(No Model.) 2 Sheets—Sheet 1.

M. WALSH.

CATTLE GUARD.

No. 453,096. Patented May 26, 1891.

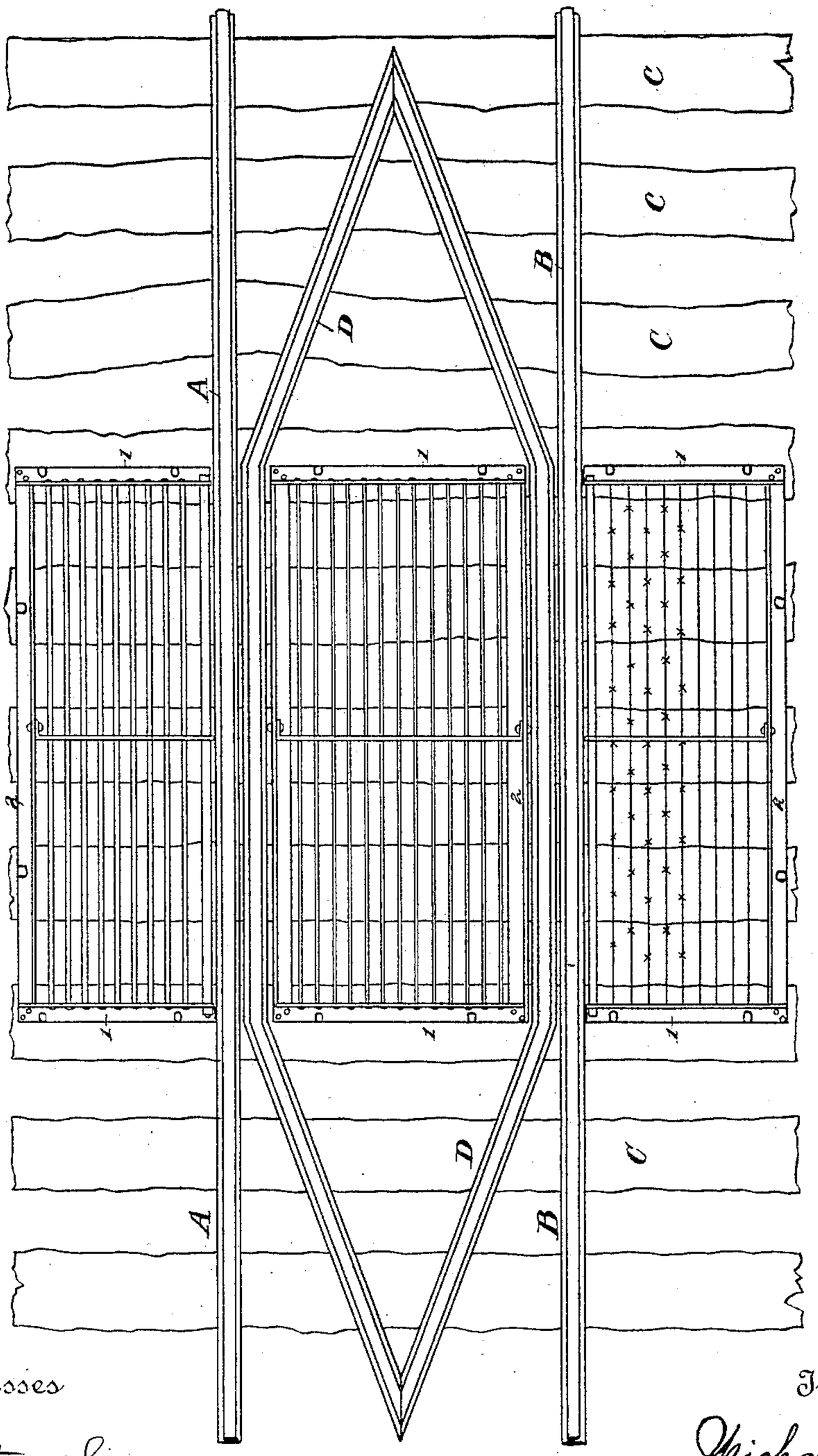

Fig. 1.

Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

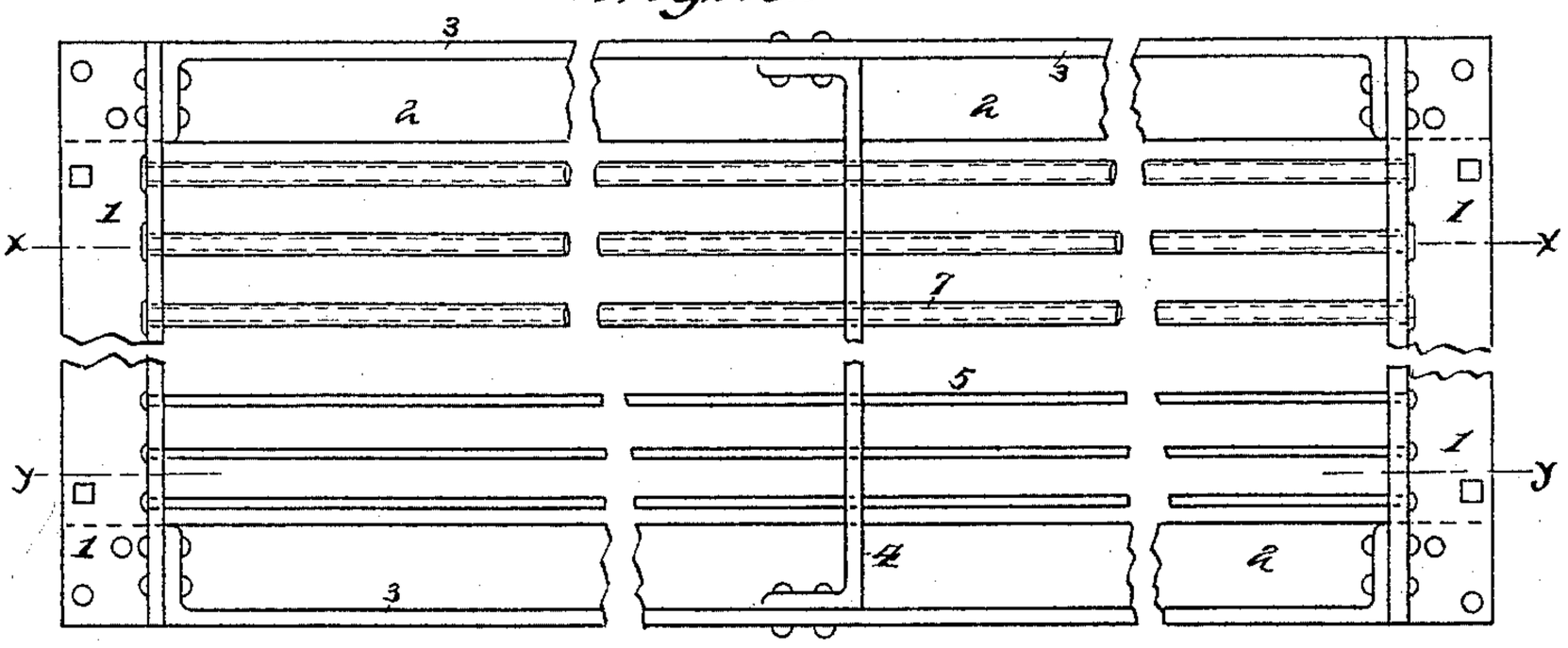


Fig. 3.

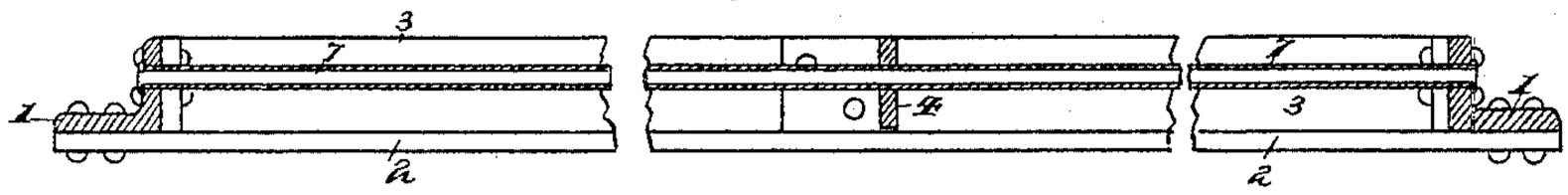


Fig. 4.

