Oct. 28, 1930. G. O. HARM 1,779,735

ARCH FORM

Filed Sept. 22, 1928

FIG. 1.

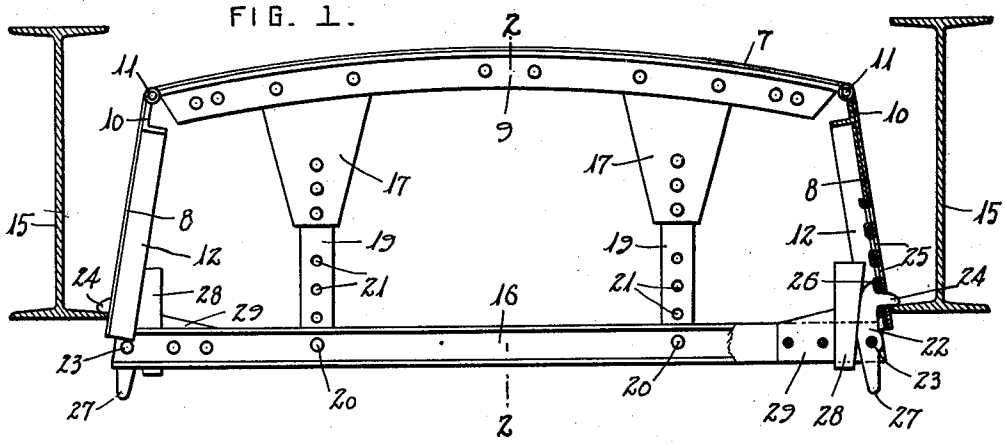


FIG. 2.

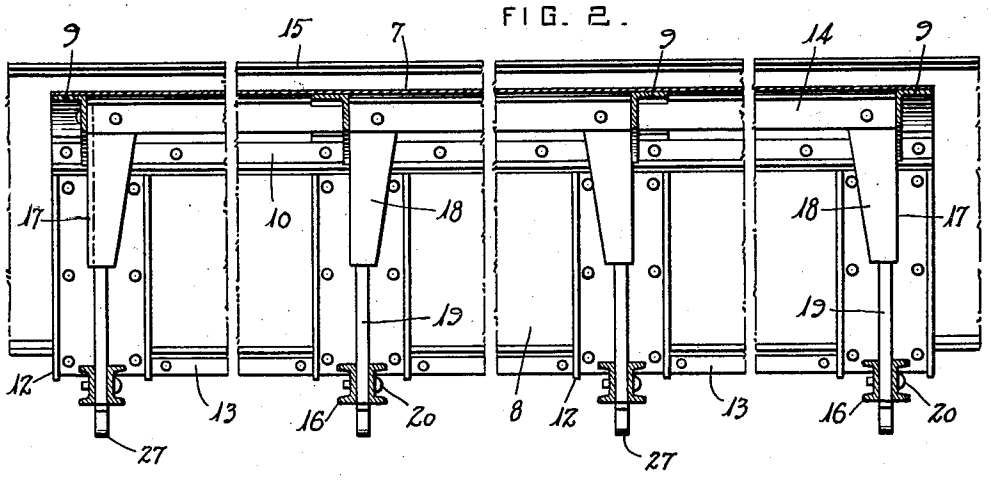
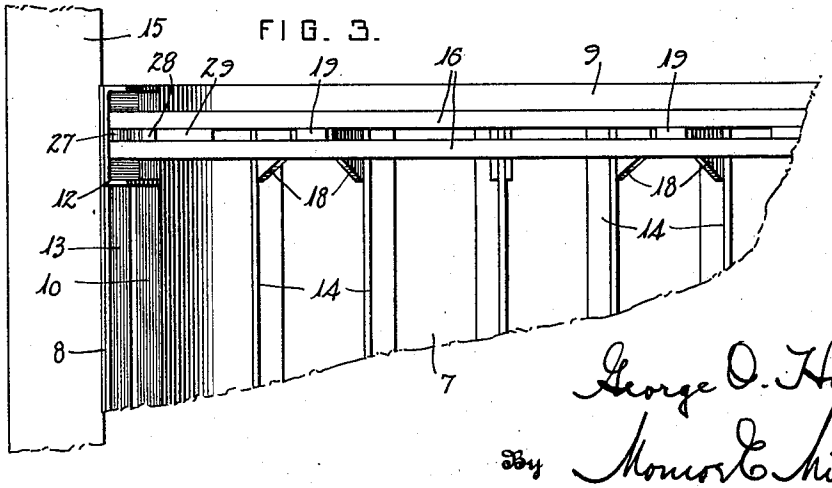


