

No. 751,915.

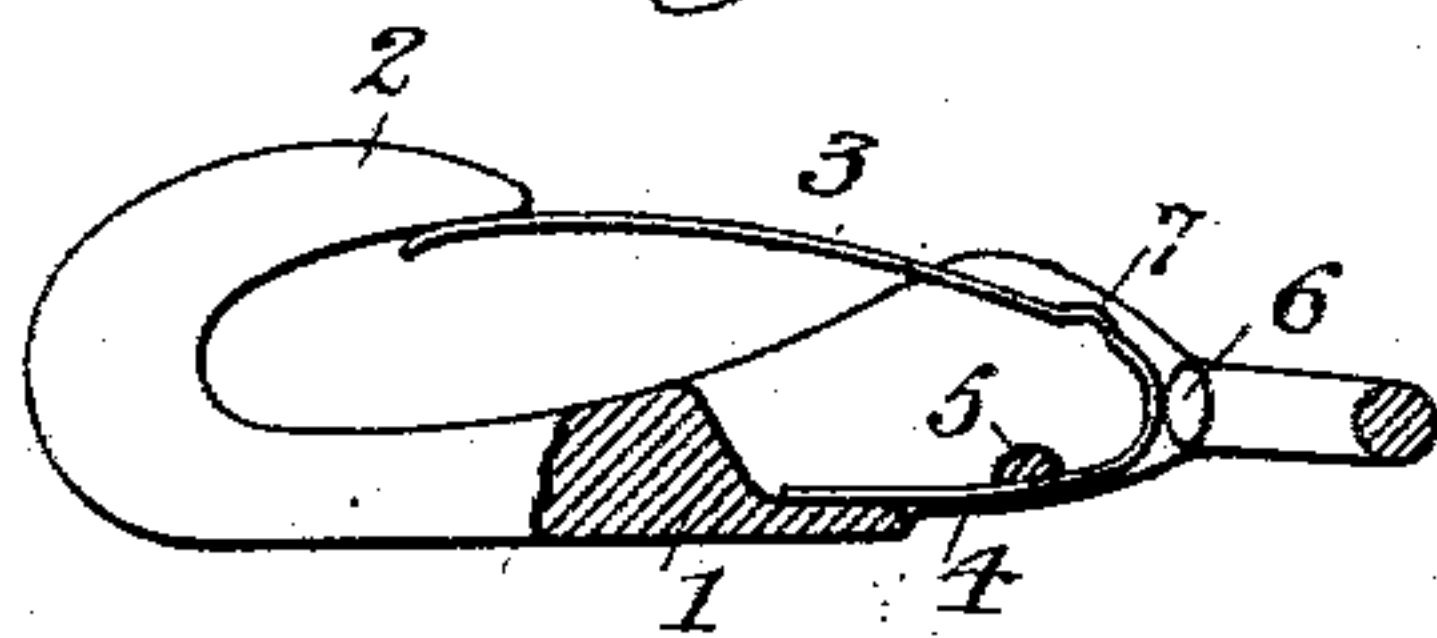
PATENTED FEB. 9, 1904.

