No. 746,985. PATENTED DEC. 15, 1903.

W. H. McLAREN.

CATTLE GUARD.

APPLICATION FILED JAN. 17, 1903.

NO MODEL.

FIG. 1.

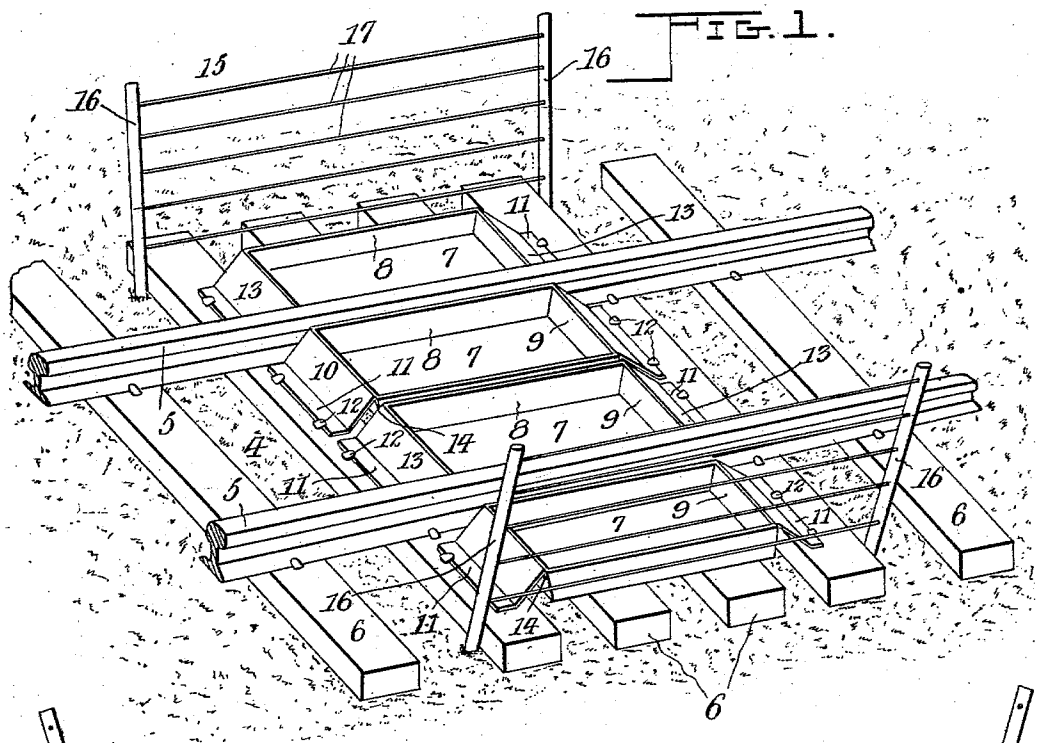
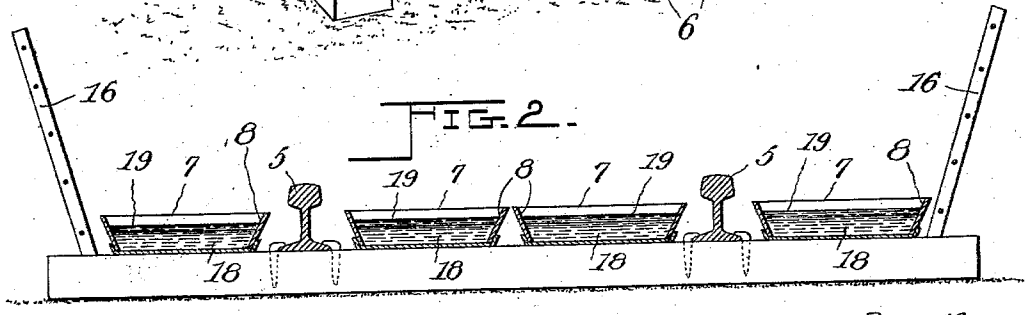


FIG. 2.



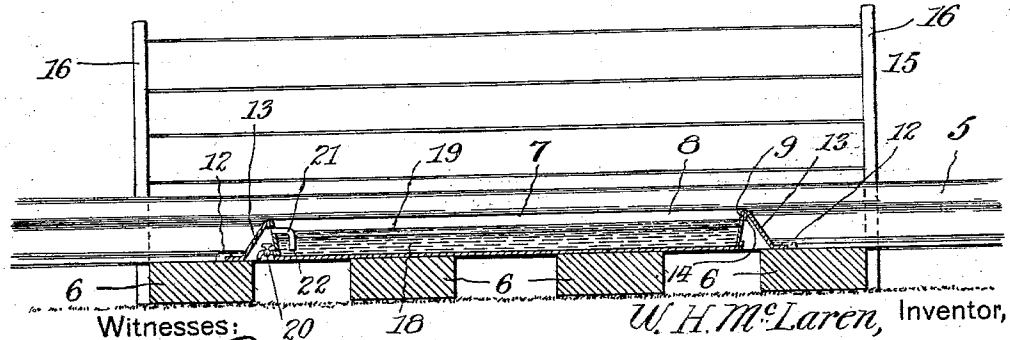


FIG. 3.

Witnesses:

J. Ed. Page.

F. D. Ammen

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 746,985. Patented December 15, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM HENRY McLAREN, OF HIGHGATE, CANADA.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 746,985, dated December 15, 1903.

Application filed January 17, 1903. Serial No. 139,464. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY McLAREN, a subject of the King of Great Britain, residing at Highgate, county of Kent, Province of Ontario, Canada, have invented certain new and useful Improvements in Cattle-Guards; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to railway cattle-guards; and my object is to provide a simple device of this kind which while it is very inexpensive will at the same time be quite effective in preventing cattle from passing.

