

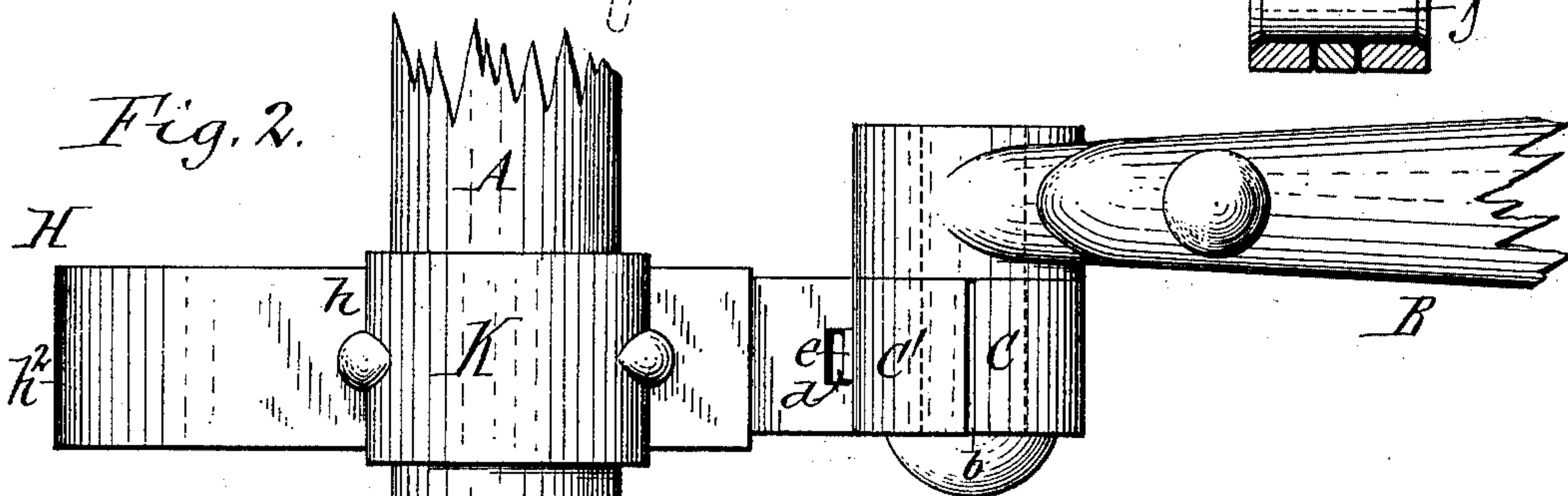
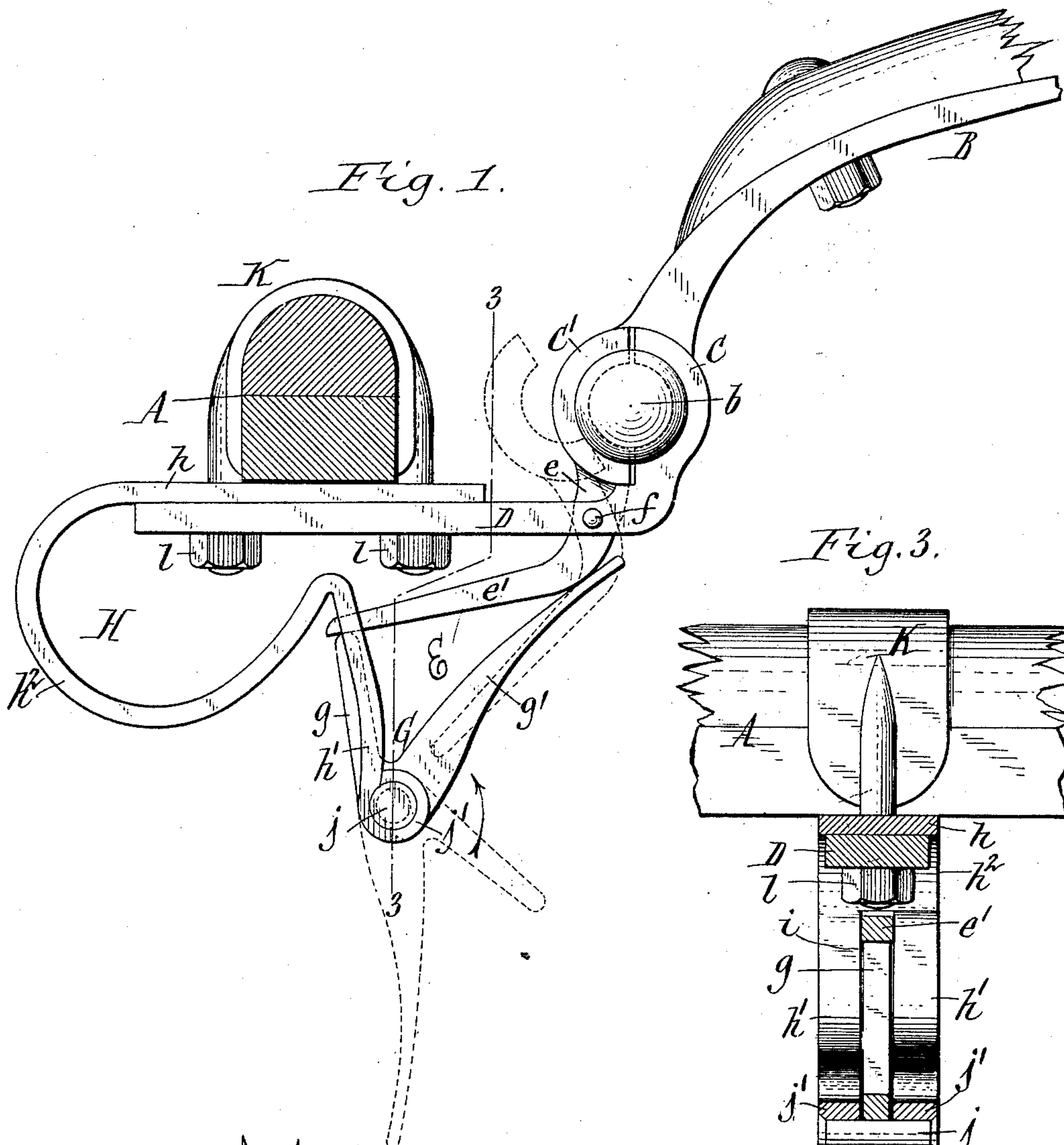
No. 717,056.

