Oct. 21, 1969 H. J. RIBLET 3,473,774

SELF-ADJUSTING SCAFFOLD BRACKET

3 Sheets-Sheet 1

Original Filed Nov. 22, 1967

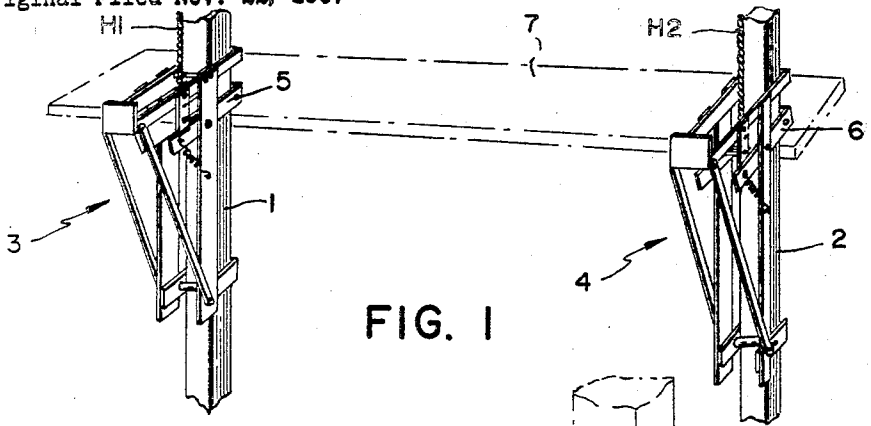


FIG. 1

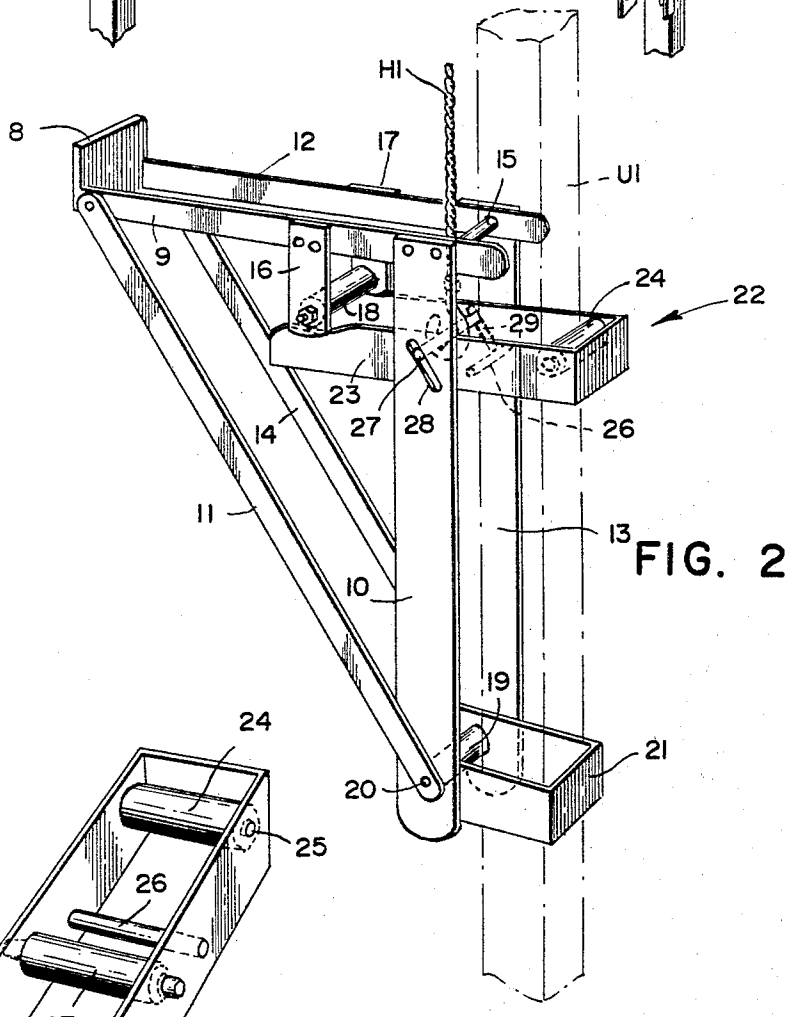


FIG. 2

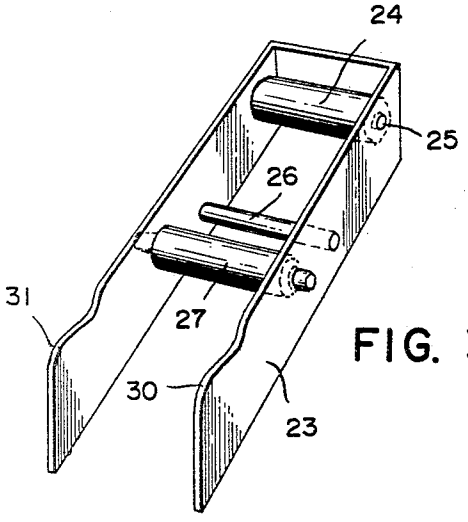


FIG. 3

