

A. BURNHAM.
Bridge Signal.

No. 20,841.

Patented July 6, 1858.

Fig. 1

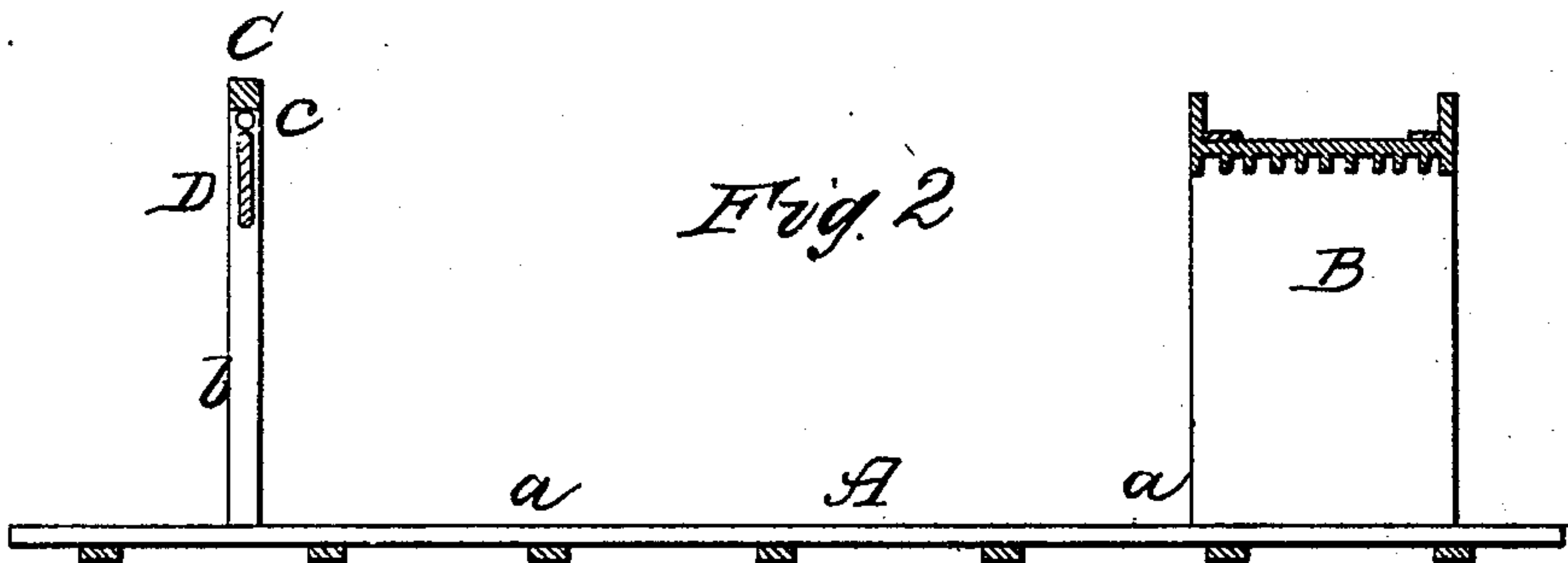
