No. 793,812. PATENTED JULY 4, 1905.

S. A. & H. W. ARMSTRONG.

CATTLE GUARD.

APPLICATION FILED JULY 29, 1904.

2 SHEETS—SHEET 1.

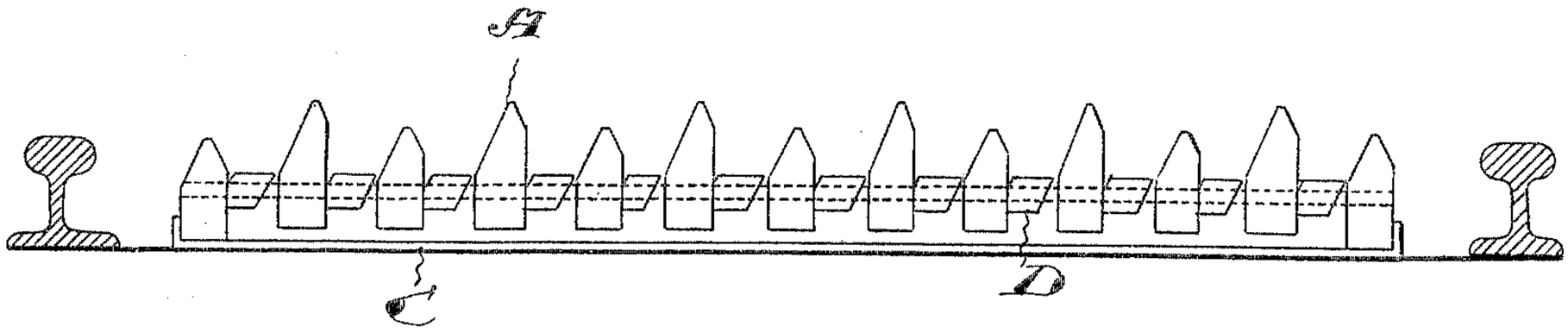

Fig. 1.

