No. 731,320. PATENTED JUNE 16, 1903.

J. P. NEWELL.

SAND GUARD FOR RAILROAD TRACKS.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.

Fig. 1.

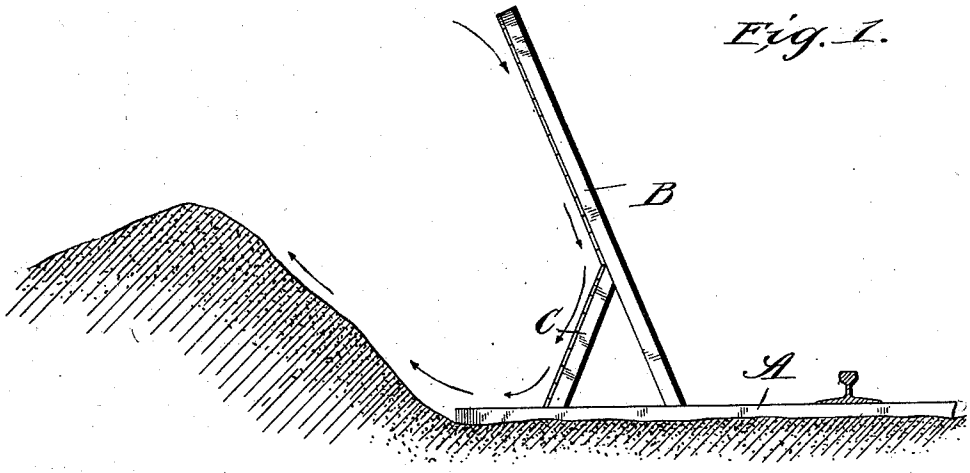
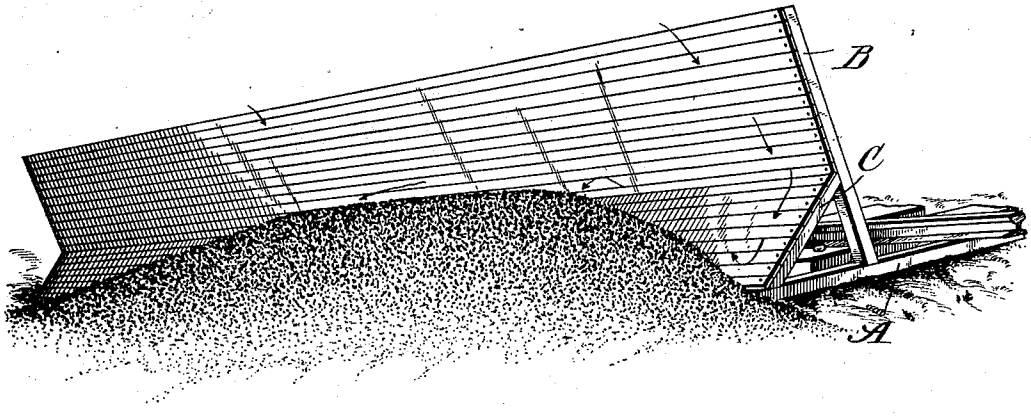


Fig. 2.



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No. 731,320. Patented June 16, 1903.

UNITED STATES PATENT OFFICE.

JOSEPH PETTUS NEWELL, OF PORTLAND, OREGON.

SAND-GUARD FOR RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 731,320, dated June 16, 1903.

Application filed October 9, 1902. Serial No. 126,472. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH PETTUS NEWELL, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Sand-Guards for Railroad-Tracks, of which the following is a specification.

The main object of my invention is to protect railroad-tracks from drifting sand, and with that object in view I have invented and constructed an improved sand-guard of peculiar conformation designed to divert drifting sand away from the track and carry it along by the diverted wind to a position where it can do no harm.

The invention consists, broadly stated, in a novel guard fence or wall intended to be set at an angle with the prevailing winds and between the track and the approaching sand drifts, adapted to catch the wind and turn it downward with added force sufficient to divert the moving sand, which, with the diverted wind, will be carried along in a direction parallel with the front of the guard and deposited at a point where further drifting can do no harm or the sand be hauled away upon excessive accumulation thereof.

