S. E. HARSH.

CHECKREIN SPRING.

APPLICATION FILED FEB. 29, 1912.

1,040,195. Patented Oct. 1, 1912.

Fig. 1.

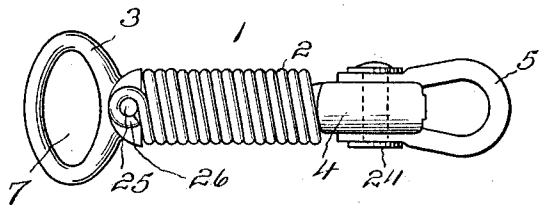


Fig. 2.

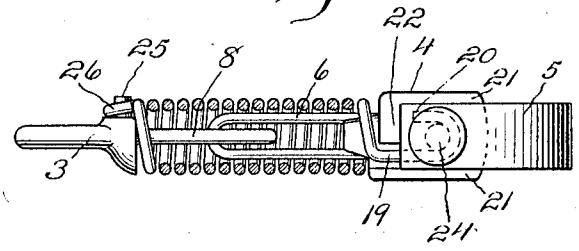


Fig. 3

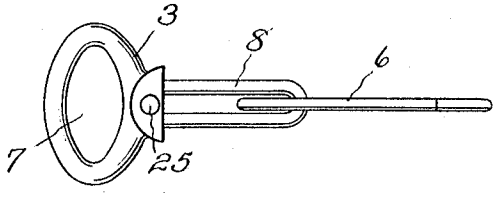


Fig. 4.

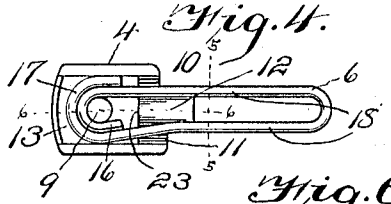


Fig. 5.

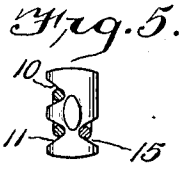
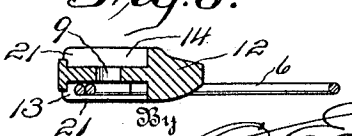


Fig. 6.



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CHECKREIN-SPRING.

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To all whom it may concern:

Be it known that I, SAMUEL E. HARSH, a citizen of the United States, residing at Wabash, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Checkrein-Springs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to a check rein spring to be used on over-check or water-hook and has for its object to provide a similar device of this class which is designed for the purpose of embodying simplicity and strength, while a further object of the invention is to provide a check rein spring which is cheap to manufacture and composed of a minimum number of parts.

A further object of the invention is to provide a check rein spring so constructed and arranged that the spring will be protected from undue strain or breakage when the spring is extended beyond a safe limit.

A further object of the invention is to provide a simple, and durable construction for preventing the undue strain or breakage of the spring.

With these objects in view the invention consists in the novel construction of the check rein spring and in the construction of the end casting of the spring which carries the strap, and the invention consists in the novel construction for connecting the two end castings together in a simple, durable and efficient manner.

The invention also consists in certain other novel details of construction and in combinations of parts, all of which will be first fully described and afterward specifically pointed out in the appended claims.

Referring to the accompanying drawing: Figure 1 is a plan view of a check rein spring constructed in accordance with this invention. Fig. 2 is a view partly in longitudinal section illustrating the spring extended and the sliding members within the spring. Fig. 3 is a view of the looped end casting illustrating the connecting link in position thereon. Fig. 4 is a plan view of the opposite end casting illustrating the connecting link in position thereon. Fig. 5 is a transverse vertical section taken on line 5—5 of Fig. 4, and Fig. 6 is a vertical longitudinal section taken on line 6—6 of Fig. 4.

Like numerals of reference indicate the same parts throughout the several figures in which—

1 indicates the device which comprises the spring 2, looped end casting 3, recessed strap end casting 4, strap 5 and connecting link 6.

Referring to the looped end casting 3 it will be seen that the same comprises an eye 7 having formed integrally therewith an elongated loop 8.

Referring to the recessed strap end casting 4 it will be seen that the same is perforated about central at 9 and is recessed on both faces in order to accommodate the looped strap 5. It will also be seen from Fig. 4 that one face of the casting 4 and 11 having a central partition 12 formed between the said two grooves 10 and 11, said grooves 10 and 11 entering the recess 13 in the face of the casting 4, this construction being clearly shown in Fig. 5. Referring to the opposite face of the casting 4 it will be seen that the same is recessed at 14 (Fig. 6) and is provided with a longitudinal groove 15 (Fig. 5) which enters the said recess 14, said groove 15 being to one side of the longitudinal axis of the said casting 4 as is clearly illustrated in Figs. 2 and 5.

Referring to the connecting link 6 it will be seen that the same is preferably constructed of wire bent to form an elongated link, the two ends 16 and 17 being bent around each other and lying within the recess 13 in the end casting 4 as is clearly shown in Fig. 4, while the sides 18 of the link 6 lie within the longitudinal grooves 10 and 11 of the casting 4 on either side of the central recessed partition 12 in the manner as clearly illustrated in Figs. 4 and 5. When the link is in this position the same is effectually held against any lateral movement and is maintained rigid against movement relatively to its casting 4.

