J. GABRIELSEN.

CATTLE GUARD.

APPLICATION FILED MAY 22, 1911.

1,017,529.

Patented Feb. 13, 1912.

2 SHEETS—SHEET 1.

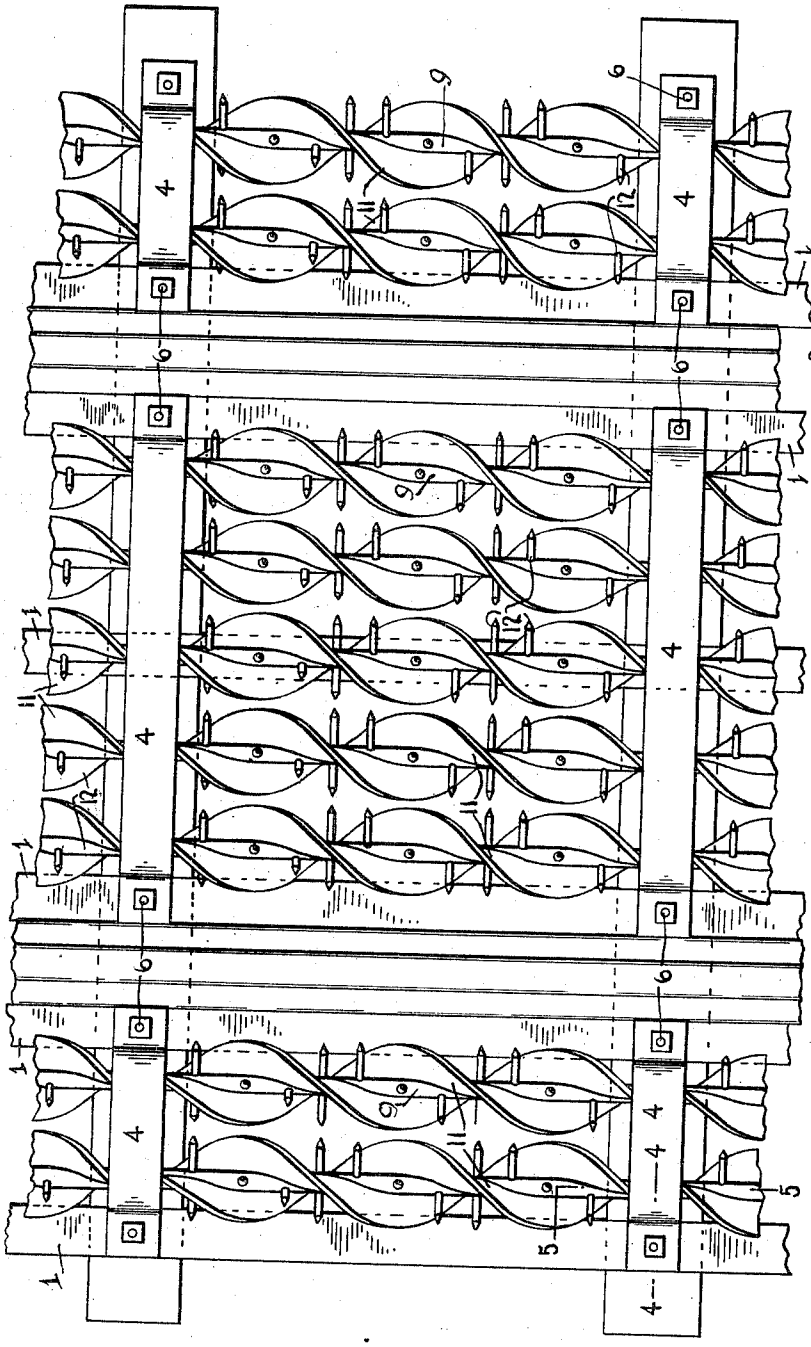

Fig. 1.

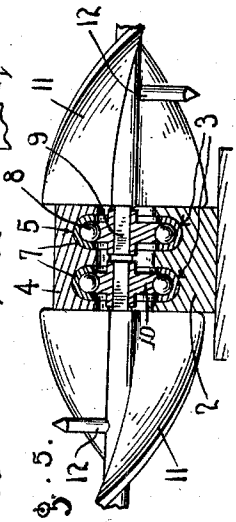

Fig. 5.

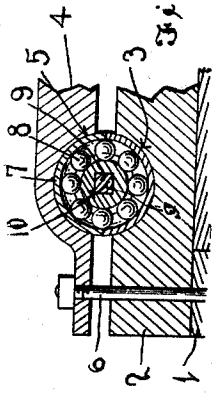

Fig. 4.

Witnesses

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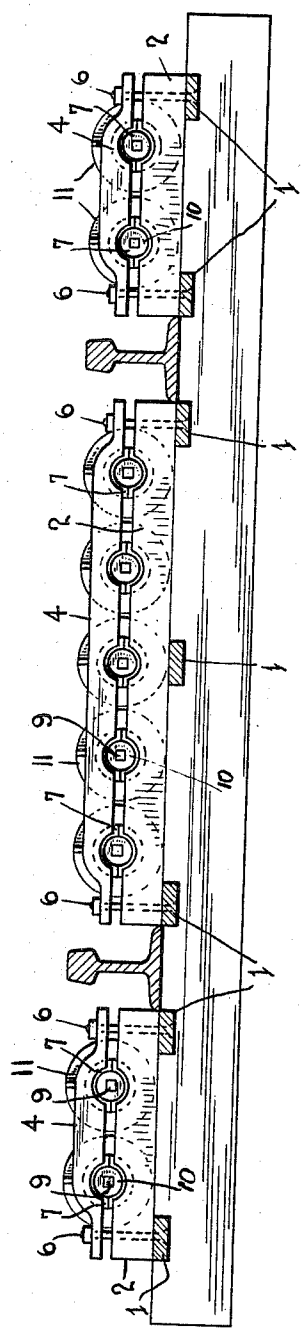

Fig. 2.

