroism, and intelligence of a people devoted to the work of conquering nature in her roughest moods. For months at a time, year after year, it looked as if nature had the better of the fight, and for whole weeks man's greatest efforts seemed futile and weak indeed. The warfare was carried on unceasingly, but every blizzard stalled the iron horses and made their power as useless as the strength of a child.

It was on the bleak Dakota plains that the following happened—in the days when the old-fashioned bucking-plow had reached the height of its power, and was ready to succumb to the more efficient rotary. Year after year the order had gone forth from headquarters: "Build larger and heavier plows." The officials tried to make up in size and weight what the plows lacked in other respects. The evolution of the small bucking-plow of twenty years ago into the immense Congdon plow, faced with wood and shod with steel, marks the exciting stages of desperate snow-fighting in the West. Two or three big eight- or ten-wheel engines were necessary to back up this immense plow—to give it the right pitch and force to hurl it through the tons of snow.

The limit of size and weight seemed to have been reached, when the rotary appeared to solve the problem.

Early fall sometimes brought winter in full blast upon the Western plains, and the superintendent of the "chain-gang" generally had his men and plows ready long before Thanksgiving. An early blizzard might swoop down upon the country at any moment, and to find the railroad officials unprepared for it meant losses mounting well up into thousands of dollars. Plows, engines, "drag-outs," and shovels were all put in perfect order, awaiting the approach of a storm.

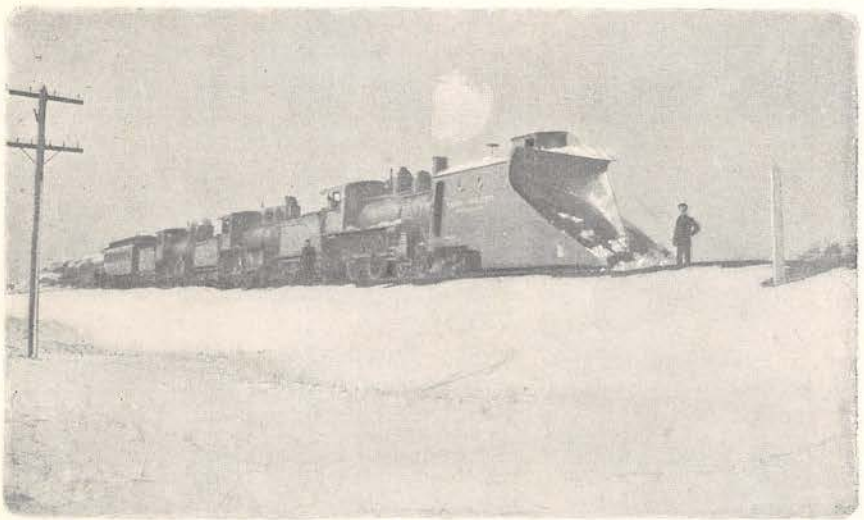
It came one fall earlier than usual; it was a month before the Christmas season, and by the time that festival arrived the snow-fighters felt that already they had had a winter of it. The wind first blew a soft gale across the cold country; then the flakes of snow descended in the most harmless sort of way, followed later by a biting wind and a rapidly falling thermometer. Like most blizzards, it came in like a lamb, and went out like a roaring lion. By noon the officials scanned the heavens apprehensively; by sundown the words of the tickers were watched eagerly as reports came pouring in from all directions, indicating a wide-spread storm. It was hardly dusk before the order was issued to get ready a few of the lighter snow-plows. These were always run out first, and nearly always were stuck in the snow. If the storm proved a mild one they would keep the tracks clear for ordinary traffic. But if the blizzard was correctly reported—and the worst was expected—the largest plows were called into service to head the procession that went sliding out into the white unknown world.

Except for short stretches, the plows were not sent out until the despatches began to indicate trouble. The reports showed that the trains were moving slower and slower on the whole line, and finally one was reported missing. She left Pinto or Baton at 10:30, and she should have reached Stratton at 10:45. But it was eleven, and she had not been heard from in half an hour. Apprehension grew in the office, and the fear that something had happened made the train-despatcher more careful with his table of other trains. A little later the ticker at Stratton announced that the engineer of the missing train had reached the station through the snow, reporting that his train was stalled in a deep cut a mile or two down the track. Orders followed thickly now, sending out snow-plows and shovelers to the stalled train. These were hardly despatched before news of other stalled and missing trains came pouring in from other points on the line.

By midnight there was a general tie-up, and the train service was demoralized. The blizzard was meanwhile raging with all its customary fury, and the mantle of snow was growing thicker every minute. But the officials were rendered powerless. Somewhere out on the prairies there were several hundred passengers cut off from warmth and food. Should they perish, the company would be held responsible, and incur financial burdens that would be more than

likely to swamp the road. Not only women and children, but car-loads of live cattle, were in the stalled cars, and before morning the poor animals might perish from the excessive cold.