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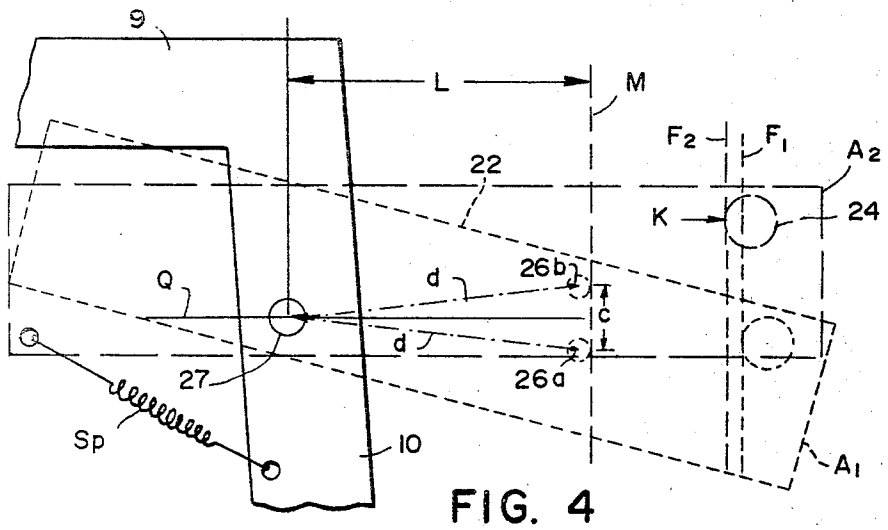


FIG. 4

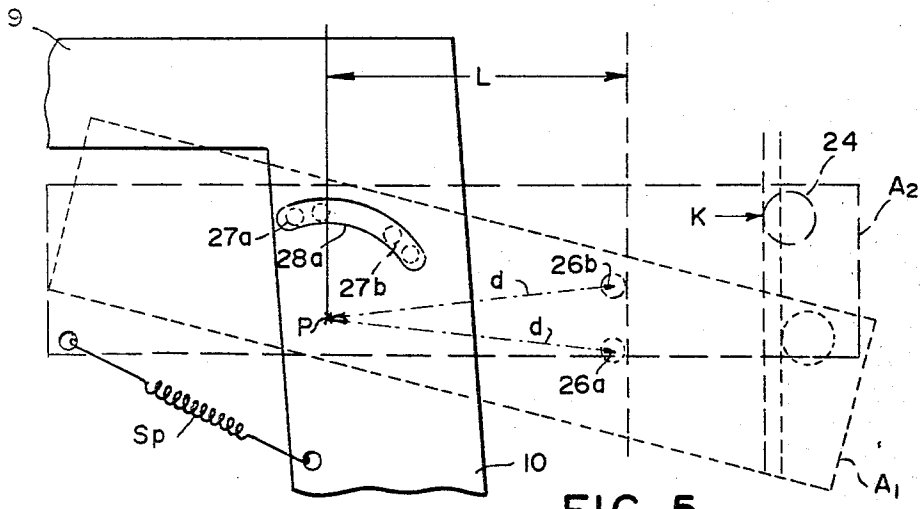


FIG. 5

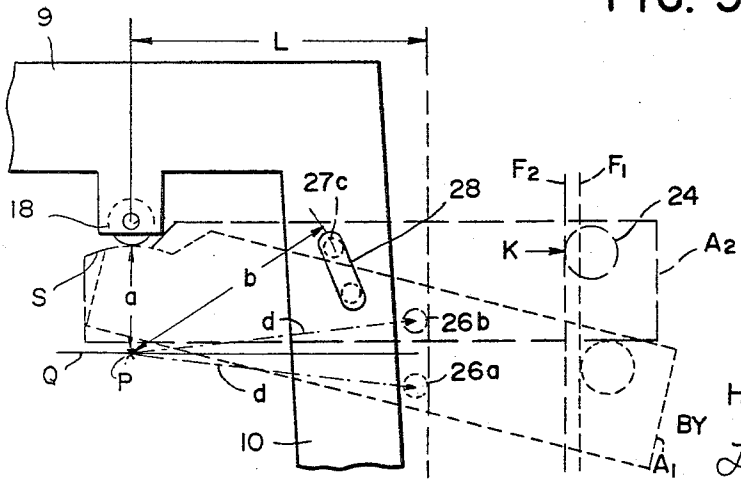


FIG. 6

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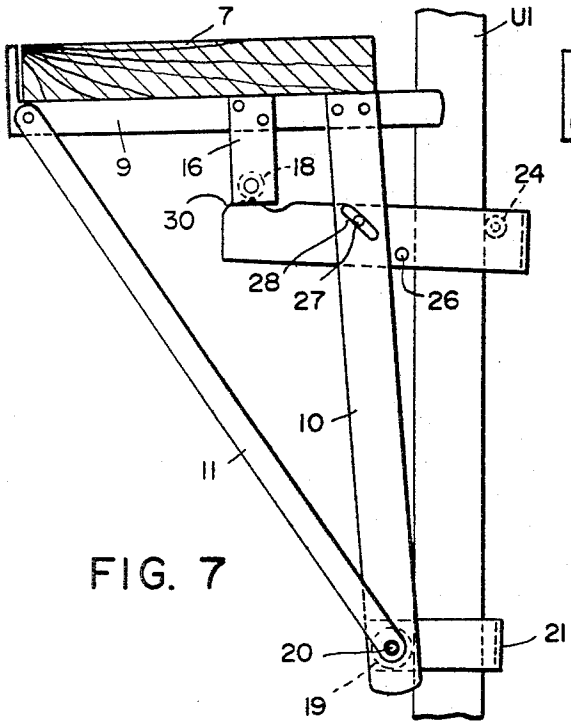


