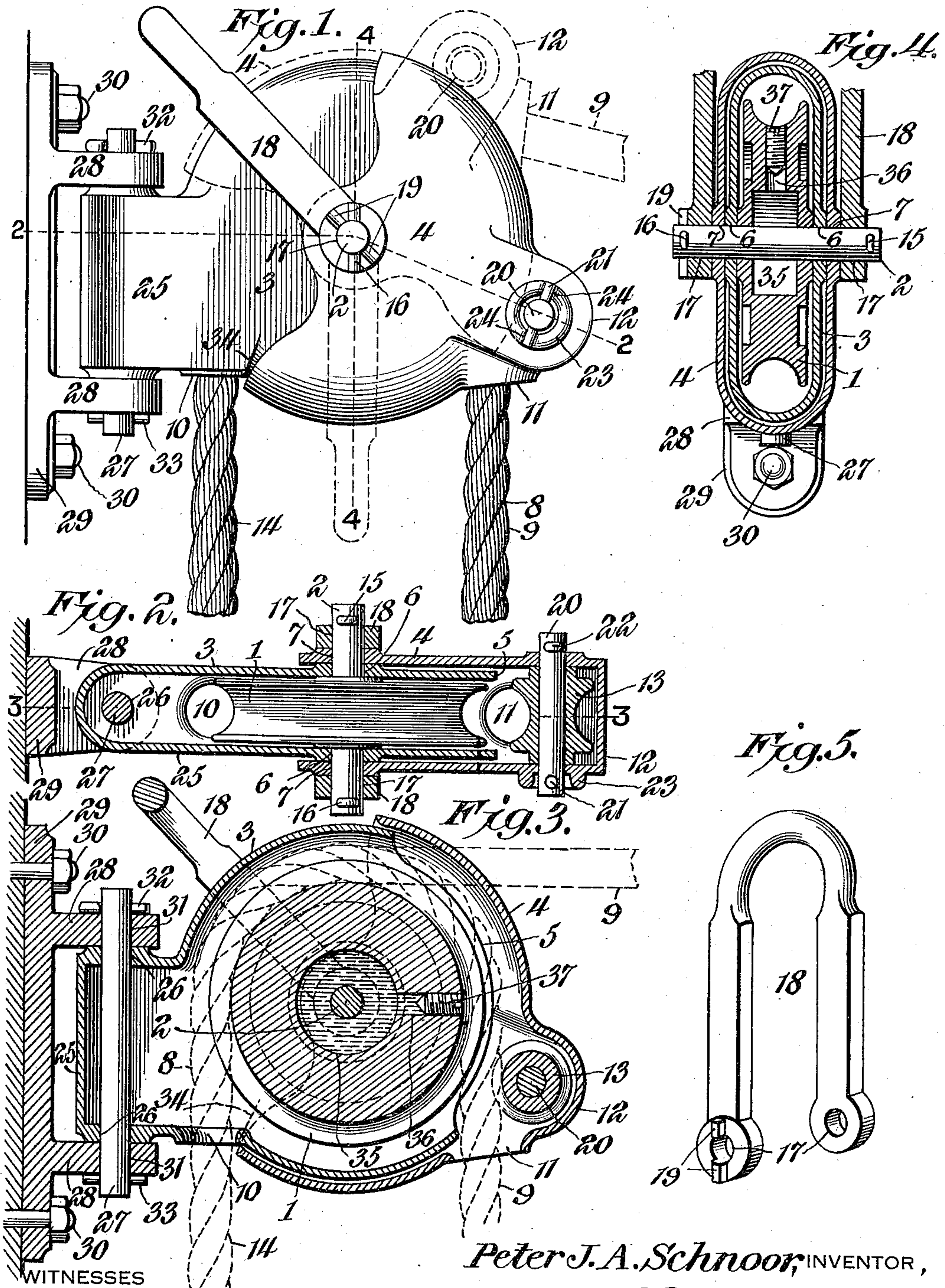


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SAFETY PULLEY.  
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Patented July 4, 1911.



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## SAFETY-PULLEY.

996,803.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed March 9, 1911. Serial No. 613,339.

*To all whom it may concern:*

Be it known that I, PETER J. A. SCHNOOR, a citizen of the United States, residing at Holstein, in the county of Ida and State of Iowa, have invented a new and useful Safety-Pulley, of which the following is a specification.