Considering the opposite face of the casting 4 it will be seen from an inspection of Fig. 2 that one end of the spring 2 is bent at 19 so as to lie parallel with the body of the spring, while the extreme end portion 20 of said spring is bent in the form of a hook as illustrated in Fig. 2, said bend lying within the recess 14 in the casting 4,

the straight portion 19 lying within the longitudinal groove 15 of the casting 4 as is clearly shown in Figs. 2 and 5.

By reason of the recessed construction of the casting 4, side walls 21 are formed while a wall 22 (Fig. 2) is formed on one face of the casting, the central partition 12 on the opposite face of the casting forming an abutment at 23. This construction on both faces of the casting 4 provides a receptacle for the ends of the strap 5 as is clearly shown in Figs. 1 and 2, the ends of said strap lying within the side walls 21, the transverse wall 22 and the abutment 23, and when the said strap 5 is riveted in position as shown in Figs. 1 and 2 by means of the rivet 24 the said strap is held against pivoting on the rivet and against any lateral bodily movement in relation to the casting 4.

Referring to the looped end casting 3 it will be seen that a stud 25 is formed thereon and that one end of the spring 2 is bent into a hook 26 which encompasses the said stud 25 as is clearly shown in Figs. 1 and 2.

Having thus described the several parts of this invention the manner of assembling the same is apparent as the link 6 is connected to the elongated loop 8 of the looped casting 3 in the manner as shown in Fig. 3 and the free ends of the link 6 are placed within the recess 13 of the casting 4, the side bars of the link lying within the longitudinal grooves 10 and 11 of the casting and on either side of the central partition 12. On the opposite face of the casting 4 the hooked end 20 of the spring 2 is placed within the recess 14, the straight portion 19 of the spring lying within the longitudinal groove 15. When the spring and elongated loop are thus is position the strap 5 is applied as shown in Figs. 1 and 2 and riveted, the rivet 24 passing through the strap, through the elongated link 6, through the perforation 9 in the casting 4, through the end hook of the spring 2 and through the opposite end of the strap. By this construction the entire device is strongly and rigidly connected by means of the single rivet 24. As is apparent from the drawing the opposite hooked end 26 of the spring 2 is passed over the stud 25 to connect said end of the spring to the looped casting 3.

By means of this construction an extremely strong, rigid and durable device is obtained and the elongated connecting link 6 and the looped strap 5 are rigidly maintained against lateral movement relatively to the casting 4 and as the play or movement is allowed between the elongated link 6 and the elongated loop 8 of the casting 3 adequate extension of the spring 2 is allowed before the said link 6 and loop 8 contact at their ends to cause a strain on the spring to be taken up on the end castings 3 and 4.

Having thus fully described the invention it is apparent that the device is capable of certain changes and modifications and I consider myself clearly entitled to all such changes and modifications as fall within the limit and scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is:—

1. A device of the character described comprising two end members, one of said end members being provided with an eye and an elongated loop, the other of said end members being provided with a recessed face on each side thereof, a central longitudinal partition on said last mentioned end member, said last mentioned end member being provided with a longitudinal groove on each side of said extension, an elongated link adapted to lie in the recessed face on one side of said last mentioned end member and to lie in the said longitudinal grooves on either side of said longitudinal partition, said longitudinal partition entering between the bars of the said elongated link to maintain the link rigidly against movement, a spring having means for connection with the first mentioned end member and having one end adapted to lie in a recessed face on one side of the last mentioned end member, a strap adapted to be received by said recessed faces in the second mentioned end member, and a transverse fastening passing through said strap, the second mentioned end member and through said spring to fasten all of the parts together substantially as described and for the purposes set forth.

2. A device of the character described comprising an end member having an elongated loop, a second end member having two recessed faces, an elongated link adapted to lie in one of said recessed faces, said second mentioned end member being provided with a longitudinal partition which enters between the bars of the said elongated link to maintain the same against movement, a spring for connecting the two members together, one end of the said spring being adapted to lie in one recessed face in the second mentioned end member, a strap adapted to lie in the recessed faces of the second mentioned end member, and a transverse fastening adapted to pass through the said strap, the said link, the second mentioned end member and through the said spring to tie and fasten the parts together, substantially as described and for the purposes set forth.

3. A device of the character described comprising an end member having an elongated loop, a second end member having two recessed faces, an elongated link connecting with said elongated loop on the first mentioned end member, one end of said elongated link being adapted to lie in one of the recessed faces of the second mentioned end member, a spring for connecting the two

members together, one end of said spring being adapted to lie in one of the recessed faces in the second mentioned end member, a strap adapted to lie in the recessed faces of the second mentioned end member, and a transverse fastening adapted to pass through the said strap, the said elongated link, the second mentioned end member and through the said spring to tie and fasten the parts together, substantially as described and for the purposes set forth.

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

SAMUEL E. HARSH.

Witnesses:
E. O. EBBINGHOUSE,
JESSIE ARMSTRONG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."