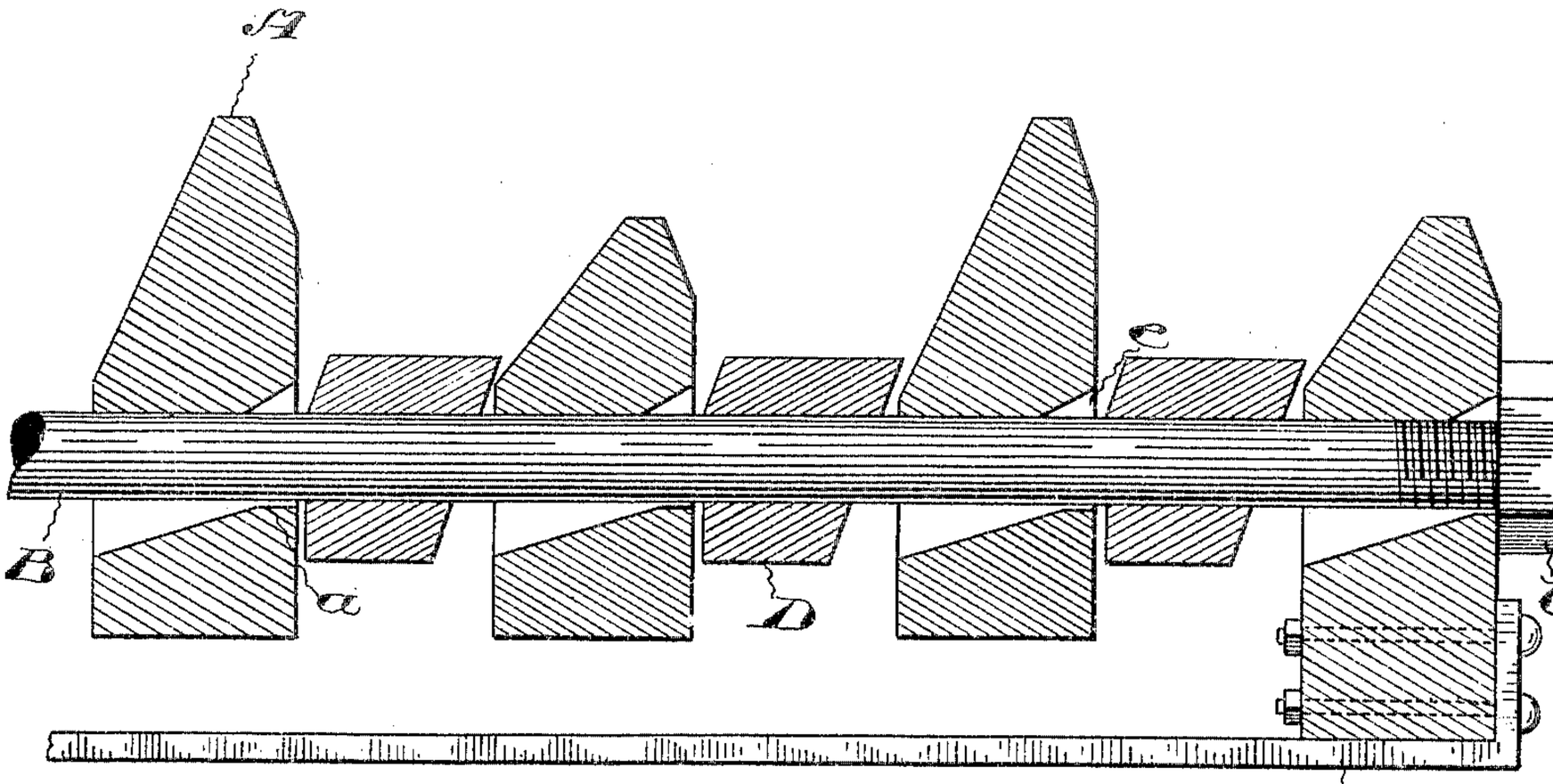

Fig. 2.

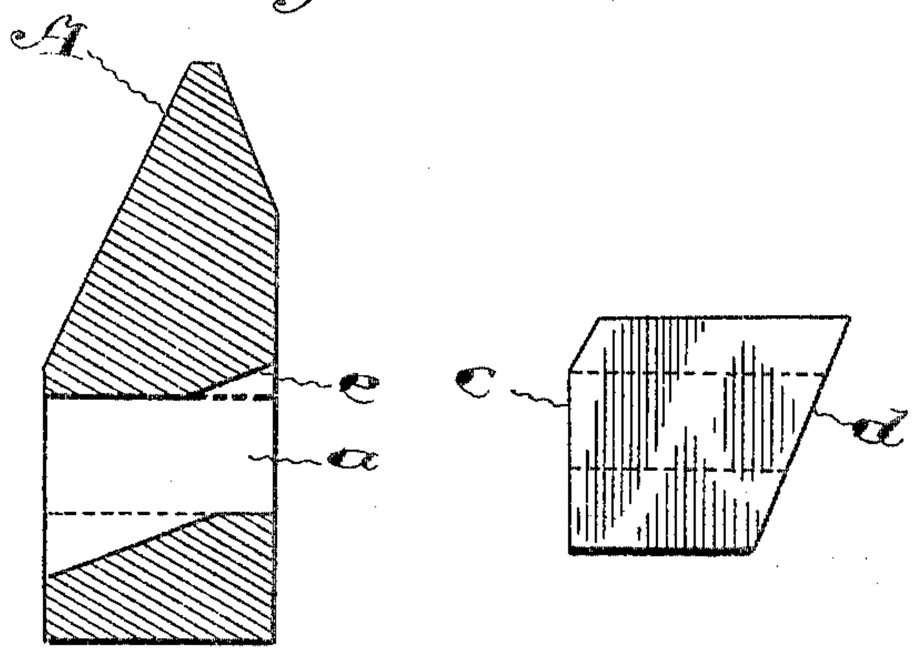

Fig. 3. Fig. 4.

WITNESSES:

P. T. Jones

P. Lukey

INVENTORS,

Sophie A. Armstrong

BY Her H. Westropp Armstrong

Redout and Maybee

ATTORNEYS.

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2 SHEETS—SHEET 2.

