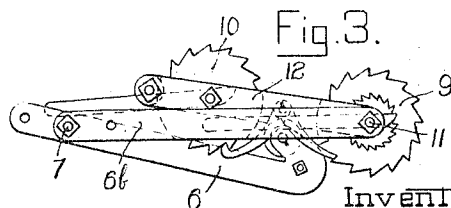
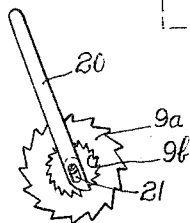
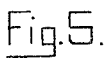
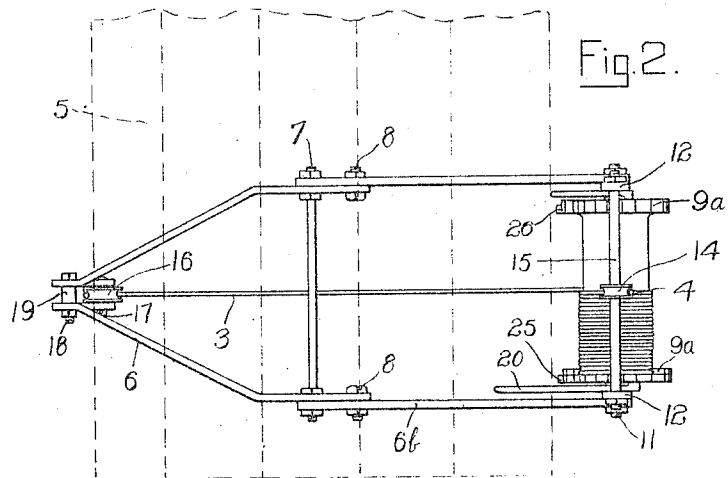


1,038,579.

2 SHEETS—SHEET 1.



Witnesses
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E. H. HENDERSON.
SCAFFOLD SUPPORTING MECHANISM.
APPLICATION FILED NOV. 7, 1910.

1,038,579.

Patented Sept. 17, 1912.

2 SHEETS—SHEET 2.

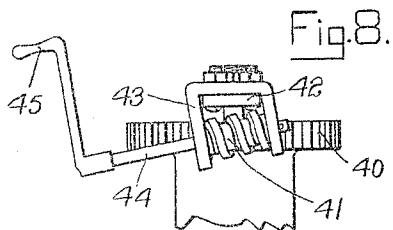


Fig. 8.

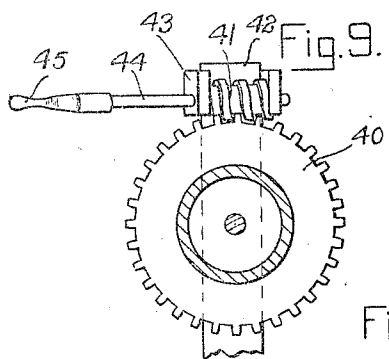


Fig. 9.

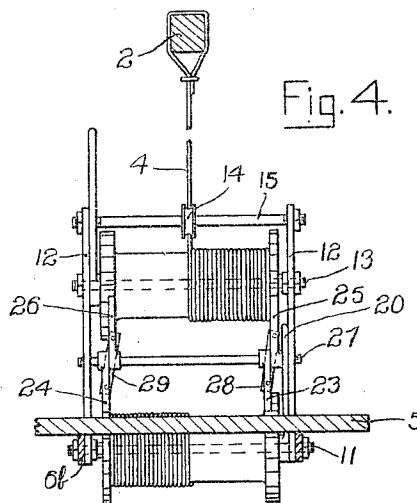
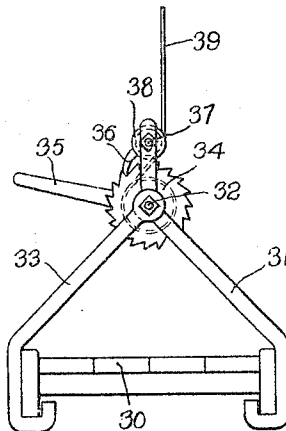
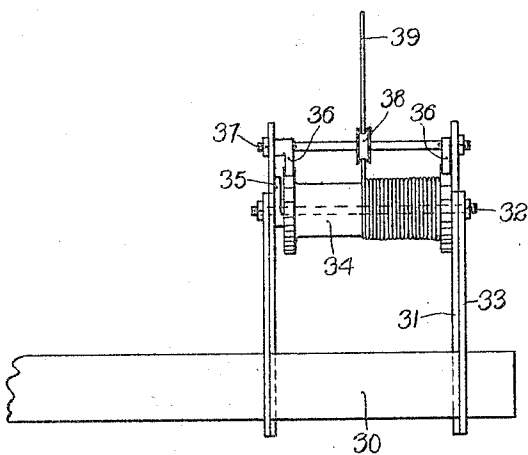


Fig. 4.