F. HOOPER.  
SNAP HOOK.

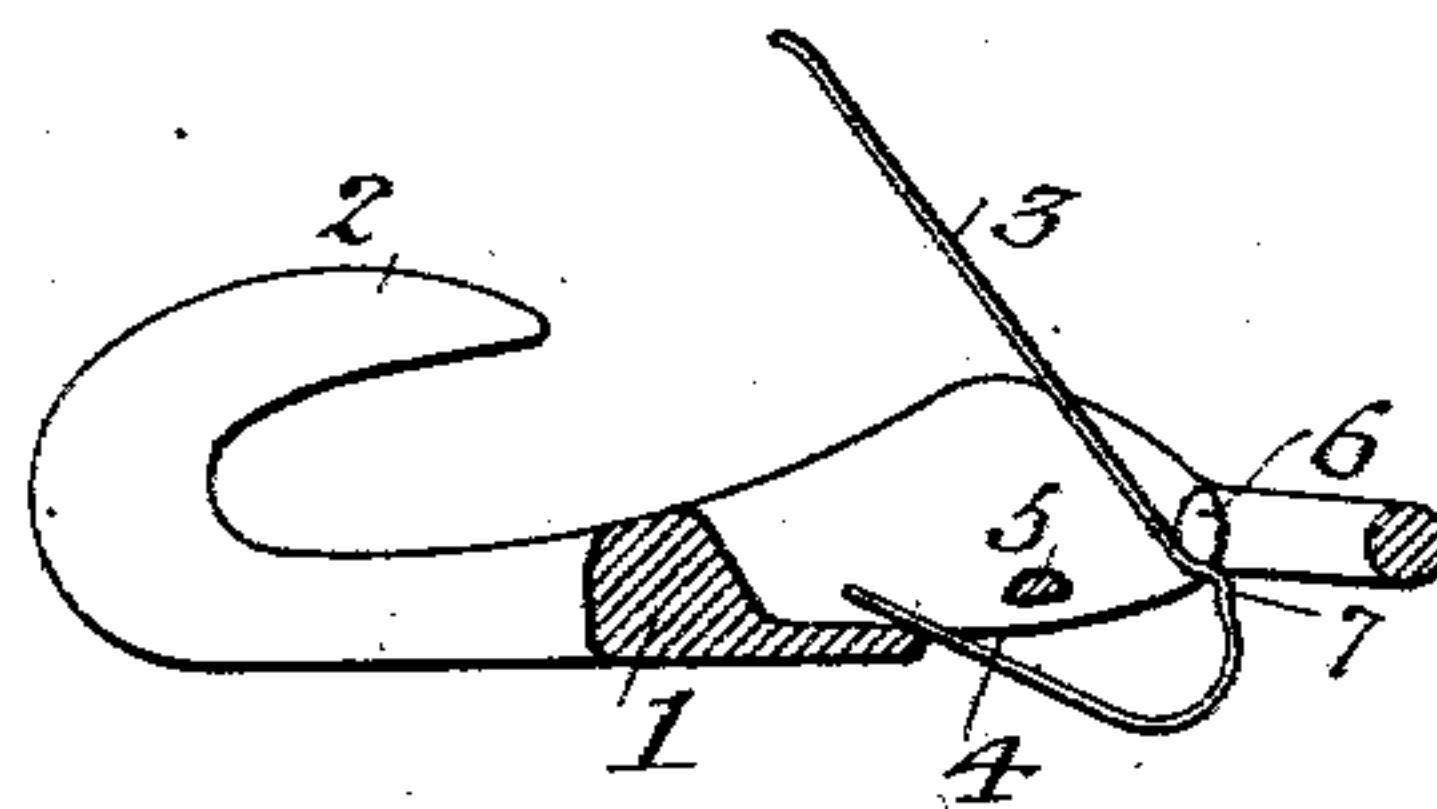
APPLICATION FILED OCT. 7, 1903.

NO MODEL.

