

N. KROMANN.

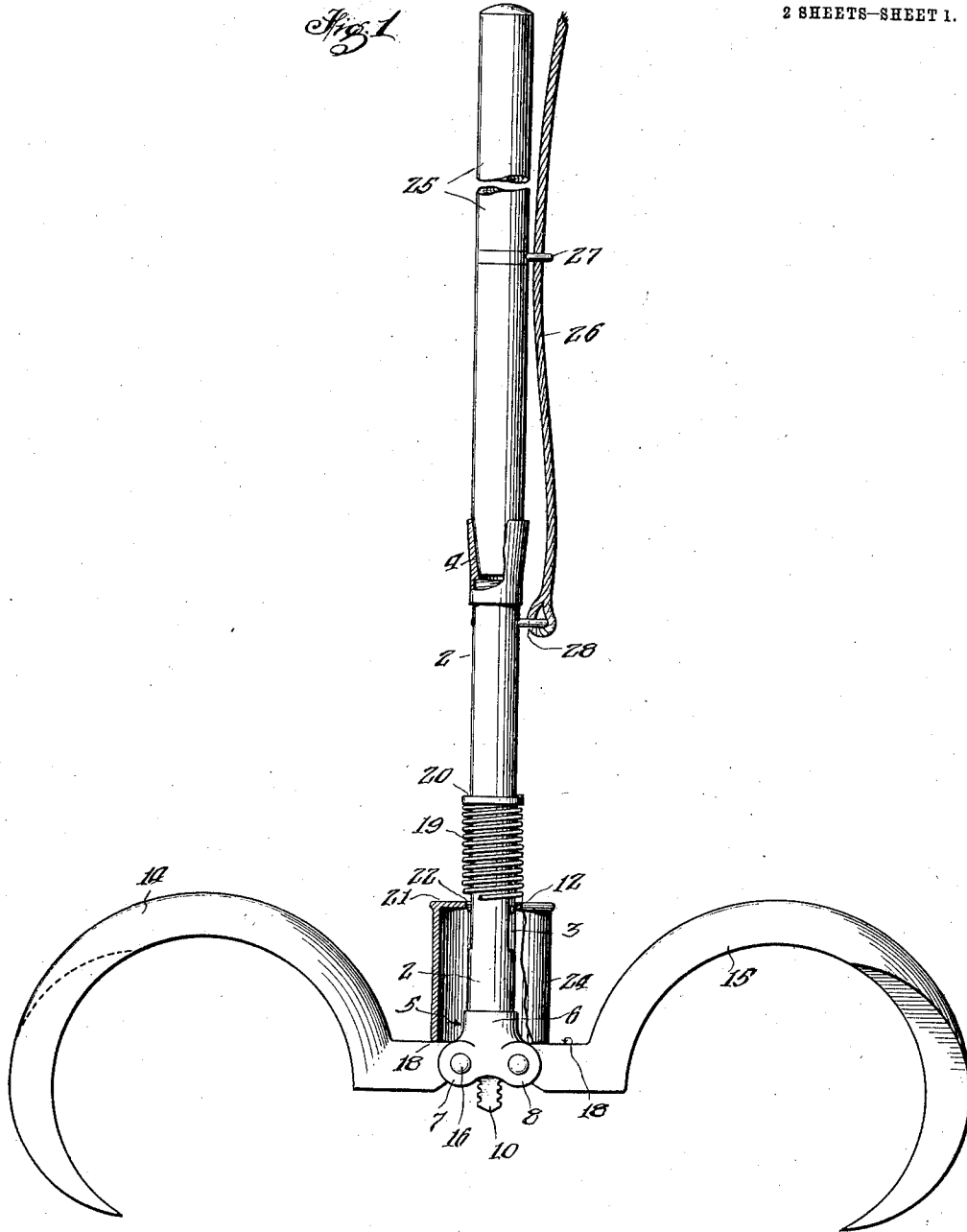
HARPOON.

APPLICATION FILED NOV. 25, 1910.

1,002,709.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.



