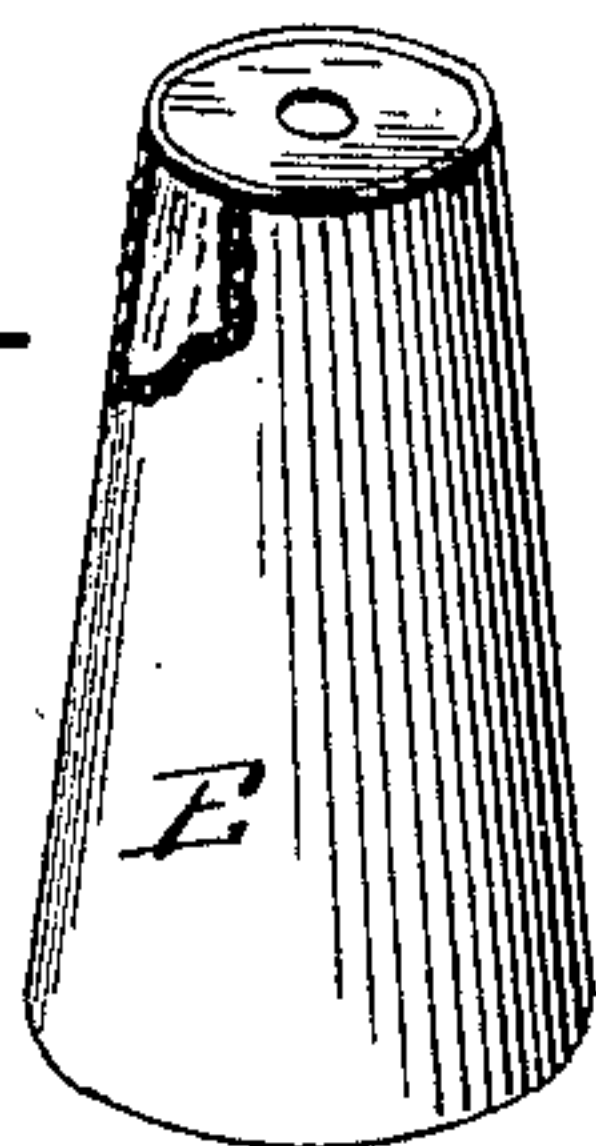
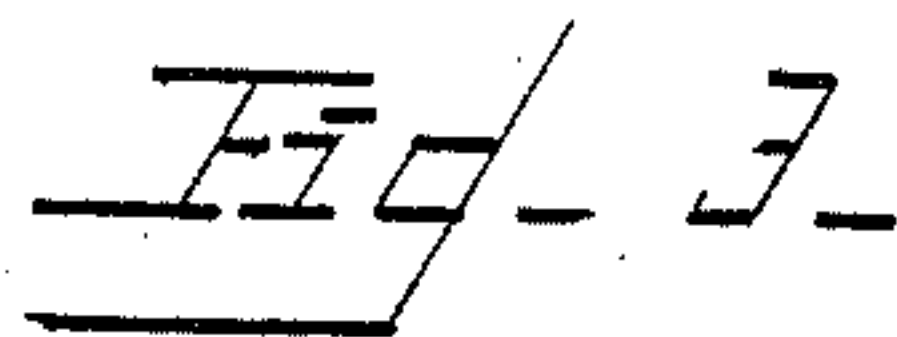
