Dec. 17, 1929. D. J. COFFEY 1,740,071

DISPLAY DEVICE

Filed March 23, 1927 3 Sheets-Sheet 1

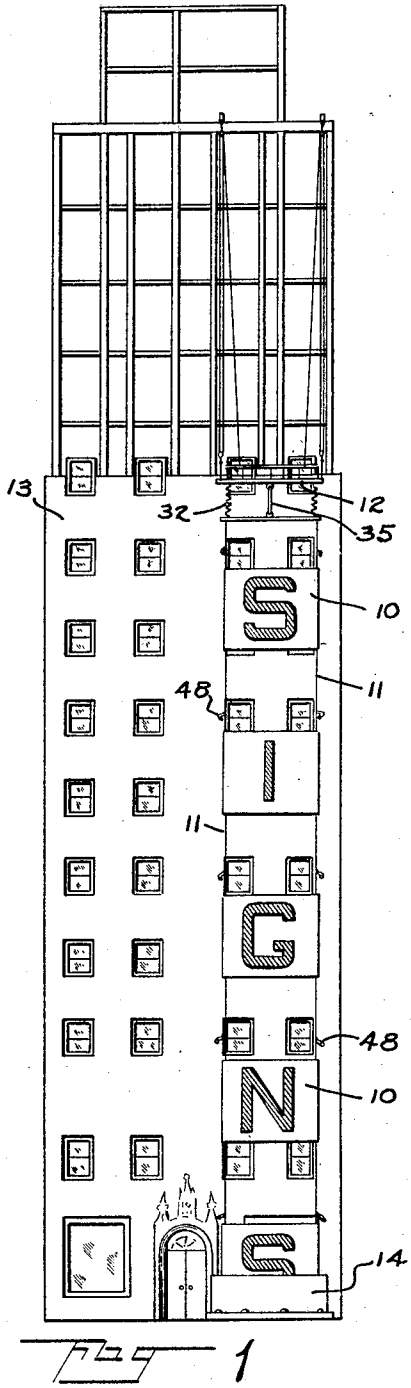

Fig 1

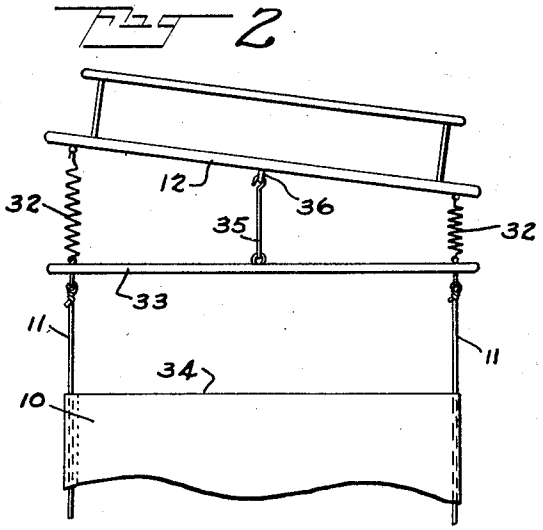

Fig 2

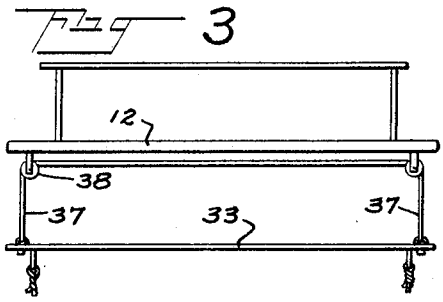

Fig 3

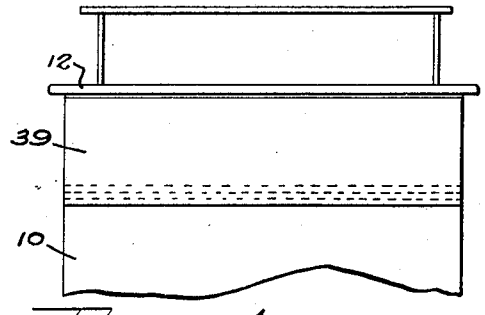

Fig 4

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DISPLAY DEVICE

