P. J. A. SCHNOOR.

SAFETY PULLEY.

APPLICATION FILED JUNE 4, 1909.

958,182.

Patented May 17, 1910.

Fig. 1.

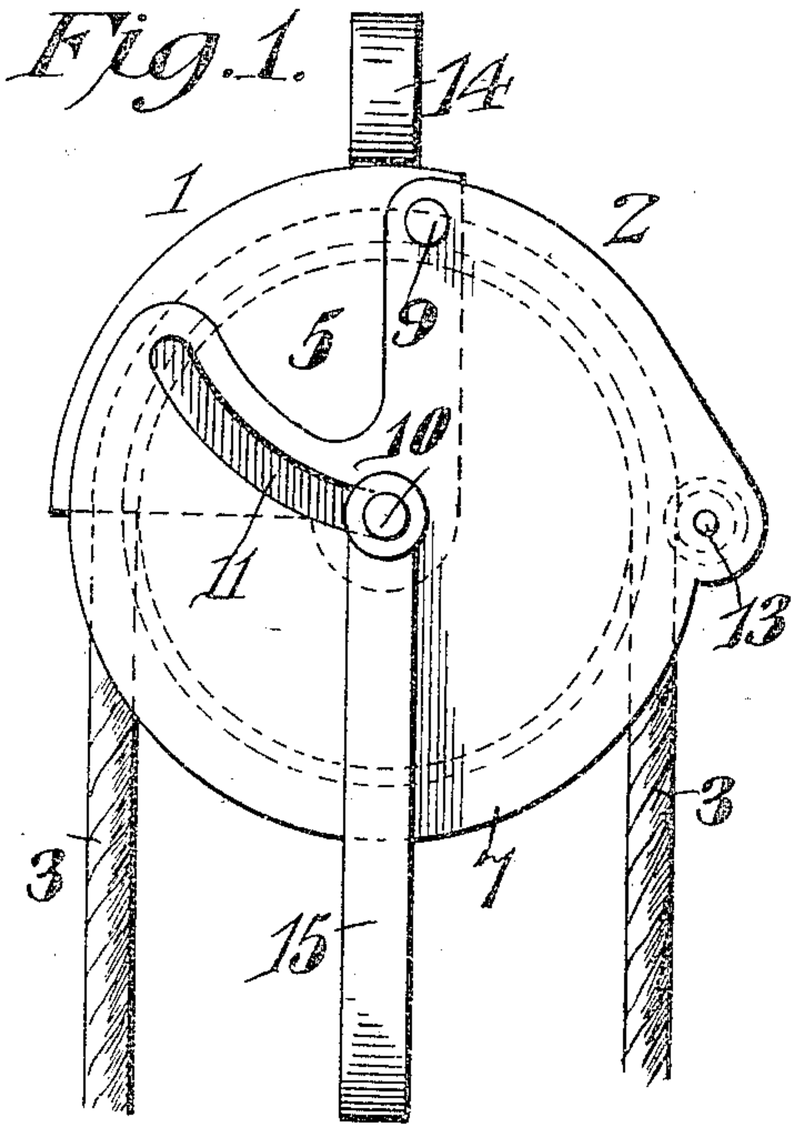



Fig. 2.