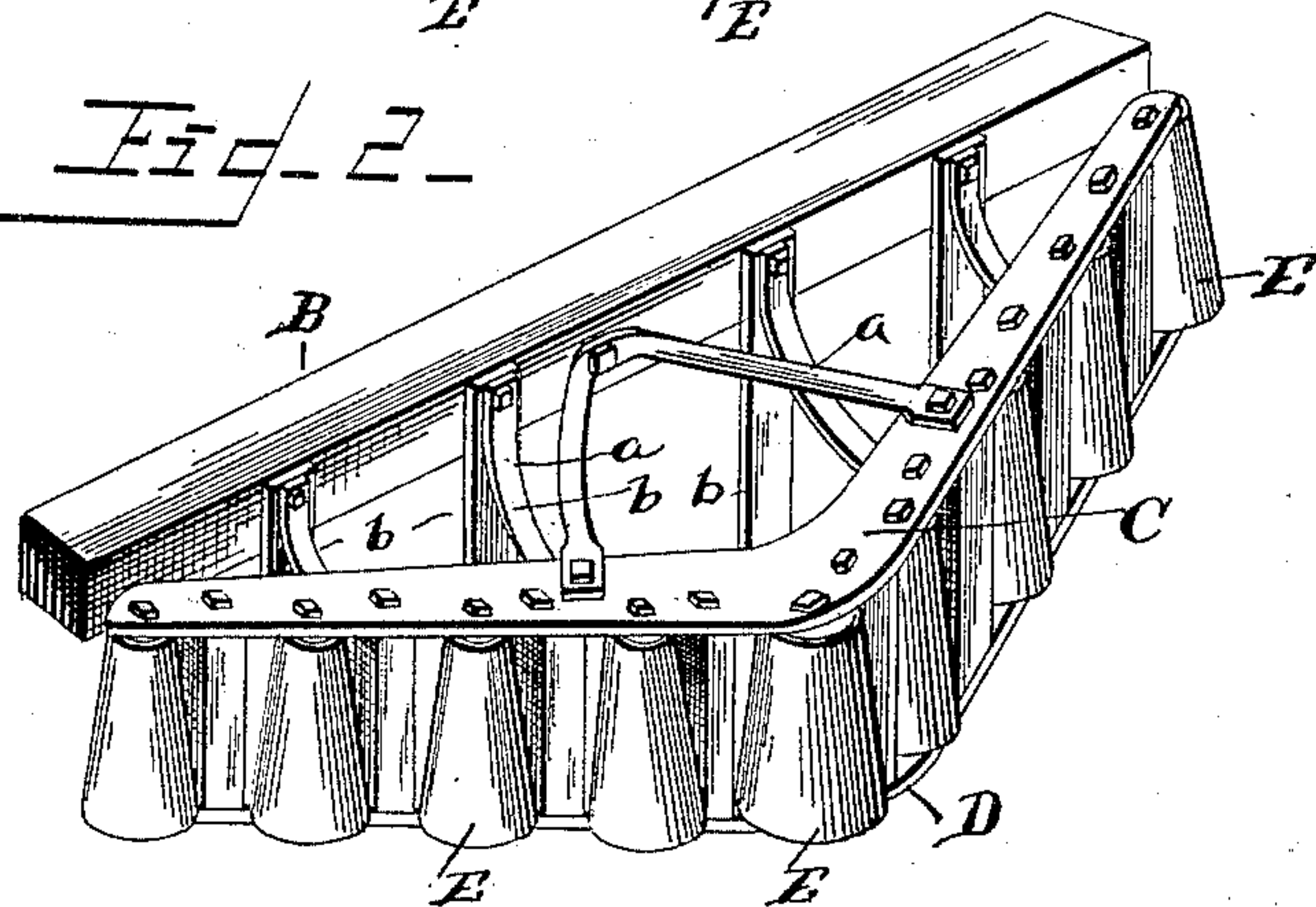