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Fig 5

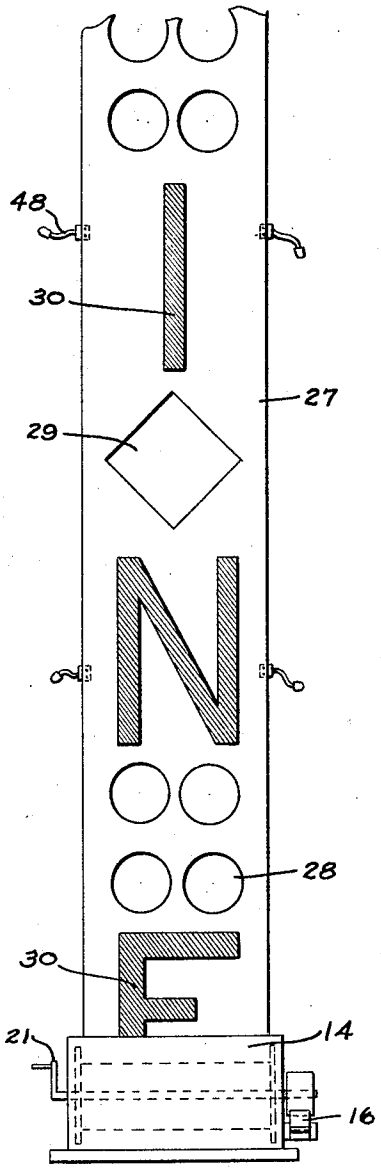
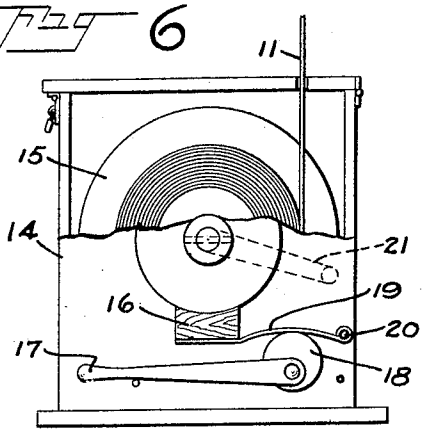


Fig 6



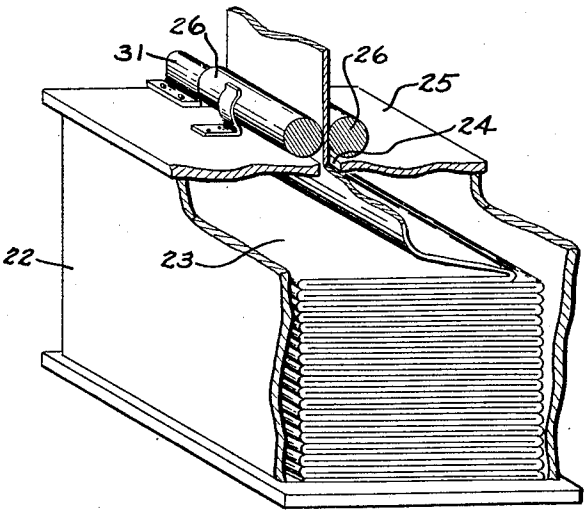


Fig 7

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DISPLAY DEVICE

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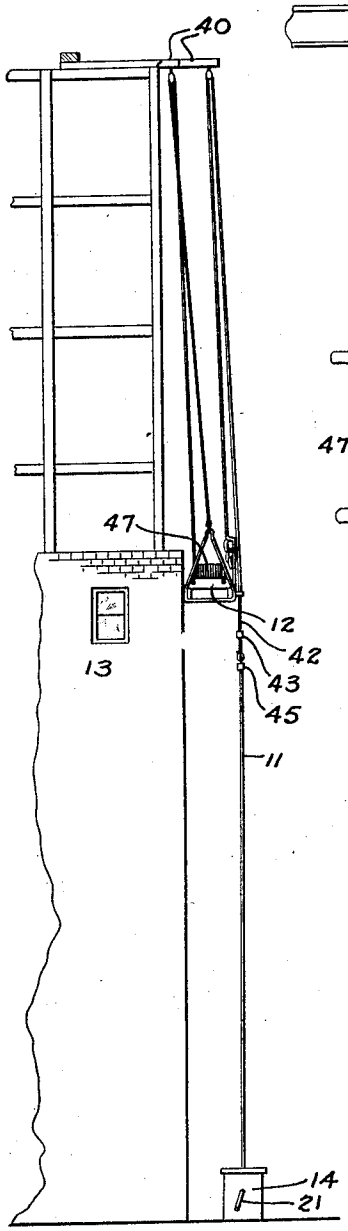

