July 11, 1933. F. EILER 1,918,182

TILTABLE CASING FOR CONCRETE CONSTRUCTION

Filed April 19, 1932

Fig. 1

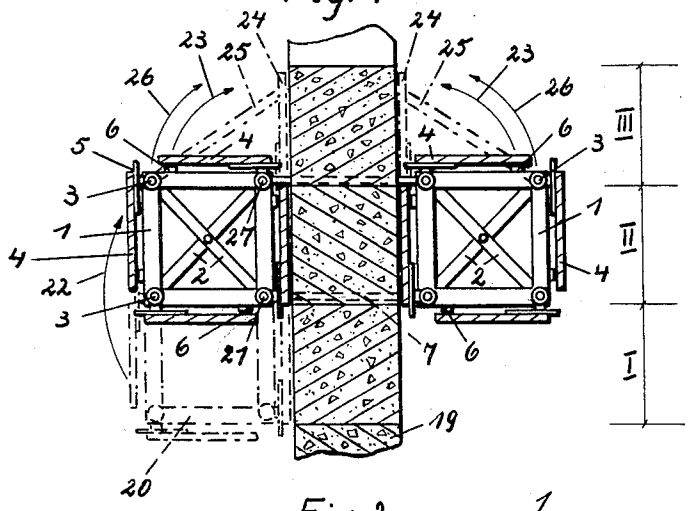


Fig. 2

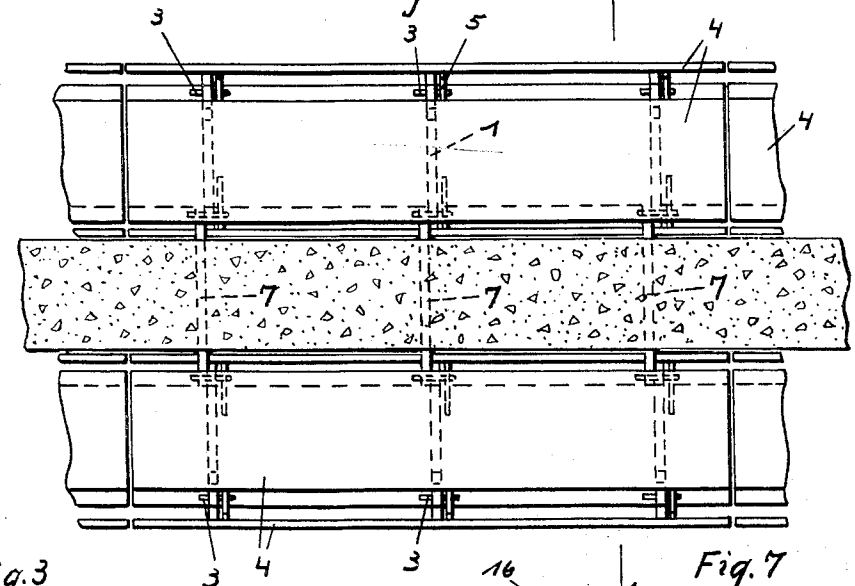


Fig. 3

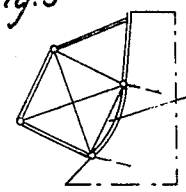


Fig. 4

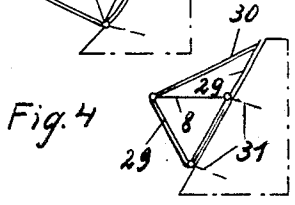


Fig. 5

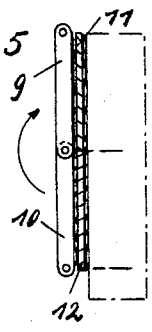


Fig. 6

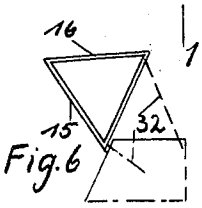


Fig. 7

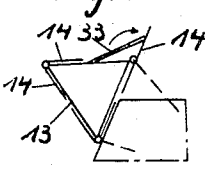
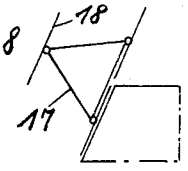


Fig. 8



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Patented July 11, 1933

1,918,182

UNITED STATES PATENT OFFICE

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TILTABLE CASING FOR CONCRETE CONSTRUCTION

Application filed April 19, 1932, Serial No. 606,276, and in Germany March 12, 1932.

This invention relates to a tiltable casing for concrete constructions, which presents the advantage over the usual known casings that it can be adapted to the progress of the structure or building element and consequently according to the building process by merely being tilted. The invention entirely overcomes the objection inherent in the usual casings which consists in that the entire surface of the finished structure must be encased at the same time or, if this is avoided by sectional casings, which necessitate inconvenient and complicated stripping, is impossible on account of the great height of the structure.