The invention relates to improvements in safety pulleys.

10 The object of the present invention is to improve the construction of safety pulleys, and to provide a simple, inexpensive and efficient one, designed for hoisting and various other purposes, and equipped with a safety casing, adapted to adjust itself auto-  
15 matically to the flights or stretches of a rope or cable, and capable of effectually preventing the fingers of a person from becoming caught in the pulley.

20 With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the  
25 claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advan-  
30 tages of the invention.

In the drawing:—Figure 1 is a side elevation of a safety pulley, constructed in accordance with this invention. Fig. 2 is a  
35 horizontal sectional view on the line 2—2 of Fig. 1. Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Fig. 5 is a detail perspective view of  
40 the bail.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

45 In the accompanying drawing in which is illustrated the preferred embodiment of the invention, 1 designates a sheave or wheel, mounted on a transverse shaft or pivot 2 and arranged within a safety casing, consisting of a main approximately circular  
50 shell or section 3 and a pivotally adjustable segmental section 4. The main section of the casing is provided at one edge with a peripheral opening 5 of a size to permit the sheave or wheel to be introduced into and  
55 removed from the main section, which is also provided at opposite sides with bearing

openings 6 in which the shaft or pivot 2 is mounted. The pivotal section 4, which is approximately semi-circular, is of a size to completely cover and conceal the curved  
60 peripheral opening of the main section in every adjustment of the section 4, whereby the fingers of a person are effectually prevented from becoming caught in the pulley. The adjustable section 4 is provided at op-  
65 posite sides with alined openings 7 for the reception of the pivot, and it is adapted to swing on the same to accommodate itself to the position of the flight or stretch 8 of a rope or cable 9. The main and adjustable  
70 sections of the casing are provided at the bottom with openings 10 and 11 for the passage of the rope or cable 9, and the adjustable section has an enlargement 12, located adjacent to the opening 11 and receiving the  
75 anti-friction wheel 13, preferably grooved and arranged at the outer side of the flight or stretch 8 of the rope, and adapted to relieve the same of wear. The inner stretch  
80 14 of the rope 9 extends straight downward from the main casing, and the outer stretch 8 is adapted to be arranged at different angles or inclinations, the pivotal section of the casing accommodating itself to such  
85 adjustment.

The pivot 2, which is detachable, is secured in place by keys 15 and 16, or other suitable fastening devices, and its terminal portions pass through alined openings 17 in the sides of a bail 18. One of the sides of  
90 the bail is provided adjacent to the opening 17 with opposite lugs or projections 19, arranged to engage the key 16 to prevent free rotary movement of the pivot. The anti-friction wheel 13 is mounted on a pivot 20,  
95 secured in place by suitable keys 21 and 22, and the adjustable section 4 is provided at one side of the enlargement with an annular flange or rib 23, having opposite recesses 24, which receive the pin 21 for holding the  
100 pivot 20 against rotary movement. The bail, which has flat sides and a rounded connecting portion, is detachable and is adapted to be arranged either at the top of the pulley, as illustrated in full lines in the draw-  
105 ing, or it may depend from the bottom of the pulley between the flights of the rope, as illustrated in dotted lines in Fig. 1 of the drawing.

The main section 3 is provided with a  
110 hollow approximately rectangular extension 25, having upper and lower alined open-



ings 26 and pivoted by a vertical pin or pivot 27 between horizontally projecting arms 28 of a bracket 29, adapted to be secured by bolts 30, or other suitable fastening means to a barn or other support. The vertical support 27 is retained in the openings 31 of the arms by keys 32 and 33, and it permits the pulley to swing horizontally so as to extend in various directions from the supporting bracket. The main section 3 is provided at opposite sides adjacent to its bottom opening 10 with opposite shoulders 34, arranged to be engaged by the bottom portion of the adjustable section 4 and forming stops for limiting the inward swing of the bottom portion of the adjustable casing to prevent the same from coming in contact with the flight or stretch 14 of the rope 9.

The sheave or wheel 1, which has a grooved periphery, is provided with an interior lubricant chamber 35, and it has a bore or opening 36 extending from the lubricant chamber to the groove of the wheel and threaded at the outer portion for the reception of a screw plug 37, but any other form of closure may, of course, be employed. The lubricant contained in the chamber is adapted to feed outwardly along the horizontal pivot 2, and it lubricates automatically the part through which the pivot 2 passes, thereby making the pulley self oiling or lubricating. The screw 37 is readily removable to permit the interior chamber 35 to be supplied with a suitable lubricant, and its outer end is concave to conform to the configuration of the groove of the wheel 1, and it is arranged in flush relation with the same when it is at the limit of its inward movement.

