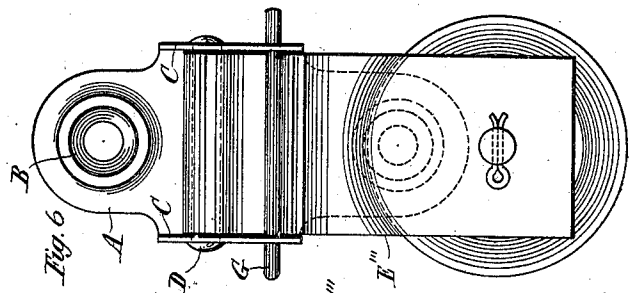
No. 695,381. Patented Mar. 11, 1902.

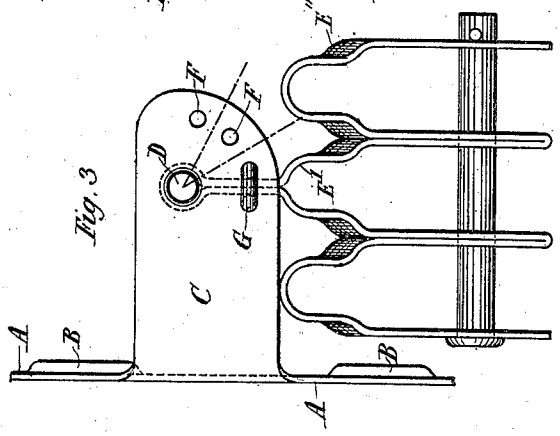
# S. T. DUTTON.

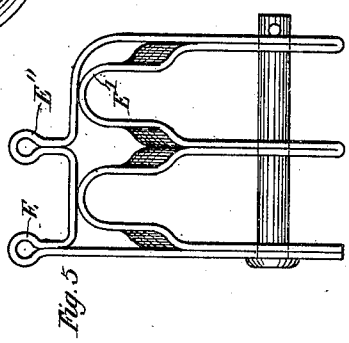
## PULLEY FOR SIGNAL WIRES OR OTHER PURPOSES.

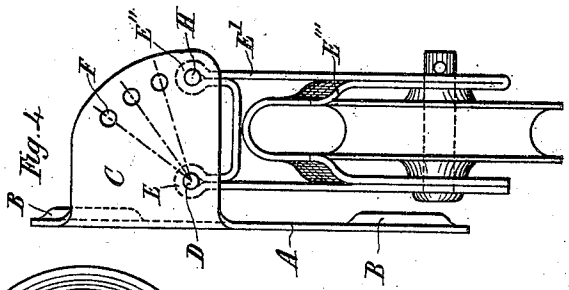
(Application filed Dec. 6, 1901.)

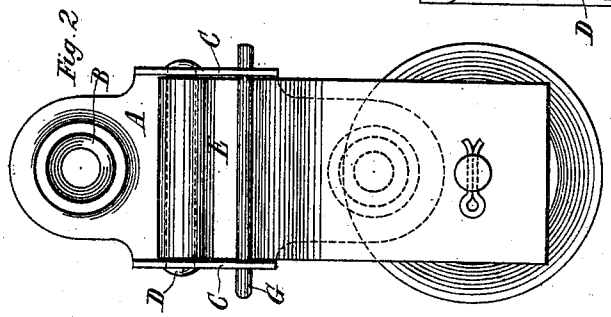
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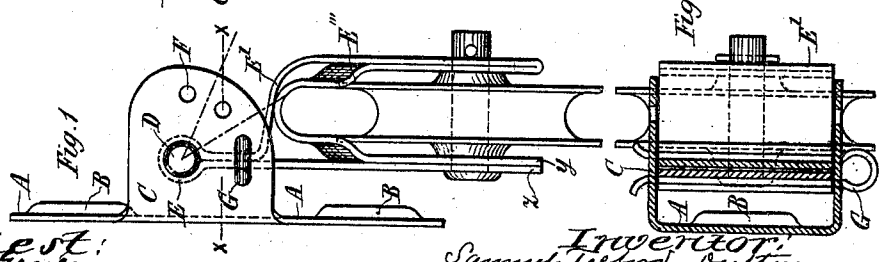






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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

SAMUEL TELFORD DUTTON, OF WORCESTER, ENGLAND, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO J. F. PEASE AND COMPANY, LIMITED, OF DARLINGTON, ENGLAND, AND WORCESTER, ENGLAND, A CORPORATION OF GREAT BRITAIN.

## PULLEY FOR SIGNAL-WIRES OR OTHER PURPOSES.

SPECIFICATION forming part of Letters Patent No. 695,381, dated March 11, 1902.

Application filed December 6, 1901. Serial No. 84,870. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL TELFORD DUTTON, a subject of the King of Great Britain, residing at Marl Bank, in the city and county of Worcester, England, have invented new and useful Improvements Relating to Pulleys for Signal-Wires or other Purposes, of which the following is a specification.

