May 28, 1929. F. M. STOLL 1,714,698

LATCH MECHANISM FOR HINGE MEMBERS

Filed Nov. 8, 1926

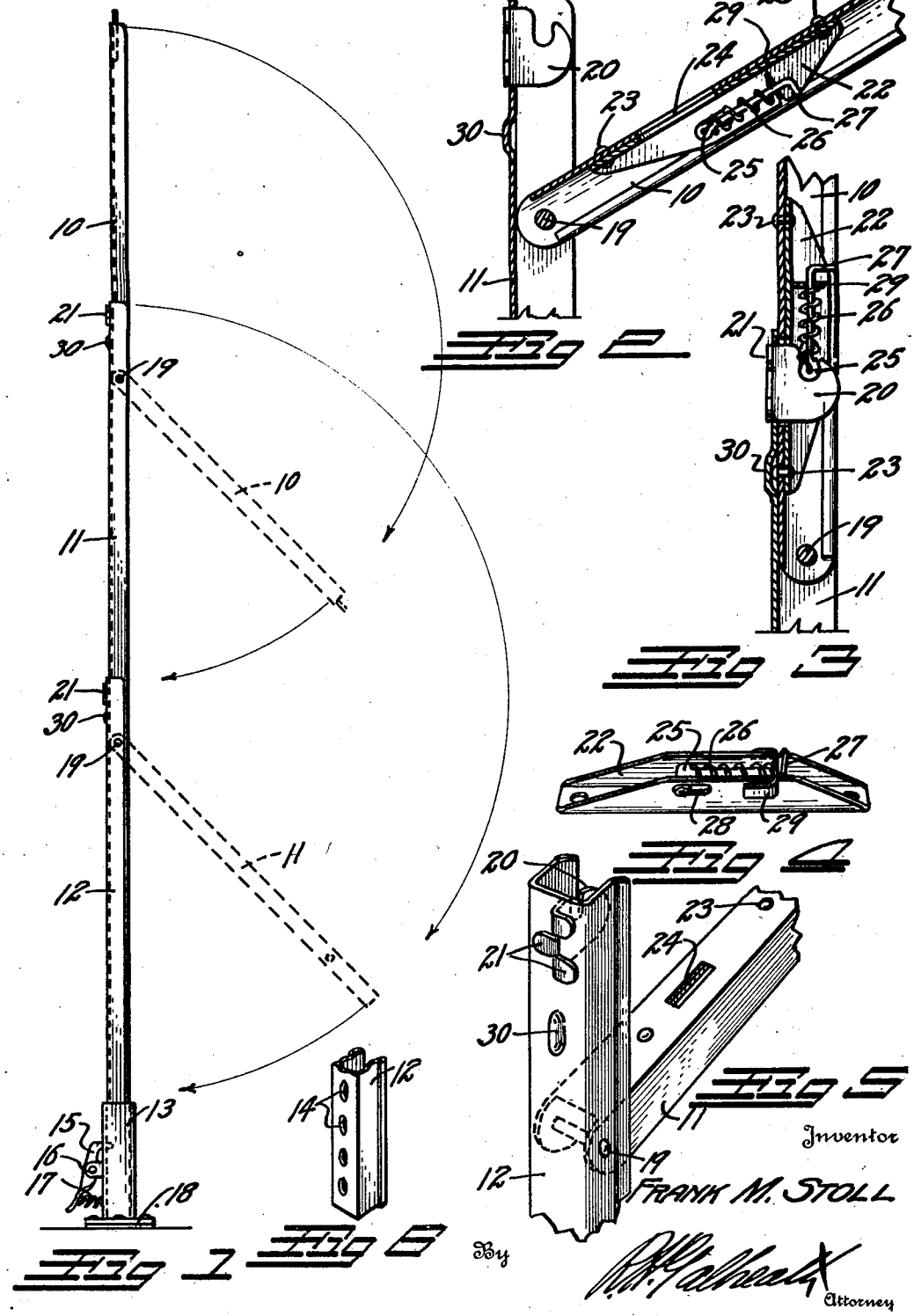


Fig 1 Fig 6 Fig 2 Fig 3 Fig 4 Fig 5

Inventor

FRANK M. STOLL

By

Attorney

Patented May 28, 1929. 1,714,698

UNITED STATES PATENT OFFICE.