FIG. 3.



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UNITED STATES PATENT OFFICE

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ARCH FORM

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The present invention relates to concrete forms, and aims to provide a novel and improved arch or center form.

Another object of the invention is the provision of an arch or center form which may be adjusted as to height and width, so as to be useful between beams of different heights and spaced apart different distances.

A further object is the provision of novel means for supporting the form from the beams between which it is disposed.

It is also an object of the invention to provide an adjustable arch form of the character indicated comprising a novel assembly of the component elements to render the form efficient and practical.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts, as hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is an end view of the improved form, partly in section, and showing the beams in cross section.

Fig. 2 is a longitudinal vertical section on the line 2—2 of Fig. 1, portions being broken away.

Fig. 3 is a fragmentary bottom plan view of the form.

The form comprises a top plate 7 and side plates 8 of suitable proportions. As shown, the top plate 7 is convexed or arched transversely, although it may be flat, or of any other suitable shape. The side plates 8 are flat, as shown.

Transverse angle iron ribs 9 are riveted or otherwise secured to the lower surface of the top plate 7 at the ends and intermediate points, and longitudinal angle irons 10 are secured to the inner surfaces of the side plates 8 along the upper edges thereof.

The plates 7 and 8 are hingedly connected, as at 11, between the ribs 9 and angle irons 10, thereby permitting the sides of the form to be swung away from one another to increase the width of the form, thereby enabling the form to be adjusted in width.

Channel irons 12 are riveted or otherwise secured to the inner surfaces of the side plates 8 at the ends and intermediate points of said plates, and extend upwardly and downwardly with their upper ends abutting the angle irons 10. Longitudinal stiffening angle irons 13 are secured to the plates 8 at the inner surfaces and lower edges thereof between the channel irons 12, and longitudinal stiffening angle irons 14 are secured to the lower surface of the plate 7 between the ribs 9, so that the plates 7 and 8 are able to withstand pressure from above.

The form is used between I-beams 15, or the like, and the sides are swung apart against the lower flanges of the beams, as seen in Fig. 1.

The form is supported by means of transverse cross members 16, each composed of a pair of spaced channel or angle irons. Plates 17 are riveted or otherwise secured to the ribs 9, and have upwardly diverging flanges 18 riveted or otherwise secured to the angle irons 14, to brace said plates, and vertical bars 19 are riveted or otherwise secured to the plates 17 and extend downwardly between the parts of the members 16.

The plates 17 and bars 19 provide stanchions supporting the top of the form from the members 16, and pins, bolts or other removable elements 20 are inserted through the members 16 and bars 19. The bars 19 have vertically spaced apertures 21 to receive the elements 20, in order that the top of the form may be supported at different heights, thereby providing for the adjustment in the height of the form.

Latches 22 are pivoted, as at 23, within the end portions of the members 16 and have fingers or hooks 24 to pass through apertures 25 provided in the plates 8 and channel irons 12, in order that the fingers may engage over the lower flanges of the beams 15 to support the members 16 from which the remainder of the form is supported. There are vertical series of apertures 25 to correspond with the apertures 21 for purpose of vertical adjustment of the top plate 7 and

members 16 relatively to one another. The latches are located at the inner sides of the plates 8 and have abutments 26 to contact with the channel irons 12, so as to hold the plates 8 against the beams 15. The latches have depending tails 27 which may be struck by a hammer or other implement for swinging the latches in either direction.

