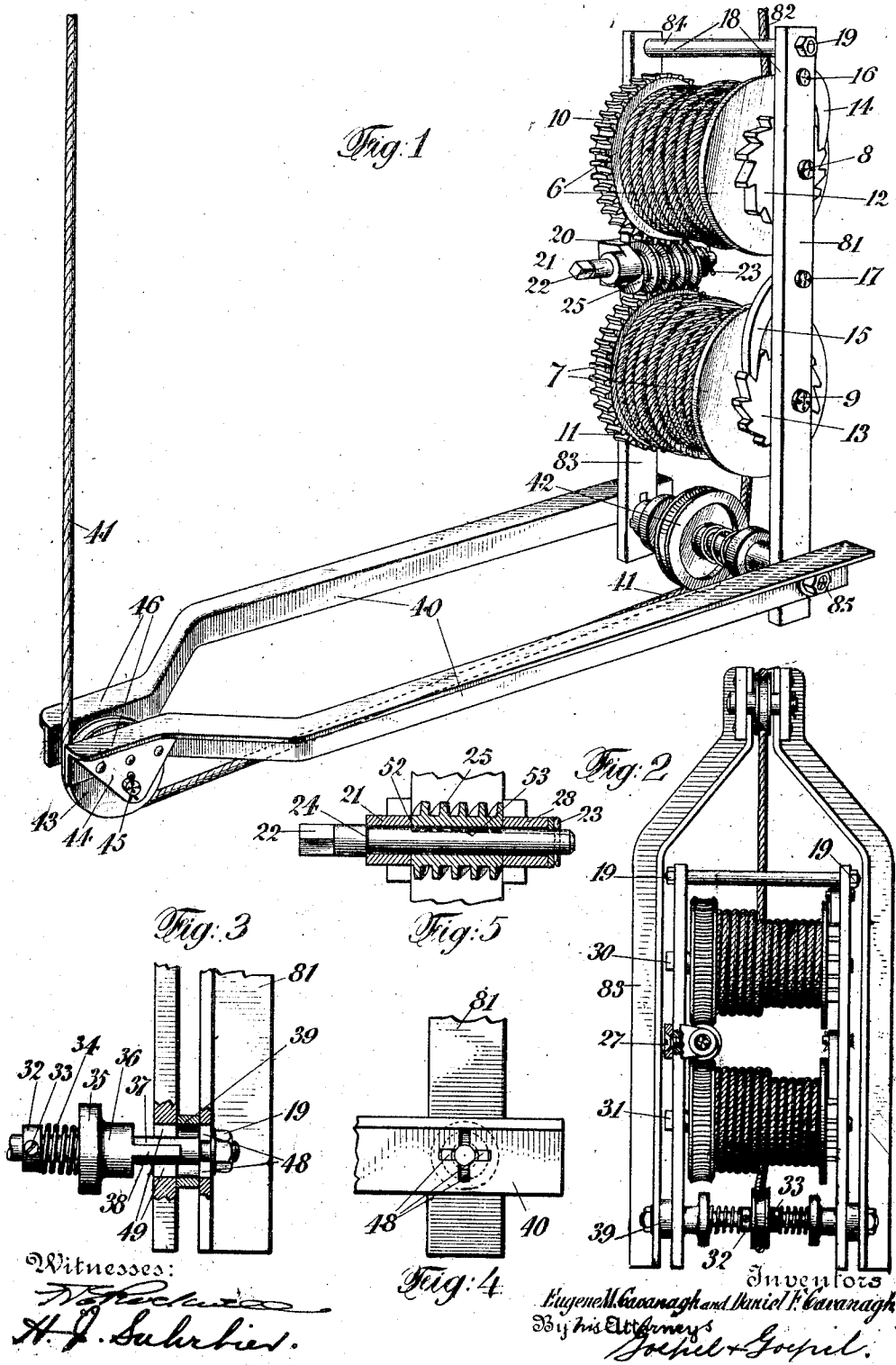


E. M. & D. F. CAVANAGH.
 SCAFFOLD SUPPORT.
 APPLICATION FILED AUG. 3, 1908.

1,030,643.

Patented June 25, 1912.



UNITED STATES PATENT OFFICE.

EUGENE M. CAVANAGH AND DANIEL F. CAVANAGH, OF BROOKLYN, NEW YORK,
ASSIGNORS TO NEW YORK SCAFFOLDING CO., OF NEW YORK, N. Y., A CORPORATION
OF NEW YORK.

SCAFFOLD-SUPPORT.

1,030,643.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed August 3, 1908. Serial No. 446,540.

To all whom it may concern:

Be it known that we, EUGENE M. CAVANAGH and DANIEL F. CAVANAGH, citizens of the United States, and residents of the borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Scaffold-Supports, of which the following is a specification.

10 This invention relates to scaffold-supports such as are described in my co-pending application Serial Number 516,850, and more particularly to such as are used in the construction of high modern iron or
15 steel-frame structures, which make demands peculiar to themselves on the apparatus used during the progress of the same, as convenience of installation, capability of moving from floor to floor, security, and
20 positive manipulation.

