

M. MAKI.
SNAP HOOK.

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939,727.

Patented Nov. 9, 1909.

Fig. 1.

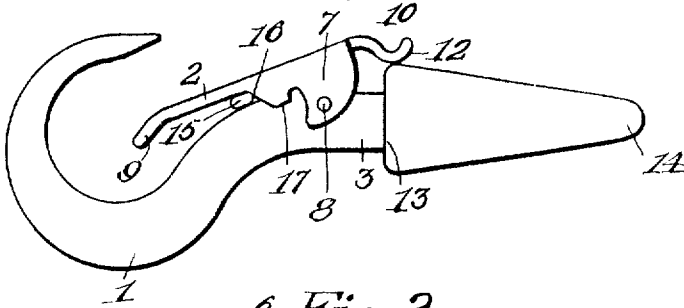


Fig. 2.

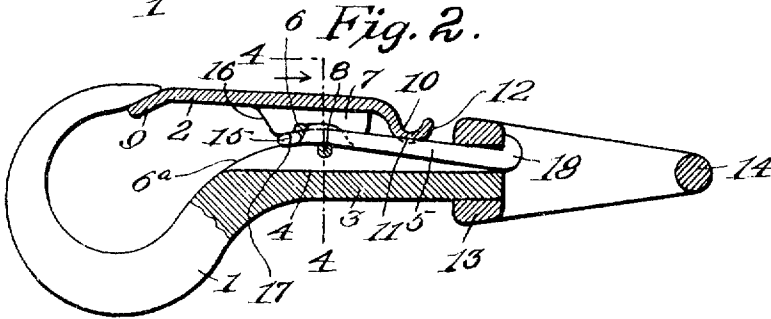


Fig. 3.

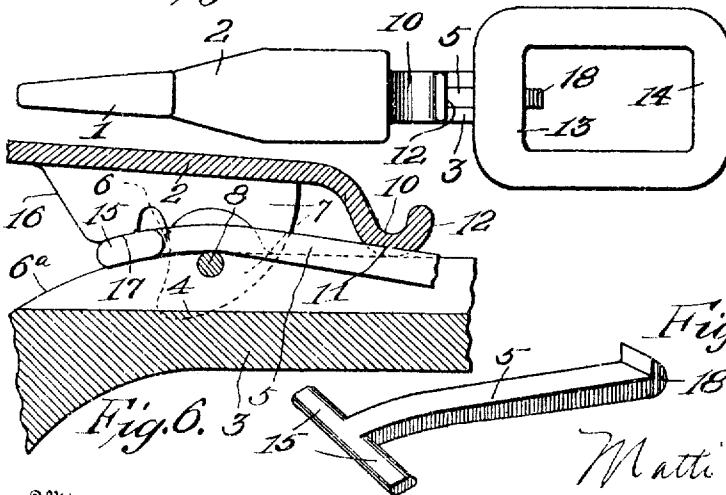


Fig. 4.

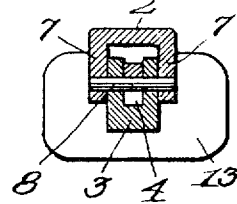


Fig. 5.



Witnesses

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SNAP-HOOK.

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To all whom it may concern:

Be it known that I, MATTI MAKI, a citizen of the United States, residing at Lakota, in the county of Nelson and State of North Dakota, have invented certain new and useful Improvements in Snap-Hooks, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in snap hooks and more particularly to one having an improved locking means which will effectively prevent it from opening.

The object of the invention is to provide a self locking snap hook which will be simple, strong, durable and comparatively inexpensive in construction and which is easy to open.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved snap hook in its open position; Fig. 2 is a longitudinal section through the same in its closed position; Fig. 3 is a top or plan view; Fig. 4 is a detail transverse section taken on the plane indicated by the line 4—4 in Fig. 2; Fig. 5 is a detail view of the locking slide, and Fig. 6 is an enlarged detail view of a portion of Fig. 2.

In the drawings 1 denotes my improved snap hook which may be of any desired size and shape and which has its mouth closed by a pivoted keeper tongue or member 2. The latter is pivoted to the shank 3 of the hook which is preferably straight and of rectangular form in cross section and has in its upper face a longitudinally extending channel or groove 4 for the reception of a locking slide or member 5. The channel 4 extends longitudinally from end to end of the shank 3 and the upper face of the inner portion of the shank adjacent to the inner end of said channel is shaped to provide an abrupt stop shoulder 6 and a curved or cam surface 6^a, the purposes of which will presently appear. The keeper tongue 2 is provided upon opposite sides with depending flanges or ears 7 which straddle the top of the shank 3 and are pivoted thereto by a transverse pin or rivet 8, as more clearly shown in Fig. 4. One end of the