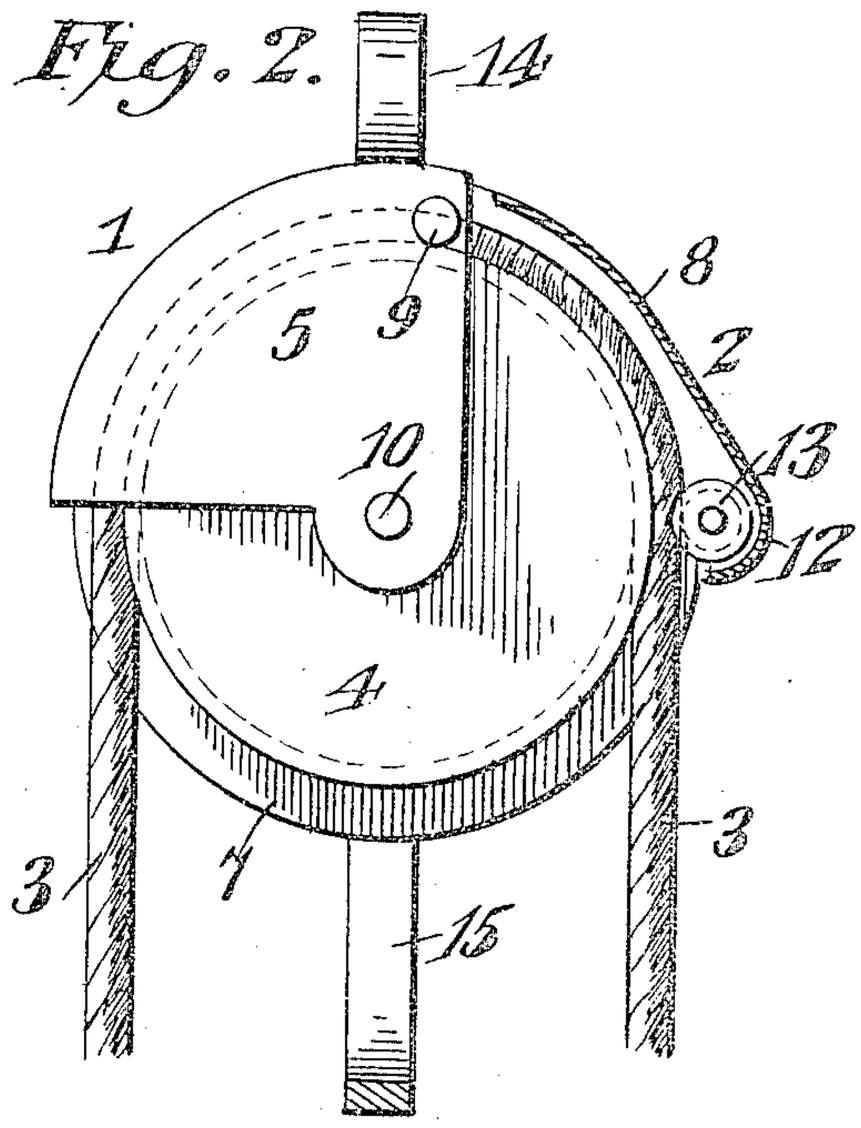



Fig. 3.

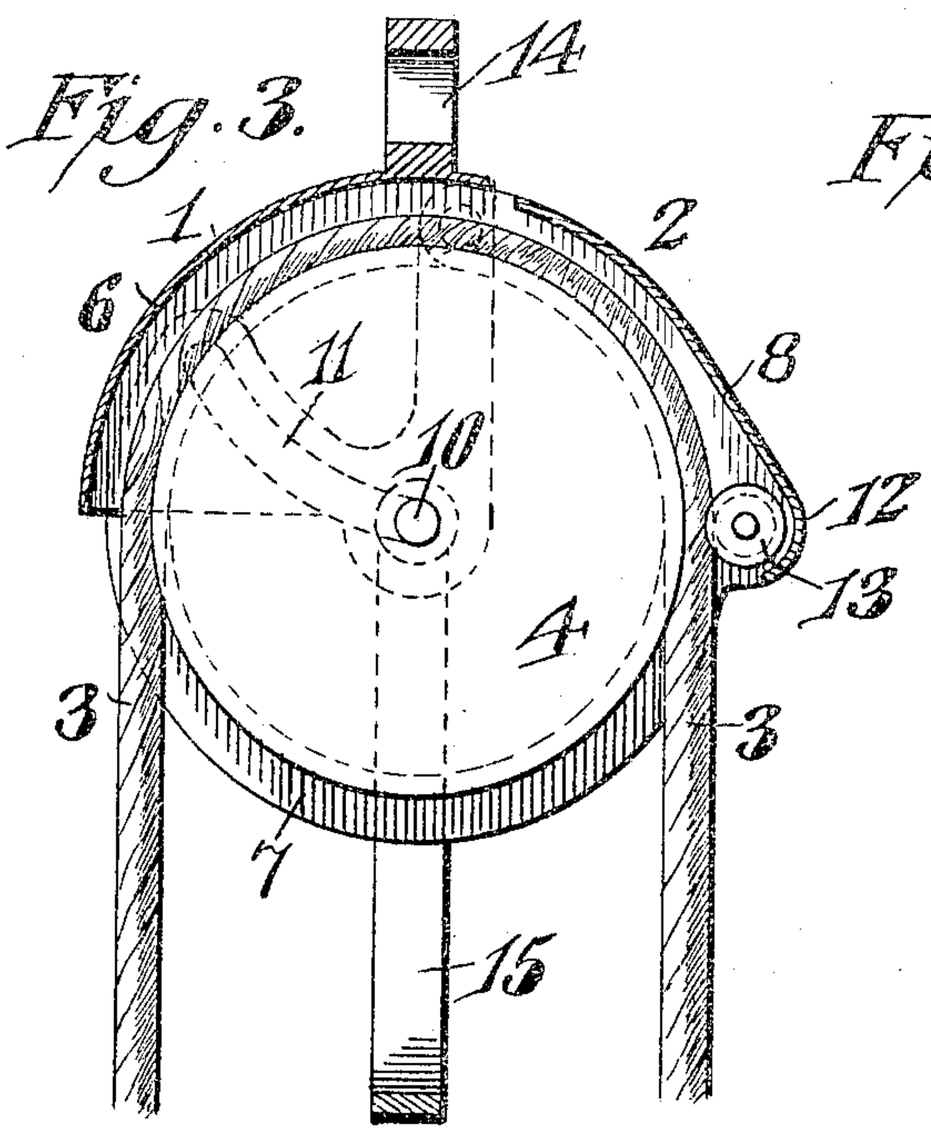
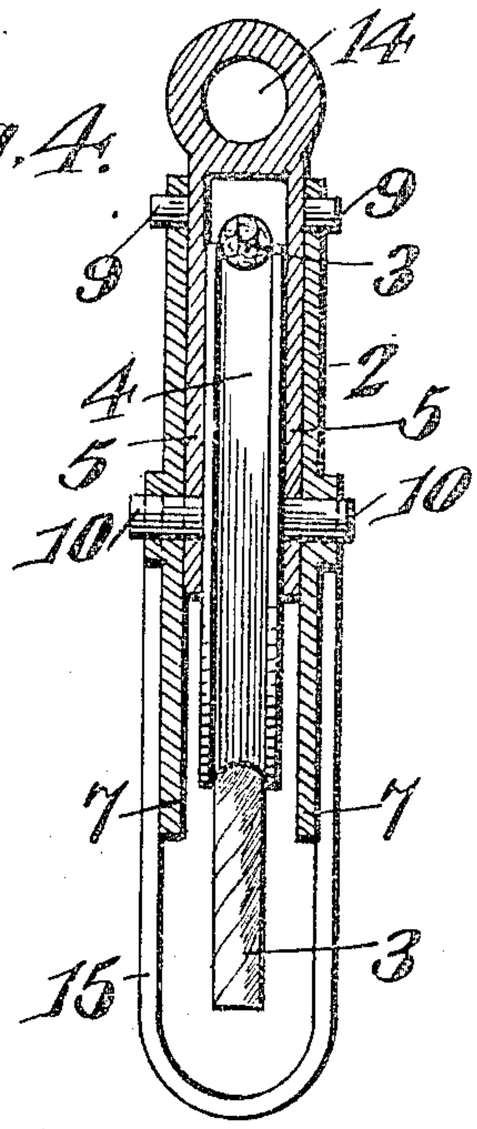



