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J. B. BAXTER

2,187,441

SNAP HOOK

Filed April 12, 1938

Fig. 3.

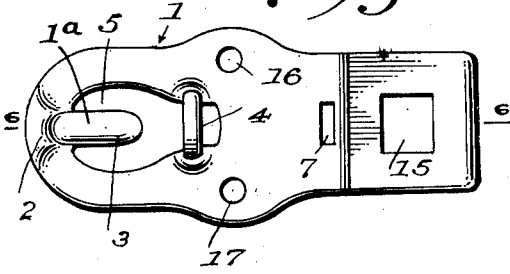


Fig. 1.

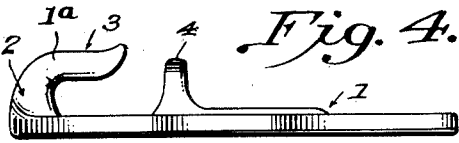
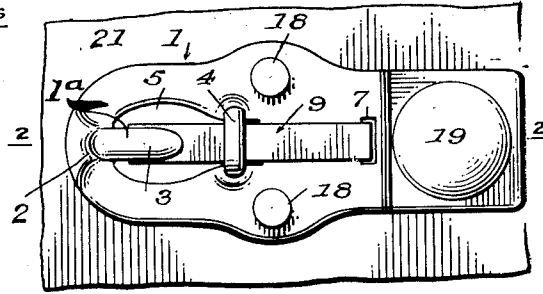


Fig. 4.

Fig. 2.

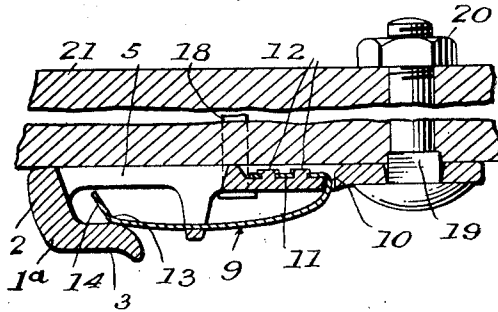


Fig. 5.

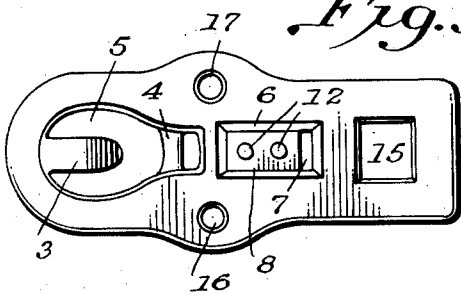


Fig. 8.

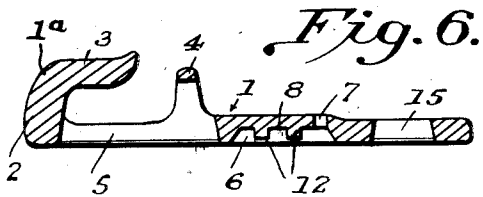
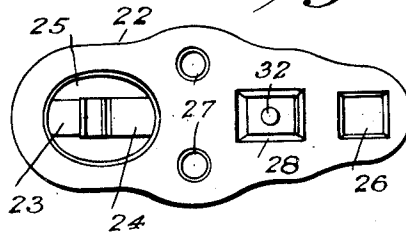


Fig. 6.

Fig. 9.

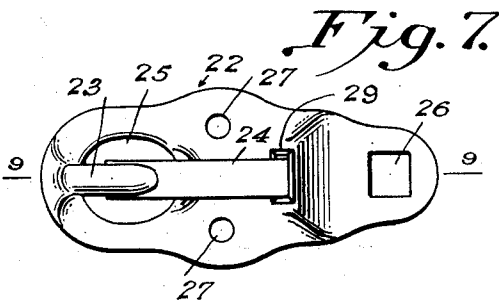
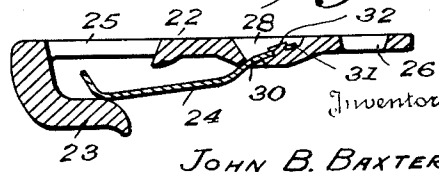


Fig. 7.

