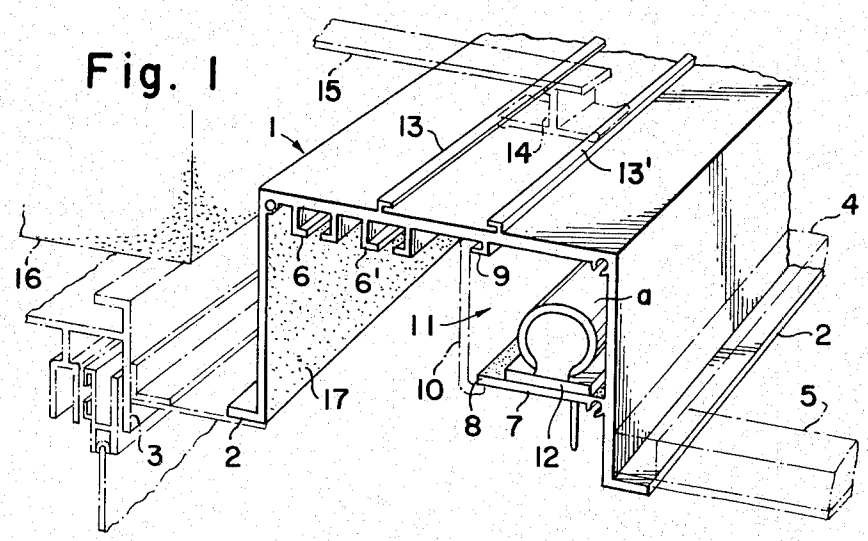
Feb. 13, 1973 MASATOSHI TANAKA 3,715,776

CURTAIN BOX

Filed Oct. 5, 1970

Fig. 1



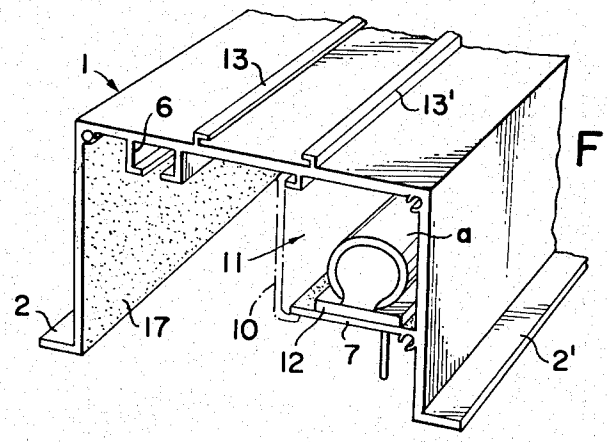
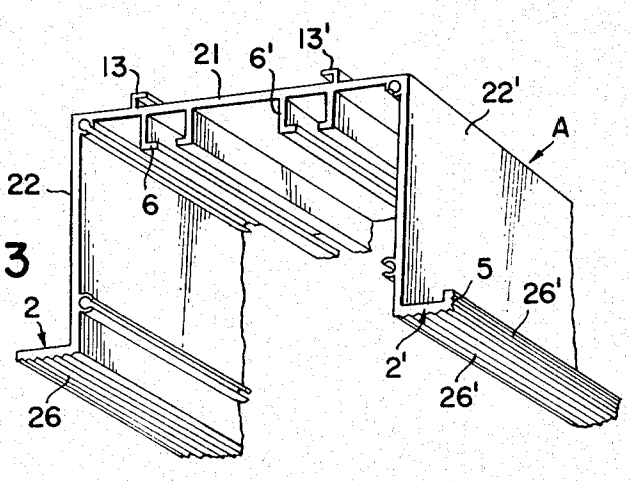


Fig. 2

Fig. 3



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CURTAIN BOX

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U.S. Cl. 16—94 D 3 Claims

ABSTRACT OF THE DISCLOSURE

A curtain box having integrally provided on its surface a curtain rail or rails and means for fitting the curtain box to a desired location, thereby facilitating the fitting of the box itself and also eliminating the necessity of attaching a separate curtain rail or rails to the box.