FIG. 7

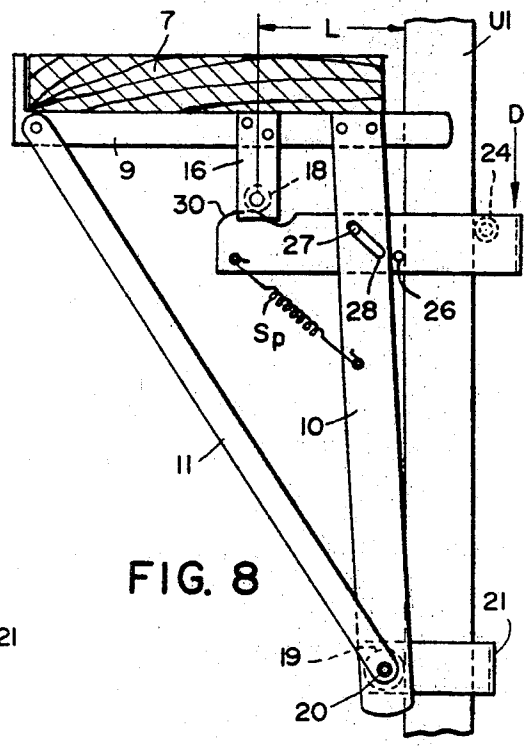


FIG. 8

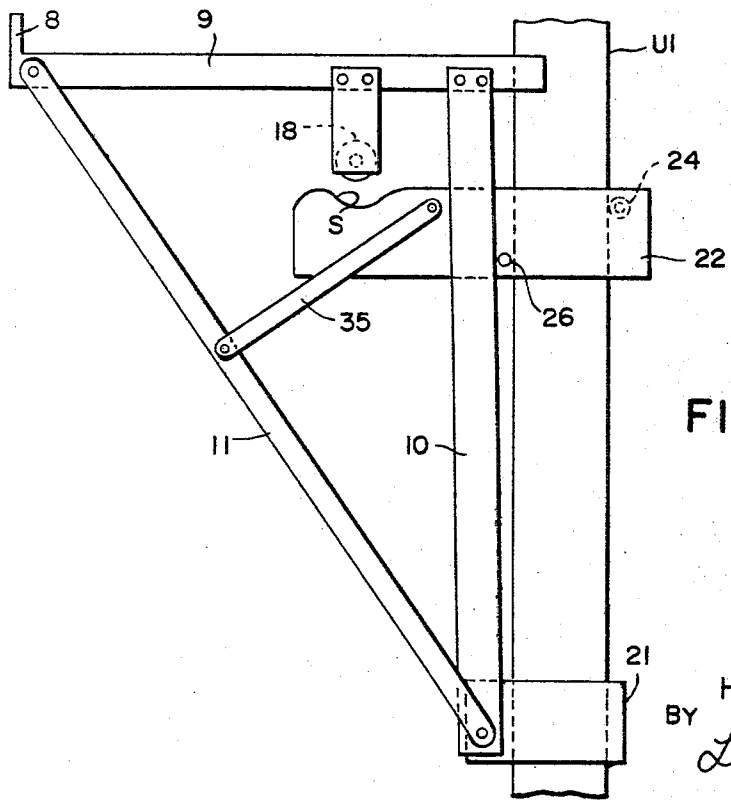


FIG. 9

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United States Patent Office 3,473,774 Patented Oct. 21, 1969

3,473,774

SELF-ADJUSTING SCAFFOLD BRACKET

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Continuation of application Ser. No. 685,024, Nov. 22, 1967. This application Nov. 12, 1968, Ser. No. 774,873
Int. Cl. A47b 47/00
U.S. Cl. 248—246 16 Claims

ABSTRACT OF THE DISCLOSURE

Platform supporting brackets are mounted upon uprights to form a scaffold that is adjustable in height. Each bracket has a frame that is secured to an upright by a lock whose jaws clamp the upright and the bracket is self-adjusting to compensate for variations in the width of the upright. The frame is mounted upon the lock in a manner which permits the lock to pivot relative to the bracket frame while permitting the frame to move along an incline relative to the lock. By selection of the point about which the lock pivots, the attitude of the frame relative to the upright is made independent of the postures the lock is required to take to clamp uprights of different widths. The frame moves obliquely downwardly until a stop on the frame engages a stop surface on the lock and prevents further downward movement of the frame. The contour of the stop surface, in some embodiments, is such that the platform on the frame is maintained level despite variations in the dimensions of the upright. Other embodiments permit the attitude of the platform to change in relation to changes in the dimensions of the upright. The lock, by suitably situating its pivotal mounting relative to the jaws, will itself initiate clamping of the upright without requiring springs, counterweights, or a frictionally produced torque.

This application is a continuation of my copending application Ser. No. 685,024, filed Nov. 22, 1967.

SUMMARY OF THE INVENTION

This invention relates in general to platform supporting brackets of the type that are mounted upon vertical posts to form a scaffold which is adjustable in height. More particularly, the invention pertains to a scaffold bracket that automatically acts to maintain the platform in a desired attitude despite variations in the dimensions of the vertical post upon which the bracket is mounted; and, in the preferred embodiment, has a load-activated lock which does not require a spring, a counterwieght, or friction to initiate contact between the jaws of the lock and the upright.

DISCUSSION OF THE PRIOR ART

This invention is related to and constitutes an improvement upon my earlier inventions described in United States Patents 2,342,427 and 2,854,293.

