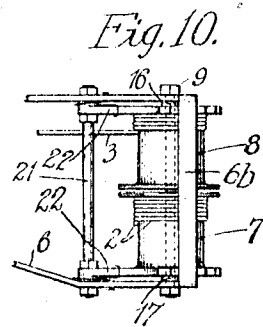
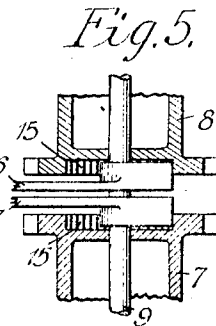
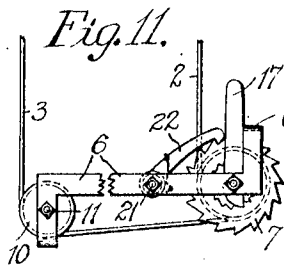
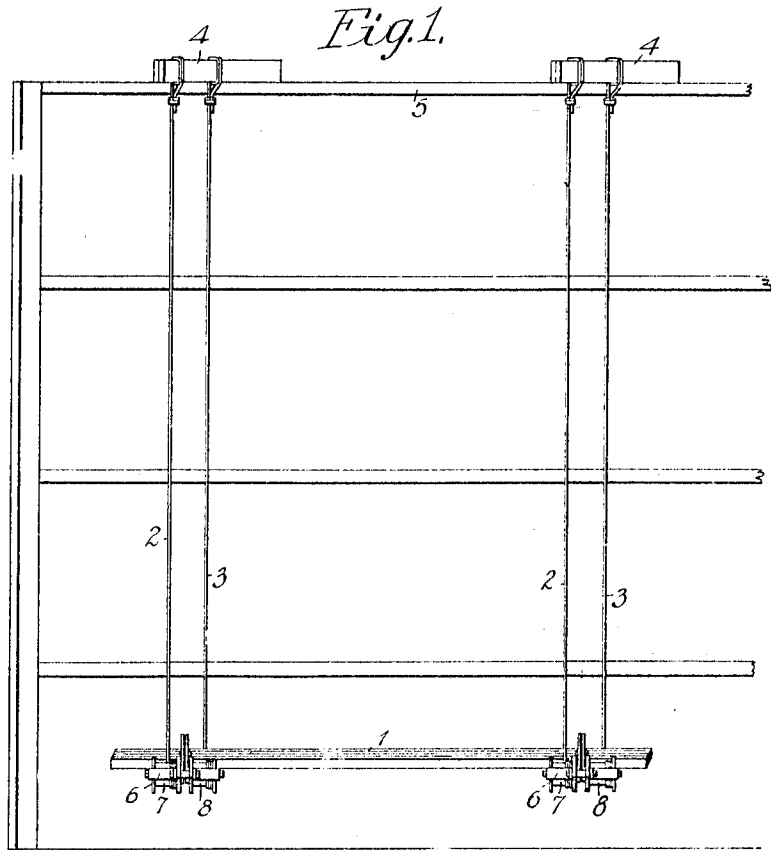


E. H. HENDERSON.
 SCAFFOLD SUPPORTING MECHANISM.
 APPLICATION FILED SEPT. 23, 1910.

1,035,703.

Patented Aug. 13, 1912.

3 SHEETS SHEET 1



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3 SHEETS-SHEET 2.

Fig. 2.