When the form has been positioned between the beams and the latches swung to move the fingers 24 through the corresponding apertures 25 and over the lower flanges of the beams 15, wedges 28 are dropped between said latches and abutments 29 secured within the members 16, and are driven down between said latches and abutments to clamp the side plates 8 against the beams and hold the latches in engagement with said beams. The form is thus supported from the beams while the concrete is poured over the form between the beams.

When the concrete has set, a carrier is moved under the form, and the wedges 28 are driven upwardly so as to release the latches 22, which are then swung out of engagement from the beams 15. The form will then settle down on the carrier, and may be moved to a new position.

The form is of truss construction transversely thereof, the members 16 forming the bottom chord of the truss, and the plates 17 and bars 19 form struts between the top and bottom chords of the truss, so that the form is capable of withstanding considerable pressure from above.

By adjusting the bars 19 with reference to the members 16, the form is adjusted in height for beams 15 of different heights, and the sides of the form may be swung apart to accommodate beams spaced apart different distances or having flanges of different widths.

Having thus described the invention, what is claimed as new is:—

1. A form of the character described comprising a top, supporting means for the top, and sides hinged to the top and free from said supporting means, said means having portions to engage spaced beams between which the form is disposed and arranged to clamp said sides against said beams.

2. A form of the character described comprising a top, means for adjustably supporting said top, and sides hinged to the top and free from said supporting means, said means having portions to engage spaced beams between which the form is disposed and to clamp said sides against said beams.

3. A form of the character described comprising a top, sides, supporting members for said top, said sides being free from said members, and means carried by said members engageable through said sides with spaced beams between which the form is disposed and arranged to clamp said sides against said beams.

4. A form of the character described comprising a top, sides, supporting members for said top, said sides being free from said members, and latches carried by said members engageable through said sides with spaced beams between which the form is disposed and arranged to clamp said sides against said beams.

5. A form of the character described comprising a top, sides, supporting members for said top, said sides being free from said members, latches carried by said members engageable through said sides with spaced beams between which the form is disposed, and means for moving said latches into engagement with the beams and clamping said sides against said beams.

6. A form of the character described comprising a top, sides, supporting members for said top, latches carried by said members engageable through said sides with spaced beams between which the form is disposed, said members having abutments, and wedges movable between said abutments and latches to move the latches toward and to clamp said sides against said beams.

7. A form of the character described comprising a top and sides, supporting members, means for adjustably mounting said top on said members, said sides being free from said members, and means carried by said members engageable through said sides with spaced beams between which the form is disposed and arranged to clamp said sides against said beams.

8. A form of the character described comprising a top and sides, supporting members, stanchions supporting said top and adjustably connected with said members, said sides being free from said members and stanchions, and latches carried by said members to engage spaced beams between which the form is disposed and arranged to clamp said sides against said seats, said sides having vertically spaced apertures for the passage of said latches.

9. A form of the character described comprising a top, supporting members, means adjustably supporting said top from said members, sides hinged to the top and free from said members, and means carried by said members to engage spaced beams between which the form is disposed and arranged to clamp said sides against said beams, said sides having portions for the passage of the last named means in the different adjustments of said top.

10. A form of the character described comprising a top, sides hinged thereto and having vertically spaced apertures, supporting members, means adjustably supporting said top from said members, said sides being free from said members and supporting means,

and latches carried by said members engageable through said apertures with spaced beams between which the form is disposed and arranged to clamp said sides against said beams.

11. A form of the character described comprising a top, sides hinged thereto and having vertically spaced apertures, supporting members, means adjustably supporting said top from said members, said sides being free from said members and supporting means, latches carried by said members engageable through said apertures with spaced beams between which the form is disposed, the latches having portions to contact with the inner surfaces of said sides, and means for moving said latches toward said beams to clamp said sides against said beams.

In testimony whereof I hereunto affix my signature.

GEORGE O. HARM.