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UNITED STATES PATENT OFFICE

2,187,441

SNAP HOOK

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Application April 12, 1938, Serial No. 201,601

6 Claims. (Cl. 24—236)

This invention relates to improvements in snap hooks and more particularly to an improved snap of the spring tongue type especially adapted for use on mine cars and similar uses.

5 An object of the invention is to provide an improved spring snap that will be of a strong, serviceable, efficient nature and of simple, practical construction that can be economically manufactured.

10 An important novel characteristic of the invention resides in the particular construction that provides for molding the hook with the body part of the snap without any core and without requiring the hook to be bent up after casting.

15 Another important novel feature of the invention lies in the special attachment or fastening means for the spring tongue that provides for easily assembling the parts while resulting in a strong, sturdy, satisfactory construction.

20 The invention, with other objects and advantages thereof, and the particular construction, combination and arrangement of parts comprising the same will be understood from the hereinafter contained detailed description, when considered in connection with the accompanying drawing forming part hereof and illustrating a preferred embodiment of the invention and a modified construction.

In the drawing:

30 Figure 1 is a top plan view of a spring snap constructed in accordance with the present invention, the snap being shown secured to a wall of a mine car.

Fig. 2 is a longitudinal section on the line 2—2 of Figure 1.

35 Fig. 3 is a top plan view of the casting or blank.

Fig. 4 is a side elevation of the casting or blank.

40 Fig. 5 is a bottom plan view of the casting or blank.

Fig. 6 is a longitudinal section on the line 6—6 of Figure 3.

Fig. 7 is a top plan view of a modified form of the invention.

45 Fig. 8 is a bottom plan view of the construction illustrated in Figure 7.

Fig. 9 is a longitudinal section on the line 9—9 of Figure 7.

Referring to a detailed description of the particular embodiment of the invention illustrated in Figures 1 to 6 of the drawing, 1 designates a body part of elongated plate-like form. At one end of the body part midway its side marginal portions is a hook 1a having a shank portion 2 projecting outwardly from the front face of the

body part and having a bill portion 3 extending alongside the body part toward the rear end thereof. On the body part rearwardly of the bill portion 3 is a guard loop 4. The hook and guard loop are integral with the body part, the body part 5 with the hook and guard loop being formed by casting. The plate-like body part is provided with an opening 5 opposite the bill portion 3 of the hook 1a and the transverse portion of the guard loop 4, said opening being shown of general 10 elliptical shape and of substantially greater area than the overhanging bill portion of the hook, this open formation of the plate-like body part providing for economically molding the structure with the hook without any core. The body part 15 is provided with a recess 6 in its rear face and with a transverse slot 7 extending from its front face to said recess, said recess and slot being formed in the body part in the casting of the same. The slot 7 extends inwardly at substantially right 20 angles to the front face of the body part, and the bottom wall 8 of the recess 6 extends at an angle to the side walls of said slot.

9 designates the spring tongue constructed from a flat strip of spring metal. The tongue at its 25 rear end is substantially U-shaped, having a portion 10 extending at an angle to the main part thereof and engaging the slot 7, and a return bend portion 11 secured against the bottom wall 8 of the recess. Any suitable means may be employed to secure the return bend portion 11 30 of the spring against the bottom wall 8 of the recess. The means shown for this purpose consists of rivets or lugs 12 on the bottom wall of the recess engaging apertures in the return bend portion 11 35 and having end portions thereof upset thereover. The spring tongue at its free end has a portion 13 adapted to engage the underside of the bill portion 3 of the hook and provided with a downwardly curved extension 14. As will be understood, the spring tongue 9 normally closes the 40 mouth of the hook and is adapted to be pressed inwardly toward the body part 1 to open the hook. When the spring tongue is depressed to open the mouth of the hook, the downwardly 45 curved extension 14 of the tongue enters the opening 5 in the body part, said opening permitting the tongue to be moved toward the body part sufficiently to open the hook when the snap is secured to a flat supporting wall. The guard loop 50 4 through which the spring tongue 9 extends, serves to prevent movement of the tongue laterally, maintaining the same in proper alignment with the bill of the hook.

