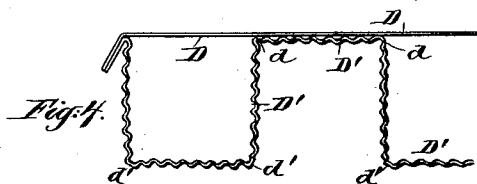
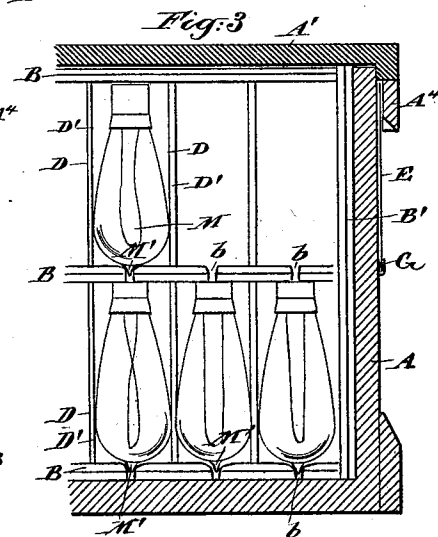
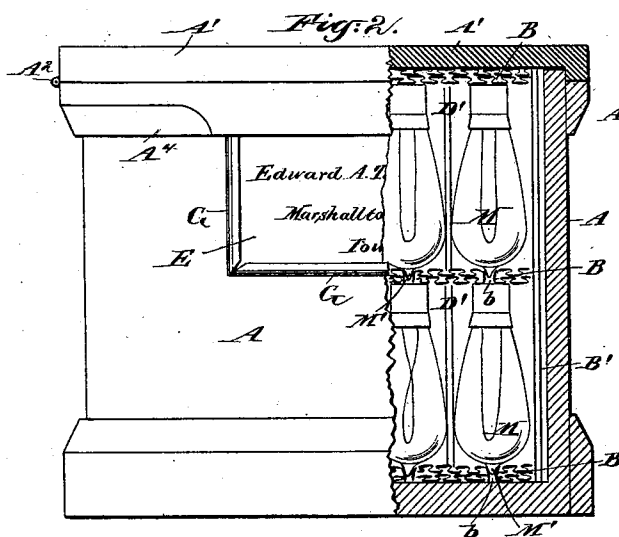
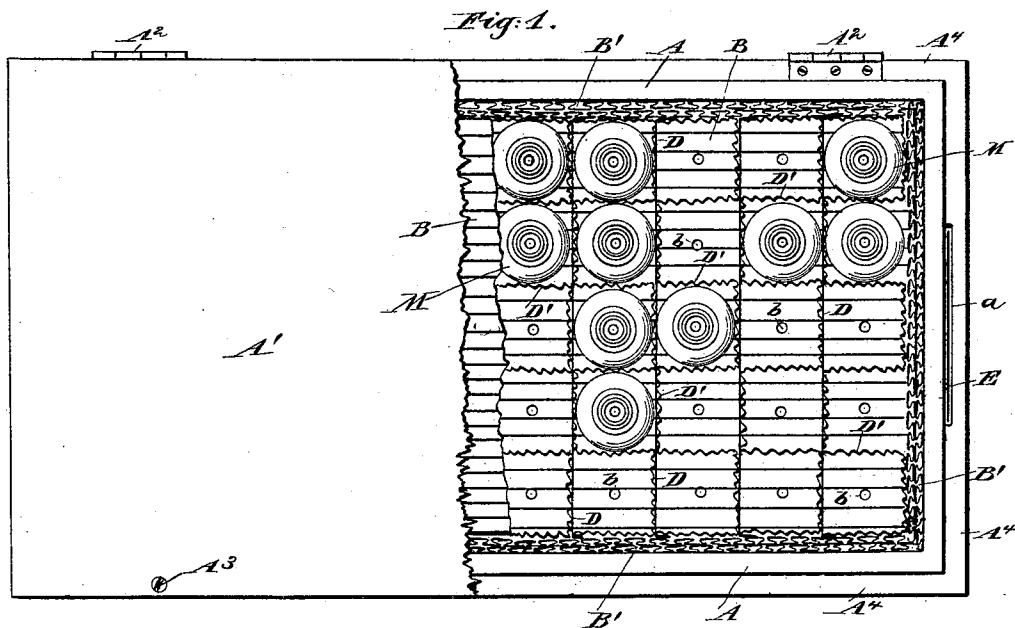


(No Model.)

E. A. TURNER.
PACKING CASE.

No. 508,451.

Patented Nov. 14, 1893.



Witnesses:
Charles R. Searle.
H. A. Johnston

Inventor:
Edward A. Turner
By his attorney
James D. Watson

UNITED STATES PATENT OFFICE.

EDWARD A. TURNER, OF MARSHALLTOWN, IOWA.

PACKING-CASE.

SPECIFICATION forming part of Letters Patent No. 508,451, dated November 14, 1893.

Application filed August 20, 1892. Serial No. 443,675. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. TURNER, a citizen of the United States, residing at Marshalltown, in the county of Marshall and State of Iowa, have invented a certain new and useful Improvement in Packing-Cases, of which the following is a specification.