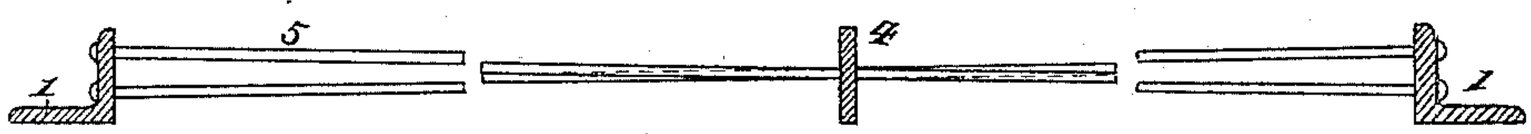
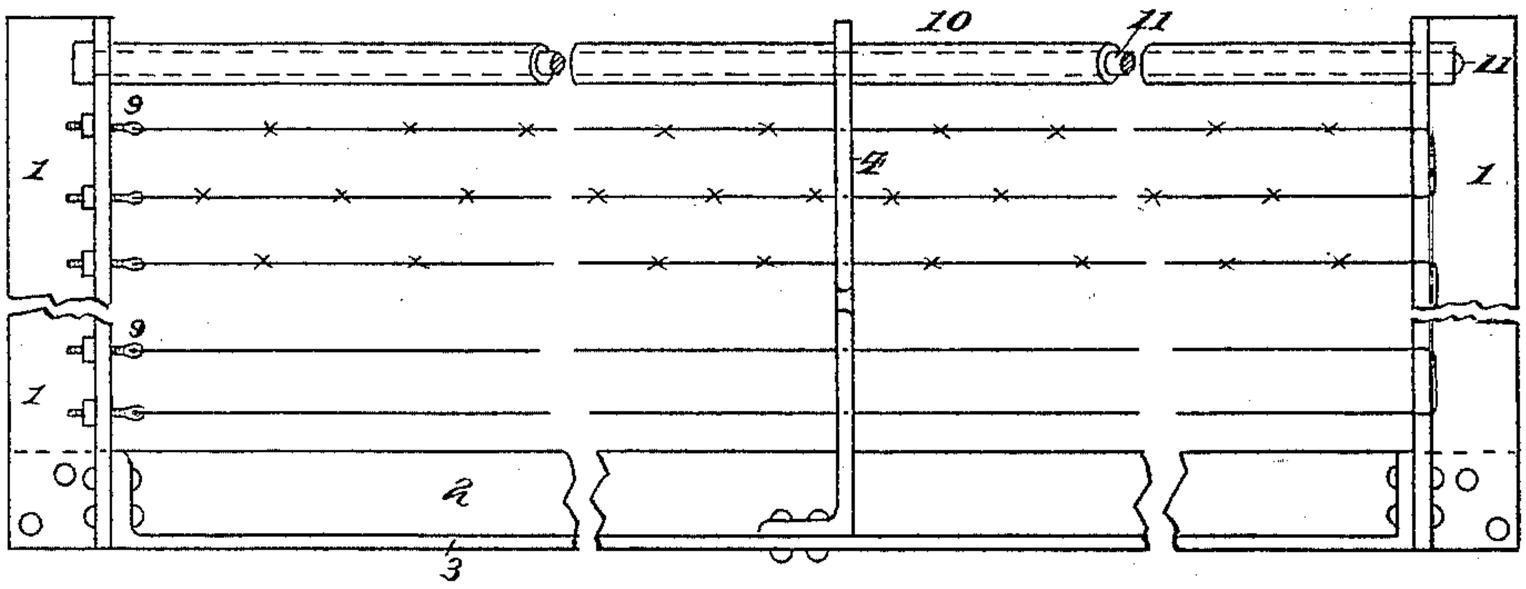


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

MICHAEL WALSH, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO FREDRIC C. WEIR, OF SAME PLACE.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 453,096, dated May 26, 1891.

Application filed May 27, 1889. Serial No. 312,293. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL WALSH, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cattle-Guards, of which the following is a specification.

The object of my invention is to provide a novel, cheap, and effectual cattle-guard to be used upon a railroad at the intersection of a crossing road to prevent stock from going upon the line of the railroad or track.

Another object of my invention is to provide a novel cattle-guard which will avoid the use of a pit and timbers inclosing the same, all of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top plan view of my improvement. Fig. 2 is an enlarged plan view of a section thereof, showing two modifications of crossing-rods. Fig. 3 is a section on line *x x*, Fig. 2. Fig. 4 is a section on line *y y*, Fig. 2, but of modified form of construction. Fig. 5 is a plan view, partly in section, of the preferred form of construction.

A B represent the rails of the track; C, the ties on which the said rails are laid, and D inside guard-rails, which are brought to a point at either end.

The cattle-guard proper is composed of a rigid frame, preferably a parallelogram in form, and of sufficient length to prevent stock from leaping over the same. The frame is preferably constructed of angle-irons.