Fig. 4.




Witnesses

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# UNITED STATES PATENT OFFICE.

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## SAFETY-PULLEY.

958,182. Specification of Letters Patent. Patented May 17, 1910.

Application filed June 4, 1909. Serial No. 500,152.

*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 pulleys.

The object of the present invention is to improve the construction of pulleys, and to provide a simple, inexpensive and efficient one, designed for various kinds of hoisting, and equipped with a safety casing, capable of opening and closing automatically at either side to adjust itself to the hoisting rope, and adapted to prevent the fingers of a person from becoming caught in the sheave or wheel of the pulley.

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 claims hereto appended.

In the drawing:—Figure 1 is a side elevation of a pulley, constructed in accordance with this invention. Fig. 2 is a vertical sectional view, the inner member of the casing being shown in elevation. Fig. 3 is a similar view, both members of the casing being in section. Fig. 4 is a transverse sectional view.

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

The pulley is provided with a safety casing composed of inner and outer sections or members 1 and 2, pivotally connected at the top and adapted to open and close to conform automatically to the position of the hoisting rope 3, which is arranged on the sheave or wheel 4 and operable in the ordinary manner, the casing being designed to prevent the fingers of a person from becoming caught between the sheave or wheel and the rope, or other flexible connection.

The inner section or member of the casing is composed of two approximately quadrant shaped cheek or side plates 5 and a connecting peripheral portion 6, and it is arranged at the upper portion of the pulley, as clearly illustrated in Fig. 3 of the drawing.