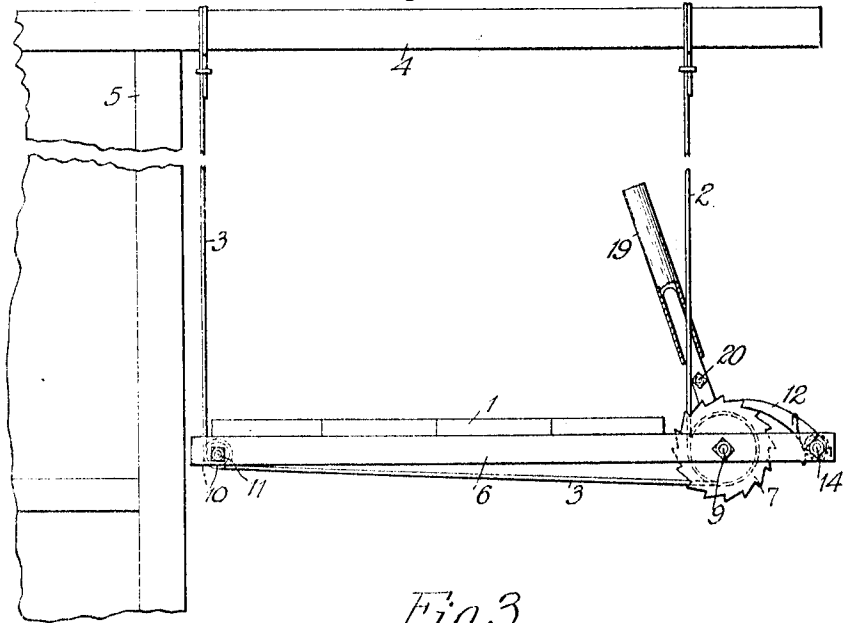


Fig. 3.

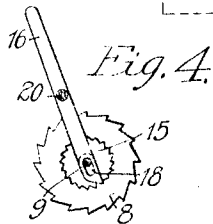
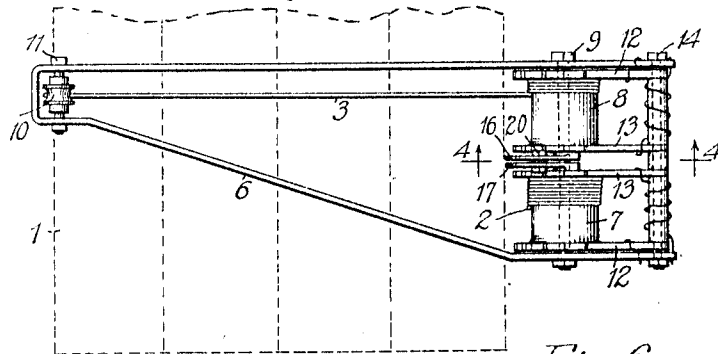
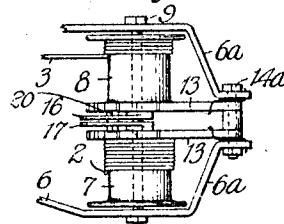


Fig. 6.



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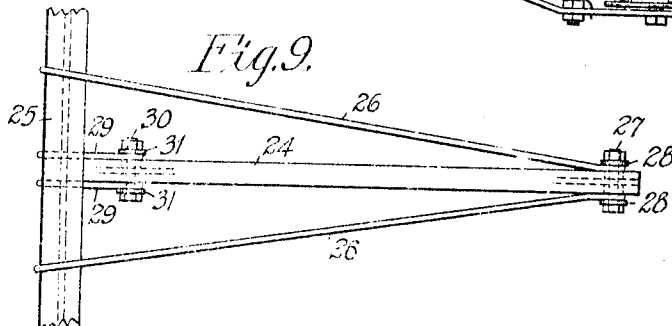
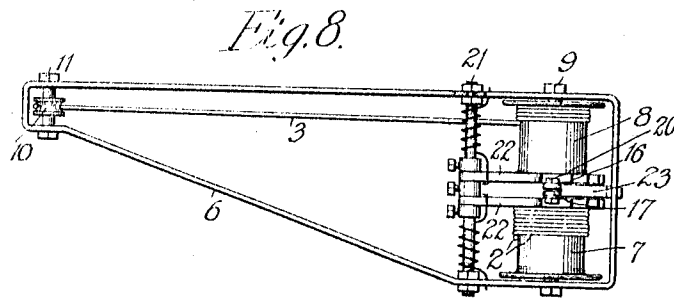
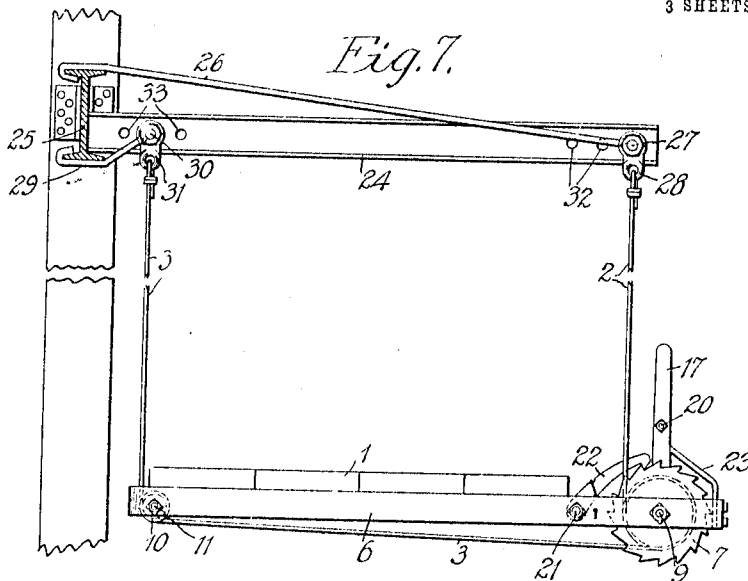
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3 SHEETS-SHEET 3.