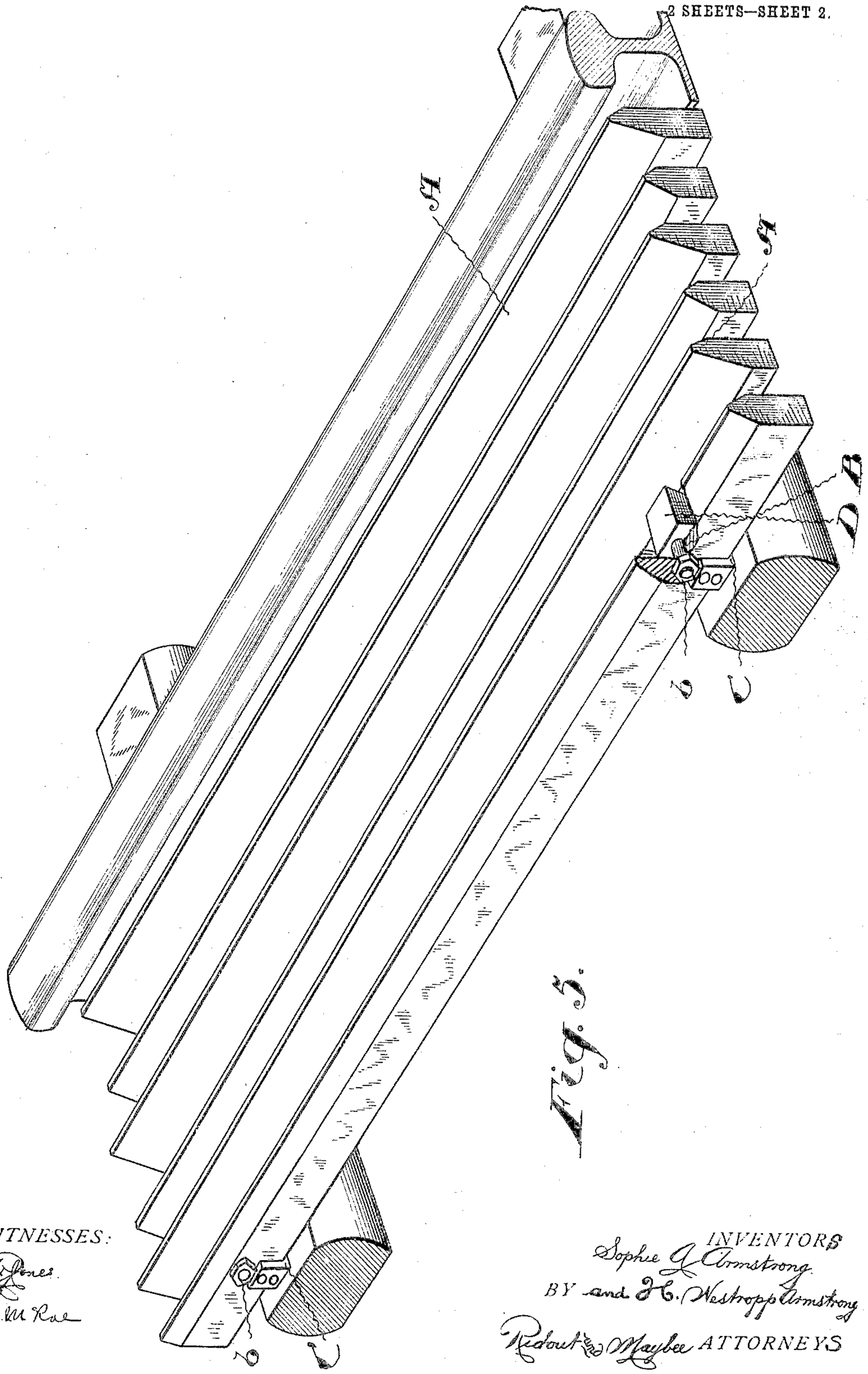

Fig. 2.

WITNESSES:

P. T. Jones.

A. M. McRae

INVENTORS

Sophie A. Armstrong.

BY and H. Westropp Armstrong

Ridout & Maybee ATTORNEYS

No. 793,812. Patented July 4, 1905.

UNITED STATES PATENT OFFICE.

SOPHIE A. ARMSTRONG AND HARRY WESTROPP ARMSTRONG, OF COBOURG, CANADA.

CATTLE-GUARD.

SPECIFICATION forming part of Letters Patent No. 793,812, dated July 4, 1905.

Application filed July 29, 1904. Serial No. 218,765.

To all whom it may concern:

Be it known that we, SOPHIE A. ARMSTRONG and HARRY WESTROPP ARMSTRONG, both of the town of Cobourg, in the county of Northumberland, Province of Ontario, Canada, have invented certain new and useful Improvements in Cattle-Guards, of which the following is a specification.

The object of our invention is to improve the construction of the cattle-guard described and illustrated in our prior United States patent, No. 764,514, dated July 5, 1904; and it consists, essentially, of such details of arrangement as are intended particularly to adapt the guard for construction with wooden slats, substantially as hereinafter more specifically described and then definitely claimed.

Figure 1 is a front elevation of a portion of a cattle-guard provided with our improvements. Fig. 2 is an enlarged cross-section of part of the same. Fig. 3 is a sectional detail of one of the slats. Fig. 4 is a sectional detail of one of the spacers. Fig. 5 is a general perspective view of a portion of the guard.

In the drawings like letters of reference indicate corresponding parts in the different figures.