Patent 2,342,427 describes a platform supporting bracket employing a clamping lock to secure the bracket to the upright. The locking device utilizes a lock having a pair of parallel cylindrical jaws positioned on opposite sides of the upright.

The lock pivots about a fulcrum in the frame of the platform supporting bracket so that the load on the platform acts to initiate clamping of the jaws on the upright even in the absence of friction between the outer jaw and the upright. The greater the load on the platform, the greater is the force acting to clamp the jaws to the upright, once clamping is initiated. A workman upon the platform, by shifting his weight from the platform to the block and tackle, can make the lock relax its grip upon the upright and cause the scaffold to move downwardly.

Patent 2,854,293 pertains to a scaffold bracket of the type described above, in which the locking device has been improved to enable the workman to lower the platform at an easily controlled rate. Briefly, that improvement resides in replacing one of the jaws of the automatic locking device with an eccentrically set, serrated cylindrical roller. The roller is journalled in the lock and is provided with a handle by which the roller can be manually turned to lower the platform.

The locking device described in those two patents are intended for use upon uprights of a predetermined and uniform width. The dimensions of those automatic locking devices are set by the manufacturer so that, when used in conjunction with uprights of "standard" width, the jaws of the automatic lock engage the "standard" upright from opposite sides and maintain the platform in horizontal position. Generally, the "standard" upright is a so called 2" by 4" wooden beam, because such lumber is inexpensive and easily procured. When the automatic locking device of those patents is used with an upright whose width is other than standard, the platform is not maintained level. While on one occasion the locking device may be secured to a beam of "standard" width so that the platform support is maintained in a horizontal position, on another occasion the locking device may be attached to an old or shrunken beam whose width is somewhat less than "standard" with the result that the locked platfrom support deviates from the true horizontal. It has therefore been the practice for manufacturers of these scaffold brackets to fit the wooden uprights to the brackets and sell the scaffolds in complete sets. The cost of shipping complete scaffolds has militated against the widespread adoption of such brackets.

Because 2" by 4" lumber is commonly available at construction sites, there is a need for a self-adjusting platform supporting bracket that can be used upon 2" by 4" uprights even though those upright differ from the "standard" dimensions.

OBJECTIVE OF THE INVENTION

The principal objective of the present invention is to provide a platform supporting bracket which remains level despite variations in the width of the upright to which the bracket may be attached.

A further objective of the invention is to provide a scaffold bracket with a load-operated lock which permits the platform to be raised or lowered without wasted motion and without having the platform tip substantially from the level position.

Another objective of the invention is to provide a platform supporting bracket which permits the attitude of the platform to be governed by the width of the post to which the bracket it attached by a load-operated clamping lock.

THE INVENTION

The invention employs a lock of the type having a pair of spaced jaws which can clamp an interposed post. A platform supporting frame is attached to the lock in a manner which permits the lock to engage uprights of different dimensions while determining the orientation of the frame with respect to the upright. In the preferred embodiment of the invention, the lock pivots about a fulcrum rod that extends through inclined slots in the supporting frame. Any torque on the platform causes the jaws of the lock to clamp onto the upright while the supporting frame moves along the inclined slots until a stop member secured to the frame engages a stop surface on the lock. This prevents further downward

movement of the frame. The inclination of the slots, of more generally, the obliquity of the relative motion between the frame and the lock is such that a downward load on the frame overcomes the friction in the linkage between the frame and the lock, while the precise contour of the stop surface, for a self-leveling device, is determined so that the attitude of the frame when it is at rest is independent of the attitude of the lock in its locked position.

THE DRAWINGS

The invention, both as to its construction and mode of use, can be better understood from the following exposition when considered in conjunction with the accompanying drawings in which:

FIG. 1 depicts the invention used with upright posts to form a scaffold,

FIG. 2 is a perspective view of the preferred embodiment of the invention,

FIG. 3 illustrates details of the preferred lock mechanism,

FIG. 4 shows the locus of pivot points for self leveling locks,

FIG. 5 illustrates how the lock may turn about a point without any bearing surfaces at the pivot point,

FIG. 6 shows an embodiment of the invention of which the linkage between the lock and frame permits self-leveling as well as load-initiated gripping of the upright,

FIG. 7 is a profile of the invention with the lock about to clamp on an upright,

FIG. 8 depicts the position of the self-leveling scaffold bracket at rest upon an upright, and

FIG. 9 is a profile of an embodiment of the invention in which the frame is attached to the lock by a pivoted linkage.

THE EXPOSITION

Referring now to FIG. 1 of the drawings, a pair of upright posts **1** and **2** are shown to which platform supporting brackets **3** and **4** are secured by locks **5** and **6**. A plank **7** is placed upon brackets **3** and **4** to form a scaffold. Each of the uprights is usually provided with a hoisting mechanism, such as a block and tackle, to enable the scaffold to be raised or lowered by the workmen on the platform. The ropes **H1** and **H2**, indicated in FIG. 1, are part of the hoisting mechanism and each of those ropes is provided at its end with a hook which engages a member of the platform supporting bracket to enable that bracket to be raised or lowered.