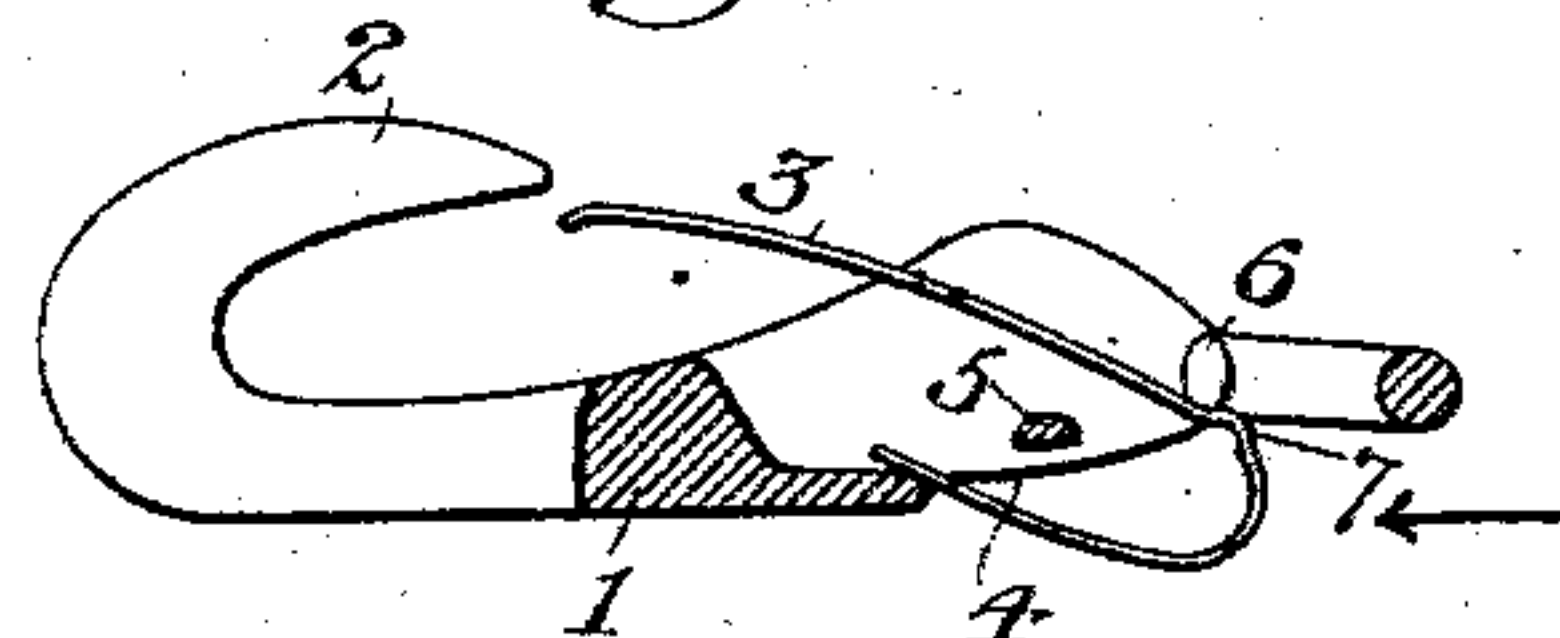
*Fig. 1.*



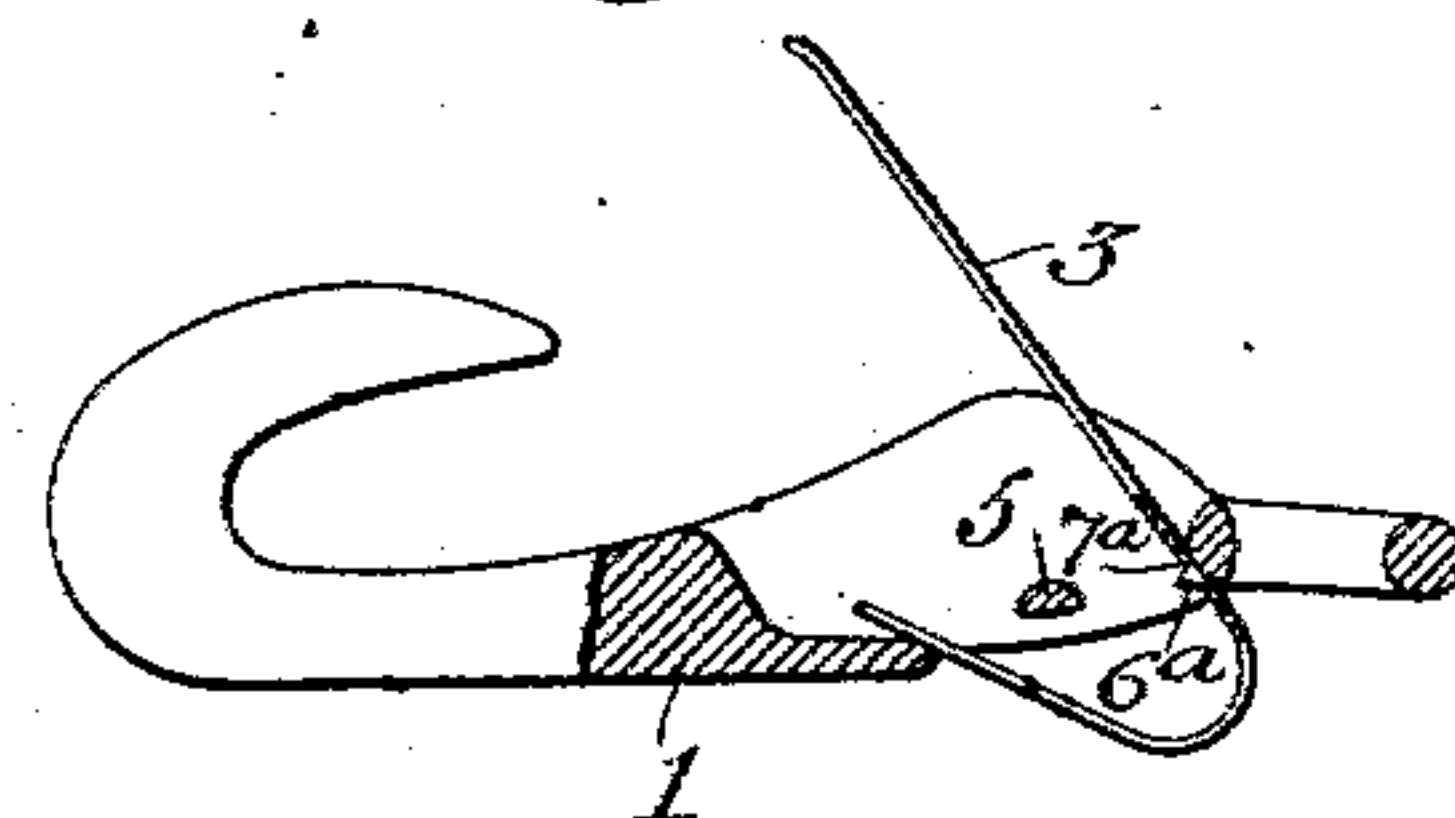
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses  
Hamilton S. Turner  
Frank L. A. Graham.