Fig. 7.

Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

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TO HENDERSON SCAFFOLD HOIST COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION
OF ILLINOIS.

SCAFFOLD-SUPPORTING MECHANISM.

1,038,579.

Specification of Letters Patent.

Patented Sept. 17, 1912.

Application filed November 7, 1910. Serial No. 590,965.

To all whom it may concern:

Be it known that I, ELIAS H. HENDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Scaffold-Supporting Mechanism, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates particularly to an improved form of supporting mechanism for scaffolds in which the frame construction directly supports the hoisting mechanism employed in connection with the scaffold, the frame construction being of such a nature that the frame may be folded to facilitate transportation. In the folded position, the frame proper is folded upon a centrally disposed pivot, and the members supporting the hoisting mechanism are also folded against the frame members.

A further object of my invention is to provide hoisting mechanism in connection with a frame construction such that two drums are employed at the same end of the frame for controlling the cables extending upward from the two ends of the frame, as a result of which the end of the frame next to the building and therefore the corresponding side of the scaffold are free from obstruction, so that the workmen on the scaffold may readily get at all parts of the structure being erected.

The several drawings illustrating my invention are as follows:

Figure 1 is an end view of a scaffold equipped with the frame and hoisting construction characterizing my invention; Fig. 2 is a top view of the frame construction shown in Fig. 1; Fig. 3 is a side view of the frame shown in Fig. 1, in its folded position; Fig. 4 is a sectional view of the parts shown in Fig. 1, taken along the line 4-4; Fig. 5 is a detail view showing the relation of one of the operating levers to the corresponding hoisting drum; Fig. 6 is an end view of a painter's scaffold equipped with a folding and adjustable supporting mechanism; Fig. 7 is a side view of the mechanism shown in Fig. 6; Fig. 8 is a top view of a portion of one of the hoisting drums and a modified form of operating mechanism that

may be employed instead of the mechanism indicated in Fig. 5; and Fig. 9 shows in elevation the parts shown in Fig. 8.

Similar numerals refer to similar parts throughout the several views.

As shown in Fig. 1, the building 1 is provided near its top, or at a sufficient distance from the ground to operate the scaffold, with an outrigger 2, from which the cables 3 and 4 extend downward to the scaffold 5. The scaffold 5 is supported by a plurality of frames 6, which are spaced at suitable intervals, each being supported by cables 3, 4 from an outrigger 2, but one of such frames being shown, for convenience, in the present drawings. The frame 6 consists of two portions 6^a and 6^b, pivoted together upon a bolt 7 extending through them. When in position to support the scaffold 5, the members 6^a and 6^b are secured substantially in alignment by means of bolts 8 extending through the two sections of the frame. Each section of the frame consists of two members or bars, in order to give stability to the structure and afford a convenient support for the hoisting drums 9 and 10. The drum 9 is supported upon a rod or bolt 11 extending through the right-hand end of the section 6^b of the frame, and this rod or bolt also pivotally supports the two members 12 of the frame employed to support the drum 10 upon the rod or bolt 13 extending through such members 12. The drum 10 receives the lower end of the cable 4, which is guided by a sheave 14 loosely mounted upon a rod or bolt 15 extending between the upper ends of the bars 12. The drum 9 receives the lower end of the cable 3, which is guided below the scaffold 5 by means of a sheave 16 mounted upon a pin 17 between the left-hand ends of the bars comprising the section 6^a of the frame. The bars forming the section 6^a of the frame are bent as indicated, so that the bent portions will engage the surface of the structure being erected if for any reason the scaffold is moved against it, and thus the cables 3 and sheaves 16 are prevented from coming in contact therewith. A bolt 18 extends between the members of the section 6^a of the frame at the bends formed in such members and outside of the cable 3, thus preventing displacement of the cable 3 from between such members in case

of accident which would drop the scaffold if such displacement were not prevented. A pipe separator 19 is placed upon the bolt 18 between the members of the section 6^a to properly space them.

