Dec. 13, 1949 C. STALLARD 2,490,889

HINGE

Filed Oct. 26, 1944

Fig. 1.

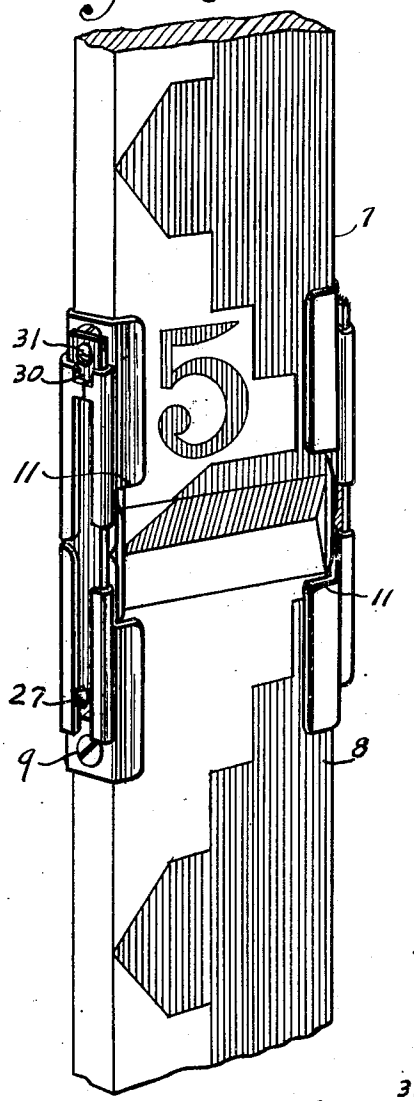


Fig. 2.

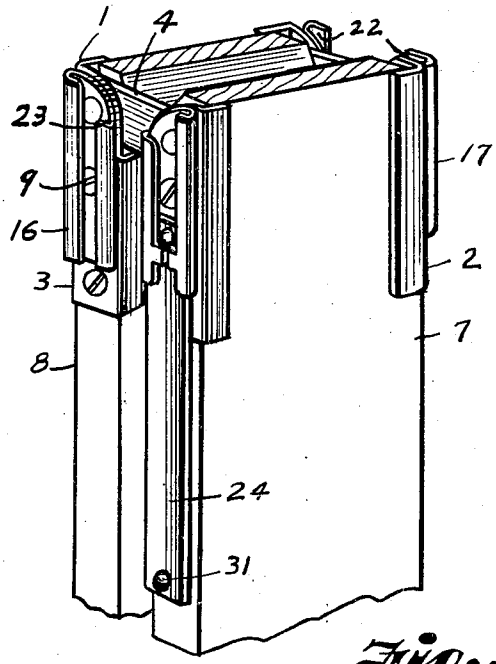


Fig. 3.

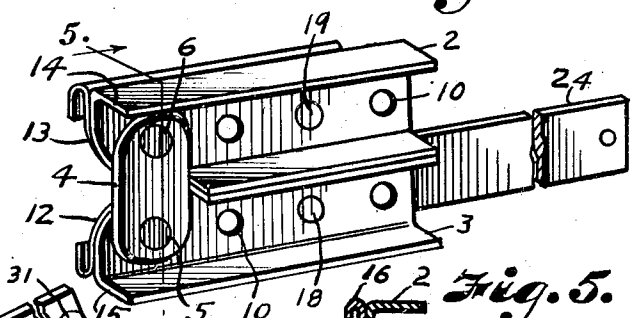


Fig. 4.

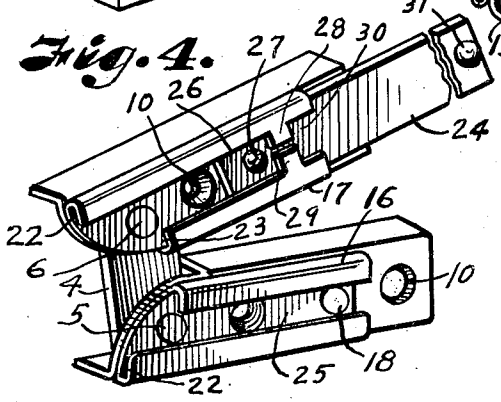
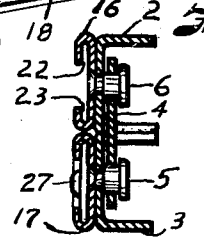


Fig. 5.



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UNITED STATES PATENT OFFICE

2,490,889

HINGE

Cleveland Stallard, Kansas City, Mo.

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1 Claim. (Cl. 16—144)

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This invention relates to hinges, and more particularly to a folding hinge adapted for use on a surveying instrument or the like. In handling instruments of this character, which are of considerable length, they are awkward to move from place to place, or to place in a car, truck or the like in extended position. Heretofore, telescoping surveying poles have been used but have been found unsatisfactory due to wear, causing them to become non-rigid and inaccurate. I have found that by providing a hinge for folding such instruments, these objections are overcome.

