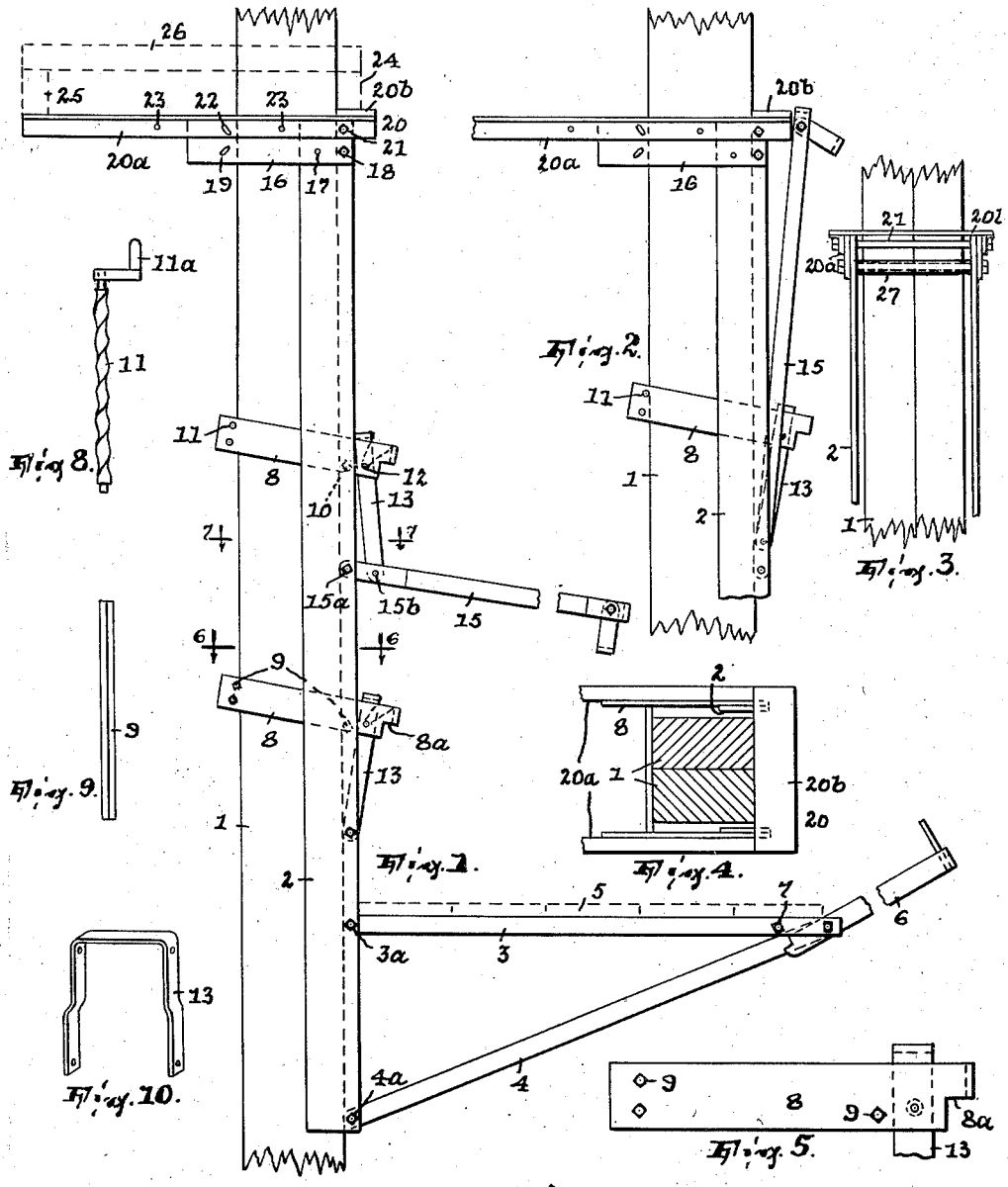
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SCAFFOLD MACHINE

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SCAFFOLD MACHINE

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2 Claims. (Cl. 304—29)

This invention consists in improvements in the scaffold machine or apparatus disclosed in my U. S. Patents Nos. 1,441,806 and 2,038,899. Generally stated, the improvements contemplate simplifying the construction, facilitating the operation incident to climbing or descending, and increasing the element of safety. Among specific objects is such an arrangement and construction of the means whereby the climbing or descending is effected that when not in use certain parts thereof, though so disposed as to be readily accessible and operable with complete safety and convenience, may be put in such state as to be completely out of the way of the workmen as they move about over the platform supported by the apparatus; also such a construction of the fixed structure of the apparatus as to facilitate assembling the apparatus with the upright and provide for the support of either a guard-rail or planking to serve as a work-bench and act as a guard rail.

In the drawing,

Fig. 1 is a side elevation of the improved apparatus and a supporting upright;

Fig. 2 is a similar elevation of a fragment of what is shown by Fig. 1, with the operating lever in folded state;

Fig. 3 is a fragmentary inside elevation of the upper part of the apparatus;

Fig. 4 is a plan, with the upright in section;

Fig. 5 is a fragmentary side elevation of the lower gripper;

Figs. 6 and 7 are sections on lines 6—6 and 7—7, respectively, Fig. 1; and

Figs. 8 to 10 show certain details.

Let 1 be a 4 x 4 wooden upright on which the apparatus of this invention is arranged, being adapted to stand on the ground. The load-supporting structure includes the following parts: A pair of vertical parallel flat metal strips 2 spaced to receive the upright between them, they being adapted to project somewhat inwardly or toward the building; and a platform-support comprising bars 3 removably bolted at 3*a* to and projecting inwardly from the strips, and braces 4 for the bars removably bolted at 4*a* to them and also to the strips. 5 designates planking to form the platform. The platform-support may have a folding extension 6 pivoted thereto and in its horizontal position adapted to abut a suitable stop 7.