Witnesses:  
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*F. W. Brown.*

Inventor,  
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by  
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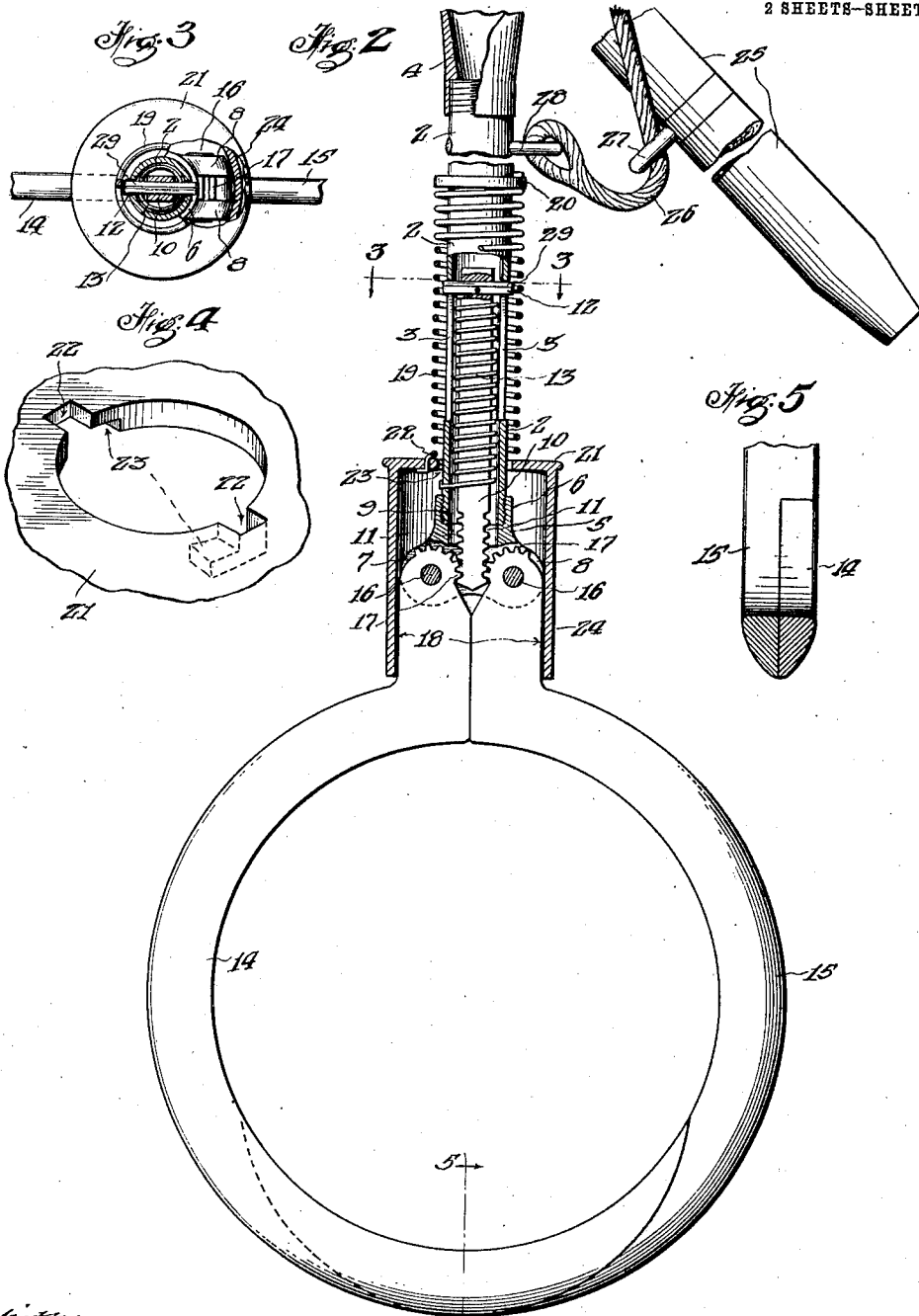
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2 SHEETS-SHEET 2.



Witnesses:  
*M. J. Miller*  
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Inventor,  
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# UNITED STATES PATENT OFFICE.

NIELS KROMANN, OF WHITTIER, CALIFORNIA.

HARPOON.

1,002,709.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed November 25, 1910. Serial No. 594,221.

*To all whom it may concern:*

Be it known that I, NIELS KROMANN, a subject of the King of Denmark, residing at Whittier, in the county of Los Angeles, State of California, have invented a certain new and useful Harpoon; and I do hereby 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.

This invention relates to harpoons, and it may be said to consist of the novel construction, arrangement and combination of parts as will appear from the description and claims hereinafter.

Objects of the invention are to provide a novel device of the class specified which shall be of simple and strong construction, easy to manipulate, and effective in action.