The anxiety in the office was intense at this state of affairs, but nothing could be done until the storm had abated somewhat. If the track made by the snow-plows should close up behind them and cut them off from their supply of fuel, the difficulties of the road would be more than doubled. So the superintendent and his men waited with what patience they could until morning should dawn, and the blizzard show signs of ending. Train crews and snow-shovelers slept in the roundhouse, ready for an instant start when the order should come, and the engines were provided with all the coal, oil, and water they could carry. Steam had been up to a heavy pressure all night, and the great snow-plows had been buckled to the front of the powerful ten-wheeler. Sometimes the snow superintendent and his eager men were kept waiting for days for a blizzard to end.

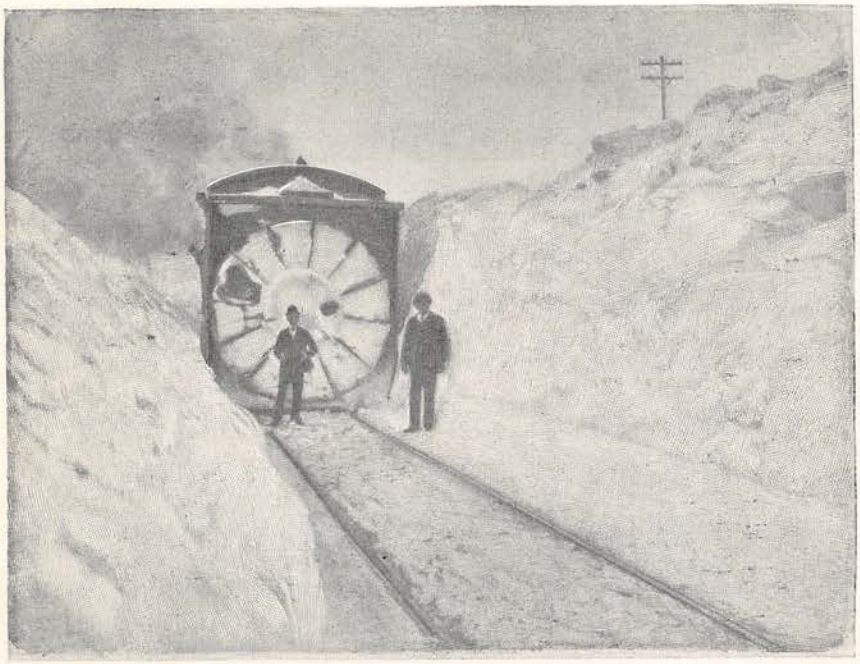


A WEDGE-PLOW PUSHED BY THREE LOCOMOTIVES.

The welcome word to attack the snow finally comes, and the plows leave the yard for their various destinations. On the main line the heaviest plows are used. One of these towers up almost to the top of the engine-stack, so that it can tackle the highest drifts that may be met. The engineer in his caboose cannot see ahead well, and the conductor has to direct him from his position on top of the cab, where a small cupola has been built. Behind the two engines driving the snow-plow comes the drag-out, and a train of cars loaded with provisions, clothing, extra coal, and a crew of shovelers. The drag-out remains at a respectful distance behind the snow-plow, and has an easy time of it in rolling over tracks cleared of snow by the plows.

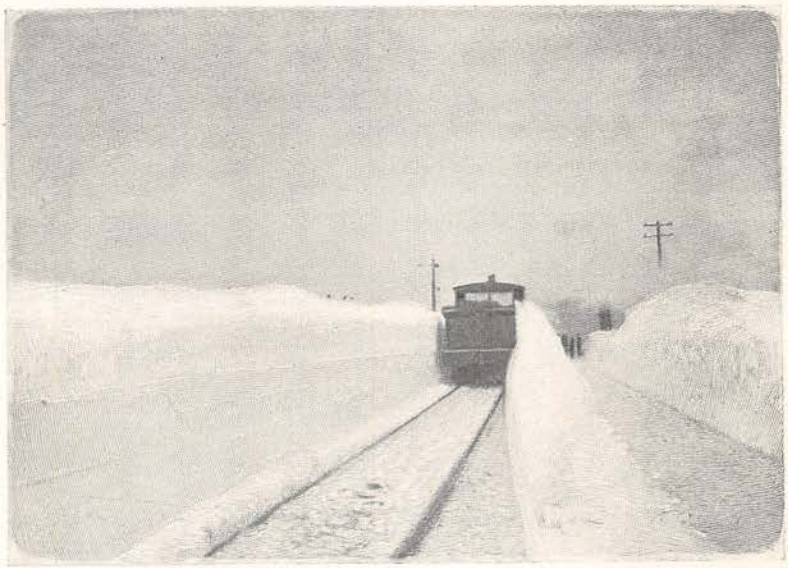
Out of the yard the procession moves. Then it reaches the plains, and as the snow has drifted off the track on the level, the plows have little difficulty in cleaning them of what remains. A twenty- or thirty-mile gait is struck, and the snow flies on either side of the plow as if shot out from a cannon. If no stalled trains are reported in this section, and no serious cuts are met with, the snow-plow goes merrily along, and the men join in the enthusiasm of the great inanimate machine, that seems suddenly endowed with life. But after a long run the plows cut the snow less swiftly and the speed of the train is slackened. A huge drift has packed across the track ahead. The train is stopped short of it, and the superintendent walks ahead to examine it. If he thinks the plows can go through it without the aid of the shovelers, the train backs up a mile or two, and then, under a thundering headway, it comes