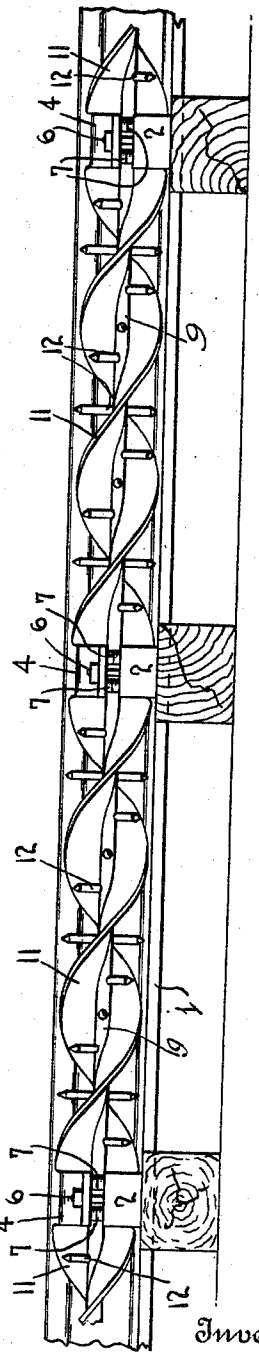

Fig. 3.

Witnesses

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JOACHIM GABRIELSEN, OF GRAETTINGER, IOWA.

CATTLE-GUARD.

1,017,529. Specification of Letters Patent. Patented Feb. 13, 1912.

Application filed May 22, 1911. Serial No. 628,615.

To all whom it may concern:

Be it known that I, JOACHIM GABRIELSEN, a citizen of the United States, residing at Graettinger, in the county of Palo Alto and State of Iowa, have invented certain new and useful Improvements in Cattle-Guards; and I do declare the following to be 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.

This invention relates to improvements in cattle guards for railway tracks.

One object of the invention is to provide a cattle guard of this character comprising a series of longitudinally disposed revolubly mounted rollers arranged between and along the outer sides of the tracks and having formed thereon spirally arranged flanges and spurs whereby an animal will be prevented from crossing the same.

With this and other objects in view, the invention consists of certain novel features of construction and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a plan view of a portion of a railway track showing my improved guard applied thereto. Fig. 2 is a cross sectional view of the tracks showing the guard in end elevation. Fig. 3 is a side view of the same. Fig. 4 is a detail vertical sectional view of the bearing for one of the rollers taken on the line 4—4 of Fig. 1. Fig. 5 is a similar view taken at right angles to Fig. 4 on the line 5—5 of Fig. 1.

In this embodiment of the invention I provide a series of longitudinally disposed supporting sills or stringers 1 which are arranged across and secured to the ties adjacent to the opposite sides of and between the rails as clearly shown in Figs. 1 and 2 of the drawings. On the longitudinal bars or stringers 1 and preferably at intervals of about two feet or over are arranged lower roller supporting bars 2 having formed therein at intervals semi-circular bearing recesses 3. Arranged over and secured to the lower roller supporting bars are upper roller retaining bars 4 in the lower sides of which over the recesses 3 in the bars 2 are formed semi-circular bearing recesses 5.

The upper roller retaining bars 4 and the lower bars 2 are bolted together at their ends and to the stringers 1 by fastening bolts 6. Arranged in the bearing recesses 3 and 5 in the ends of the bars 2 and 4 are semi-circular casings 7 which when brought together form annular ball races adapted to receive bearing balls 8.

Arranged between and on opposite sides of the tracks are axles 9 the ends of which are squared and have fixedly mounted thereon grooved bearing wheels 10 the peripheries of which engage the bearing balls 8 in the ball races formed by the casings 7 whereby the axles 9 are revolubly supported.. On the axles 9 are secured spiral flanges 11 between which are arranged a spiral row of pointed spurs 12.

By arranging and supporting the axles 9 as herein shown and described it will be seen that should an animal step upon the guard the axles will turn, thus causing the spiral flanges and spurs to engage the animal's feet or hoofs and pinch and prick the same thereby deterring the animal from crossing the guard.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention claimed.

Having thus described my invention, what I claim is:

A cattle guard for railways comprising a series of stringers secured to the ties of the railway, a series of transversely disposed lower cross bars secured to said stringers, said bars having formed therein bearing recesses, a series of upper bars arranged above and secured to said lower bars and having

formed in their lower faces bearing recesses, casings arranged in said recesses to form annular ball races, bearing balls arranged in said races, a series of guard axles, and grooved wheels fixed on the ends of said axles and adapted to engage the balls in said races.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOACHIM GABRIELSEN.

Witnesses:
CHRIS. JENSEN,
WM. MUELLER.