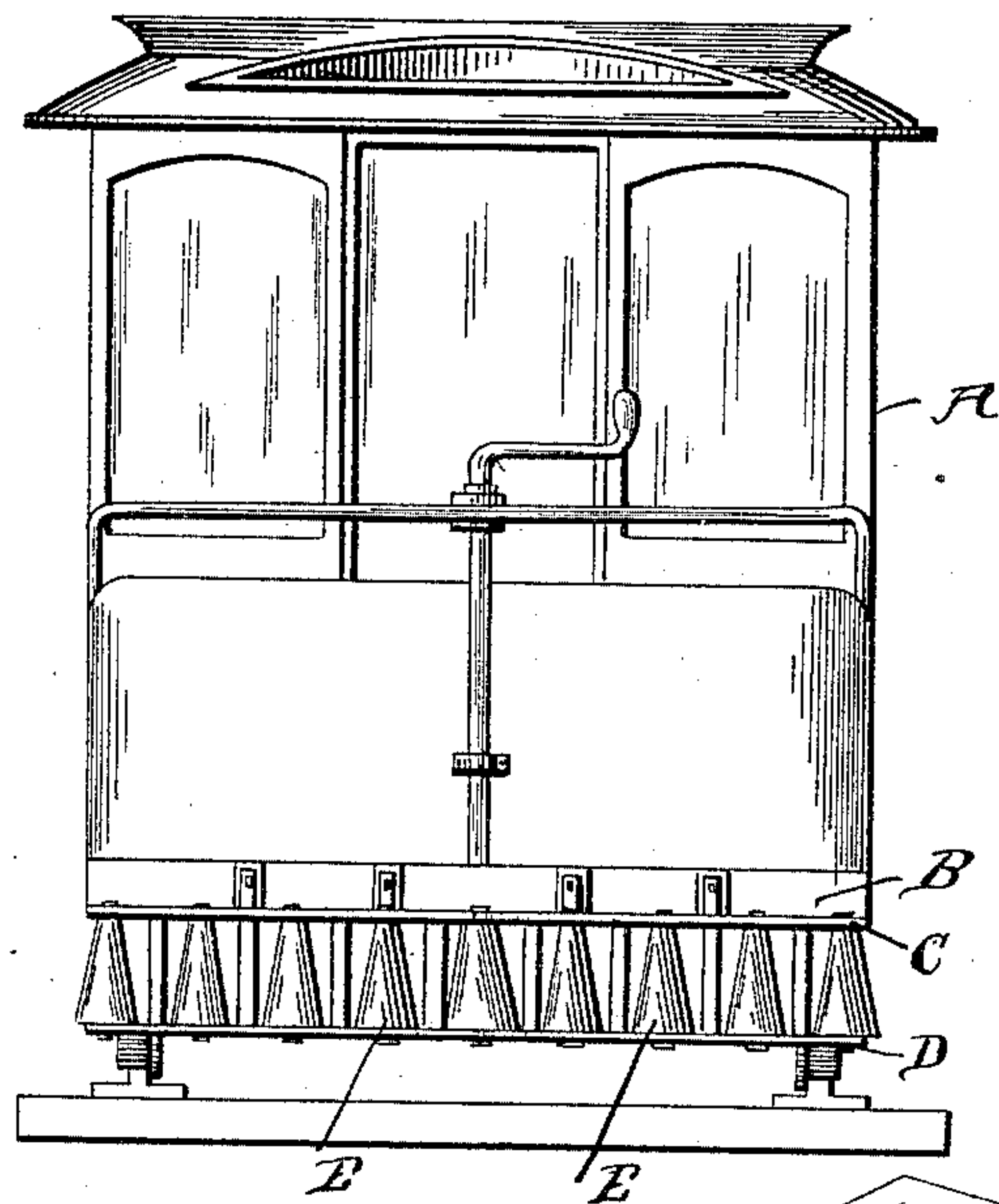
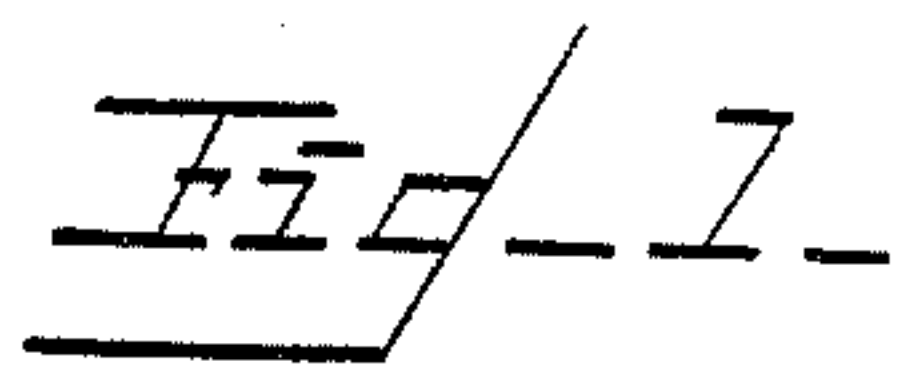