Patented Dec. 30, 1902.

L. F. TORREY.
THILL COUPLING.

(Application filed May 12, 1902.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

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THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 717,056, dated December 30, 1902.

Application filed May 12, 1902. Serial No. 107,017. (No model.)

To all whom it may concern:

Be it known that I, LEVI F. TORREY, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Thill-Couplings, of which the following is a specification.

This invention relates to that class of thill-couplings having a fixed jaw and a movable jaw and a locking device for holding the movable jaw yieldingly in its closed position.

The object of this invention is the production of a thill-coupling of this character which is simple and durable in construction and reliable in operation and which can be readily shifted for attaching the thill to the axle or detaching the same therefrom.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, showing my improved coupling applied to an axle and a thill-iron. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical transverse section in line 3 3, Fig. 1.

The same reference characters designate the same parts in the several figures of the drawings.

A represents the axle, and B the thill-iron, which is provided at its rear end with the usual coupling-pin or wrist *b*.

C C' represent the fixed and movable jaws of the divided coupling-eye, which bear, respectively, against the front and rear sides of the wrist *b*.

D represents a horizontal connecting-bar arranged at its rear end underneath the axle and connected at its front end with the lower end of the fixed coupling-jaw C.

E represents a shifting lever, which carries the movable jaw C' on its upper arm *e* and whereby the same is moved toward and from the fixed jaw. This lever is elbow-shaped and arranged in an opening *d* of the connecting-bar in rear of the fixed jaw, so that its upper arm projects upwardly from the bar, while its lower arm or tail *e'* projects rearwardly underneath the bar. The shifting lever and connecting-bar are pivotally connected by a pin *f*, passing transversely through these parts near the fixed jaw.

G represents an elbow-shaped locking or clamping lever, which operates the shifting lever and which is arranged below the lower

arm of the shifting lever. The rear arm *g* of this lever serves as a cam, which is adapted to engage against the under side of the lower arm of the shifting lever at the outer end thereof and turn the same so that the jaw on its upper arm is moved against the rear side of the wrist. The front or actuating arm *g'* of the clamping-lever serves as a handle for turning the same and is adapted to engage with the lower arm of the shifting lever near the pivot thereof, so as to stop the movement of the clamping-lever when the same is in its operative position.

