

414.018.3

Anchorage, Alaska
March 23, 1945

AIR MAIL

Mr. J. I. Stewart
Chairman, Machinery and Tool Committee
New York Central System
Room 102, Center Terminal
Buffalo 12, New York

Dear Mr. Stewart:

This will acknowledge receipt of your letter of February 10 in which you make inquiry concerning the type of equipment used for snow removal on The Alaska Railroad.

Three type of equipment are used: Rotary plows, Russell wing push plows, and spreaders. All locomotives are equipped with pilot plows and air operated flangers. The flangers are placed beneath the pilot just ahead of the engine truck wheels. Locomotive flangers are operated in all classes of service. Snow fleet cabooses are also equipped with air operated flangers. Flangers on cabooses have been found very useful in making back-up movements during heavy snow storms and blizzards. It has been found advisable to remove pilots and pilot plows from locomotives used to push snow plows. They have a tendency to pick up and push everything left by the plow, and also prove detrimental when making back-up movements in deep snow.

All main line switches, road crossings, and bridges having guard rails are protected by permanent flanger boards placed on the right side of the track 12 feet from the center and 100 feet distant to warn engineers and snow plow pilots to raise flangers approaching such obstructions.

Rotaries and Russell plows are usually handled by two locomotives. Pusher engines are controlled by whistle signal from the plow.

Conditions on this property vary considerably, some districts being mountainous with heavy, wet snowfall often accompanied by snow-slides of varying length and depth, while others are fairly level with comparatively light snowfall and low temperatures. The equipment used is naturally governed by prevailing conditions.

The Russell plows have proven very effective in handling the first snows of the season before a deep cut has developed, and, except for the mountain districts, can usually handle the situation at all

times. Russell plows are most effective when handled at speeds of 25 m.p.h. or over. On districts where snowfall is comparatively light and the track is usually kept open by the movement of ordinary traffic, Russell plows are used occasionally to widen the cut and keep the center down to clear.

Rotary plows are used in heavy snowfall and snowslides. Heavy, wet snow sometimes has a tendency to bulldoze and pile up ahead of a rotary plow instead of feeding into and being thrown clear by the wheel. This condition becomes so aggravated at times that two locomotives are unable to push the plow. To overcome this trouble it has sometimes been necessary to remove about four blades from the rotary wheel, taking care to do so in a manner that will keep the wheel balanced.

The method employed in handling a high hard face of snow, such as a snowslide, is known as "bucking." By reversing the locomotives the plow is moved alternately forward and backward a distance of three or four feet. The operator uses a wide throttle each time it is jammed into the face, easing off as the wheel clears itself, and he is pulled back with the next forward move. Headway of from one to five feet can be made each move depending on the density of the snow. In work of this kind it is advisable to back out of the cut after each five or six moves to examine the rails, as they will sometimes ice up and cause a derailment if not flanged out by hand.

When the depth of a snowslide exceeds the height of the rotary plow, the face of the slide is blasted down with powder to a depth where it can be handled. Usually a slow acting powder similar to a stumping powder is used for this purpose.

Rotaries are equipped with air operated flangers and ice picks. The flangers are located between the forward and rear trucks. The ice picks are placed ahead of the front truck and behind the rotary wheel. The ice picks are effective in flanging the rail when ice conditions are encountered.

The nose plows or spreaders are also fitted with ice picks of tool steel across the entire front and are used for the removal of ice. Spreaders are used in conjunction with rotaries for cleaning yards and for the removal of the comb between tracks in the following manner:

First, the rotary is put through, followed by the spreader with one wing out. This clears the first track and the space between it and the adjoining track. This performance is repeated on each track until all are cleared. Cars can be set over as the work progresses. If switch stands are temporarily removed, this procedure results in a very clean job.

Rotary plows used here are built by the American Locomotive Company. Russell plows are built by the Russell Snow Plow Company of

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Ridgeway, Pennsylvania, and the spreaders are built by O. F. Jordan Company of East Chicago, Indiana. Drawings of the above snow removal equipment are enclosed.

We do not have any written instructions for operation of snow plows except those covering train rules et cetera, copy of which is enclosed. The actual operation of snow plows is largely a matter of experience, and many of our men are well trained. Our snow fleets are usually accompanied by a Roadmaster, Road Foreman, or other official experienced in this line of work.

The Canadian Pacific and the Canadian National Railways have, I understand, also some very efficient snowfighting equipment, particularly rotary machines, and I would suggest that a request be made to these lines for information as to various types of equipment they have.

Trusting that the information contained herein may be of use to you, I remain

Sincerely

Signed: O. F. Ohlson

O. F. Ohlson
General Manager