Fig 9

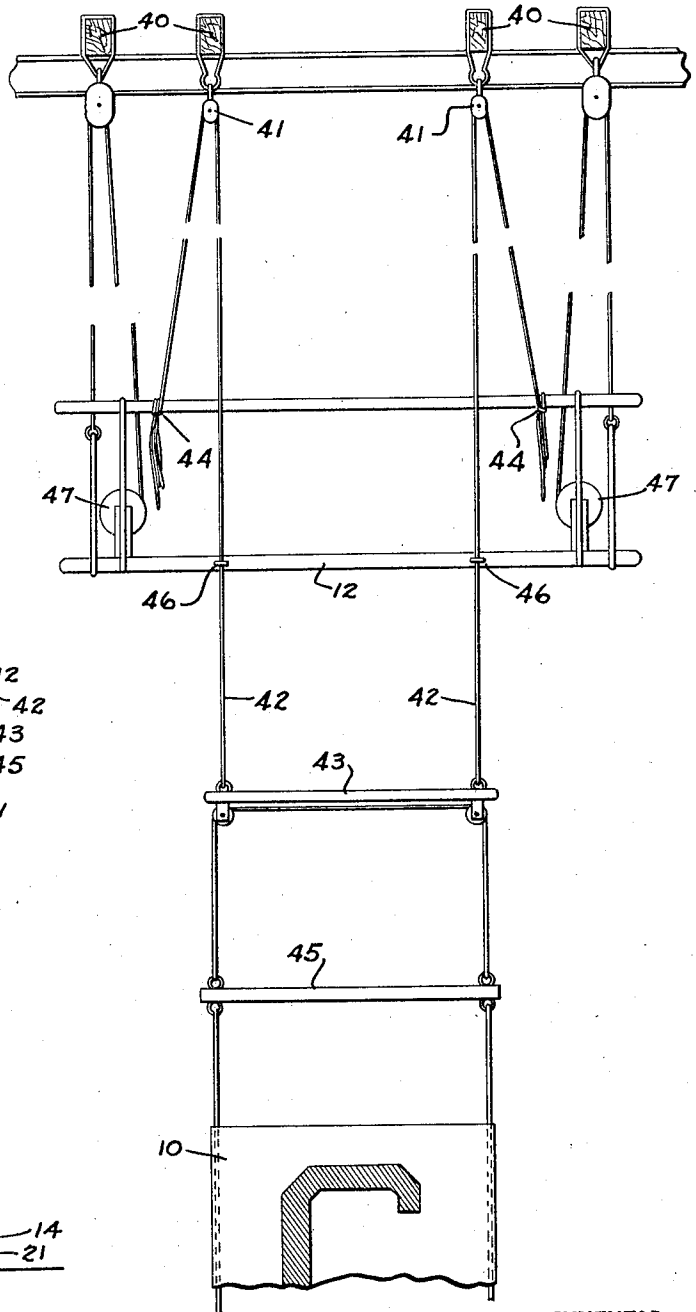

Fig 8

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Patented Dec. 17, 1929 1,740,071

UNITED STATES PATENT OFFICE

DANIEL J. COFFEY, OF NEW YORK, N. Y.

DISPLAY DEVICE

Application filed March 23, 1927. Serial No. 177,580.

This invention relates generally to display or advertising devices and more particularly to a device of this general nature adapted for the display of advertising or other matter in connection with the use of a scaffold.

A general object of the invention is to utilize for temporary display purposes the wall surfaces made available during the course of construction of a building.

The invention comprises a display or sign structure which includes an elongated web or strip of flexible sheet material adapted to be attached at one end to a scaffold or like structure and to be extended upwardly along the outer wall surface of a building under construction or repair as the scaffold is raised in the course of the work.

In one form of the invention, the upper end of the sign structure is attached directly to the scaffold so that as the scaffold is raised the sign is drawn upwardly to an extended position corresponding with the distance between the scaffold and the ground below.

In another form of the invention the sign structure is carried by halyards passing through sheaves or pulleys supported at the upper edge of the framework under construction, the halyards passing thence downwardly to the scaffold to which they are attached. In this form of the invention the weight of the sign is not carried by the scaffold but instead is so supported as to produce upward lift on the scaffold structure.

Another feature of the invention resides in the provision of means for automatically maintaining a level condition of the upper edge of the sign structure even though the scaffold is at an inclination or in other than a level condition.