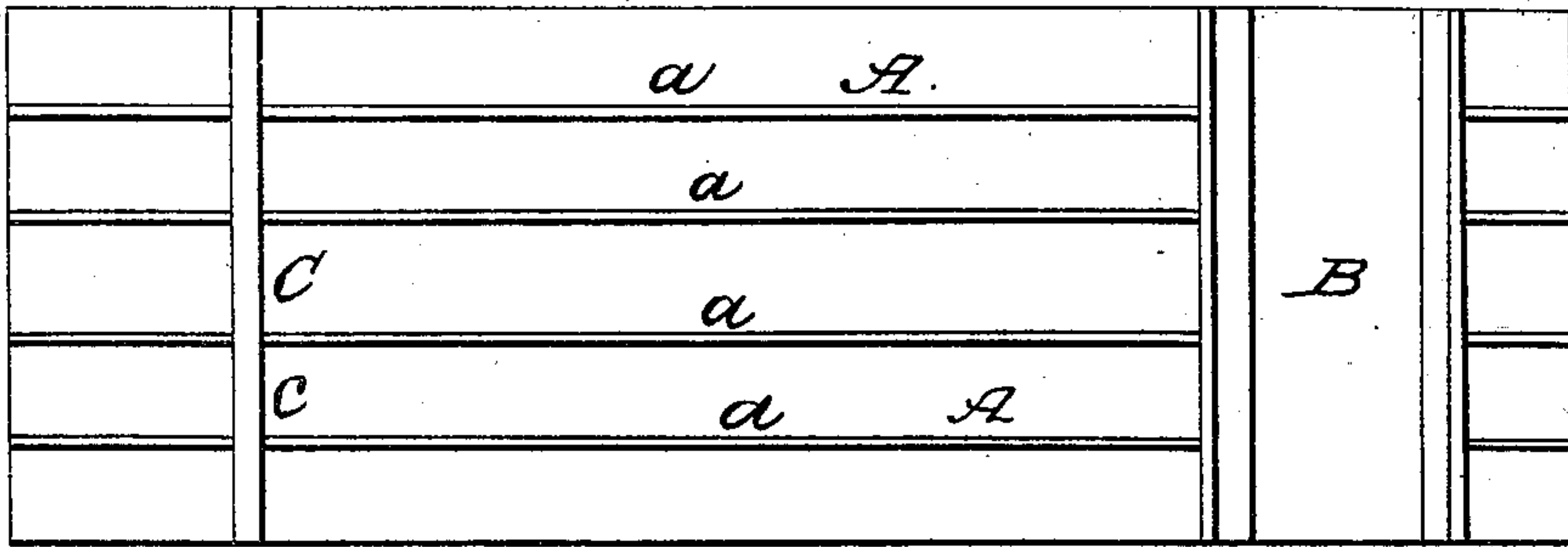
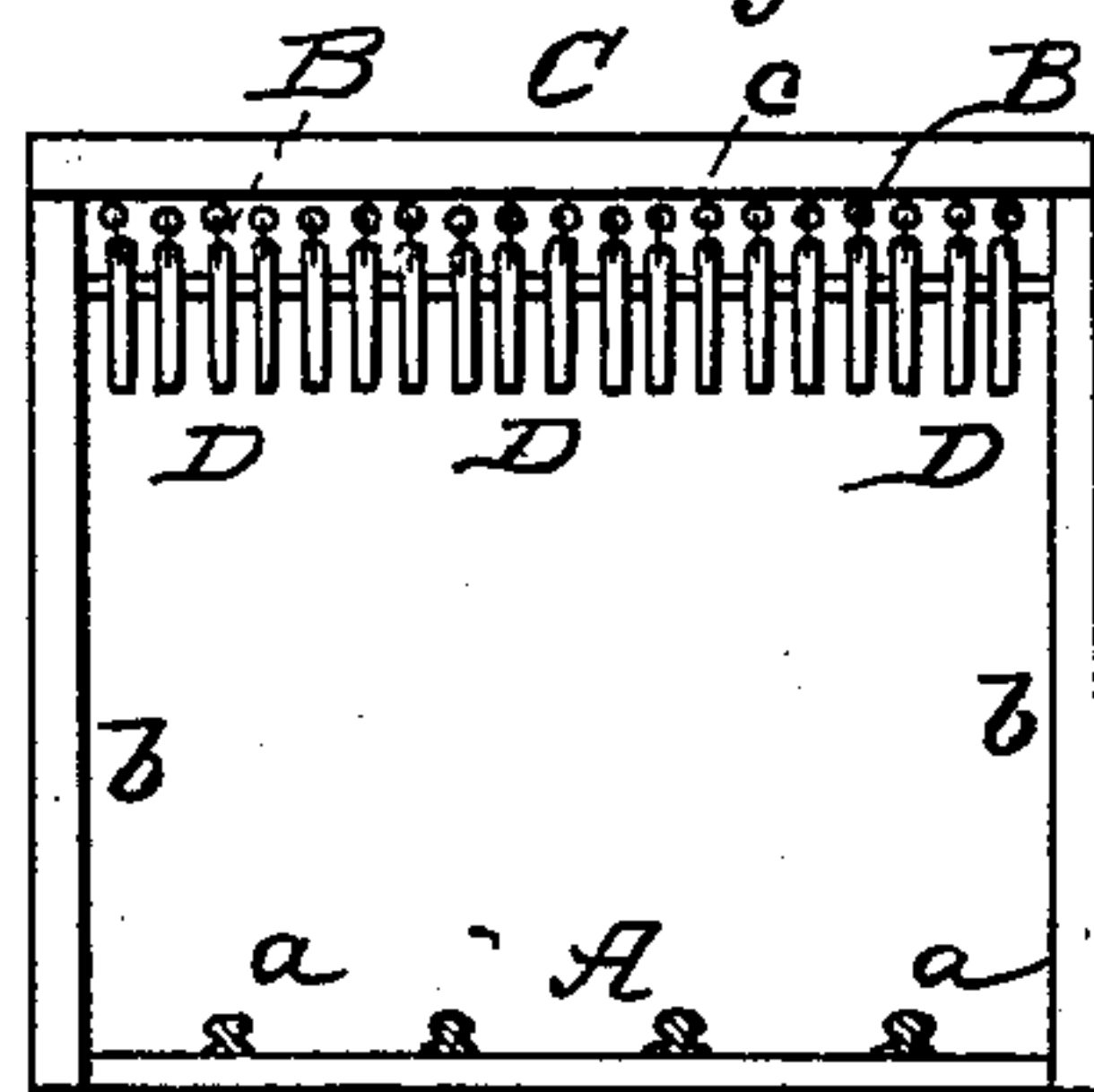