down upon the drift with an impetus that fairly lifts the huge engines from the track. The first impact into the snow-drift gives a dull thud and jolt to the train; then all is darkness as the engine dives into the drift and bores its way through. The speed is slowly reduced, although the throttle of the engine is wide open, and for a few moments there is some anxiety as to whether the powerful engines will get through the mass before their headway is stopped entirely. It is a moment of intense suspense as the train gradually slows up and comes almost to a standstill. Then suddenly light shoots out of the darkness ahead, the speed of the puffing engines increases, and in another moment we are clear of the snow-drift. There is a sigh of relief from the half-smothered conductor overhead, and a shout of glee from the trainmen.



A ROTARY PLOW STANDING IN A DRIFT. FRONT VIEW, SHOWING THE CUTTING-WHEEL.

Another run across the country is then made, and in the crisp morning air the journey is exhilarating. But there is a dangerous cut ahead, and the engineer slows up instinctively. This cut is a natural receptacle for snow, and there is no likelihood of its being open this time. The great snow-plow pokes its nose close up to the beginning of the cut, and then the superintendent again runs ahead to make examination. This time he decides that it is too great a risk to attempt to force



VIEW OF TRACKS FREED OF SNOW, THE CLEAR CUT MADE BY THE ROTARY PLOW, AND THE SNOW AS FORCED BACK BY THE WEDGE-PLOW.

the plow through the densely packed snow. There is danger of the plow leaving the track and causing a general wreck and tangle. So, in no uncertain voice, he orders the two hundred or so shovelers out of their car, and under his direction they undermine the great bank of snow. The science of engineering is displayed here, for the drift must be honeycombed in such a way that the plow will be enabled to pass clean through it. Trenches, holes, and tunnels are cut in the deepest places. Then the two engines with the snow-plow back up probably two miles to get under sufficient headway. The plow is examined and found to be in good condition. Then, with a piercing whistle, the engines start forward. This is the most picturesque and awe-inspiring run of any. The throttle is thrown wide open, and the engines rush forward with mad impetuosity. Before half the distance is covered you are swinging through the air at forty miles an hour, and by the time the cut is reached the speed has increased to sixty or seventy. To be hurled against a gigantic snow wall at this rate of speed is an experience sufficient to daunt the stoutest heart. The conductor crouches down in the caboose, the windows are tightly closed, and the snow-curtains drawn. There is a moment of sickening suspense, then a dull thud and shock, and then complete darkness and a sensation that you are being whirled downward by some mighty and irresistible power. It is only the mighty snow-plow pushing its way through the snow, but the queer sensation makes you hold your breath.

To cap the climax, the engines stop. You open the snow-curtains. All is dark. You are buried ten feet deep in snow, the engines are stalled, and the magnificent snow-plow is overcome by the force of the tons of snow. There is nothing to do until the snow-shovelers have dug you out. Then, with the help of the ten-wheel drag-out engine, the plow is pulled back from her bed of snow. Again and again the operation is repeated until the cut is cleared.

Outside, the scene is even more picturesque, for the force of the snow-plow sends the white crusts in the air as if a huge mine had been exploded. For a hundred feet on either side the snow falls in showers of diamonds, burying out of sight any who may venture too near the track.

Sometimes the shock of striking the snow at a sixty-mile gait smashed things generally in the cab, and knocked every one down. The snow flew into the caboose, and that and the escaping steam nearly suffocated you. The fight went on in this way day after day until the line was cleared. Then very likely another blizzard would come after the first, and make it necessary to do the work all over again. It was often discouraging and hopeless work the long winter through, and when the dawn of the spring sun melted the mantle of white that had shrouded the landscape for five months, the snow-fighters gave a sigh of relief.

The advent of the rotary snow-plow has robbed the Western roads of much of these old-time terrors, but it has also abolished a picturesque and exciting warfare between man and nature in her roughest, wildest mood.

JINGLE.

By Joel Stacy.

There once was a knowing raccoon
Who did n't believe in the moon.
"Every month—don't you see?—
"There 's a new one," said he.
"No *real* moon could wear out so soon!"