Still another feature of the invention resides in the provision of means for housing that portion of the elongated sign structure which is not exposed, the housing means being located at the base of the building so that the sign member can be drawn upwardly therefrom as space provides.

Other features of the invention will be hereinafter referred to.

In the drawings, in which a number of embodiments of the invention have been selected for illsutration:

Figure 1 is a view in front elevation of a display device embodying the invention and shown in connection with a scaffold used in a building under construction;

Figure 2 is a view in front elevation and on an enlarged scale of a form of attachment used in connecting the sign structure to a scaffold;

Figure 3 is a view similar to Figure 2 showing another form of this part of the invention;

Figure 4 is a view similar to Figure 2 showing still another form of this part of the invention;

Figure 5 is a view in elevation with parts broken away of a modified form of sign structure;

Figure 6 is a view in end elevation and with parts broken away showing a housing device for the lower end of the sign structure;

Figure 7 is a perspective view with parts broken away of a modified form of housing for the unused part of the sign structure;

Figure 8 is a view in front elevation of a modified form of the invention shown in Figure 1;

Figure 9 is a view in side elevation and on a reduced scale of the parts shown in Figure 8.

Referring to the drawings for a more detailed description of the invention, a sign structure is shown in Figure 1 which consists of a series of display sections 10 formed of suitable sheet material, such as a light weight fabric having relatively high tensile strength. The sections 10 are attached in individually separated relation to a pair of halyards 11 so that the sections display characters in such relation to each other that a word or message may be spelled out.

The sign structure shown in Figure 1 is arranged to be attached at one end to a scaffold member 12 used in connection with a building 13. With this structural arrangement, as the scaffold 12 is elevated in the course of construction, the sign is correspondingly extended vertically along the face of the building.

In the construction shown in Figure 1. the

sign is partly housed in a casing or receptacle 14 located at the base of the building at a point directly beneath the scaffold to which the upper end of the sign is attached. As the sign structure is withdrawn from the housing 14, it is unrolled from a reel 15 to which a brake 16 may be applied to prevent unwinding of the reel except when the scaffold is being raised. A hand lever 17 carries a cam 18 which has cooperative relation with an arm 19 pivoted at 20 and on which the brake member 16 is supported. A crank 21 is used for rerolling the sign member onto the reel 15 at the finish of an operation.

A modified form of a holding or storage device is shown in Figure 7 of the drawings in which a receptacle 22 is adapted to hold a sign member 23 in a reversely folded relation, the member leading out through a slot 24 in the cover member 25 of the receptacle and between tensioning rollers 26 which are engaged by spring tensioning members 31.

In Figure 5 of the drawings there is shown a form of the invention in which a display member 27 is used which has a relatively continuous structure as distinguished from the interrupted sign structure shown in Figure 1. In order to prevent the sign member 27 shown in Figure 5 from catching air or wind currents openings 28 and 29 are preferably provided between the sections of the sign which contain the display characters 30.

In order to provide for adjustment of the scaffold structure 12 without tilting or substantially disturbing the level of the upper end of the sign structure, a pair of spring members 32 are interposed between a cross bar 33 to which the halyards 11 of the sign structure are directly attached and the floor board of the scaffold structure 12. The spring members 32 are preferably placed at the end portions of the cross bar 33 so that a substantial inclination of the scaffold structure 12 may take place without corresponding inclination of the cross bar 33 and the upper edge 34 of the sign structure 10. The cross bar 33 is positively attached to the scaffold structure 12 through a hook member 35 which engages with an eye member 36 in the floor board of the scaffold.

In Figure 3 of the drawings there is shown another form of the invention for preserving the level of the upper end of the sign structure. In this form of the invention the cross bar 33 which forms the upper terminal member of the sign structure is connected to the scaffold through a cable member 37 which passes over sheave members 38 mounted on the scaffold structure. With this arrangement the cable member 37 will move through the sheaves to provide for an inclined relation of the scaffold with relation to the cross bar 33.

In Figure 4 of the drawings there is shown still another form of the invention wherein the preservation of the level of the upper extremity of the sign structure is obtained. In this form of the invention, a section of elastic material, such as rubber, is inserted as at 39 between the sign structure 10 and the scaffold 12.