FRANK M. STOLL, OF DENVER, COLORADO.

LATCH MECHANISM FOR HINGE MEMBERS.

Application filed November 8, 1926. Serial No. 146,965.

This invention relates to a hinge for folding members and, while more particularly described as applied to the pole of a tent, it will be found useful in any application where it is desired to fold a longitudinal member upon itself.

The principal object of the invention is to provide a latch mechanism for a hinge of this type which will positively lock the parts in the extended position.

Another object is to provide a locking mechanism for the hinge which have no projecting parts and which will be entirely protected by the surrounding members.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side elevation of the invention as applied to a vertical tent pole.

Fig. 2 is a fragmentary vertical section through a joint of the pole illustrating it in a partially folded position.

Fig. 3 is a similar view illustrating a joint in the extended position.

Fig. 4 is a detail perspective view of the latch mechanism.

Fig. 5 is a perspective view of the joint in a partially open position.

Fig. 6 is a detail perspective view of the lower extremity of the pole.

In applying the invention, the pole is formed in several sections of a convenient length, such as illustrated in the drawing at 10, 11 and 12. These sections are channel shaped in cross-section and of different sizes so that the section 10 will fold within the section 11, and the section 11 within the section 12. The number of sections employed depends, of course, upon the length of the extended pole and the length desired for the folded pole.

The lower extremity of the section 12 is slidably received in a socket 13 and is provided with a vertically arranged series of openings 14, in any one of which a dog 15 may be engaged. The dog 15 is pivoted to the socket 13 at 16 and is maintained in engagement with the openings 14 by a suitable spring 17.

The socket rests upon a flanged bottom 18 which supports the entire pole. The vertical extension of the pole may be regulated by releasing the dog 15 and placing it in the desired opening 14.

Each of the pole sections is hinged to its adjacent section by means of a hinge pin 19 which extends entirely through both sections. All of the joints in the pole are similar and for convenience the joint between the sections 10 and 11 will be described in detail.

The upper extremity of the section 11 carries a latch hook 20 which is secured to the section by being passed through a slotted opening in the back thereof, there being suitable fingers 21 formed on the hook to prevent its passing entirely through the section. The fingers 21 are preferably spot welded to the section 11.

In the lower extremity of the section 10 a latch frame 22 is riveted at 23. The latch frame 22 and the section 10 have co-acting openings which form a passage 24 for the reception of the hook 20 when the sections are in alignment. The latch frame 22 carries a slidable latch 25 which is actuated by a spring 26 in one direction and in the other direction by means of a finger hold 27. The latch 25 is T-shaped, the extremities of its head riding in slots 28 in the sides of the latch frame 22 which serve to guide the latch and limit its longitudinal movements. The other extremity of the latch is slidably carried in a cross piece 29 fixed in grooves formed in the sides of the latch frame.

As the two sections are brought into alignment the latch 25 will pass over the hook 20 and engage the slot therein, thus rigidly maintaining the alignment of the sections.

A depression 30 is formed in the section 11 for the reception of the lowermost rivet 23 so as to prevent the rivet from misaligning the sections.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention,

what I claim and desire to secure by Letters Patent is:—

1. The combination with a member formed of two channel-shaped sections hinged together, one section being narrower than the other so that one section will fold within the channel of the adjacent section; locking means at the hinge for maintaining said sections in extended position, said locking means comprising a hook carried within the channel at the extremity of one section and extending through an opening in the adjacent section; means within said adjacent section engaging said hook, said means comprising a longitudinally slidable spring actuated latch; and a channel shaped latch frame secured within the channel of said adjacent section and having slotted openings in its sides which act as guides and stops for said latch.

2. A latch mechanism for hinged members comprising a pair of members hinged together, a U shaped frame secured to one of said members, said frame having an opening in its bottom in register with an opening in said member; a latch hook secured to the other member and projecting through said opening into said U shaped frame when said members are in alignment; a T shaped latch member slidably mounted in said U shaped frame, the extremities of the T head projecting through openings in the sides of said frame so as to support one extremity of said latch member; a cross bar in said U shaped frame and having a perforation in which the other extremity of said latch member is received and a spring compressed between said head and said cross bar so as to force said latch member into a depression in said latch hook.

In testimony whereof, I affix my signature.

FRANK M. STOLL.