1 represents end pieces, and 2 the side pieces.

3 represents the flange or ledge of said irons.

4 represents a central cross or stiffening brace.

5 represents longitudinal or transverse flexible rods or wires adapted to tremble or vibrate, the ends of which are rigidly secured to the frame-pieces 1, as shown in Fig. 2. These rods are placed sufficiently near together to prevent animals' feet from going through between the rods and coming in contact with the road-bed underneath, and being made small and flexible they hurt the feet of the animals and tremble under their weight, so that the animals are frightened by the apparent insecurity of the structure of the crossing.

In Figs. 1 and 5 I have shown flexible rods or wires having barbs, while in Fig. 2 I have shown hollow or tubular rods 7, connected to the flanges of the end pieces 1. The preferred form of connection is to pass the pipe through holes in the flanges and then with a shaping-tool turn or ream the metal out to form a head.

In Fig. 3 I have shown the rods passing from end to end in parallel lines. In Fig. 4 I have shown the rods running on different planes instead of parallel. In Fig. 5 I have shown the wires or rods held by eyebolts 9 at one end provided with nuts to take up slack in the wires. I have shown these rods or wires running longitudinally from end to end of the frame instead of transversely from side to side, because that is the most approved form, as the requisite amount of flexibility is secured. These cattle-guards are secured in position by spiking the frames to the ties, as shown in Fig. 1. The shape of the rods or flexible strands stretched across the frame is immaterial; but their flexible construction, so that they tremble when an animal steps thereupon, is very important and the distinguishing feature of the improvement here claimed.

It is obvious that the side frame-pieces 2 may be omitted and the end pieces secured in position by being spiked upon the ties; but for convenience of transportation it is preferred to employ the side angle-irons, making a rigid frame to hold the flexible wires or rods, which flexibility prevents the crossing of animals. In Fig. 5 I have shown one of the sides as composed of a hollow tube 10, connected by the solid rod 11, as one form of frame-piece, and it would be the equivalent of the angle-irons herein shown, as the flexible rods or wires can be readily bent around the same.

I do not herein claim a cattle-guard consisting of a pair of transverse rails resting on the cross-ties, longitudinal metallic spreaders extending parallel to the railway-rails and detachably abutting the transverse rails, and a series of independent wire strands arranged

parallel to the railway-rails connected at their ends to the transverse rails, and all held under uniform tension by the action of the spreaders on the transverse rails, as such constitutes the subject-matter of my application for patent filed September 11, 1889, Serial No. 323,617.

The cattle-guard can be put in without the inside guard-rails D, if desired, and the frames may be placed in position without disturbing the track or road-bed. Any well-known form of side fencing of course will be employed in connection with the above-described cattle-guard.

It is important that the cattle-guard be capable of convenient and rapid attachment and detachment by simply manipulating the frame, so that the track-men can readily take it up and put it down for reballasting and other repairs so frequently necessary. For this purpose a unitary and portable structure is required, and it must be such that an animal cannot cross it. To accomplish this I make the frame and flexible rods or wires in one structure, the rods or wires being so slight that they will tremble or vibrate under the feet of an animal. In my guard much flexibility is obtained for the structure, the rods or wires trembling, yielding, and vibrating in all directions, while all the flexible rods or wires are removed or replaced with the end bars 1, or with the frame comprising the side bars and the end bars, the whole constituting a unitary structure and an effectual cattle-guard, which can be conveniently and quickly attached and detached.

I am aware that it has been proposed to construct a cattle-guard with strips having no support between their ends, so that such strips will vibrate when an animal steps thereupon, and therefore I do not broadly claim such feature.

Having described my invention, what I claim is—

1. A cattle-guard consisting of a rectangular frame and a series of wire cords stretched across the frame and having their ends secured to opposite sides thereof.

2. A cattle-guard consisting of the rigid side bars, the rigid end bars firmly united at their ends, respectively, to the ends of the rigid side bars, and longitudinal flexible wires or rods secured at their extremities to the rigid end bars, substantially as described.

3. The combination of the frame-pieces 1 with a double set of rods or wires 5, secured to the frame-pieces, crossing each other centrally, substantially as herein specified.

4. In combination with a cattle-guard composed of the rigid frame and flexible transverse rods or wires, the inner guard-rail D, substantially as herein specified.

In testimony whereof I have hereunto set my hand.

MICHAEL WALSH.

Witnesses:
T. SIMMONS,
S. P. HOLTON.