Inventor  
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by his Attorneys  
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# UNITED STATES PATENT OFFICE.

FRANK HOOPER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
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PENNSYLVANIA, TRADING AS WILLIAM AYRES & SONS, A FIRM.

## SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 751,915, dated February 9, 1904.

Application filed October 7, 1903. Serial No. 176,114. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK HOOPER, a citizen of the United States, residing at Philadelphia, Pennsylvania, have invented certain Improve-  
5 ments in Snap-Hooks, of which the following is a specification.

The object of my invention is to so construct a snap-hook as to provide for the ready ap-  
10 plication of a new spring thereto in case the old spring is broken or otherwise defective, the construction also permitting of the ready removal and replacing of an effective spring, if desired.

In the accompanying drawings, Figure 1 is  
15 a view, partly in side elevation and partly in section, of an ordinary form of snap-hook having a spring constructed in accordance with my invention. Fig. 2 is a similar view illustrating the first step in the operation of  
20 applying the spring to the hook. Fig. 3 is a similar view illustrating the second step in applying the spring to the hook; and Fig. 4 is a view similar to Fig. 2, but illustrating a modification of my invention.

25 Ordinary spring snap-hooks are objectionable because if the spring with which the hook is originally equipped becomes broken or otherwise defective a new spring cannot be inserted into place without the use of special  
30 appliances not ordinarily accessible to the user of the hook or to the harness-maker. Hence in case of the breakage of the spring it is usual to discard the entire hook and attach a new one. A spring constructed in accord-  
35 ance with my invention can, however, be readily applied to or removed from the hook, and hence a broken or otherwise defective spring can be readily replaced by the user of the hook.

40 In the drawings, 1 represents the shank of the hook, 2 the hooked end of the same, 3 the long leaf of the spring engaging said hooked end, and 4 the short leaf of the spring, which bears upon the shank 1 of the hook and passes  
45 behind inwardly-projecting lugs or a transverse bar 5, whereby it is held in contact with said shank, lateral projections 6 or a transverse bar or other equivalent stop serving

by contact with the bow portion of the spring to prevent the rearward withdrawal of the  
50 latter.

My invention, as illustrated in Figs. 1, 2, and 3, consists in providing the upper leaf 3 of the spring with a crimp or projection such as shown at 7, which when the spring is in-  
55 serted in the hook, as shown in Fig. 2, will by engagement with the bar or other stop 6 serve to prevent the forward and upward movement of the rear end of the spring while the upper leaf 3 of the same is being bent  
60 down, as shown in Fig. 3, so as to pass under the hooked end 2. When the upper leaf of the spring has been adjusted to the latter position, forward pressure upon the rear end or bow of the spring in the direction of the  
65 arrow, Fig. 3, will cause forward movement of the spring, so that the forward end of its upper leaf 3 will be projected beneath the hooked end 2, the resiliency of the spring permitting the crimp 7 to yield, so as to pass  
70 beneath the bar or other stop 6, the spring then assuming its intended position in the hook, as shown in Fig. 1.

In carrying out my invention other means than the crimp or projection on the spring  
75 may be used for effecting the desired object, and in Fig. 4 I have illustrated a modification in which a reverse construction is employed—that is to say, the upper leaf 3 of the spring has an opening 7<sup>a</sup> formed therein for engage-  
80 ment with a lug 6<sup>a</sup>, projecting downwardly from a transverse stop-bar 6, the crimping or bending of the spring, however, being preferred for the reason that it does not weaken the spring, as would a slot or recess therein.  
85

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A snap-hook having a stop for retaining the spring in position on the hook, and a spring provided with a portion intermediate its ends  
90 for temporarily engaging said stop during the insertion of the spring, substantially as specified.

2. A snap-hook having a bearing for the lower or short leaf of the spring, and a stop  
95 for retaining the spring longitudinally in po-



sition on the hook, in combination with a spring having a portion intermediate its ends for engaging said stop when the short leaf of the same is in contact with the bearing of the hook and the long leaf is being bent down so as to pass beneath the hook, substantially as specified.

3. A snap-hook having a bearing for the short leaf of the spring, and a stop for preventing rearward movement of the spring in the hook, in combination with a spring having a projection on its upper leaf for engaging with said stop when the short leaf is in contact with its bearing and temporarily retaining the spring while its long leaf is being bent down into position for engagement with the end of the hook, substantially as specified.

4. A snap-hook spring having a portion intermediate its ends for engaging with a stop on the hook to temporarily retain the spring in position while it is being inserted in the hook, substantially as specified.

5. A snap-hook spring having a crimp or projection intermediate its ends for engagement with a stop on the hook to temporarily retain the spring in position while it is being inserted in the hook, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK HOOPER.

Witnesses:

JNO. H. COOLING,  
GEO. ROTH.