Fig. 3



UNITED STATES PATENT OFFICE.

A. BURNHAM, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JAS. M. COOK,
OF SAME PLACE.

RAILWAY-BRIDGE SIGNALIZER.

Specification of Letters Patent No. 20,841, dated July 6, 1858.

To all whom it may concern:

Be it known that I, AMOS BURNHAM, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and
5 useful Railway-Bridge Signalizer; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, is a top view of a railway track and bridge having my invention combined with them. Fig. 2, is a vertical and longitudinal section of the same. Fig. 3, is a transverse section made to exhibit the series
15 of pendants and their sustaining frame.

It is well known that it not infrequently happens that persons who may be on the top of a railway car or train, while such may be running at great speed on a railway, are
20 killed or seriously injured by being carried in contact with a bridge which may span the track. To this accident brakemen on trains are more or less liable, when on the top of the carriages.

25 The object of my invention is to give to a brakeman, or person who may be standing on the roof of a car, warning of the near proximity of the car to a bridge or other dangerous object which may span or so extend over the track as to be in the way of the
30 brakeman or be likely to kill or injure him, should he continue to maintain his position in a manner to be carried in contact with such bridge or object, and the nature of my
35 invention consists not only in combining with the track and bridge a series of pendants of such character as will do no material injury to a person when carried by a moving car or train in contact with either
40 of them, but in so arranging such pendants over the railway track and at such a distance from the bridge or object that a person, when standing on the top of a car in motion and approaching the said bridge or object,
45 may be carried in contact with some one or more of such pendants and by such contact be warned of the danger in which he may be, and in time to enable him to stoop sufficiently, or to take other means to avoid being carried in contact with such bridge or
50 object.

In the drawings A denotes a roadway or railway track, its rails being shown at *a, a*.