The upper and lower shackles 8 are substantially identical U-shaped members which straddle the upright, their extremities projecting outwardly. For effecting a grip on the upright the lower shackle has a pair of cross-sectionally square non-rotative bars 9 respectively arranged to present edges thereof to the inner and outer faces of the upright. For effecting such grip and also provide for travel of the apparatus up or down the upright the upper shackle has a bar 10, like the bars 9, arranged to bear against the inner side of the upright and a revoluble square twisted bar 11 arranged to bear against the outer face of the upright, such having a crank 11*a* for rotating it. Each shackle is pivoted at its inner end on a pin 12 in the upper end of a U-shaped link 13, there being a spring 14 coiled about the pivot and engaged with the shackle and link and tending to hold them substantially alined, or with the link bearing against a cut-out portion 8*a* of the shackle; thus the normal positions of the shackles when assembled with the upright is that shown, their bars pressing against the opposite faces of the upright.

The lower link has its extremities pivoted to the two strips 2. The upper link is supported thus: A lever 15 to project inwardly is fulcrumed in the strips 2 at 15*a* and between such fulcrum and the free end of the lever the link is pivoted thereto at 15*b*, the arrangement being such that the lever may be folded up to the position shown in Fig. 2, with incidental rise of the shackle.

At the upper end of each strip 2 is a plate 16 in face-to-face relation thereto and projecting outwardly therefrom. It is pivoted thereto at 17 but kept in horizontal position by a removable bolt 18, common to both plates. The projecting ends of the plates are spanned by a removable pin 19 adjacent the outer face of the upright.

A U-shaped support 20 is also arranged at the upper ends of the strips, the same comprising a pair of angle-iron bars 20*a*, appreciably longer than the plates, and a plate 20*b* face to face with and riveted to their inner ends; this support is to straddle the upright. For supporting it there is a pivoting bolt 21 penetrating it and the strips and plates and arranged at the inner side of the upright and a removable pin 22 penetrating the support and plates and arranged at the outer face of said upright. It is provided with duplicate holes 23 to receive the bolt and pin. In the position shown its projecting inner ends may support a guard-rail 24, as a 2 x 4, for the workmen; its outer end may carry another rail 25 which and the rail 24 may be bridged by a 2 x 4 strip 26 for supporting planking (not shown) to form a work-bench.

Clamped between the strips 2 by the bolts 4a—3a—18 are spacing sleeves or spacers such as 27 (Fig. 3) penetrated by the bolts.

According to the present construction (not true of my patented ones) the lever projects inward so that it may be operated with perfect safety and be readily accessible. Moreover, when not in use it may be folded into quite compact state with respect to the remainder of the apparatus and thus be completely out of the way of the workmen due to the folding: Instead of straddling the rigid structure, such as its strips 2, it is straddled by them and since the strips project inwardly thus as to their inwardly projecting portions affording a fulcrum for the lever the latter may be fully folded, as shown, without the folding movement being opposed by the upright even though the lever is of bifurcated form as shown in Fig. 7.

The laws of many States require some safety barrier for the workmen which shall span the two such uprights as one at a proper level above the platform, as 5. With this end in view I have provided at the upper ends of the strips the plates 16; incidentally, due to the bolts and the spacers at 27 at the upper ends of the strips as well as at their lower ends, the strips and plates normally form parts of a rigid structure. On the part of this structure afforded by the plates the unitary support 20 is mounted, normally in rigid state and both it and the plates providing said structure with an open crotch to receive the upright. Said support may then receive the indicated means to form the barrier; that is to say, the rail 24 or, when such barrier is to be a work-bench, another rail 25 and the bridging strip 26 on which planking for the bench may be laid. If required such bench may be set inward on removing the elements 21—22, then to be fitted to the holes 23.

The operation of climbing or descending is not essentially different from that disclosed in my mentioned Patent No. 2,038,899.

When the apparatus is prepared for shipping the support 20 is removed and the other parts are folded thus: As for the plates 16, by removing the devices 18—19; as for the grippers, by removing their outer bars 9—11 so that they may assume the alined state with their links; as for the lever, by shifting it to the position shown in Fig. 2; and as for the platform support by removing bolt 3a and folding bars 3 and 4 together and then into compact relation to the strips 2.

Having thus fully described my invention what I claim is:

1. A scaffold apparatus including an upright having an inner face, a load-carrying structure movable up and down on the upright and including a pair of spaced upright strips having the upright between them and upright edges thereof projecting in the same direction as said face and also including means maintaining said strips in rigid relation to each other, a gripping device operatively connected with the strips and normally gripping the upright, a bifurcated lever fulcrumed in and projecting from between the strips and away from said face and movable into folded relation to and between the strips, a gripper embracing the upright and extending between the strips and having gripping portions to engage said face and the opposite face of the upright, and a link connecting the lever relatively inward of its fulcrum with the gripper at a point inward of the inner face of the upright.

2. In a scaffold apparatus of the class set forth, a load-carrying structure to be supported by an upright including a pair of spaced vertically extending flat members presenting their broad faces to each other and adapted to receive between them the upright, means to secure said members in rigid relation to each other, a horizontally extending U-shaped barrier-support straddling and pivoted to said members on a horizontal axis, and a removable pin penetrating said members and barrier-support eccentrically of said pivot and normally supporting the latter in horizontally extending position, said barrier-support being free on removal of the pin to be turned to vertical position.

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