The object of our invention is to provide a structure having these characteristics, and for this purpose our invention consists of an improved scaffold-support, comprising
25 two drums for winding and unwinding the supporting-ropes, and single means for operating both drums, said means being shiftable out of engagement so as to permit the separate operation of the drums.

30 The invention consists further in arranging the parts so that one end of one of the ropes is passed under the scaffold so as to afford greater security and safety.

35 The invention consists further in so arranging the platform or scaffold-frame that it will be capable of being brought in line with the drum-frame so as to provide an apparatus which may be folded up, so to say, and thus have a device capable of ready
40 handling when moving the scaffolds from place to place.

The invention consists further in certain other novel features and combination of parts which will be more fully described hereinafter and finally pointed out in the claims.

45 In the accompanying drawings, Figure 1 represents a perspective view of our improved scaffold-support, showing the same in operative or open position, Fig. 2 is a side view of the same, showing the same in a position corresponding to the closed position so as to permit a ready removal of the same from place to place, Fig. 3 is a detail
50 view of one of the mechanisms used to se-

cure the platform-frame to the drum-frame, showing the frames in a position corresponding to that shown in Fig. 2. Fig. 4 is another detail view of the same device, showing a side view of the parts when in a position similar to that of Fig. 1; and Fig. 5 is a detail view of the worm, showing its capability of being detached from its supporting-pin.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, the drums 6 and 7 for winding and unwinding the supporting-ropes 41 and 82, rotatable on shafts 8 and 9 which have their ends in suitable bearings in the frame 18, are provided with gears 10 and 11 at one end, and with ratchets 12 and 13 at the other. The ratchets are engaged by pawls 14 and 15 pivotally supported by pins 16 and 17 on the vertical side-bar 81. The frame 18, in the embodiment shown in the drawings, is formed of two vertical side-bars 81 and 83, and two transverse bars or rods 84 and 85, secured together by nuts 19, the side-bars 81 and 83 supporting the bearings in which the ends of the shafts 8 and 9 rotate, while the lower transverse bar 85 is provided with a guide-pulley 42 rotating on the bar and between two collars 32 fixed thereon by screws 33. The bar 85 is also provided with securing means 35 which will be more fully described hereinafter. On the side-bar 83 is supported a bracket 20 substantially of U-shape having its base secured to the side-bar 83 by the bolt 27, and having its two arms 21 and 28 extending inwardly between the side-bar 83 and side-bar 81 so as to have the central points of the openings therein in a line with the periphery of the gear-wheels 10 and 11. A pin 22 passes through the opening of the arms 21 and 28, and this is provided near one end with a shoulder 24 so as to limit the movement of the pin in inward direction, and provided at the other end with a key 23 so as to secure the pin in position and limit its movement in the other direction. Located intermediately between the arms 21 and 28 of the bracket 20 is a worm 25 secured to the pin by a key 52 of the worm engaging a slot 53 of the pin. By removing the key 23 and withdrawing the pin 22, the worm 25 may be removed, and thus being brought out of engagement with the gears, each gear may be rotated in either
110

direction as desired. The object of this is to permit either gear to be moved independently of the other so as to take up any inequality in the ropes, or in other words, permit a ready horizontal equalization of the scaffold or platform. The rotation of the gear of the drums may be brought about by a suitable crank-wrench engaging the square ends 30 and 31 of the shafts 8 and 9. During the equalizing rotation of the drums 6 and 7, the ratchets and pawls engaging therewith must be correspondingly manipulated to permit the desired movement.

A second part of our invention consists in the arrangement of the platform-frame. This platform-frame constitutes the scaffold proper, and is called in the trade "put-locks" or "ledgers." Hitherto, one drum was placed on the platform-frame at each side of the same and separately manipulated, or one drum was placed at each side of the platform-frame, but at the top end of the ropes, namely on the supporting-beams, which are not shown in the drawings but which are well known in the operation of these scaffold-supports and to which the upper ends of the supporting ropes are secured.

Our invention consists in the arrangement of the drums one side at the platform-frame, off from the building side, and passing one of the supporting ropes under the platform-frame, namely, from one of the drums and over a pulley in proximity thereto, and then under the platform-frame and over a pulley located at the inner end of the platform-frame close to the building side. This arrangement has the great advantage of facilitating the manipulation, affording a practical arrangement of the parts, counter-balancing of weights, since the workman usually stands at the innermost or building side of the platform or scaffold, and additional safety since the supporting rope passes, so to say, in loop fashion under the platform. For this purpose the ends 46 of the frame 40 are arranged substantially parallel and provided with bearing-plates 44 supporting the shaft 45 of pulley 43.

Another part of our invention consists in having the ends of the platform-frame pivotally connected to the drum-frame so as to permit the positioning of the platform-frame in a position as shown in Fig. 2, that is, in the closed position, the platform-frame surrounding in this position the drum-frame. The platform-frame is entirely open so that it may be swung upwardly into this position in which the side-bars of the two frames are alined with each other while the narrowed portion of the platform-frame in which the pulley 43 is journaled is located above the drum-frame.