The principal objects of the present invention are, therefore, to provide a hinge for use on a sectional surveying pole or the like so that the pole may be collapsed for easy handling; to provide a means for locking the hinge when the pole is in extended position; to provide a hinge for holding a pole in rigid position and which will not become loose due to wear; and to provide a simple, economical and efficient structure for the purpose set forth.

Fig. 1 is a perspective view of the hinge in extended locked position on a surveying pole.

Fig. 2 is a perspective view of the hinge in folded position on a pole.

Fig. 3 is a perspective view of the hinge in folded position.

Fig. 4 is a perspective view of the hinge in partly folded position particularly illustrating the locking means.

Fig. 5 is a cross-sectional view taken on a line 5—5, Fig. 3.

Referring more in detail to the drawings:

1 designates a hinge embodying the features of my invention comprising substantially U-shaped channel members 2 and 3, pivotally connected at one end by a link 4, by rivets or the like 5 and 6. The channel members 2 and 3 are so formed as to be fastened respectively to abutting ends 7 and 8 of a surveying pole or the like, by a plurality of screws or the like 9 as shown in Figs. 1 and 2, through suitable openings 10 in said members.

It will be noted that one side of the channel members 2 and 3 are cut away as indicated at 11, Fig. 1, and the corner of such sides rounded as indicated at 12 and 13, Fig. 3, so that such corners will not bind or engage one another when folding the hinge. It will be noted also that there is a double hinge to the sections 2 and 3, in that the link 4 has two pivots through the rivets 5 and 6. This construction is such as to enable the two sections 2 and 3 to fold relative to each other, and to assume a position as shown

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in Fig. 3 where one section lies along side the other, and when the hinge is in extended position, the ends 14 and 15 will abut together.

Referring to the means for locking the hinge in extended position, I preferably provide guides 16 and 17, having their inner ends rounded to conform to the rounded corners 12 and 13, of the channel members 2 and 3, and fastened thereto by the rivets 5 and 6, and their outer ends secured to the channel members by rivets or the like 18 and 19 through suitable openings, in said members. The outer edges are bent transversely and inwardly to form channel ways 22 and 23 to provide a guideway for a bar 24 to lock the hinge in its extended position. The inwardly turned edges of the respective sides of the guides 16 and 17 are spaced apart to provide channelways 25 and 26 adapted to receive a stop 27 secured to the inner end of the locking bar 24. The inturned edges of the guide 17 are provided with inwardly extending ears 28 and 29, extending substantially across the channelway 26, providing a notch 30 adapted to receive a stop or the like 31 on the outer end of the locking bar 24 when the locking bar is in locking position, the inwardly extending ears 28 and 29 forming a stop for said locking bar.

The heads of the rivets 5 and 6 which extend into the locking bar guideway of the guides 16 and 17, and the heads of the rivets 18 and 19 in said channelway, are countersunk so as to provide free passageway of the locking bar therethrough. The opposite heads of such rivets may also be countersunk if desired.

Operation of a device constructed and assembled as described is as follows:

When the hinge is securely fastened to the abutting ends of a surveying pole by screws or the like as shown in Fig. 1, and the pole extended longitudinally, the locking bar slides through the channelways 25 and 26, to rigidly lock the pole in such extended position for use. When it is desired to transport the pole from one place to another, or carry it in a suitable conveyance, the locking bar may be pulled outwardly from the channelways 25, and the pole folded downwardly as indicated in Fig. 2.

It will be obvious from the foregoing that I have provided an improved form of hinge adapted for use in a construction as described which is simple, economical to manufacture, and operating in an efficient manner.

What I claim and desire to secure by Letters Patent is:

A device of the character described comprising, channel members having side flanges and a

back portion, said channel members being adapted for abutting end-to-end relation, one of the sides of the abutting ends of the channel members being cut away and the mating ends of the back portion of the channel members being rounded, a link adapted to engage in the inside of the back of the channel members having its respective ends pivotally connected to the abutting ends of said channel members at their central longitudinal axis whereby said channel members may be folded so that they will lie in parallel side-by-side relation to each other, guide members having body portions rigidly secured to the backs of the back portion of said channel members in end-to-end abutting relation and having their ends rounded to mate the rounded corners of the channel members, said body portions of the guide members having side edges turned inwardly to form flanges spaced from the body portion to provide a trackway, the adjacent edges of said flanges being spaced, inwardly projecting ears on the flanges of one of the guide members to form stops, and a bar slidable in said trackways and having bosses on its respective ends adapted to engage the inwardly projecting ears on said flanges of said trackway to limit sliding movement of said bar to retain the bar in said guide.

CLEVELAND STALLARD.

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