Each of the drums 9 and 10 is provided at one end with a comparatively thick flange 9^a, 10^a, which is recessed and provided with an internal ratchet, as shown at 9^b, adapted to be engaged by an operating lever 20 mounted upon the support of the drum and provided with a slot 21, so that it may be moved longitudinally upon such support to engage and disengage the teeth of the internal ratchet. A projection is formed on the extreme lower end of the lever 20, extending into the recess, such projection being pointed to properly engage the teeth of the internal ratchet. A pipe 22 may be slipped over the end of the lever 20 to increase the purchase, if desired, and, as clearly indicated in the drawings, operation of the lever 20 by means of the pipe 22 serves to rotate the drum 9, and thus to wind up the cable 3, suitable pawls 23 and 24 being provided to engage external ratchet teeth formed on the heads of the drum. As indicated in Figs. 2 and 4, the end of the drum opposite to the operating end is provided with a comparatively thin flange or head of just sufficient thickness to properly retain the hoisting cable and to engage the retaining pawl. The pawls 25 and 26 used in connection with the upper drum 10 are made with hooks at their upper ends, as indicated in Fig. 1, and are supported upon the same supporting rod 27 as are the pawls 23 and 24. The pawls 23 and 25 are provided with a common flat spring 28, the ends of which are secured to the pawls by suitable means, as set screws, while the pawls 24 and 26 are provided with a similar spring 29.

When the scaffold is lowered upon the completion of the work and it is desired to pack the same for shipment, releasing the tension upon the cable 4 permits the bars 12 to be swung about the rod or bolt 11 so that the bars 12 may assume the position indicated in Fig. 3, and the bolts 8 are removed and the section 6^a of the frame is folded under the section 6^b until it assumes the position indicated in Fig. 3, for which position the frame and hoisting mechanism occupy a minimum amount of space and may be shipped much more effectively than if it were not thus folded.

As shown in Figs. 6 and 7, the modified form of supporting construction employed in connection with a painter's scaffold 30 consists of a supporting frame 31 consisting of two similar bent bars having hooks formed on their lower ends to engage one side member of the scaffold 30, while pivoted thereto upon the rod or bolt 32 extend-

ing between the bars 31 are bent bars 33 having hooks formed on their lower ends to engage the other side member of the scaffold 30. The bar 32 supports a hoisting drum 34 between the bars 31, which hoisting drum is provided with an operating lever 35 and holding pawls 36 similar to those shown and described in connection with Figs. 1 to 5, inclusive. A rod or bolt 37 extends between the upper ends of the bars 31, and upon this rod or bolt there is mounted a sheave 38 around which the cable 39 wound upon the drum 34 extends to a suitable support secured to the building or structure upon which work is being done. One of the hoisting mechanisms shown in Figs. 6 and 7 is employed at each end of the scaffold 30. As the bars 33 are pivoted to the bars 31 at 32, it will appear that they may be readily moved to accommodate different widths of scaffold, and also that they may be folded together when not in use to occupy a minimum space.

In the modification shown in Figs. 8 and 9, the lever 20 and internal ratchet 9^a are replaced by means of a gear 40 cut upon the thicker head of the drum and engaged by a worm 41 supported from the bar 42 by means of a bent bracket 43, as indicated. The axis of the worm 41 is sufficiently inclined to the plane of the gear so that the threads of the worm are substantially parallel with the teeth of the gear at the points of engagement, and by this construction a positive locking action is secured between the drum and worm which is more effective to prevent back rotation of the drum than if the teeth formed on the periphery of the head of the drum were inclined to correspond with the threads of the worm, thus constituting the wheel 40 a regular worm wheel. A further advantage of the construction indicated is that the gear wheel 40 is much easier to construct than is a worm wheel adapted for use with the worm 41. The worm 41 is operated by means of a shaft 44, to which it is rigidly secured, which shaft is operated by means of a crank 45, as indicated.

While I have shown my invention in the particular embodiments herein described, I do not, however, limit myself to these constructions, but desire to claim any equivalent that may suggest itself to those skilled in the art.

What I claim is:

1. In a scaffold support, the combination of a horizontal frame, a vertical frame at one end of the horizontal frame, a rod extending through the two frames to pivot them together, and a hoisting drum mounted upon the rod.

2. In a scaffold support, the combination of a horizontal frame, a vertical frame at one end of the horizontal frame, a rod ex-

tending through the two frames to pivot them together, and hoisting mechanism mounted upon the rod.

3. In a scaffold support, the combination of a horizontal frame, a vertical frame at one end of the horizontal frame, a rod passing through the two frames to pivot them together, a device mounted upon said rod for receiving a cable, and a hoisting drum ro-

tatably mounted in the vertical frame to 10 which a cable is secured.

In witness whereof, I hereunto subscribe my name this 5th day of November, A. D. 1910.

ELIAS H. HENDERSON.

Witnesses:

ALBERT C. BELL,

ALBERT G. McCALLEN.