This invention relates to a curtain box arranged to cover the surroundings of the top portion of a curtain or curtains, and more particularly it relates to a curtain box which is generally trough-shaped and provided with a curtain rail or rails and curtain box supporting means which are all integral with the curtain box body.

According to the conventional way of construction of a building, it was common practice to sash the windows after completion of the main body portion of the building and to install the curtain boxes after finish of the exterior make-up, with the curtain rails being then attached individually to the curtain boxes. Thus, the fitting of the curtain boxes to the building structure and attachment of the curtain rails to said boxes would take much time and labour.

In order to overcome such disadvantages, the present invention is intended to provide an improved curtain box which has integrally provided therewith a curtain rail or rails and curtain box supporting means.

It is also an object of the present invention to provide a curtain box of the type just described, in which a structure for housing lighting fixtures is integrally provided in the inside of the box.

It is another object of the present invention to provide a curtain box of the above-said type, in which a reflecting surface adapted to reflect illumination is provided in the inside of the box.

It is still another object of the present invention to provide a curtain box of the above-said type, in which there are provided the reference lines required for building construction work and interior make-up.

The invention will be described in more detail hereinafter with reference to the accompanying drawings, in which:

FIG. 1 is a perspective view illustrating part of a curtain box embodying the present invention;

FIG. 2 is a perspective view illustrating another embodied form of the curtain box according to the present invention; and

FIG. 3 is a perspective view showing part of still another embodiment of the present invention.

Referring first to FIGS. 1 and 2, there is shown a curtain box, generally designated **1**, which is of a bottom-opened box-shaped structure. At the bottom ends of both side walls of said box are provided the flanges **2**, **2'**, and a sash **3** is fixed at the end of the outside flange **2**. The inside flange **2'** is adapted to support thereon a cross beam **4** and a ceiling member **5**. On the underside of the ceiling board of said curtain box **1** are provided the curtain rails **6**, **6'** which are arranged in parallel relation and protrude downwardly from said ceiling board. There is also provided a platform **7** which extends inwardly, parallel to

the ceiling board, from a side wall of the curtain box **1**, and a light-transmittable plate **10** is fitted between a projection **8** formed at the edge of said platform and a check element **9** provided on the underside of said ceiling board.

As will be appreciated, a lighting fixture housing chamber **11** is defined by an inside portion of the ceiling board, an inside portion of a side wall and said platform **7**.

Designated by **12** is a supporting block for a fluorescent lamp *a* or other lighting means fixed on the platform **7**. **13**, **13'** indicate a pair of hooked strip protuberances which are provided in opposed relation to each other on the upper surface of the ceiling board and adapted to be engaged with a hanger element **14** whose top end is welded to an anchor beam **15** which is embedded at an end in the building body **16**, thereby supporting the entire structure of the curtain box **1** in a suspended manner.

Numeral **17** denotes a reflecting face provided on the entirety of the inner surface of each side wall of the curtain box **1**. This is preferably constituted by subjecting the entire inner surface of the box **1** to a surface treatment that produces a diffused reflection face, but other suitable means such as deposition of metal foil may be employed, as desired, according to the purpose for which the present device is to be used.

It will also be understood that the flanges **2**, **2'** provided at the bottom ends of both side walls of the curtain box **1** in the above embodiment may be eliminated completely, or one of them may be eliminated, according to the type of fitting means or positional relation with the ceiling to which the device is fitted, or other requirements.

Also, in the above embodiment, a pair of hooked protuberances **13**, **13'** are provided on the upper surface of the ceiling board of the curtain box **1** so as to secure the box in a suspended manner from the building body **16**, but it is also possible to provide similar protuberances on a side wall of the box **1** opposed to the building body and thereby secure the box in the same manner as said above, or otherwise, the side wall of the box opposed to the building body may be eliminated and suitable fitting means may be provided at the vacant edge of the ceiling board whereby to secure the box to said body. Other suitable modifications in this respect can also be made without departing from the scope of the present invention.