The perspective view of FIG. 2 depicts a platform supporting bracket having a rigid frame carried on a lock. The frame employs a U-shaped upper member having a raised heel **8** from which rails **9** and **12** extend. When a plank is placed on the bracket, it rests upon the rails and the raised heel **8** provides a stop to prevent the plank from slipping off. Rail **9** is part of a rigid triangular structure having members **10** and **11** as its other sides. Rail **12**, similarly, is part of a rigid triangular structure having members **13** and **14** as its other sides. The two rigid triangular structures, side by side, form the frame. A rod **15** is interposed between rails **9** and **12** to maintain the spacing between the forward portions of rails **9** and **12**. Each of the rails **9** and **12** is provided with a depending leg **16** and **17** respectively, which carry between them a stop member **18**. A roller **19** is mounted at the lower end of the rigid frame upon a shaft **20**. The shaft **20** also serves to pin the brace **11** to the leg **10** and to pin the brace **14** to the leg **13**. Legs **10** and **13** are pinned to their respective rails **9** and **12**. To hold the lower end of the rigid frame to the upright, a yoke **21** is mounted rigidly upon the shaft **20**.

The rigid frame is secured to the upright at its upper extremity by a lock **22** which is pivotally mounted on the legs **10** and **13** of the frame. The locking device, as shown in FIG. 3, is formed of a U-shaped member **23** having an outer jaw **24** and an inner jaw **26** fixed to the sidewalls of the U-shaped member. The U-shaped member also carries a fulcrum rod **27** whose ends protrude beyond the sidewalls. The protruding ends of the fulcrum rod **27** are disposed, as shown in FIG. 2, in inclined slots **28** and **29** in the legs **10** and **13** of the rigid frame. The angle of inclination of the slots, relative to the horizontal, is preferably about 60°. The angle of inclination, however, depends on the coefficient of friction between the fulcrum shaft **27** and the sides of the slots **28** and **29**. It must be sufficiently oblique to the horizontal that a vertical load on the platform **7** will cause the slots **28** and **29** to slide down the fulcrum shaft **27**, until the stop member **18** rests on the stop surfaces **30** and **31** of the sidewalls of the U-shaped member **23**. To form a scaffold, the bracket is placed, as indicated in FIG. 2, upon the upright post to cause the upright to be between the sidewalls of lock **22** with the jaws **24** and **26** of the lock disposed at opposite faces of the upright and so that the upright passes through the yoke **21** at the lower end of the frame.

For a better apreciation of the invention, consider FIG. 4 where the rigid frame is indicated by the members **9** and **10** and the lock **22** is assumed to pivot about the fulcrum rod **27** affixed to the leg **10**. To insure that the frame does not change its attitude relative to the upright when the lock **22** is placed on uprights of different widths, the fulcrum **27** must be in substantially the same horizontal plane as the inner jaw **26** of the lock. That this is so can be seen by considering the orientation of the lock when it clamps to uprights whose widths are at the extremes of the range for which the scaffold bracket is intended. In FIG. 4, the width of the narrowest upright in the range is indicated by lines M and F2 and the width of the widest upright is indicated by the lines M and F1. Assuming the frame's attitude relative to the face M of the upright is unvarying, the attitude of the lock when it is clamped to the widest upright is indicated by the A1 short dashed line lock profile and the attitude of the lock when it is clamped to the narrowest upright is indicated by the A2 long dashed line lock profile. The locations of the inner jaw of the lock in the A1 and A2 attitudes are indicated by the circles designated **26*a*** and **26*b*** respectively. From FIG. 4, it can be seen that the distance L from the fulcrum **27** to the line M does not change for the two extreme attitudes A1 and A2 of the lock, provided the fulcrum is located on the perpendicular bisector Q of the line segment joining the center of the inner jaw in its two extreme positions **26*a*** and **26*b***. With the fulcrum so located, the frame maintains the same attitude with respect to uprights whose widths are at opposite extremes of the intended range. Moreover, the variation in L between the extremes is small if *d*, the distance from the inner jaw to the fulcrum **27**, is substantially longer than the distance *c* between the extreme positions **26*a*** and **26*d*** of the inner jaw.

The pivotal axis **27** indicated in FIG. 4 may be a "virtual" fulcrum rather than a real axle. Consider, for example, FIG. 5, where the fulcrum rod **27** has been replaced by pins **27*a*** and **27*b*** which ride in a slot **28*a*** cut in the leg **10** of the frame. The slot **28*a*** is an arc of a circle having its center P at the "virtual" fulcrum. With the FIG. 5 arrangement, lock **22** can pivot about the point P to assume the A1 and A2 attitudes and its action is not materially different from the FIG. 4 arrangement.

In the FIGS. 4 and 5 arrangements, the location of the real and virtual fulcrums is such that the horizontal force K exerted on the outer jaw by the upright, in the absence of friction, will, for an upright of minimum width, give rise to a clockwise torque which tends to unclamp the lock. Therefore, although the FIGS. 4 and 5 arrangements result in maintaining the frame in a substantially unvarying attitude, the lock requires a spring, a counterweight, or friction between the upright and outer jaw **24** to insure

that both jaws of the lock are simultaneously brought into contact with the upright so that clamping of the upright can take place. Unless provisions are made to insure that both jaws of the lock in the FIGS. 4 and 5 arrangements are simultaneously brought into contact with the opposed faces of the upright, as by employing a spring Sp, the lock, once it relaxes its grip upon the upright may not again clamp the upright. That this result can occur is apparent from the exposition in my U.S. Patent 2,342,427. The disclosure in that patent teaches that to insure frictionless, load-initiated clamping of the upright by the lock, the inner jaw **26** must be located substantially below the plane of the outer jaw **24** and the fulcrum **27**. The preceding analysis of FIG. 4 herein indicates, in contrast with my prior teaching, that the fulcrum must be in approximately the same horizontal plane as the inner jaw if the attitude of the frame is not to be materially altered by variations in the width of the upright.