While my improved guard is chiefly intended to protect railroad-tracks from drifting sand, its action is the same with drifting snow.

I would have it understood that my invention comprehends many and various modifications without departing from the spirit thereof, according to circumstances and the property of whatsoever nature desired to be protected against sand or snow drifts.

In order to enable others to make and use my invention, I will now proceed to describe it in detail with reference to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a transverse sectional view through my improved sand-guard, with arrows indicating the path of the wind and its downward and outward diverted direction; and Fig. 2 is a perspective view of my invention, with arrows indicating the downwardly-diverted wind and also its path along parallel with the length of the guard, operating to carry the drifting sand away from the guard and along to the end of the guard.

My invention comprehends the broad idea of a fence, wall, or other upright structure having its windward side inclined, curved, or otherwise fashioned, adapted to deflect the wind downwardly to an outwardly sloping, curved, or otherwise fashioned lower surface of the fence, wall, or structure, operating to deflect or divert sand away or into the eye of the wind, and thereby obviate undermining of the fence, wall, or other structure, which I term a "sand-guard" and will so refer to it in the following description of its detail construction. In addition to the special construction of the face or windward side of my sand-guard the invention also comprehends arranging the guard at an angle with the prevailing winds, and, further, when desired in constructing the guard with increasing height toward its leeward end.

In my drawings, which illustrate one means adapted to the purpose, A designates one of a series of base-timbers that may be anchored to the ground by projecting one end thereof under the track-rails, as shown, or be secured by other means that will suggest itself to those skilled in the art.

B indicates upright beams supported at an inclination away from the track by brace-arms C, extending from a point near the lower end of the upright beams B or such other point as best suited to the purpose, outwardly to the end of the base-timber A.

The parts just described may be secured together by any means and in any suitable way providing security to the structure and an effective anchoring against the force of the winds.

In further carrying out my invention I sheath the windward side of the structure from the upper end of the beams B to the lower end of brace-arms C.

I would have it understood that any desired material may be employed in constructing my guard. In some instances it may be desirable to construct it of stone, brick, or plastic composition molded to shape, and in other instances wood or metal or a combination of all the materials above mentioned may be used.

While I do not desire to be limited to any particular arrangement of my guard with relation to the track, I believe better results are

attained with the guard located at an angle with the prevailing winds.

With a guard as above described the winds strike the upper edge and surface of the leaning member of the guard, as indicated by the arrows, and is deflected downwardly (indicated by arrows) against the inclined lower member of the guard, which latter turns the wind backward or away from the lower edge or base of the guard, obviating undermining, as best shown in Fig. 1 of my drawings. With the wind diverted, as above described, an air-current will be created along the front of and parallel with the guard somewhat stronger than its incoming force, operating to carry the drifting sand, snow, or other material along to the leeward end of the guard, where it can do no harm and adapted to be removed from time to time by carts or other means. In some instances it may be desirable to gradually heighten the guard from end to end or slightly toward its leeward end.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A guard of the character described in which its windward side is formed of an upper leaning member and a lower angular member, substantially as described.

2. A guard of the character described having its windward side formed of sloping surfaces, the upper of which inclines rearward and the lower of which inclines forward, substantially as shown and described.

3. In a guard of the character described and in combination, means adapted to support the guard, means on its windward side serving to deflect downward, and means along the lower portion of the guard adapted to deflect to the windward, substantially as described.

4. A structure of the character described having its windward side closed from the ground upwardly by a double incline surface, the lowermost and uppermost of which being arranged at an angle one with the other, substantially as shown and described.

5. The combination in a structure of the character described, of upwardly-leaning beams, braces supporting the said beams, and a sheathing on said beams and braces extending upwardly from the ground operating to divert approaching drifting material, substantially as described.

6. A guard of the character described, provided at its lower portion on its windward side with a member or section inclined to the vertical, and sloping toward the windward, whereby to divert sand and the like outwardly away from the guard.

7. A guard of the character described, having at its lower portion on its windward side an outwardly-sloping surface and having at its upper side a surface sloped reversely to the lower surface and uniting at its lower edge with the upper edge of the lower surface, whereby to form a trough to divert drifting material parallel with the guard.

JOSEPH PETTUS NEWELL.

Witnesses:
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