As hereinbefore stated, the object of the present invention is to devise a form of construction particularly applicable for use with wooden slats. These slats A, it will be noticed, are much thicker than the metal slats employed in the construction described in our prior application, and one edge of each slat is cut away on a bevel, materially reducing the thickness of the slat at the top and providing, with the vertical back of the adjacent slat, a sort of wedge-shaped trough into which the animal's foot will slip. It will be noticed that the slats are all beveled on the same edge. It will be noted that in the drawings a small bevel is shown also on the other upper edge of each slat; but while this is a convenience with a very thick slat it is obvious that this slight bevel might be omitted and this side of the slat left vertical. The slats A are, as before, supported on the rods B, which pass loosely through the holes *a* formed in the slats. The outside slats A are securely fastened to the bars C and are when the guard is in use supported by the ties. The rods B pass through the outer slats and have their ends screw-threaded to receive the nuts *b*. These rods may be provided with supports for their centers, as shown in the prior patent above referred to, or they may be supported in any other desired manner.

The spacers D are each formed with one vertical end *c* and the beveled end *d*, and each has an aperture formed therein of suitable size to receive one of the rods B. The vertical end of each spacer above the aperture from the rod is also preferably beveled off on a slant parallel to the beveled end *d*. These spacers if made of iron may be shrunk on or riveted to the rods or if of wood may be glued or similarly held in place. These spacers are placed between the slats with their vertical ends adjacent to the vertical sides of the slats and their beveled ends adjacent to the beveled sides of the slats.

From this construction it results that the slats are free to rock one way only, the foot of an animal coming on the slats throwing them over in a direction away from their beveled sides. If these wooden slats were arranged to rock both ways, an animal's foot spreading two adjacent slats apart might find sufficient space and a good bearing for comfortable walking. To facilitate the rocking of the slats, instead of making holes bored straight across from side to side of the slats we bevel or cut away a portion of the straight upper side of the hole, as shown at *e*. This brings the rocking-point of the slat closer to its center, causing it to yield much more easily to the pressure of an animal's foot. The lower edge of the hole may be inclined, as shown in the drawings, or it may be straight at such a distance below the rod as to allow the necessary play. It will further be noted that the slats are alternately high and low, and the transverse unevenness which this produces adds materially to the efficiency of the guard.

What we claim as our invention is—

1. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of

holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end substantially vertical and the other inwardly and downwardly beveled, the beveled end of each spacer being located adjacent to the beveled side of a slat, substantially as described.

2. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end substantially vertical and the other inwardly and downwardly beveled, the beveled end of each spacer being located adjacent to the beveled side of a slat, and the holes in the slats being so located that each bar is supported in a vertical position in a condition of stable equilibrium, substantially as described.

3. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end inwardly and downwardly beveled and the other substantially vertical up to the level of the top of the cross-rods and then beveled parallel to the beveled end, the beveled end of each spacer being located adjacent to the beveled side of a slat, substantially as described.

4. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats, the holes being cut away at one side above the level of the cross-rods to facilitate the rocking of the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end substantially vertical and the other inwardly and downwardly beveled, the beveled end of each spacer being located adjacent to the beveled side of a slat, substantially as described.

5. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats, the holes being cut away at one side above the level of the cross-rods to facilitate the rocking of the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end substantially vertical and the other inwardly and downwardly beveled, the beveled end of each spacer being located adjacent to the beveled side of a slat, and the holes in the slats being so located that each bar is supported in a vertical position in a condition of stable equilibrium, substantially as described.

6. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end inwardly and downwardly beveled and the other substantially vertical up to the level of the top of the cross-rods and then beveled parallel to the beveled end, the beveled end of each spacer being located adjacent to the beveled side of a slat, and the holes in the slats being so located that each bar is supported in a vertical position in a condition of stable equilibrium, substantially as described.

7. A cattle-guard comprising a series of longitudinal slats, each having one of its upper edges beveled off and each having a series of holes formed therein; a series of suitably-supported cross-rods passing loosely through the holes in the slats, the holes being cut away at one side above the level of the cross-rods to facilitate the rocking of the slats; and spacers sleeved on the cross-bars between the slats, each spacer having one end inwardly and downwardly beveled and the other substantially vertical up to the level of the top of the cross-rods and then beveled parallel to the beveled end, the beveled end of each spacer being located adjacent to the beveled side of a slat, and the holes in the slats being so located that each bar is supported in a vertical position in a condition of stable equilibrium, substantially as described.

Lindsay, July 22, 1904.

SOPHIE A. ARMSTRONG.
H. WESTROPP ARMSTRONG.

In presence of—
B. F. REESOR,
M. C. EDGAR.