H represents a hanger which depends from the supporting-bar and upon which the clamping-lever is pivoted. This hanger is preferably constructed of spring metal and consists of an upper horizontal portion *h*, which lies on top of the supporting-bar, a lower vertical portion *h'*, arranged underneath the supporting-bar, and an intermediate bow-shaped portion *h²*, which connects the rear end of the horizontal portion with the upper end of the vertical portion. The lower vertical portion of the hanger is bifurcated, forming a vertical slot *i* in the same which receives the rear arm of the clamping-lever and the lower arm of the shifting lever. Upon the lower end of the bifurcated part of the hanger the clamping-lever is pivoted by a transverse pin *j*, passing through the elbow of the clamping-lever, and eyes *j'*, formed on the lower end of the hanger. The supporting-bar and the hanger are both secured to the under side of the axle by a clip K, having its legs extending through openings in the rear part of the supporting-bar and the upper part of the hanger and having its nuts *l* bearing against the under side of the supporting-bar.

In coupling the thill with the axle the clamping-lever is turned forwardly and downwardly, which permits the lower arm of the shifting lever by its weight to move downwardly and forwardly and the jaw on the upper arm to move rearwardly, as shown by dotted lines in Fig. 1. While the parts are in this position the wrist of the thill is placed between the jaws of the coupling, and then the clamping-lever is turned in the reverse direction, (indicated by the arrow in Fig. 1.) During this movement of the clamping-lever its rear or cam arm *g* lifts the lower arm or tail *e'* of

the shifting lever, whereby the fixed jaw on its upper arm is moved forward, so that the wrist of the thill-iron is gripped between both jaws, as shown in full lines in Fig. 1. The cam-arm is so constructed and the pivot between the hanger and the clamping-lever is so located that upon turning the clamping-lever into its operative position against the lower arm of the shifting lever this pivotal point is moved downwardly or away from the shifting lever after the jaw on the latter bears against the wrist of the thill-iron, causing the hanger to be strained. While the hanger is in this strained condition it exerts a constant tension on the shifting lever for holding its jaw yieldingly in engagement with the wrist, thereby avoiding rattling and taking up any wear on the parts. The relative arrangement of the clamping-lever and the lower arm of the shifting lever is such that when the cam-arm has been moved rearward slightly beyond the dead-center while in engagement with the lower arm of the shifting lever the front arm of the clamping-lever engages with said lower arm near its pivot, as shown by full lines in Fig. 1, whereby the tension of the hanger is caused to hold or lock the clamping-lever in its operative position. During the last part of the movement of the clamping and shifting levers into their operative position the cam-arm of the clamping-lever and the lower arm of the shifting lever enter the slot *i* in the lower part of the hanger, whereby these parts are guided and held against lateral displacement with reference to each other.

If desired, the hanger may be constructed of rigid material and the lower arm *e'* of the shifting lever may be made flexible, so as to yield slightly under the action of the cam-arm.

My improved thill-coupling requires but a

single movement for coupling or uncoupling the thill, it contains no parts which are liable to get out of order, and the same can be produced at comparatively small cost.

I claim as my invention—

1. The combination of a supporting-bar provided with a fixed jaw, a shifting lever pivoted on the supporting-bar and having its upper arm provided with a movable jaw, a spring-hanger mounted on the supporting-bar, and a clamping-lever pivoted on the spring-hanger and having a cam engaging with the lower arm of the shifting lever, substantially as set forth.

2. The combination of a horizontal bar provided at its front end with a fixed jaw, an elbow-shaped shifting lever pivoted on said bar and having its upper arm provided with a movable jaw while its lower arm projects rearwardly underneath the supporting-bar, an elbow-shaped clamping-lever having a cam-arm and an actuating-arm adapted to engage with the lower arm of the shifting lever, a flexible hanger consisting of a horizontal upper part secured to the supporting-bar, a vertical lower part arranged below the supporting-bar, and a bow-shaped intermediate part connecting the rear end of the horizontal part with the upper end of the vertical part, said vertical part having a vertical slot which receives the lower arm of the shifting lever and the cam-arm of the clamping-lever, and a pin pivotally connecting the clamping-lever and the lower end of the vertical part of the hanger, substantially as set forth.

Witness my hand this 3d day of May, 1902.

LEVI F. TORREY.

Witnesses:

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