55 B, is a road bridge extending transversely over the track in the usual way.

At a sufficient distance from the said bridge, a gallows frame C, is erected transversely over the track or pathway for the carriages, such frame being composed of two posts, *b b*, and a cap timber *c*. To this cap
60 timber, a series of pendants D, D, D, are suspended, they being arranged so that each shall be at such a distance from that next to it, that a person's head could not pass between them without coming in contact with
65 them. Besides this, the whole series is arranged so as to extend transversely over the entire track so that on whatever part of the roof of a car, a person may be standing upright he might be sure to be carried in contact with some one or more of such pendants,
70 while the car might be passing under the series. Each of such pendants may be made of leather, cork or some other light substance or substances, which will not do
75 any serious injury to a person when so carried in contact with it—the pendant however, being sufficiently large and heavy as to impart to him, such a blow, as will be sufficient to warn him of the danger in which
80 he may be in order that he may stoop sufficiently to avoid it.

This simple contrivance can be applied to railway bridges or tracks in the vicinity of
85 such, at very small expense, and would be certain to operate to good advantage. Provided it should be applied to railways, a large number of valuable lives, which would otherwise be sacrificed might be saved annually.
90

I am fully aware, that for the purpose of preventing the loading of a railway wagon from exceeding certain fixed limits or those allowed for the load and wagon to pass through a tunnel or under a bridge of
95 a railway or bow suspended from a frame and attached to, connected with or applied to a bell, has been employed the same being described and represented on page 28, of the *Treatise on Railways* of Wealis's rudimentary series. I am also aware that two light flaps or wings have been suspended entirely across a railroad and near to a bridge or road and for the purpose of warning a brakeman of the proximity of the bridge,
100 such being as described in H. Littlejohn's application for a patent, rejected September 7th, 1854. I do not claim either of such contrivances, for my improvement differs essentially from them. In the first place,
110

the first one is a bow or piece of iron made of a size greater than the load and was never intended as an apparatus or means of signalizing the approach toward a bridge, it being used only to exhibit when a load of a wagon may be too large. There is no evidence that it was ever used in connection with a bridge and so as to signalize to a brakeman, the proximity of a train of cars to such bridge. Furthermore, it would be a dangerous contrivance were it so used, as it might either throw the brakeman off the car or seriously injure him. With regard to the two hinged or suspended boards or wings of Littlejohn they would be of little or no service in practice, for the rush of air created by the train of cars when in rapid velocity would cause them to be thrown into a horizontal position and out of the way of a brakeman or person on the top of a car—provided they were made of so light a material as not to injure or damage him or throw him off the car when he might be brought into contact with them under the ordinary speed of a train.

My invention consists not only in the employment of a series of pendants D, D, D, of the kind described, such as will be too heavy to be blown out of the way by the ordinary aerial currents, and still light enough as to do no material injury to a brakeman or person when carried into contact with them but in the arrangement of such across the entire track or path of the carriages through the air, and so that each

pendant shall be at such distance from the next one to it that it would be impossible for a person in whatever position he might be on the roof of a car not to be carried in contact with some one or more of the series of pendants while the car may pass under such. Therefore,

What I claim is—

My improved signal apparatus, consisting of a series of pendants and an arrangement of such as described each pendant being of such weight as not to be capable of being so affected by ordinary aerial currents produced by a railway train or otherwise as to be readily blown out of the way of a person on the top of a car or train or the load thereof while such may be passing under it, but still of a weight not capable of doing or causing material injury to such person under such circumstances and each pendant being arranged at such distance from that or those next to it as to insure contact with some one or more of them by a person when on the roof or load of a car and being carried under them, and situated at such an elevation as to be in danger of injury from a bridge or obstacle toward which the train or car may be advancing.

In testimony whereof, I have hereunto set my signature.

AMOS BURNHAM.

Witnesses:

JOHN S. BRAYTON,
JAMES P. ELLIS.