The invention is adapted to operate upon an animal's natural instincts, inspiring the cattle with awe or fear, and in this regard it would seem to be decidedly unique.

The invention contemplates an arrangement comprising a pool of suitable fluid which is adapted to give the impression that it has great depth. The construction employs vessels or pans which are quite shallow and adapted to contain a liquid, provision being made for maintaining these pans intact and such a liquid being employed as will be calculated to dissuade the cattle from passing.

The invention consists in the construction and combination of parts to be more fully described hereinafter and definitely set forth in the claims.

In the drawings which fully illustrate my invention, Figure 1 represents the same in perspective. Fig. 2 is a transverse section of the guard, taken in a plane at right angles to the direction of the railway as will appear. Fig. 3 is a section taken in a plane passing in the same direction as the railway.

Throughout the drawings and specification the same numerals of reference indicate like parts.

Referring to the parts more particularly, 4 represents a railway-track, which may be of the usual construction comprising rails 5 and cross-ties or sleepers 6.

In applying my invention I provide between the rails and on each side thereof the vessels or pans 7, arranged, preferably, as illustrated, there being two of them between the rails and one disposed at each side near the ends of the sleepers, as indicated. As stated, these vessels are simply pans, and they are preferably made of galvanized iron or similar material, having flaring or divergent sides 8 and similarly-divergent ends 9. These pans rest upon the upper sides of the cross-ties 6, as shown, and are held in place by means of the plates 10. These plates comprise flat portions 11, which are intended to be secured to the ties by suitable means, such as the spikes 12. shown. They comprise inclined flanges 13, which are turned under to form edges 14, adapted to lie against the ends of the pans in the manner shown.

In the pans 7 I place a quantity of water 18, which may be about two inches depth, and upon the surface of this water I pour a liquid 19, such as crude coal-oil, the surface of which constitutes a good reflector, so that when approached by the cattle they receive a false impression in regard to the depth of the fluid and are incidentally startled at the reflections of the objects which they see upon its surface. In this manner their fears or natural instincts are worked upon, and they retreat without ever discovering the fraud which has been practiced upon them. The oil also serves other purposes. It keeps the water from evaporating and prevents the stock drinking the water, which they might otherwise do. In connection with these pans 7 I employ side rails or guard-rails 15, such as it is often usual to employ in cattle-guards of ordinary construction. These guard-rails may consist simply of stanchions or posts 16, between which wires 17 are stretched in the manner indicated.

In order to provide for draining the pans when necessary—for instance, when they must be removed to repair the road-bed—I provide them with suitable drain-cocks, one of which is shown at 20 in Fig. 3, and in order to meet the difficulty which may arise from the constant accumulation of rain-water in the pans provision is made for maintaining a constant level within the pans. To this end pieces of bent pipe are employed, one of which is shown at 21. It should be observed that the lower extremity 22 of this pipe is at a very low level, so that it is immersed in the water below the oil-level. In this manner the water alone is allowed to

overflow; but the level within the pans is maintained.

Anticipating that the water that is in the pans will be in danger of freezing in cold weather, I expect to take the precaution to prevent this. To this end I may place a quantity of salt in the water or employ other means for preventing its freezing.

It should appear that the arrangement of the plates 10 described will effectively prevent any possibility of the pans being disturbed by engaging with loose chains or any other similar body hanging down from the under side of the car.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

What I claim as new, and desire to secure by Letters Patent, is—

1. A cattle-guard comprising a plurality of shallow open vessels disposed in a railway road-bed, and a liquid having a highly-reflective surface contained within said vessels.

2. A cattle-guard comprising a plurality of shallow open vessels disposed transversely of the railway road-bed and containing crude coal-oil.

3. A cattle-guard comprising a shallow open vessel disposed in the railway road-bed, water contained therein, and a second liquid, said second liquid being of lighter specific gravity than water and having a highly-reflective surface.

4. A cattle-guard comprising a plurality of shallow pans disposed in the railway road-bed, water contained in said pans, and a second liquid, said second liquid being of less specific gravity than water, having a highly-reflective surface, and being of a nature distasteful to cattle for drinking.

5. A cattle-guard comprising a vessel disposed in a railway road-bed, water contained therein, and a lighter liquid thereabove having a highly-reflective surface, said vessel having an opening adapted to fix the maximum level of the fluid within the same.

6. A cattle-guard comprising an open vessel containing water, and an oily liquid thereabove, and a tubular member having a downwardly-bent receiving-mouth dipping into the water and adapted to maintain the same at or below a fixed level.

7. A cattle-guard comprising a plurality of shallow open pans disposed in the railway road-bed, a liquid of a highly-reflective nature contained therein, a heavier liquid upon which said first liquid is adapted to float, said pans having orifices, the entrance to which is at a lower level than said orifices, and drain-cocks.

8. A cattle-guard comprising open vessels disposed in the railway road-bed, guard-rails at either side thereof, and a liquid contained in said vessels.

9. A cattle-guard comprising shallow open vessels disposed in a railway road-bed transversely thereof, and at a crossing, sections of fence disposed at either side of said road-bed adjacent to said open vessels, said open vessels resting above the sleepers in said road-bed, and inclined plates disposed at the front and rear walls of said vessels and adapted to retain the same in place.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM HENRY McLAREN.

Witnesses:
JOSEPH HENRY REYCROFT,
ARTHUR C. CRAIG.