The pivoting or hinging of the two frames is effected by means of the lower cross-bar or cross-rod 85 on the ends of which the ends of the platform-frame are arranged to swing.

In order to prevent the insecurity of the platform-frame during its operative or open position, such as shown in Fig. 1, the lower ends of the drum-frame are provided with holes or slots 49 substantially at right angles to each other, in the embodiment shown in the drawing, and the ends of the frame 40 are provided with holes or slots 48 also at right angles to each other and registering with the holes or slots of the drum-frame. The locking devices are in connection with the lower cross-bar 85 and comprise collars 35 having flanges 36 with keys 38, these collars being movable along the lower cross-rod 85 and acted on by springs 34 interposed between them and the collars 32. Said springs urge the collars 35 outwardly, that is to say, in the direction of the side-bars 81, 83, and the side-bars of the frame 30.

In order to permit the movement of the frame 40 over the extending bolts of the drum-frame collars 39 are provided. When it is desired to fold up the scaffold-support, from the operative position shown in Fig. 1, to the inoperative or closed position shown in Fig. 2, collars 35 are drawn inwardly against the action of the springs 34 whereby the keys 38 sliding in slots 49 are brought out of engagement with the slots 48 of the side-bars 81 and 83. The locking action being thus interrupted or discontinued, the platform-frame 40 may be readily moved in the position shown in Fig. 2. When the frame 40 arrives at the position shown in Fig. 2, namely with its side-bars in line with the side-bars 81 and 83, then the slots 48 will be in line with the keys 38 of the collar 35 and immediately, by virtue of the outward pressure of the springs 34, an engagement will take place and the parts be caused to be automatically locked in position. This locking action in either the open or closed position locks the parts in such a position as to prevent any slipping action which might be dangerous to the occupants of the scaffold.

Our scaffold has the advantage of simplicity in construction and operation and facility of installation and removal, together with safety and efficient operation.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In a scaffold-support, the combination of a drum supporting frame and an open platform-supporting frame pivoted to the drum-supporting frame at the bottom and movable into the same plane therewith.
2. In a scaffold-support, the combination

of a drum-supporting frame embodying side-bars and a platform-supporting frame embodying side bars pivoted at their ends to the side bars of the drum-supporting frame, and, arranged to be capable of surrounding and inclosing the drum-supporting frame.

3. A scaffold-support comprising a drum-supporting frame and a platform-supporting frame, said platform supporting frame being adapted to be brought into operative position substantially at right angles to said drum-frame and to be brought into closed position substantially in the same plane with the drum-frame.

4. In a scaffold-support the combination of a drum frame, a platform frame hinged thereto, and means for locking said frames substantially at right angles to each other or substantially in the same plane.

5. In a scaffold-support, the combination of a drum supporting frame, a platform supporting frame hinged thereto and having an operative position at right angles to the drum-supporting frame and an inoperative position in the position in the same plane with said drum supporting frame, and means for automatically locking the frames in fixed relation when the platform supporting frame reaches either of said positions.

6. In a scaffold-support the combination of a drum supporting frame embodying a cross-rod, a platform supporting frame hinged to the drum supporting frame by means of said cross-rod and arranged to be swung upwardly into the same plane with the drum supporting frame, and means associated with said cross-rod to automatically lock the platform supporting frame in operative and inoperative position.

7. In a scaffold-support, the combination of a drum-supporting frame embodying upright side-bars and a cross-rod connecting said bars at the lower part of the frame and extending at their ends beyond said bars, and a platform supporting frame comprising

ing side-bars pivoted to the ends of said cross-rod and arranged to be moved into the same plane with the first named side-bars. 50

8. In a scaffold support, the combination of a horizontal platform supporting frame, a pulley wheel supported at and projecting below and beyond one end of the frame and adapted to be rolled upon the ground, a drum supporting frame movably supported at the other end of said horizontal frame and adapted to be moved toward said pulley wheel, and winding mechanism on said supporting frame. 55

9. In a scaffold-support, the combination of a platform-supporting frame and a drum supporting frame, a pin by means of which said frames are pivoted together, winding means carried by the drum supporting frame, a pulley wheel carried by the platform supporting frame and another pulley wheel rotatably mounted on said pin. 60

10. In a scaffold-support having a frame and a drum having a gear on said frame, a U-shaped bracket on said frame with its yoke at one side of a member of said frame, and a worm supported in said bracket at the opposite side of said frame-member and engaging the gear of the drum. 65

11. In a scaffold-support having a supporting frame, a pair of upright side-bars thereon and a rotary-drum mounted between the side-bars and carrying a gear, the combination of a U-shaped bracket having its yoke secured to one of said side bars at the outside of the same and having aligned bearing bores in its arms at the inside of the frame, a worm between said arms engaging the gear on the rotary drum, and a spindle for the worm engaging said bores. 70

In testimony, that we claim the foregoing as our invention, we have signed our names in presence of two subscribing witnesses.

EUGENE M. CAVANAGH.
DANIEL F. CAVANAGH.

Witnesses:

MICHAEL CAVANAGH,
HENRY J. SUHRBIER.