The tiltable casing according to the invention is characterized substantially by casing panels which are mounted on a common, regular polygonal frame are each oscillatable around a pivot axle formed by pivot pins and can be arrested in swung out position by a stay.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:—

Fig. 1 is a section on line 1—1 of Fig. 2.

Fig. 2 is a top plan view of Fig. 1.

Fig. 3 shows a form of use of the tiltable casing.

Fig. 4 is a modified form of construction.

Figs. 5 to 8 are further forms of construction.

The square frames 1 reinforced by diagonal struts 2 have on each corner a pivot axle formed of pivot pins 3 for the casing boards 4. These casing boards 4 are mounted on the pivot pins 3 by means of lugs 5. The bars of the frame 1 have, if necessary projections 6 adapted to serve as abutments for the casing boards or panels 4.

If the tiltable casing is employed in symmetrical arrangement, the pivot pins 3 are connected by ties 7 which extend through the masonry. If the casing is used on one side, these ties only extend the necessary distance into the masonry. The frame 1 may also be made triangular, like the frame 8 shown in Fig. 4. Instead of a separate closed frame two hingedly interconnected section irons 9, 10 may be employed, on which the casing panels 11, 12 are rigidly fixed. The triangular frame 13 shown in Fig. 7 carries casing panels 14, two of which are hingedly mounted at each of the corners of the frame, the width of the frame panels being equal to half the length of the frame bars. In Fig. 6 the casing boards 16 are rigidly fixed on the triangular frame 15, and in Fig. 8 the casing boards 18 are hingedly mounted on the triangular frame 17 so that the centre line of their width is at the same time their pivot axis.

When employing the tiltable building casing according to the invention it is fitted in the position 20 shown in dotted lines for building the wall 19 divided into three sections shown in Fig. 1. When the zone I has been rammed and finished, the frame 1 can be oscillated around the pivot pins 21 in the direction of the arrow 22 into the position shown in full lines in which after oscillating the opposite tiltable constructional casing the zone II is finished in a similar manner. When this has been effected, the casing board 4 can be oscillated in the direction of the arrow 23 so that it assumes the position 24 shown in dotted lines in which it is supported by a stay 25. The same applies in the case of the opposite tiltable constructional casing which might be omitted for example when producing a wall on a slope. After the zone III has been completed in the same manner as the zones I and II the frame is turned around the pivot pins 27 in the direction of the arrow 26, whereupon the operation above described is repeated from building zone to building zone, the height of which is naturally determined by the width of the casing panels 4. It is evident that the wall ties must be displaced corresponding to the pivot pins 3 after or during the finishing of a zone. In the manner above described walls of any desired height can be produced, saving large quantities of casing material.

When employing sliding construction casing a device is always required for winding up the individual casing panels. This method besides possessing economical disadvantages is also open to the objection that owing to the distortions caused by the raising of the

panels it is repeatedly necessary to level up in order to produce a perfect masonry. The tiltable constructional casing according to the invention avoids this objection and can at the same time carry or be constructed as an operating platform. The casing according to the invention can, as shown in Fig. 3, be employed also on curved surfaces, the panels being provided with a covering or padding 28. When employing the triangular frame 8 shown in Fig. 4, the casing panels 29 are reinforced by stays 30. The wall ties 31 are embedded in the upper surface of the concrete, so that they lie in the concrete when tilting the frame, which is preferably effected by a casing board which, being arranged displaced relative to the joints of the casing boards 4, effects a connection therewith.

Fig. 5 shows a tiltable casing oscillatable around two points. It can be employed when on the opposite side of the masonry a tiltable constructional casing with rigid frame is arranged which effects the guiding and on which the casing of the rear side is supported. It can be a normal simple casing. The frame 15 is employed only after displacing the wall ties 32 as is necessary as the masonry progresses. The operation above described is analogous when employing the frame 13 or 17. The casing panel 14 or 18 are successively shifted on the masonry by oscillating, if necessary a stay 33 being interposed. The hinges of the tiltable constructional casing in all forms of construction do not come into contact with the concrete.

I claim:—

1. A tiltable casing for concrete constructions, comprising in combination a common regular polygonal frame, pivot pins forming pivot axles on each corner of said frame, casing panels oscillatably mounted on said pivot pins, and a stay adapted to hold said panels in oscillated positions.

2. A tiltable casing as specified in claim 1, in which the frame carrying the panels is of triangular shape.

3. A tiltable casing as specified in claim 1, in which the frame is of triangular shape and the casing panels are of a width equal to half the length of the sides of the frame, two panels being hingedly mounted on a common pivot point at each corner of the frame.

4. A tiltable casing as specified in claim 1, in which the panels are oscillatably mounted so that the pivot axles coincide with the centre line of their width.

In testimony whereof I affix my signature.

FRANZ EILER.