My improved packing-case is adapted to store incandescent electric lamps, and to allow of reasonably rough handling and transportation. The construction has features closely analogous to the well-known cases or carriers for transporting eggs. I have devised important improvements in the details which enable it to hold the rounded bodies of the lamps with great delicacy and strength. I engage the projecting spur or point usually formed on the lower end of each lamp in a corresponding hole in the packing material of the case to insure not only the gentle and efficient holding but also the correct position of the lamps, each in its proper cell of the packing-case. The lamp should always be carried with the ferrule uppermost so that gravity may contribute to hold the carbon in its correct position. I provide a pocket in each end for receiving and showing a direction tag which is made accessible for removal and exchange by opening the case.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a plan view with a portion of the cover and of the upper elastic packing "board" removed. Fig. 2 is an end elevation partly in vertical section. Fig. 3 is a longitudinal vertical section of a portion. Figs. 4 and 5 represent details on a larger scale. Fig. 4 is a plan view. Fig. 5 shows the same in a compacted condition for packing.

Similar letters of reference indicate corresponding parts in the figures where they appear.

A is the body of the case, which may be a rectangular box of wood of any convenient thickness, and of any desired dimensions. To facilitate the counting it is preferable that the box shall have certain determined dimensions so as to carry some specific number. I have in my experiments used fifty of the lamps in each layer, two layers in each case. Each

layer is formed of ten transverse rows with five lamps in each row.

I provide boards B of plaited paper for the bottom, the mid-height and the top, each twenty-five by thirteen and one-half inches, and boards B' of similar material constituting a lining of the vertical sides and ends of the box. Each board B and B' is made of two layers of three-ply plaited paper, glued slightly but sufficiently one upon another. The bottom board B and the corresponding mid-height board are each perforated with fifty small holes *b*, arranged as shown. I provide strips of heavy paper D of a length a little more than sufficient to extend across the interior of the case between the lining sheets B'. These are inserted in a mainly plain condition with a short space at one end, or it may be both ends, folded a little to afford a better bearing against the yielding lining. Upon this I glue a sufficiently longer piece of corrugated paper D', bent many times at right angles, as indicated at *d*, *d'*. The rectangular convolutions of this strip D' in combination with the part D constitute series of cells, five in each series. These are placed in the case A in the manner shown so as to form removable partitions containing series of cells extending across the case. The holes *b* should lie centrally in the bottom of the several cells, one hole in the bottom of each cell. The depth of the cells is sufficient to receive a lamp M with its ferrule end uppermost, its swelled body delicately supported in the interior of the cell touching each of the four sides, and its point or spur M' inserted in the hole *b* in the bottom of the cell.

For lamps of the present standard size I cut the pieces of corrugated paper D' twenty-seven and one-half inches by six inches, and fold them every two and one-half inches, the piece of smooth paper D thirteen and one-half inches by six inches and make a fold in the latter half an inch from each end. Then I lightly glue the corrugated and folded paper D' to the plain paper D, letting the half-inch fold in the plane part lap on to the end of the folded corrugated paper D' to reinforce the corners of the outside lamp pockets. This makes a good bearing for the end of the removable partition against the yielding lining B'.

I have shown a cover A' for the case A, connected by hinges A³, A². When the lamps are properly packed the cover may be secured by screws A³, or by any other means.

5 A valence or series of strengthening and stiffening cleats A⁴ extend around the top of the body A. I provide an aperture *a* in each of the end strips A⁴ of sufficient dimensions to allow the insertion and removal through

10 each of a stout address card E. Below each aperture is a pocket G, which may be of galvanized sheet metal, secured by screws, and adapted to cover the edges of the card and allow its central and main portion to be exhibited on the exterior. The cards E should

15 be of a size to match easily into the pockets, and may carry any address printed or written, or both. When the cover A' is raised, these cards E may be easily lifted out of the pockets G through the apertures *a*, and turned

20 around, or exchanged. When it is desired to return the case I present a proper address on the back of the cards E, so that the address cards will by being reversed return the packing-case to the place where the lamps are

25 manufactured. The cards are efficiently retained when the cover is closed and secured. The under side of the valence A⁴ is under-cut a little at each end to facilitate the use of

30 this part of the structure in lifting and handling the cases. When the case is full, each layer holds fifty lamps, and it is easy to count a large number of the lamps by the number of cases, one hundred in each case. Each

35 lamp is held steadily by the contact of the paper D on four sides, and the engagement of the point M' in the hole *b* in the bottom. If for any reason a case is sent off with only a portion of its cells filled, it will serve in the

40 same manner, the paper D, D', being stiff enough to hold its convolutions in place independently of any internal support from the lamp.

The strips D with their associated strips D' 45 may be stored in a small compass by distort-

ing the cells in the manner indicated in Fig. 5. Thus conditioned, the strips may be piled upon each other to any height.

Modifications may be made without departing from the principle or sacrificing the ad- 50 vantages of the invention. The depth of the case A and of the several cells for the lamps may be varied within moderate limits. I prefer to have the depth such that when the spurs M' are inserted and pressed gently 55 home in their respective holes *b* the ferrule end of the lamp will stand exactly at the top of the cell, and be gently pressed by the soft board B which applies above it. The cases may be larger or smaller, and adapted to con- 60 tain a greater or lesser number of lamps. The plait in the board B and lining B' and the corrugations in the partitions D', may run in any direction. I prefer that they shall extend longitudinally in the horizontal boards 65 B, and vertically in the vertical linings B', and also vertically in the members D' of the removable partitions. The lining pieces B' may be secured to the interior of the case A by tacks. 70

I can use a tag-holder as described on one end only of the case, but I prefer to so mark each end, as it may save much labor in looking over a pile of cases to find the address. 75

I claim as my invention—

The combination with the rigid inclosing case A of the horizontally arranged sheets B of yielding material, perforated at *b*, the yielding lining B' and the partitions D', arranged to serve relatively to each other and 80 to each inclosed incandescent lamp M, M', substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

EDWARD A. TURNER.

Witnesses:

E. A. HARRIS,

D. T. DENMEAD.