T. A. EDISON.

BATTERY TRAY.

APPLICATION FILED DEC.

1,364,358.

Fig 1

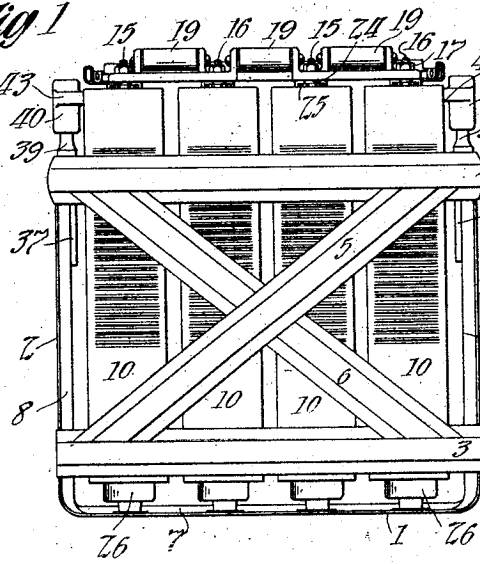


Fig. 2

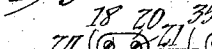


Fig. 3

# UNITED STATES PA

THOMAS A. EDISON, OF LLEWELLYN PARK, N
STORAGE BATTERY COMPANY, OF WEST O
TION OF NEW JERSEY.

BATTERY-TRA

1,364,358. Specification of Letter

Application filed December 13, 191

*To all whom it may concern:*

Be it known that I, THOMAS A. EDISON, a citizen of the United States, and resident of Llewellyn Park, West Orange, Essex county, New Jersey, have invented certain new and useful Improvements in Battery-Trays, of which the following is a description.

My invention relates to an improved tray for supporting and securely holding together a group of battery cells, and to the combination of such a tray and any number of such battery cells supported thereby. By the use of my improved tray the assembling and handling of the cells are facilitated, and batteries of any desired number of such groups of cells may be conveniently made up of a number of such trays with their contained cells. Although my tray is designed particularly for use with storage batterv

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11 and top 12 of each battery can or container are welded to the sides of the container in such a manner as to provide flanges 13 and 14 extending beyond said bottom and top respectively. The battery cells are so arranged that the poles thereof at each side of the group are alternately negative and positive. The cells are rigidly secured together in spaced relation at their upper ends and electrically connected in series by means of a pair of parallel horizontal composite members, which are securely fastened at the sides of the group of cells to the poles 15 and 16 thereof, as by means of nuts 17. Each of these composite members comprises a plurality of flat heavy metallic bars 18 and a member or members 19 of suitable insulating material, preferably porcelain. Bars 18 of each of these composite members are provided at each pair of their adjacent ends with upstanding lugs or flanges 20 between which the insulating members are disposed, the lugs 20 being secured to such members, as by screws 21. Pieces 22 of soft rubber, or other cushioning material, are respectively disposed between the flanges or lugs 20 and the members 19. The bars 18 are provided with holes 23 receiving the poles 15 and 16, these holes preferably being punched in the bars so as to form downwardly projecting flanges 24 about the holes,

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providing an annular space 42 between the lower end portion of the block and the corresponding member 37, and a laterally extending sustantially rectangular portion 43 above said petticoat portion. The portions 43 of the pair of blocks 40 at each end of the tray, closely engage the opposite sides of the bracket 35 on the adjacent battery can 10 and the wall of such can on either side of said bracket, and coöperate with the composite members consisting of bars 18 and members 19, to maintain the upper portions of the cells properly spaced from the tray and to prevent all lateral movement thereof relative to the tray. The blocks 40 are adjusted to such a position on members 37 that they will engage the metallic containers 10 of the end cells directly opposite or in alinement with the top walls 12 thereof, and consequently the liability of bending or buckling the sides of the containers when the cells tend to move endwise or sidewise of the tray, will be materially lessened.

Each of the end walls 2 of the tray is provided with a suitable handle 50 to facilitate the handling of the tray and its contained cells.

With the construction described herein, it will be seen that the cells are properly insulated and spaced from the tray at all points, and that each of the insulating mem-

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relation at their upper ends, each end cell of the series being provided with a projection, a tray containing said series of cells, and means for preventing relative lateral movement of the cells and tray comprising a petticoat insulating device secured to each end of the tray, said devices respectively engaging said projections, substantially as described.

10. In combination, a series of cells rigidly secured together in spaced relation at their upper ends, a tray containing said series of cells, and means for preventing relative movement of said tray and cells, comprising an insulating member secured to each end of the tray and engaging a wall of the adjacent end cell of the series of cells at a point substantially in alinement with the horizontal top wall of said cell, substantially as described.

11. In combination, a series of cells rigidly connected together in spaced relation at their upper ends, a tray containing said series of cells, each end cell of such series being provided on an outer wall with a projection, and a pair of insulating members rigidly secured to each end of the tray and engaging said outer wall of the adjacent end cell and the opposite sides of the projection thereon, substantially as described.

12. In a tray for storage battery cells, a

24. A device for securing together the poles of a series of battery cells comprising a member having openings for the reception of poles of such cells, said member being provided with flanges extending therefrom about said openings for maintaining the member in spaced relation to the tops of the cells when the same is applied to the poles, substantially as described.

25. The combination of a series of battery cells having poles extending through the tops thereof, means for securing said cells together comprising a member having openings through which poles of the cell respectively extend, an insulator mounted on each such pole between said member and the top of the respective cell, said member being provided with downwardly extending flanges about said openings, and devices on the portions of the poles which extend through and above said member for securing the latter in a position in which the flanges thereof tightly engage the respective insulators mounted on said poles, substantially as described.

26. A composite member for securing poles of a series of battery cells together,

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