FIG. 6 depicts an arrangement between the lock and the frame which permits frictionless, load-initiated clamping to be obtained together with an unvarying frame attitude despite the lock being clamped to uprights of different widths. The fulcrum rod **27**, in FIG. 6, is secured to the lock and rides in the slot **28** in the same manner as the fulcrum rod **27** in FIG. 2 is secured to the lock **22** and rides in the slots **28** and **29** in the legs of the frame. The "virtual" pivotal axis P needed for self-leveling of the frame is, as was previously shown, on the perpendicular bisector Q. The stop surface S on the lock is made to approximate the arc of a circle having its center at the virtual pivotal axis. With the cylindrical stop member **18** touching the arcuate stop surface S, the lock, if otherwise free, can rotate about the virtual pivotal axis to clamp the upright without altering the attitude of the rigid frame. Where the slot **28** is an arc of a circle having its center at the virtual pivotal axis P, the lock is able to rotate in the manner described. Where the radius of the circle is large and the arc is a small segment of the circle, the slot **28** can be straight without appreciably affecting the attitude of the frame when the lock pivots to clamp the upright. Where the attitude of the frame is affected by having a straight slot **28**, the contour of surface S can be altered to maintain the frame in an unvarying attitude. In the FIG. 6 arrangement, the real fulcrum **27** is situated so that even when the lock is clamped to an upright of minimum width (the A2 posture), the real fulcrum **27** (in the position designated **27***c*) is level with or above the horizontal line of action of the force K which is exerted on the outer jaw **24** by the face F2 of the upright. With that disposition of the fulcrum **27**, any horizontal outward force K exerted on the outer jaw **24** by the face of an upright whose width is within the intended range, always results in a torque about the fulcrum **27** which acts to rotate the lock in the counterclockwise direction. That torque urges the inner jaw **26** against the face M of the upright and thereby insures that the lock will initially grip the upright. The arrangement of FIG. 6 thus assures frictionless, load-initiated clamping of the lock together with an unvarying attitude of the frame. For expository purposes, the unvarying attitude is taken as the attitude of the frame in which the platform **7** (FIG. 1) is maintained level. Thus the FIG. 6 arrangement provides self-leveling of the scaffold platform with self-actuated clamping of the lock.

To permit the scaffold to be hoisted without causing the platform to tilt, the hook **32** (FIG. 2) at the end of rope H1 is engaged with fulcrum rod **27**. The usual block and tackle can then be employed to hoist the scaffold bracket and its platform.

For the purpose of describing the operation of the invention, it is assumed that the rigid frame shown in FIG. 7 is initially raised, by means of an upward force such as can be applied by the hook **32**, whereby the stop **18** is held out of contact with the stop member **30**. The weight of the frame and the weight of the platform **7**, act about the roller **19** to cause a counterclockwise torque on the frame which is opposed by the fulcrum **27** of the lock acting on the side of the slot **28**. The fulcrum, of course, also acts simultaneously on the side of slot **29** (FIG. 2), however, as FIG. 7 is a profile view, only the visible side is here discussed. This force, in turn, is opposed by the force exerted by the upright on the outer jaw **24** of the lock. In the preferred embodiment of this invention, the relative location of the fulcrum and inner and outer jaws of the lock is such that, for the range of sizes of uprights encountered, the point of contact between the outer jaw **24** and the upright U1 lies below the horizontal plane passing through the fulcrum **27**. Thus the force exerted on the outer jaw **24** by the load on the platform through the slot **28** gives rise to a counterclockwise torque on the lock which will bring the inner jaw into contact with the upright, even in the absence of friction at the outer jaw, as the frame is lowered. Subsequently, the vertically acting downward force permits the slot **28** to ride down the fulcrum **27** until the stop member **18** encounters the stop member **30**, as shown in FIG. 8. Assuming that the upright is of minimum dimensions, the lock is level as indicated in FIG. 8. Where the upright is of greater width, the lock, in order to clamp the upright, assumes a sloping attitude as illustrated by the A1 attitude of the lock in FIG. 6. As long as the platform supporting bracket is not falling freely, something that cannot happen accidentally, the weight upon platform **7** tends to cause the frame to rotate counterclockwise about the axle **20**. That tendency to rotate causes the jaw **24** to bear against the face of the upright U1. When the bracket then moves downward, the force between the outer jaw **24** and the face of the upright U1 creates a torque so that the lock rotates around fulcrum **27** in the counterclockwise direction. Of course any friction between the outer jaw **24** and the upright U1 increases this torque. The resulting rotation causes jaw **26** to be brought against the adjacent face of the upright and the weight on the platform, acting upon the fulcrum rod **27** and the stop members, **30** and **31**, forces the jaws of the lock to clamp the upright. Thus, when the scaffold descends, forces are present which tend to turn the lock in the direction to cause the jaws to clamp the upright. Further, the greater the weight upon the platform, the greater is the torque acting upon the lock, and the greater is the clamping force holding the lock upon the upright.