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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.

1,035,703.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed September 23, 1910. Serial No. 583,346.

To all whom it may concern:

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

My invention relates to an improved form of scaffold supporting mechanism adapted for use in connection with scaffolds provided with hoisting devices such as are used in erecting large buildings of modern construction.

My invention consists particularly in an improved form of construction of the supporting putlog such that besides supporting the scaffold, the putlog also forms the frame of the hoisting drum or drums employed. Both of the hoisting drums associated with the putlog are preferably located at one of its ends and upon a common axle, as a result of which the other edge of the scaffold may be brought close to the side of the building without having any mechanism on the scaffold between the workman and the building.

My invention also provides an improved form of outrigger construction for securing the upper end of the supporting cables of the scaffold to the upper portion of the framework of the building.

The several drawings illustrating my invention are as follows:

Figure 1 is a perspective view of a scaffold in connection with a building upon which it is used. Fig. 2 is an enlarged end view of a scaffold and its supporting outrigger showing in detail the hoisting mechanism. Fig. 3 is a plan view of the scaffold shown in Fig. 2, the platform of the scaffold being shown in dotted lines to more clearly indicate the construction of the supporting putlog. Fig. 4 is a view of one of the hoisting drums and its operating lever taken along the line 4-4 in Fig. 3. Fig. 5 is an enlarged, horizontal, central sectional view of portions of the hoisting drums shown in Fig. 3 showing the relation to such drums of the corresponding operating levers. Fig. 6 shows in plan view a modified form of putlog construction for supporting the hoisting drums and retaining pawls. Fig.

7 shows, in a view similar to Fig. 2, a modified form of hoisting mechanism and also a preferred form of outrigger construction for supporting the scaffold. Fig. 8 is a plan view of the putlog shown in Fig. 7. Fig. 9 is a plan view of the outrigger shown in Fig. 7. Figs. 10 and 11 are top and side views of a modified construction of putlog.

Similar numerals refer to similar parts throughout the several views.

As shown in Fig. 1, the scaffold 1 is supported by cables 2 and 3 from the outriggers 4 secured to the upper portion 5 of the framework of the building upon which the scaffold is used. The scaffold 1 has extending transversely beneath it the putlog 6 which carry the drums 7 and 8 for receiving the cables 2 and 3 respectively.

As shown in Figs. 2 and 3, the drums 7 and 8 are mounted upon a common axle 9 which extends through the two members of the putlog 6. The putlog 6 is preferably made by bending a bar of metal, as iron or steel, so that at the right hand end, as shown in Figs. 2 and 3, the members thus formed are at a sufficient distance from each other to receive between them the two hoisting drums 7 and 8, and at the other end of the putlog the members are brought close enough together so as to support between them a sheave 10 upon an axle 11 extending through such members. The bar used in constructing the putlog is continuous throughout and is bent around the sheave 10 so that the cable 3 which passes beneath the floor of the scaffold 1 around such sheave and up to the outrigger 4, is inclosed by the bent end of the putlog. As indicated in Fig. 3, the cable 3 is wound upon the drum 8, while the cable 2 is wound upon the drum 7. Pawls 12 and 13, supported by a rod or bolt 14 extending between the right hand ends of the members of the putlog, are provided to engage the notches formed in the heads of the drums to retain such drums in any position to which they may be rotated. Suitable springs are provided to hold the pawls in their engaging position. The adjacent ends of the drums 7 and 8 are recessed, as indicated at 15 in Figs. 4 and 5, such recesses having formed around their peripheries teeth to be engaged by the ends of the operating levers 16 and 17. These levers, as indicated in Fig. 5, are of thicker material at their lower ends than are the

upper portions of such levers in order that the pointed lower ends may engage the internal ratchets referred to. Each lever is provided with a slot 18 through which the axle 9 passes in order that the lever may have sufficient longitudinal motion to pass over the teeth of the internal ratchet when the lever is being moved to a position to properly engage the ratchet to operate the corresponding drum.