The outer section or member is approximately circular and is composed of two cheek or side plates 7 and an upper connecting peripheral portion 8. The sides of the circular sections are cut-away at opposite sides at the upper portion of the pulley, and the substantially quadrant-shaped section, which is arranged within the circular section, covers or closes the cut-away portions and completes the housing for the rope and the sheave or wheel at the upper half of the pulley, as clearly shown in Fig. 1 of the drawing. The peripheral connecting portions of the sections form a continuous closed guard at the upper half of the casing, as clearly shown in Fig. 3. The side plates 7 are provided at the top of the section or member with perforations for the reception of pivoted studs 9, projecting from the side plates 5 of the inner member. The sections or members are adapted to swing inward and outward on the pivoted studs 9. The sheave or wheel 4 is mounted on the central horizontally arranged shaft or pivot 10, piercing the side plates of the inner section or member 1 and carried by the same. The side plates 7 of the outer section or member are provided with arcuate slots 11, arranged concentric with the pivoted studs 9, and extending upwardly and outwardly from the center of the pulley, and adapted to receive and form a way for the shaft or pivot 10 in the opening and closing movements of the sections or members of the casing. By this construction the casing is adapted to be readily opened from either side and accommodate itself to the position of the sides or stretches of the hoisting rope and the axle 10, which is mounted in the bearings of one of the sections of the casing, is guided on the other section.

The outer section or member of the casing is provided at the side opposite that at which the arcuate slots are located with an extension 12, arranged at the lower end of the peripheral connecting portion 8 and forming a housing or casing for an anti-friction wheel or idler 13, which receives one side or stretch, preferably the operating end of the hoisting rope 3. The anti-friction wheel or idler 13 is adapted to receive the operating rope when the contiguous side is swung outward with respect to the sheave or wheel 4. The casing may be equipped at the opposite side of the center with an anti-friction wheel or idler to receive the other side of the hoisting rope or cable.

The inner section or member of the casing

is provided at the top with a hanger eye 14, and a hanger or supporting loop 15 depends from the outer section or member of the casing. The sides of the hanger or loop 15 are suitably secured to the side plates of the outer section or member, but they may be connected with either the side plates of the inner section or with the pivot. This loop or hanger 15 enables the pulley to be used as one of a double set of pulley blocks, and it does not perform any function when the pulley is used as a single pulley, and it may be omitted if desired.

The pulley is adapted for various kinds of hoisting, and the safety casing is automatic in its opening and closing movements.

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 safety casing composed of overlapped automatically closable sections connected at the top of the casing and arranged to be automatically opened by a hoisting rope, and a sheave or wheel provided with an axle carried by one of the sections of the casing, said axle being guided on the other section of the casing.

2. A pulley of the class described including a safety casing comprising inner and outer sections provided with side or cheek plates pivotally connected together at the top, one of the sections or members being provided in its side plates with arcuate slots extending from the center of the casing and arranged concentric with the pivot of the sections or members, and a sheave or wheel having a shaft mounted on the side plates of the other section or member of the casing and operable in the arcuate slots.

3. A pulley of the class described including a safety casing comprising two sections or members pivoted at the top and composed of spaced side plates and connecting peripheral portions, one of the sections being extended at its peripheral portion to form a housing and provided in its side plates with arcuate slots extending from the center of the casing and arranged concentric with the pivot of the sections or members, a sheave or wheel having a shaft or axle carried by the side plates of the other section or member and operable in the arcuate slots to permit the sections or members of the casing to open and close, and an anti-friction wheel or idler mounted in the said housing.

4. A pulley of the class described including a casing comprising an inner approximately quadrant-shaped section having spaced side plates and a connecting peripheral portion, and an outer substantially circular section or member pivoted at the top to the inner section or member and composed of side plates and a connecting peripheral portion, the side plates being provided with arcuate slots extending outward from the center of the pulley and arranged concentric with the pivot of the sections or members, and a sheave or wheel having an axle carried by the inner section or member of the pulley and operable in the said slots.

5. A pulley of the class described including a safety casing composed of a substantially circular section having opposite cut-away portions, and an approximately quadrant-shaped section pivotally connected at the top of the casing to the circular section and arranged within the same at the cut-away portions thereof, said sections being automatically closable and adapted to be opened by a hoisting rope, and a sheave or wheel carried by one of the sections of the casing and having its shaft or axle located below the pivot of the sections.

6. A pulley of the class described including a safety casing composed of overlapped automatically closable sections pivotally connected at the upper portion of the casing and closed at their outer sides to form a guard, and a sheave or wheel arranged within the casing and having an axle, one of the sections being provided with bearings for the axle and the other forming a guide for the same.

7. A pulley of the class described including a safety casing composed of two overlapped automatically closable sections pivotally connected at the upper portion of the casing, and a sheave or wheel arranged within the casing and provided with an axle carried by one of the sections of the casing, the other section of the casing having a guide for the axle and the guide co-acting with the axle to limit the relative movement of the sections.

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:

CARL J. WOHLENBERG,

FRITZ KNUTH.