Once lock **22** in FIG. 7 clamps the upright, the rigid frame is constrained by the fulcrum rod **27** positioned in the slot **28**, to move so that its upper portion moves downward to the right as viewed in the figure, until the stop member **18** contacts stop member **30** at the rearward part of the lock. The surface **30** prevents further downward movement of the frame, causing the position of the frame to be fixed relative to the lock in the attitude, depicted in FIG. 8, in which the platform is horizontal. In that attitude, the distance from the face of the upright to the stop member **18** is indicated in FIG. 8 by the length L. The fulcrum rod **27** is about midway in slot **28** when the frame is at rest upon an upright of standard width.

As the width of the uprights vary, the attitude of the lock will vary and so, in general, will the point of contact between the stop member **18** and the surface S of the stop member **30**. The locus of these points of contact describes a curve which, as we have seen, is approximately the arc of a circle whose center is the pivot point P.

The nature and location of the stop member **30** may vary widely depending on the location of stop member **18**. In general it is preferred that stop member **18** be to the left of the fulcrum **27** as viewed in FIG. 8, because whenever the stop member **30** contacts stop member **27**, an additional force is exerted on the lock tending to

rotate it in a counterclockwise direction and so assists in initiating clamping.

In an ideal device, the stop surface S is curved. In a practical device, the disposition of the parts can be arranged so that stop surface S may be linear without causing a material change in self leveling operation.

In the illustrated embodiments, the curved stop members (**30**, **31**, in FIG. 3 and S in FIG. 6) are on the lock whereas the cylindrical stop member **18** is secured to the frame. It is evident that the nature of the stop member **18** and the stop members **30**, **31** can be interchanged without departing from the essence of the invention. That is, the cylindrical stop member **18** can be mounted on the lock **22** and the depending members **16** and **17** can be formed to provide the curved stop members. Further, the depending members **16** and **17** can be eliminated and the lower edges of side members **9** and **12** can be suitably shaped to act as curved stop members. Moreover, it is apparent that stop member **18** need not be a cylinder, but can be of some other form and that the curved surface S can be adjusted to provide the desired leveling action.

It is preferred to have the surface of the stop member contact the stop surface along a line in a manner which permits one surface to roll or easily slip along the other when the attitude of the lock changes as illustrated by the varied lock positions A1 and A2 shown in FIG. 6.

Although in the embodiments thus far considered, the motion of the frame with respect to the lock **22** is restrained by means of a slot **28** or **28***a* and a rod **27**, or pins **27***a*, **27***b*, it is clear that this restraint could also be supplied by a variety of other linkages. The important point being that the frame be constrained to move obliquely with respect to the lock, downwardly to the right as viewed in FIGS. 7 and 8.

FIG. 9, by way of example, depicts an embodiment of the invention in which the frame is attached to the lock **22** by a link **35** having one end pivotally mounted upon the fulcrum rod of the lock and its other end pivotally secured to the brace **11**. With the lock clamped to an upright, the frame is able to move obliquely (downward and to the right, as viewed in FIG. 9) until further movement is prevented by the stop member **18** meeting the stop surface S.

The scaffold can be lowered by applying a force to the lock, as indicated by the arrow D in FIG. 8, to cause the lock to rotate clockwise about the jaw **24**. A workman upon the platform can create such a force by shifting the major part of his weight to the block and tackle and using his foot to depress the lock. The force acting along the arrow D, tends to release jaw **26** from engagement with the face of the upright and thereby counters the clamping action of the lock. When the counter force is of sufficient magnitude, the lock and the frame may be lowered down the upright with the outer jaw **24** bearing upon one face of the upright and the roller **19** bearing on the opposed face. Upon decreasing the counter force, the lock immediately clamps to the upright and the frame comes to rest. Even when moving down the upright, the platform remains substantially horizontal since only a very slight amount of clockwise rotation of the lock **22** is required to disengage the inner jaw **26** from the upright U1.

To raise the scaffold, the block and tackle is operated to cause the hook at the end of rope H1 to lift the fulcrum rod **27**. The upward force on the fulcrum rod causes the lock to release its hold on the upright because the frictional forces on the inner and outer jaws **24** and **26** are then in the direction to release the inner jaw **26** from the upright U1. On the other hand, the torque about the fulcrum **27** of these frictional forces is opposed by the torque exerted by the stop member **18** in contact with the stop members **30** and **31**. Accordingly, the lock **22** rotates in the clockwise direction only until these torques are in equilibrium. Thus inner jaw **26** barely disengages the upright with the result that the platform **7** remains substantially horizontal even when it is being raised by block and tackle.

Upon removal of the upward force from the fulcrum rod, the lock immediately clamps the upright and there is no significant downward movement of the frame relative to the lock.

In contrast to the lock of my earlier invention, the lock of the present invention maintains the platform level, whether the lock is on a "standard" upright or upon an upright whose dimensions differ from the standard. Variations or differences in the width of the uprights affect the attitude of the lock. The invention, however, causes the rigid frame to maintain the same attitude regardless of the attitude of the lock and the platform supported upon the rigid frame therefore remains level.

It is apparent that the invention can take forms other than those here illustrated or described. For example, the frame is depicted as having a triangular shape, but it is apparent that in its simplest form the frame need only consist of a means for supporting a horizontal platform and means for bearing on the upright. Similarly, I have preferred the use of a frictionless load-initiated lock. It is clear, however, that any lock having a fulcrum and inner and outer jaws can be used as long as some provision for providing the required torque for initiating contact of the inner jaw is supplied. This can always be supplied by a spring and in some cases the friction between the outer jaw and the upright may be sufficient. For example, the tension spring *Sp* can be secured, as shown in FIGS. 4 and 5, between the lock and the leg **10** of the frame to provide a torque that is always available to initiate clamping of the jaws of the lock upon the upright. When a spring is thus employed, the position of the fulcrum **27** relative to the location of jaw **24** becomes less important because the spring is relied upon to provide the initial gripping action.