Other objects and the advantages of the invention will be apparent to those skilled in the art from a consideration of the following description of the preferred form of construction in which it may be embodied, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation, partly broken away, of a device having the invention applied thereto, the fangs being shown in open position; Fig. 2 is a side elevation of the device, parts thereof being shown broken away and in section and the fangs being shown in full closed position; Fig. 3 is a view taken on the line 3—3 of Fig. 2, a part of the ring being broken away; Fig. 4 is a perspective view of a portion of the ring, and Fig. 5 is a view taken on the line 5—5 of Fig. 2.

The tube 2 may be provided, as shown in Fig. 2, with longitudinal slots 3, and at its upper end it may have affixed thereto the conical socket 4 and at its lower end it may carry the hanger 5. The hanger 5 may consist of a head 6 and oppositely disposed depending flanges 7 and 8; the head having a central opening 9 in registry with the opening in the tube. In the tube may be arranged a rack bar 10 having teeth 11 on the sides thereof and carrying at its upper end a crosspin 12 having its end portions extending outwardly through the slots 3. A helical spring 13 may surround the rack bar and it may have one end thereof secured to the tube and the other end thereof may engage with the underside of the crosspiece

12. Fangs 14 and 15 are mounted on pivots 16 bearing in the flanges 7 and 8 and preferably formed as shown more clearly in Figs. 1, 2 and 5, and provided with gear teeth 17 on the straight end portions 18 thereof; the teeth 17 being adapted to engage with the teeth 11 on the rack bar. A helical spring 19 may surround a portion of the tube 2 and it may have one end thereof secured to a collar 20 on the tube and it may have the other end thereof secured to a ring 21 which may surround the tube and be provided with slots 22 and recesses 23 contiguous with the slots on the underside of the ring 21. The ring 21 may carry a depending flange 24 which is adapted to impinge against the sides of the end portions 18 of the fangs to hold them in closed position. A handle 25, preferably of wood, may have one end thereof formed to fit into the socket 4 and a retrieving cord 26 may pass through an eye 27 on the handle and be secured to an eye 28 on the tube 2.

In the use of the device, the operating parts connected with the fangs may be set and the fangs thereby held spread apart by moving the ring 21 against the pressure of the spring 19 to have the end portions of the crosspin 12 pressed into the slots 22 in the ring and by a slight twist of the ring moved into the recesses 23 to have the upper sharp edge 29 on the crosspin in engagement with the underside of the ring whereupon when the ring is released the rack bar 10 is caused to move and engage the teeth on the fangs to spread the latter apart; the spring 19 preferably being stronger than the spring 13 in order effectively to sustain the weight of the fangs when they are spread apart. It will be understood that when the device strikes after being hurled, the jar will permit the spring 19 to untwist and thereby move the ring so that the crosspin can pass therefrom to allow of the expansion of both springs whereby the fangs are moved toward each other and the flange 24 is moved to impinge against the end portions of the fangs.

Many changes and modifications of the above described construction will readily occur to those skilled in the art and the right is therefore reserved to all such changes and modifications as do not depart from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. In a device of the class specified, the combination of a tube, pivotally mounted fangs carried thereby, said fangs provided  
5 with gear teeth thereon, a spring pressed ring surrounding said tube, and spring pressed means in engagement with said gear teeth, said means adapted to engage with  
10 said spring pressed ring to hold said fangs spread apart and adapted to be disengaged from said ring under predetermined conditions, substantially as set forth.

2. In a device of the class specified, the combination of a tube provided with longitudinal slots, pivotally mounted fangs carried by said tube, said fangs provided  
15 with gear teeth thereon, a spring pressed ring surrounding said tube, a spring pressed rack bar in engagement with said teeth, and  
20 a crosspin affixed to said bar and having the end portions thereof projecting outwardly through said slots, said ring provided with slots through which the end portions of the  
25 crosspin may be passed as described and for the purpose set forth.

3. In a device of the class specified, the combination of a tube provided with longitudinal slots, pivotally mounted fangs carried by said tube, said fangs provided  
30 with gear teeth thereon, a spring pressed ring surrounding said tube, said ring provided with slots therein and recesses contiguous with said slots on the underside of the ring, a depending flange on the ring, a  
35 spring pressed rack bar in engagement with said teeth, and a crosspin affixed to said bar and having the end portions thereof projecting outwardly through said slots in the tube, said end portions adapted to pass freely  
40 through the slots in the ring, substantially as and for the purposes set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses at Los Angeles, county of Los Angeles, State of California,  
45 this 18th day of November, A. D. 1910.

NIELS KROMANN.

Witnesses:

FRED A. MANSFIELD,  
ALEX. H. LIDDERS.

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