The body part 1 is provided at one end with 55

an opening 15 for a bolt and with openings 16, 17 for nails or equivalent fastening members. When the snap is used on mine cars made of steel it is fastened by a bolt engaging the opening 15.

5 When employed on wooden cars, nails 18 may be employed in addition to the bolt 19 and nut 20 to fasten the same to the wall 21 of the car as shown in Figures 1 and 2 of the drawing.

10 It will be noted that the particular construction hereinbefore described, provides a spring snap of an efficient, serviceable nature. The special construction of body provides for economically molding the hook without any core and without requiring bending up of the hook after casting, the construction not only being less expensive to mold but also stronger than constructions in which the hook is cast to one side and then bent over. The particular open formation of the body part opposite the hook is also of advantage in that, with a spring tongue of the construction shown having a downwardly and forwardly inclined extension at its free end, it provides for sufficient movement of the free end of the tongue toward the body part to open the hook without increasing the size of the hook. It will also be observed that the particular relationship of the recess and slot in the body part in connection with the form of the rear end portion of the spring tongue, is instrumental in providing attaching means of an efficient nature. This particular construction also provides for easily assembling the parts and results in a strong, serviceable device.

15 The modified construction illustrated in Figures 7 to 9 of the drawing is the same as that hereinbefore described and shown in Figures 1 to 6, except that in this modified construction the guard loop for the spring tongue is omitted and the attachment of the rear end of the spring tongue to the body part is different. In these views, 22 designates the body part, 23 the hook at the forward end of the body part and 24 the spring tongue. As in the embodiment of the invention illustrated in Figures 1 to 6, the body part is provided with an opening 25 opposite the bill of the hook, the structure being formed by casting. As shown, the body part is also provided with a bolt opening 26 at its rear end and with nail openings 27. Also as in the construction previously described, the body part has a transverse slot 29 extending substantially at right angles to the front face thereof and opening into a recess in the rear face of the same, but in this modified construction, the recess designated 28 extends rearwardly of the transverse slot 29 and at a downward inclination from front to rear. The rear end of the spring tongue 24 has a portion 29 extending downwardly at an angle to the main part thereof through the slot 29 into said recess, and a portion 31 extending rearwardly and downwardly at an inclination from the portion 29 at an angle thereto secured against the inclined bottom wall of the recess by an integral rivet or lug 32 projecting outwardly therefrom.

20 While a preferred embodiment of the invention and a modified construction are illustrated in the drawing, it will of course be understood that minor changes and modifications may be made in the particular constructions shown, and the invention may be embodied in other forms, as will appeal to those skilled in the art and falling within the scope of the appended claims, without departing from the spirit of the invention.

What I claim is:

75 1. A snap hook including a body part of elongated plate-like form of substantial width adapted to lie flat against a supporting surface and having a hook at one end thereof with support engaging portions extending longitudinally along either side of the hook, said hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending alongside the body part toward the rear end thereof, a spring tongue to normally close the mouth of the hook having its rear end portion secured to the rear portion of the body part with its free end portion adapted to engage the under side of the bill of the hook and provided with a downwardly and forwardly inclined extension, the body part being provided with an opening opposite to said downward extension of the spring tongue to accommodate the same and permit the spring tongue to be pressed toward the body part sufficiently to open the mouth of the hook.

2. A snap hook including a body part of elongated plate-like form of substantial width adapted to lie flat against a supporting surface and having a hook at one end thereof with support engaging portions extending longitudinally along either side of the hook, the hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending alongside the body part toward the rear end thereof, said body part being provided with a recess in the rear side thereof and with a relatively narrow slot extending from its front face to said recess, the bottom wall of the recess extending at an angle to the side walls of said slot, and a spring tongue to cooperate with the hook, said tongue having the main part thereof disposed above the body part and having a rear end portion extending at an angle to the main part thereof downwardly through said slot to said recess, and said tongue having a portion extending from the last mentioned portion at an angle thereto secured against the bottom wall of said recess.