The cables are preferably so related to the drums and the various ratchets, holding pawls and operating levers are so conformed that the motion of the levers in hoisting the scaffold is toward the scaffold rather than away from it in order to provide against accident in case the levers should slip during the hoisting operation. Each operating lever may be actuated independently of the other associated with the same putlog to level that portion of the scaffold and in order to secure the requisite leverage a pipe 19 may be slipped over the end of the lever to be actuated, thus permitting the use of comparatively short levers to permit them to be less in the way of the workmen on the scaffold. When the scaffold is leveled transversely at any particular putlog, the levers 16 and 17 may be secured together by means of a bolt 20 extending through them and the pipe 19 may then be placed over the ends of both of the levers to actuate them together, as a result of which the putlog as a whole will be raised by a single operation of the hoisting mechanism.

As will be seen from Fig. 3, the upwardly extending cables 2 and 3 are so related to the putlog and the hoisting mechanism that they cannot be displaced from the positions they occupy in such a manner as to permit the scaffold to drop and that, therefore, such an accident cannot occur unless the cables or some of the hoisting mechanism breaks.

In the modified construction shown in Fig. 6, the right hand ends of the members of the putlog 6 are bent as indicated at 6^a, so that they come more nearly together than shown in Fig. 3. The bolt or rod 14^a extends through the right hand ends of the putlog members to support the pawls 13 engaging the ratchets formed on the heads of the drums 7 and 8. This construction is preferred when it is sufficient to have but one holding pawl for each hoisting drum.

In the putlog construction shown in Figs. 7 and 8, the side members of the putlog 6 are welded or secured together in suitable manner so as to constitute a continuous loop and the hoisting drums 7 and 8 are supported within the right hand end of the loop in the manner described above for the putlog shown in Figs. 2 and 3. In this modification, however, the holding pawls are

mounted upon a rod or bolt extending through the members of the putlog at the left of the drums 7 and 8 instead of in the position indicated in Figs. 2 and 3. For this modified construction the pawls 22 supported on the rod or bolt 21 are provided with hooks at their engaging ends to retain the hoisting drums in any position to which they may be moved by means of the operating levers 16 and 17. In this manner the pawls are more readily accessible to the workmen on the scaffold than they are in the construction indicated in Figs. 2 and 3. A stop bar 23 is secured to the right hand end of the putlog shown in Figs. 7 and 8, and is so bent and located as to lie in the path of the operating levers 16 and 17 to prevent their being moved around to the right beyond the position indicated in Figs. 7 and 8. This construction furnishes a safeguard to prevent rotation of the drums 7 and 8 if, for any reason, the retaining pawls 22 fail to operate or break.

The outrigger shown in Figs. 7 and 9 consists of a substantially horizontal compression member 24 adapted at its left hand end to engage and rest against a beam 25 of the upper portion of the framework of the building upon which the scaffold is to be used. The right hand end of the member is supported by a tension rod or rods 26 bent at the left hand end so as to hook over the top of the beam 25. Connection is made between the right hand end of the rod or rods 26 and the right hand end of the member 24 by means of a bolt 27 from which a clip 28 is supported to receive the upper end of the cable 2. The left hand end of the member 24 is secured in proper position upon the beam 25 by one or more hook clamps 29 engaging the lower part of the beam 25 and connected to the left hand end of the member 24 by a bolt 30, which also supports a clip 31 engaged by the upper end of the cable 3. A number of holes 32 and 33 are provided in the member 24 so that the bolts 27 and 30 may be differently disposed relatively to the member 24 to accommodate any size or kind of beam 25 that may be employed in the upper portion of the framework of the building and from which it is desirable to support the scaffold. As shown in Fig. 9, it is preferable to employ two tension rods 26 and to separate them at their points of engagement of the beam 25 to provide against lateral motion of the outrigger.