keeper tongue 2 is shaped as shown at 9 to engage the beveled or tapered end of the bill of the hook and the other end of said tongue is shaped to provide a finger piece 10 the bottom face of which is provided with a groove or channel 11 disposed above the channel 4 in the shank and adapted to receive said locking slide 5. Said finger piece or end 10 has its outer face curved to provide a cam surface 12 which is adapted to be engaged by the attaching loop or member 13 of the hook so that when the locking slide releases the keeper tongue and said loop is moved inwardly on the shank the tongue 2 will be forced to its open position, as hereinafter more fully explained. The attaching member 13 has an eye or loop portion 14 formed at its outer end and its inner end is enlarged and formed with a rectangular opening to receive the shank 3 of the hook on which it is adapted to slide freely. It is retained upon the shank by the locking slide which it is adapted to actuate in one direction to cause said slide to move the keeper tongue to its closed position and retain it in such position. Said slide has a body provided with a slight longitudinal curvature and adapted to slide freely in the channel 4 of the shank and beneath the tongue 2. At the inner end of the body of the slide is a cross piece or head which renders said end T-shaped and which provides projections 15 adapted to engage curved or cam surfaces 16 formed upon extended portions 17 of the flanges 7 on the keeper tongue 2, and also adapted to engage the cam surfaces 6^a and the stop shoulders 6, as presently explained. The opposite or outer end of the body of the locking slide 5 is formed with a laterally projecting lug or portion 18 which serves as a stop to prevent the attaching loop 13 from sliding off of the hook.

The operation of the invention is as follows. When the hook is open, as shown in Fig. 1, the attaching loop 13 will be disposed upon the intermediate portion of the shank 3, the keeper tongue 2 will be inclined downwardly so that its end 9 is away from the bill of the hook and the locking slide 5 will have its cross head disposed beneath the forward or inner portion of the tongue 2. When it is desired to close the hook it is only necessary to slide the loop 13 rearwardly or outwardly upon the shank.

When this is done, the stop projection or lug 18 will cause the locking slide 5 to move rearwardly or outwardly in the channel 4 in the shank and the cross head upon its opposite end will ride up the cam surfaces 6^a on the hook and then over the cam surfaces 16 on the tongue 2 so that the latter will be elevated to its closed position shown in Fig. 2. When the loop 13 reaches the end of the shank 3 the cross head at the inner end of the locking slide will engage the stop shoulders 6 upon the shank of the hook so that the slide cannot move farther in a rearward direction and the lug or projection 18 will prevent said loop from passing off of the shank. When said cross head on the locking slide is engaged with the stop shoulders 6 it will be engaged with the flat lower ends of the portions or lugs 17 so that said tongue will be effectively retained in its closed position. When it is desired to open the hook, it is only necessary to move the loop 13 inwardly upon the shank and at the same time press the outer end or projection 18 on the slide inwardly so that the cross head upon the latter will ride down the cam faces 6 on the hook and move from beneath the portions or lugs 17 on the tongue. When the latter is thus released and the inward movement of the loop is continued, the curved or cam-shaped inner end of said loop will engage the cam surface 12 on the end or finger piece 10 of the tongue 2 so as to swing the latter to its open position, as will be readily understood upon reference to Fig. 1.

From the foregoing it will be seen that my improved snap hook is exceedingly simple in construction and therefore strong and durable and capable of being produced at a comparatively small cost. It is also exceedingly convenient and easy to open and close, and when closed will be effectively locked in such position.

While I have shown and described in detail the preferred embodiment of the invention it will be understood that I do not wish to be limited to the precise construction set forth since various changes in the form, proportion and minor details may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention as defined by the appended claims.

Having thus described my invention what I claim is:

1. The combination of a hook having a shank provided with a guide and a stop shoulder, a keeper tongue for the hook pivoted upon the shank, an attaching member slidable upon the shank of the hook and a locking slide arranged in the guide in the shank and having at one end means for retaining the attaching member upon the shank and at its other end means for engaging and actuating the keeper tongue and also for engaging the stop shoulder.

2. The combination of a hook having a shank provided with a guide, a stop shoulder, and a cam surface, a keeper tongue for the hook pivoted upon the shank and having a cam surface, an attaching member slidable upon the shank of the hook and a locking slide arranged in the guide in the shank and having at one end a portion to engage the attaching member and retain it upon the shank and at its other end a portion to engage the cam surface upon the tongue and the cam surface and stop shoulder upon the shank of the hook.

3. The combination of a hook having a straight shank of rectangular shape in cross section provided with a longitudinal channel, a stop shoulder and a cam face, a keeper tongue for the hook having upon its sides flanges to straddle the hook and pivoted thereto, the forward portions of said flanges being provided with cam surfaces, the rear end of the tongue being also provided with a cam surface, an attaching member slidable upon the shank and adapted to engage the cam surface upon the rear end of the tongue, and a locking slide arranged in the channel in the shank and having at its rear end a lateral projection to engage the attaching member and retain it upon the shank and at its other end a cross head to engage the cam surfaces upon the flanges of the tongue and the cam surface and stop shoulder upon the shank of the hook, substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

MATTI MAKI.

Witnesses:

J. G. GRONNA,
W. C. HAGLER.