In Figures 8 and 9 of the drawings there is shown an adaptation of the invention which obviates the carrying of the weight of the sign structure by the scaffold, a provision of this nature being desirable when the sign structure is of great length such as would be the case with a tall building of the skyscraper type. The form of the invention shown in these Figures includes the supporting of the sign structure on supports mounted on the building framework and thereby relieves the scaffold of the weight of the sign parts. I carry out this invention, for example, by providing a pair of supporting beams 40 which extend beyond the outer face of the building and support sheave blocks 41 over which halyards 42 attached to a cross bar 43 pass and are returned to the scaffold to which they are attached as at 44. The cross bar 43 is attached to the bar 45 which forms a terminal portion of the sign structure 10 through a cable and sheave structure 37 and 38 such as is shown in Figure 3 of the drawings. The halyards 42, supporting the sign structure, pass through eyes 46 on the scaffold and are free to move therein. With this structural arrangement it will be seen that the weight of the sign is carried mainly by the supporting beams 40 and in part through the attachment of the halyards 42 to the scaffold at 44, the pull produced on the scaffold through this connection being upwardly and not downwardly. It will thus be seen that I have not only succeeded in eliminating the weight of the sign from the scaffold but I have actually made use of the weight of the sign structure to assist in supporting the scaffold.

It will be seen that in the adjustment of the sign structure in the form shown in Figures 8 and 9, the operators standing on the scaffold 12 have merely to loosen the halyards where they are tied at 44 to the scaffold rail and to then lift the sign to the desired elevation. It will be seen that the scaffold itself is raised by the operation of the reels 47 through suitable winch or crank members and that the elevation of the scaffold is actually assisted through the connection therewith of the sign structure which is shown in Figures 8 and 9 of the drawings.

In order to prevent undue whipping or lashing of the sign structure in the event of heavy wind currents, the sign may be attached at vertically spaced intervals to the building structure as at 48. For this purpose, advantage may be taken of the ordinary window cleaners' supporting bolts which are built into the pier portions of wall

constructions. The sign may also be held in place by passing a suitable cord or cable around a convenient pier or other building part and thereby fastening the sign structure in place.

While I have referred to the use of a receptacle as at 14 at the base of the building beneath the scaffold, rather than an arrangement comprising a receptacle in which the sign is furled on the scaffold itself it will be understood that this particular arrangement is not essential..

The terms and expressions which I have employed are used as terms of description and not of limitation, and I have no intention, in the use of such terms and expressions, of excluding any mechanical equivalents of the features shown and described, or portions thereof, but recognize that various structural modifications are possible within the scope of the invention claimed.

What I claim is:

1. In a display device, an elongated flexible sign, means for attaching one end of the sign to a scaffold, means for raising the scaffold, a receptacle beneath the scaffold in which the sign is held in a furled condition and from which it may be drawn into display position as the scaffold is raised, and means associated with the receptacle for maintaining the sign in a tensioned condition as it is drawn from the receptacle.

2. In a display device, an elongated flexible sign structure having openings of substantial size therein, means for suspending the sign from a scaffold, means in the suspension means for maintaining the upper edge of the sign in a level condition when the scaffold is tilted, and means beneath the scaffold for holding the sign in a furler condition from which the sign may be drawn as the scaffold is raised.

3. In a display device, an elongated flexible sign, means at an elevated portion of a building for supporting the sign, sheaves carried by the supporting means, halyards attached to the sign and passing over the sheaves, the free ends of said halyards being attached to a scaffold, and means beneath the scaffold for holding a portion of the sign in a furled condition from which it may be drawn into display position by the workers on the scaffold.

4. In a display device, an elongated flexible sign, a scaffold, a sheave mounted on an upper portion of the building above the scaffold, a halyard extending from the sign and over the sheave, the free end of said halyard being attached to the scaffold, guiding means on the scaffold through which the halyard passes, a receptacle for holding a portion of the sign in a furled condition from which it may be drawn into display position by the workers on the scaffold, and means associated with the receptacle for maintaining the sign in a taut condition as it is drawn from the receptacle.

5. In a display device, an elongated flexible sign, means for attaching one end of the sign to a scaffold comprising a central non-yielding tension member and lateral yieldable tension members, whereby the upper edge of the sign may be maintained in a level condition when the scaffold is tilted, means for raising the scaffold, a receptacle beneath the scaffold in which the sign is held in a furled condition and from which it may be drawn into a display position as the scaffold is raised, and adjustable tension means associated with the receptable for maintaining the sign in a tensioned condition as it is drawn from the receptacle.

DANIEL J. COFFEY.