In the modified construction shown in Figs. 10 and 11, the putlog 6, while formed of a continuous bar of metal, is extended over the top of the drums 7 and 8, as shown at 6^b instead of around the right hand sides of such drums as shown in Figs. 7 and 8. The portion 6^b thus disposed constitutes a stop for preventing motion of the operating

levers 16 and 17 around to the right beyond a vertical position thus accomplishing in effect a purpose similar to that secured by the member 23 shown in Figs. 7 and 8. In this modification the operating levers 17 and 16 are located on the outer ends of the drums and thus the retaining pawls 22 are located just inside of the side members of the putlog 6, as a result of which the strain exerted upon the bolt 21 is communicated to the members of the putlog with less bending moment upon the bolt 21.

The left hand end of the putlog 6 as shown in Fig. 11 is bent downward and around the sheave 10 so as to provide for the use of a comparatively large sheave if desired. The left hand end of the putlog 6 surrounds the sheave 10 in this modification on its lower side and thus incloses the cable 3 as effectually as it does in the construction shown in Figs. 7 and 8.

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 mechanical equivalents that may suggest themselves to those skilled in the art.

What I claim is:

1. A scaffold support comprising in combination a scaffold supporting member having two members of bar metal extending in a horizontal plane and across the scaffold, a hoisting drum between the members at one end of the scaffold supporting member, an axle extending through the drum and such members at one end of the scaffold supporting member, pawl and ratchet mechanism associated with the drum, a sheave between such members at the other end of the scaffold supporting member, and an axle for the sheave extending through such members, such members forming a loop at the sheave end to surround such sheave and to prevent disengagement of the cable with the sheave.

2. A scaffold support comprising in combination a scaffold supporting member having two members bent from a single bar of metal and disposed in a horizontal plane, cables for supporting said scaffold supporting member, a drum for each cable, a common axle for such drums extending through such members at one end of the scaffold supporting member, a sheave at the other end of the scaffold supporting member between such members, and an axle for the sheave extending through such members, one of the drums adapted to directly receive one of the cables while the other cable is conducted around the sheave to the other drum, pawl and ratchet mechanism associated with each drum, said drums and pawl and ratchet mechanisms having their bearing ends sup-

ported in the same horizontal plane, such bar being bent around the sheave to inclose the corresponding cable thereby preventing disengagement of the cable with the sheave.

3. A scaffold support comprising in combination a scaffold supporting member having two members bent from a single bar of metal and disposed in a horizontal plane, cables for supporting said scaffold supporting member, a drum for each cable, a common axle for said drums extending through such members at one end of the scaffold supporting member, a sheave at the other end of the scaffold supporting member between such members, an axle for the sheave extending through such members, one of the drums adapted to directly receive one of the cables while the other cable is conducted around the sheave to the other drum, pawl and ratchet mechanism associated with each drum, said drums, pawl and ratchet mechanisms and sheave being supported in one horizontal plane, such bar being bent around the sheave to inclose the corresponding cable and thereby prevent its disengagement with the sheave.

4. A scaffold support comprising in combination a scaffold supporting member having two members bent from a single bar of metal and disposed in a horizontal plane, cables for supporting said scaffold supporting member, a drum for each cable, a common axle for said drums extending through such members at one end of the scaffold supporting member, a sheave at the other end of the scaffold supporting member between such members, one of the drums adapted to directly receive one of the cables while the other cable is conducted around the sheave to the other drum, pawl and ratchet mechanism for each drum, such bar being bent around the sheave to inclose the corresponding cable to prevent its disengagement with the sheave.

5. A scaffold support comprising in combination a hoisting drum, a continuous scaffold supporting member disposed in a horizontal plane and conformed at one end to support the drum, a sheave carried by the other end of the member, and pawl and ratchet mechanism associated with the drum, said drum, pawl and ratchet mechanism and sheave being supported in the same horizontal plane.

In witness whereof, I hereunto subscribe my name this 17th day of September, A. D. 1910.

ELIAS H. HENDERSON.

Witnesses:

ALBERT C. BELL,
ROBERT F. BRACKE.