In the preferred embodiment, the lock **22** is attached to the upper part of the frame and roller **19** which bears on the upright is located at the frame's lower portion. It will be obvious to those skilled in the art, how locks of the form shown in FIGS. 4, 5 and 6 can be located at the lower portion of the frame to support it. Then, of course, the yoke **21** would be attached to the upper part of the frame.

The invention has thus far been described with reference to embodiments in which the principal object is to maintain the platform level. It is evident that because the platform can be fixed to the side rails **9** and **12** (FIG. 2) in various positions, the platform can, if desired, be maintained at a constant slope rather than being maintained level.

The embodiments of the invention can be easily modified to cause the attitude of the platform to be related to the width of the upright instead of independent of the width of the upright. It can be seen from FIG. 6 that the atttude A1 or A2 of the lock **22** depends upon the width of the upright. When it is realized that contour of surface S, the curvature of stop member **18**, and the slope of slot **28** determine the attitude of the platform, it becomes evident that by selecting those parameters to cause the length L to vary with alterations in the attitude of the lock, that the attitude of the platform can be made to change in relation to changes in the attitude of the lock. Most simply, this effect can be obtained by changing the contour of surface S. Thus, for example, where an upright which tapers in width is employed, the platform can be made to alter its attitude, like the slat of a venetian blind, merely by running the bracket up or down on the upright. In lieu of using a tapering upright, the upright can be constructed to cause its front and rear faces to be spread apart or moved closer together to alter the attitude of the platform.

Because the invention may be embodied in varied structures, it is not intended that this patent be limited to

the forms here illustrated or described. Rather it is intended that the patent be construed to embrace those structures which, in essence, utilize the invention defined in the appended claims.

What is claimed is:

1. In a scaffold bracket for use with an upright post, the bracket being of the type employing

a rigid frame having means for supporting a platform, and

a lock having an inner jaw and an outer jaw spaced apart to receive the upright between them, the frame being supported by the lock when the lock clamps the interposed upright between the spaced jaws,

the improvement for governing the attitude of the platform relative to the upright, the improvement comprising

means mounting the frame on the lock, the mounting means permitting the lock to turn relative to the frame about a pivotal axis that is approximately in the same horizontal plane as the inner jaw of the lock.

2. In a scaffold bracket for use with an upright post, the bracket being of the type employing

a rigid frame having means for supporting a platform; and

a lock for supporting the rigid frame, the lock having an inner jaw and an outer jaw spaced apart to receive the upright between them;

the improvement for governing the attitude of the platform relative to the upright, the improvement comprising

means mounting the frame on the lock, the mounting means permitting the lock to pivot relative to the frame and permitting the frame to move along an incline relative to the lock independently of the lock's rotation; and

stop means carried by the frame and disposed to engage stop means on the lock for limiting movement of the frame along the aforesaid incline.

3. The improvement according to claim 2, wherein

the mounting means comprises a fulcrum rod on the lock and the frame has an inclined slot in which the fulcrum rod is received.

4. The improvement according to claim 3, wherein

one of the stop means is a surface shaped to maintain the attitude of the frame constant relative to the upright despite variations in the width of the upright.

5. The improvement according to claim 2, wherein

the mounting means comprises a pivoted link attaching the frame to the lock.

6. The improvement according to claim 5, wherein

one of the stop means is a surface shaped to maintain the attitude of the frame constant relative to the upright despite variations in the width of the upright.

7. The improvement according to claim 2, wherein

the inner jaw of the lock is below a straight line joining the outer jaw and the real axis about which the lock turns relative to the frame.

8. The improvement according to claim 7, wherein

the mounting means includes a fulcrum rod on the lock and the frame has an inclined slot in which the fulcrum rod is received.

9. The improvement according to claim 8, wherein

one of the stop means is a surface shaped to maintain the attitude of the platform constant relative to the upright despite variations in the width of the upright.

10. The improvement according to claim 7, wherein

the mounting means includes a fulcrum rod on the lock which is the real axis about which the lock pivots relative to the frame, and further includes a link pivoted upon the fulcrum rod and pivotally attached to the frame.

11. The improvement according to claim 10, wherein

one of the stop means is a surface shaped to maintain the attitude of the platform constant relative to the upright despite variations in the width of the upright.

12. The improvement according to claim 2, wherein

the horizontal line of force acting on the outer jaw when the lock is clamped upon an upright of maximum width is level with or below the horizontal plane containing the real pivotal axis about which the lock turns relative to the frame.

13. The improvement according to claim 12, wherein

the real pivotal axis is a fulcrum rod carried by the lock, and the frame has an inclined slot in which the fulcrum rod is received.

14. The improvement according to claim 13, wherein

one of the stop means is a surface shaped to maintain the attitude of the platform constant relative to the upright despite variations in the width of the upright.

15. The improvement according to claim 12, wherein

the mounting means includes a fulcrum rod which is the real pivotal axis about which the lock pivots relative to the frame, and further includes a link pivoted upon the fulcrum rod and pivotally attached to the frame.

16. The improvement according to claim 15, wherein

one of the stop means is a surface shaped to maintain the attitude of the platform constant relative to the upright despite variations in the width of the upright.

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