In the accompanying drawings, Figure 1 is a side view, Fig. 1ª a sectional plan view on line *x x* of Fig. 1, and Fig. 2 a front view, of a single pulley with the invention applied thereto. Fig. 3 is a side view showing the application to a triple-pulley frame. Fig. 4 shows in side view a slight modification of the invention and a slightly-different form of frame for single pulley. Fig. 5 shows a double-pulley frame of the same construction, and Fig. 6 an end view of Fig. 3.

This invention relates to those pulleys commonly known as "angle-pulleys," used for guiding wires, cords, or the like for the purpose of actuating a signal or other device at a distance from the point of operations and in a curved line. The frames of these pulleys usually hang free from a pin carried by lugs which are secured to a post or other support, or are otherwise pivotally secured, so that the pulley will yield to the pull of the wire or swing and assume a more or less angular position, according to the position of the support and the curve of the line.

The lifting of the pulleys from a recumbent or vertical to a working position causes loss of travel of the wire and induces undue wear and strain on the working wires, which have thus to bear a considerable portion of the weight, if not the entire weight, of the swinging pulleys and frames.

The object of this invention is to remedy these defects; and the invention consists in providing means whereby the pulleys may be adjusted or fixed at the desired angle, according to the position on the curve.

In carrying out this invention the pulleys are mounted in a hinged or pivoted frame, as usual; but according to this invention the free end of the frame is moved into the desired position and is then fixed in this position by a suitable device.

My invention is applicable to all constructions of angle-pulleys; but I have shown the invention as applied to the frame formed from strips of steel suitably bent into shape, as will hereinafter be more particularly described.

The swinging pulley-frames are carried by brackets, consisting of a base-plate, with countersunk bosses and wings or lugs bent at right angles to receive the pin or bolt on which the frame is hung.

In the drawings, A is the base-plate, B the countersunk bosses, and C the wings or lugs bent at right angles. The parts are preferably stamped from sheet-steel and afterward galvanized.

D is the pin carried by the lugs C, on which the loop or eye E of the pulley-frame E′ is mounted, as clearly indicated in Figs. 1, 2, and 3.

The pulley-frame E′ is formed from a strip (or it may be strips) of thin steel, which will be arranged as shown in the drawings—that is to say, referring to Fig. 1, the strip will start at *z*, with a straight portion of suitable length. It will then be turned back on itself in such a way as to form the eye or loop E to receive the bolt on which the frame is intended to swing. After running parallel with the straight portion for a short distance the strip is bent outward at nearly a right angle and is then turned downward again a distance equal to and parallel with the straight part, leaving a space sufficient to form the pulley-recess. The strip is next turned inward upon itself and is arched over the pulley to form a guard for the pulley, being brought down again by the side of the straight portion before named and ending at *y*. The frame shown at Figs. 4 and 5 will be of similar construction, a slight modification in the form of a second loop E″ being shown. In Fig. 3 another slight modification in the manner of producing the frame is shown, which will be

clearly understood from the drawings. In all these cases the arched or guard portion of the pulley-frame E′ will be indented or nipped in on each side below the crown of the arch, so as to overlie the edges of the pulley. The shoulder thus formed will be curved to follow the contour of the pulley, as shown in the side view, Fig. 6, at E‴. The object of thus forming the guard is to prevent the signal-wire jumping out of the groove of the pulley and getting jammed between the pulley and the frame, at the same time leaving ample room for the movement of the wire.

In the lugs or wings C is formed series of holes F, which are arranged according to a curve struck from the axis of the pin D, and these holes are set at even distances apart (or it may be radial slots) to receive the arms of a staple or similar device G, which will straddle the web of the loop E of the frame E′, (see Fig. 1ª,) and the frame will thus be securely held at a desired angle, according to the curve of the line and the position of the support.

In Figs. 4 and 5 the pulley-frame is formed with two loops or eyes E E″, as before mentioned, the loop E to receive the pin D and the loop E″ to receive a second pin (solid or split) H, by which the frame can be held at a desired angle, as clearly indicated in the drawings at Fig. 4.

I would here remark that the constructions above described are preferable, as being simple and self-contained; but I would have it understood that I do not intend to confine myself to the details shown, as these may obviously be varied without departing from the nature of the invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An angle or swinging pulley for signal-wires and other purposes consisting of a bracket having lugs pierced to receive a pivot-pin and with a series of openings arranged in a curve struck from the pivot in combination with a pulley-frame formed from a strip of steel with a loop or loops and having an arched guard portion indented or nipped in at a point below the crown of the arch and corresponding to the contour of a grooved pulley to be contained within the guard portion and a holding device to hold the swinging frame carrying the grooved pulley at any desired angle with relation to the curved series of openings as herein shown and described.

2. In angle-pulleys for signal-wires and other purposes, a bracket having lugs pierced to receive a pivot-pin and with a series of openings arranged in a curve struck from the pivot in combination with a holding device to be inserted in the openings, to hold a pulley-frame swung from the pivot at any desired angle as herein shown and described.

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

SAMUEL TELFORD DUTTON.

Witnesses:
RICHARD EDWIN COPE,
S. E BAYLIS.