(No Model.)

R. M. EDWARDS.
FENDER GUARD ATTACHED TO CARS.

No. 413,040.

Patented Oct. 15, 1889.



Witnesses
Jm T Robertson
E. Everett Ellis

Robert M. Edwards
Inventor
By
Wm C. Mc Intire
Attorney

UNITED STATES PATENT OFFICE.

ROBERT MAZE EDWARDS, OF SAN FRANCISCO, CALIFORNIA.

FENDER-GUARD ATTACHED TO CARS.

SPECIFICATION forming part of Letters Patent No. 413,040, dated October 15, 1889.

Application filed April 13, 1889. Serial No. 307,198. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MAZE EDWARDS, a citizen of the United States of America, residing at the city and county of San Francisco, and State of California, have invented a new and useful Roller Safety-Guard for the Protection of Human Life, to be attached to the front end of locomotives, railroad-cars, and so-called "dummies" propelled by moving cable, steam, electricity, or other motor power, of which the following is a specification.

This invention relates to certain new and useful improvements in safety-guards or fenders for cable-cars and like vehicles; and it consists, substantially, in such features of arrangement, construction, and combinations of parts as will hereinafter be more particularly described and claimed.

The object of the invention is to provide a safety-guard or pilot for cable-cars and like vehicles which shall effectually lift objects or obstructions from the track-beds over which such vehicles pass without hinderance or interruption to the travel of the vehicles, and with but little liability of any injury being received by the vehicle from contact with the object or obstruction.

The invention has for its further object to provide a safety-guard or pilot of a construction by which objects encountered on the tracks will be lifted and carried to either side of the tracks without injury, and thereby in many instances preventing loss of human life, all as will more fully hereinafter appear when taken in connection with the accompanying drawings, wherein—

Figure 1 represents a vertical front elevation of an ordinary street-car having my improvements embodied in connection therewith, and Fig. 2 is a view in perspective of a safety-guard or pilot constructed in accordance with my invention. Fig. 3 is a view in detail of one of the tapering or conical rolls employed.

In carrying my invention into effect I resort to the employment of a series of vertical rolls conical or tapering in form and arranged in planes converging toward and intersecting each other at a point about coincident with a longitudinal plane taken centrally through the car, which arrangement gives double-inclined plane surfaces and causes an object when struck to be gently carried to either

side of the track. I preferably employ conical or tapering rolls, because of the tendency they have for lifting an object slightly as they turn, and in the case of human beings the person will be lifted and carried to one side of the track without injury. The rolls are arranged between two iron platforms, which are supported from the front beam of the car or truck by suitable hangers and braces.

Reference being had to the several parts of the drawings by the letters marked thereon, A represents an ordinary street-car designed to be propelled without horses, and across the front of which at the bottom is a beam B. Depending from said beam are a number of hangers *a b*, which support an upper triangular platform C and a similar lower platform D, between which two platforms the conical or tapering rolls E are supported in a vertical position with their larger portions downward. The faces of these rollers project slightly beyond the edges of the platforms, as shown, and the foremost roll is preferably slightly larger in diameter than the others. The rolls being thus constructed, and being arranged in planes inclined to the sides of the car and converging at the center, the result is that an object when struck will be lifted and carried off on one side. Preferably I cover each roll with thick rubber, as shown in detail, Fig. 3, so that the lifting action of the rolls is better facilitated, and, besides, a body or obstacle when lifted will better adhere to the rolls and be lifted to one side without slipping.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a safety-guard or fender for cars and like vehicles, a series of vertical conical rolls arranged in double-inclined planes converging toward and intersecting each other in front of the car, substantially as described.

2. In a safety-guard or fender for cars and like vehicles, the combination, with the front of the car, of an upper and lower triangular-shaped platform and a series of vertical conical rolls arranged between said platforms with their enlarged ends downward, substantially as described.

ROBERT MAZE EDWARDS.

Witnesses:

D. T. SULLIVAN,
HENRY H. REID.