While the safety pulley is shown arranged in a horizontal position for hoisting, it may be arranged in various other positions and at various places where it is desirable to have a safety or protected pulley. The bail enables it to be used as one of a double set of pulley blocks, and it will also enable the pulley to be hung from an over-head support. When the pulley is mounted in a bracket, as shown, it will not drop down and will turn freely on its vertical pivot, so as to extend in the desired direction.

Although the sheave or wheel is completely housed within the casing, it may be quickly removed from the same when desired.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A pulley of the class described including a sheave or wheel, a safety casing composed of two relatively movable hollow shells or sections incasing the sheave or wheel and provided with openings for the passage of a rope, one of the sections being provided with an opening of a size to permit the passage of the sheave or wheel and

normally covered and concealed by the other section, and a pivot passing through and connecting the sections and having the sheave or wheel mounted on it.

2. A pulley of the class described including a sheave or wheel, a safety casing composed of a main section provided at its periphery with an opening of a size to permit the sheave or wheel to be passed through it, and a relatively movable approximately segmental section fitted over the main section and being of a size to cover the opening of the main casing in every adjustment of the sections, and a shaft pivotally connecting the sections of the casing and having the sheave or wheel mounted on it.

3. A pulley of the class described including a sheave or wheel, a safety casing composed of a main section provided at its periphery with an opening of a size to permit the sheave or wheel to be passed through it, and a relatively movable approximately segmental section fitting over the main section and being of a size to cover the opening of the main casing in every adjustment of the sections, said sections being provided at the bottom with opposite openings for the passage of the rope or cable, one opening being in the main section and the other opening in the segmental section, and a shaft pivotally connecting the sections of the casing and having the sheave or wheel mounted on it.

4. A pulley of the class described including a sheave or wheel, a safety casing composed of an approximately circular main shell or section provided at its periphery with an opening of a size to permit the sheave or wheel to pass through it, an approximately semi-circular relatively movable shell or section arranged on the main shell or section and covering the peripheral opening thereof in every adjustment of the section, and a pivot passing through and connecting the sections and having the sheave or wheel mounted on it, said sections being provided with openings for the passage of a rope, and the main section being provided with means for limiting the movement of the other section, to prevent the same from coming in contact with that portion of the rope which passes through the opening of the main section.

5. A pulley of the class described including a sheave or wheel, a safety casing composed of an approximately circular main section provided at one edge with an extension having aligned openings, said main section being also provided at the opposite edge with an opening of a size to permit the passage of the sheave or wheel, an automatically adjustable section fitted on the main section and being of a size to cover the said opening thereof in every adjustment of the sections, a pivot passing through and con-



necting the sections and having the sheave or wheel mounted on it, and another pivot passing through the openings of the extension of the main section and forming a support  
5 for the pulley.

6. A pulley of the class described including a bracket, a sheave or wheel, a safety casing composed of a main section provided at one side with an extension and having a  
10 peripheral opening at the other side of a size to permit the passage of the sheave or wheel, and an automatically adjustable section fitted on the main section and being of a size to cover and conceal the peripheral  
15 opening in every adjustment of the pulley, a horizontal pivot passing through the sections and connecting the same and having the sheave or wheel mounted on it, and a vertical pivot connecting the extension of the  
20 main section to the bracket.

7. A pulley of the class described including a bracket, a sheave or wheel, a safety casing composed of a main section provided at one side with an extension and having a pe-

ripheral opening at the other side of a size 25 to permit the passage of the sheave or wheel, and an automatically adjustable section fitted on the main section and being of a size to cover and conceal the peripheral opening in every adjustment of the pulley, 30 a horizontal pivot passing through the sections and connecting the same and having the sheave or wheel mounted on it, and a vertical pivot connecting the extension of the main section to the bracket, said sec- 35 tions being provided at the bottom with openings for the passage of a rope, and the main section having a shoulder forming a stop for limiting the movement of the ad- 40 justable section.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

PETER J. A. SCHNOOR.

Witnesses:

C. H. LOOP,  
J. C. KUCHEL.

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