3. A snap hook including a body part of elongated plate-like form of substantial width adapted to lie flat against a supporting surface and having a hook at one end thereof with support engaging portions extending longitudinally along either side of the hook, the hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending alongside the body part toward the rear end thereof, said body part being provided with a recess in its rear side and with a relatively narrow slot extending from its front face at substantially right angles thereto to said recess, the bottom wall of the recess extending at substantially right angles to the side walls of the slot, and a spring tongue to cooperate with the hook, said tongue having the main part thereof disposed above the body part and having a rear end portion extending at an angle to the main part thereof downwardly through said slot to said recess, and said tongue having a return bend portion extending at substantially right angles to the last mentioned portion secured against the bottom wall of the recess.

4. A snap hook including a body part of elongated plate-like form of substantial width adapted to lie flat against a supporting surface and having a hook at one end thereof with support engaging portions extending longitudinally along either side of the hook, the hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending alongside the body part toward the rear end thereof, said body part being provided with a recess in its rear side and with a relatively narrow slot extending from its front face at substantially right angles thereto to said recess, the bottom wall of the recess extending at substantially right angles to the side walls of the slot, and a spring tongue to cooperate with the hook, said tongue having the main part thereof disposed above the body part and having a rear end portion extending at an angle to the main part thereof downwardly through said slot to said recess, and said tongue having a return bend portion extending at substantially right angles to the last mentioned portion secured against the bottom wall of the recess.

5. A snap hook including a body part of elongated plate-like form of substantial width adapted to lie flat against a supporting surface and having a hook at one end thereof with support engaging portions extending longitudinally along either side of the hook, the hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending alongside the body part toward the rear end thereof, a spring tongue to normally close the mouth of the hook having its rear end portion secured to the rear portion of the body part with its free end portion adapted to engage the under side of the bill of the hook and provided with a downwardly and forwardly inclined extension, the body part being provided with an opening opposite to said downward extension of the spring tongue to accommodate the same and permit the spring tongue to be pressed toward the body part sufficiently to open the mouth of the hook.

end thereof, said body part being provided with a recess in its rear side and with a relatively narrow slot extending from its front face to said recess, the recess extending rearwardly of said slot, and the bottom wall of the recess extending at an angle to the side walls of the slot, and a spring tongue to cooperate with the hook, said tongue having the main part thereof disposed above the body part and having a rear end portion extending at an angle to the main part thereof downwardly through said slot to said recess, and said tongue having a portion extending rearwardly from the last mentioned portion at an angle thereto secured against the bottom wall of said recess.

5. A snap hook including a body part of elongated plate-like form of substantial width adapted to lie flat against a supporting surface and having a hook at one end thereof with support engaging portions extending longitudinally along either side of the hook, the hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending along side the body part toward the rear end thereof, said body part being provided with a recess in the rear side thereof, and with a relatively narrow slot extending from its front face at substantially right angles thereto to said recess, the bottom wall of the recess extending at an angle to the side walls of the slot, a guard loop on the body part projecting outwardly from the front face thereof rearwardly of the hook near to the bill thereof forwardly of said slot, and a

spring tongue to cooperate with the hook extending through the said guard loop, said tongue having the main part thereof disposed above the body part and having a rear end portion extending at an angle to the main part thereof downwardly through said slot to said recess, and said tongue having a portion extending from the last mentioned portion at an angle thereto secured against the bottom wall of the recess.

6. A snap hook including a body part of elongated plate-like form having a hook at one end thereof, the hook having a shank portion projecting outwardly from the front face of the body part, and having a bill portion extending alongside the body part toward the rear end thereof, said body part being provided with a recess in the rear side thereof and with a slot extending from its front face to said recess, the bottom wall of the recess being of substantial length and extending an angle to the side walls of said slot and adjoining the adjacent side wall of the slot, and a spring tongue to cooperate with the hook, said tongue having the main part thereof disposed above the body part and having a rear end portion extending at an angle to the main part thereof downwardly through said slot to said recess, and said tongue having a portion extending from the last mentioned portion at an angle thereto forwardly toward the bill of the hook and secured against the bottom wall of said recess in substantial parallelism with the body part.

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