The platform **7** may be formed integrally on the inner face of a side wall of the curtain box **1**, simultaneously in the draw-shaping step for the curtain box. But, when it is desired to add such platform to an existing curtain box, it may be manufactured separately and may be combined with such existing curtain box in a suitable manner.

The light-transmittable plate **10** can serve as a protection against ingress of dust, insects or other undesirable substances into the illumination chamber **11**. If such plate is made of a translucent material, it may produce a dimmed illumination effect.

In case of using a blind, instead of an ordinary curtain, consisting of a plurality of vertically arranged light-shielding strips, each channel-shaped curtain rail is arranged such that the channel is opened sideways, although it is opened at the bottom in the above-shown embodiment.

Thus, good coordinative combination of the curtain box and the illumination chamber will permit miniaturization of the entire structure, eliminating any unsightly projection of the frame or other elements into the room. Also, the light from the illumination chamber is not directly shed into the room; when the curtain is opened, the light rays are reflected on the reflecting faces of the box to light up the room with the reflected light rays, thus allowing most effective utilization of the projected light over a wide area in the room. On the other hand, when the curtain is

drawn, the light will illuminate the curtain so as to produce an indirect room-lighting effect.

In addition, provision of the reflecting layer on the entire inner wall surface of the curtain box make it unnecessary to exercise any additional coating work on the interior of the curtain box.

In FIG. 3 there is shown an alternative embodiment of the curtain box comprising a framework, generally designated A, consisting of a ceiling board **21** and side plates **22, 22'** which are all made of light metal such as aluminium material. On the underside of said ceiling board **21** are provided a pair of integral curtain rails **6, 6'**, and the flanges **2, 2'** are provided at the bottom ends of said side walls **22, 22'**. As will also be seen, a plurality of longitudinal parallel reference lines or indentations **26, 26'** are provided on the bottom surfaces of said flanges **2, 2'** as well as at the external surface of a bent-up edge of said flange **2'**. On the upper surface of the ceiling board **21** are provided a pair of opposed and suitably spaced hooked protuberances **13, 13'** adapted to be engaged with an intermediate member having projected centrally from its upper face a hanger rod element welded to an anchor beam which, in turn, is embedded partly in the building body, thus securing the curtain box in connection with the building body.

This embodiment is particularly featured by provision of a plurality of longitudinal parallel reference lines, in the form of indentations, on the parts of the frame-work which are exposed to the outside when the curtain box is fitted to a building. In case of installing this curtain box at a desired position, there is no need of putting marks or stretching a string for measuring purpose in the carpentering, plastering, mounting, paint-coating or other related works. For example, the above featured arrangement can provide a reference line for ceiling height, a reference line for determining the relative position of the ceiling and the wall, a reference line for mounting of window sashes, or a refeernce line for determining the thickness of finish coating on the wall, so that the period required for installation of the curtain boxes can be markedly shortened.

I claim:

1. A curtain box which comprises a bottom opened box-shaped structure with an inner chamber adapted to house lighting fixtures so that light rays from said lighting fixtures are reflected inside said curtain box and on a curtain therein, at least one curtain rail integrally formed on the inside surface of said box-shaped structure supporting said curtain, supporting ridges formed integrally with said box-shaped structure for securing said curtain box to a building structure, and a platform constituting the lower wall of said inner chamber formed integrally on the inner surface of said box-shaped structure for mounting said lighting fixtures.

2. A curtain box as defined in claim **1**, in which the entire inner wall surface of the box is made into a reflecting face arranged to reflect the light from the illuminator.

3. A curtain box as defined in claim **1**, in which a plurality of longitudinal reference lines are provided on the surface parts of the box which are exposed to the outside when the box is fitted to a building.

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16—96 D