(No Model.)

N. W. DONNAN.

PULLEY COUPLING FOR CLOTHES LINES.

No. 466,458. Patented Jan. 5, 1892.

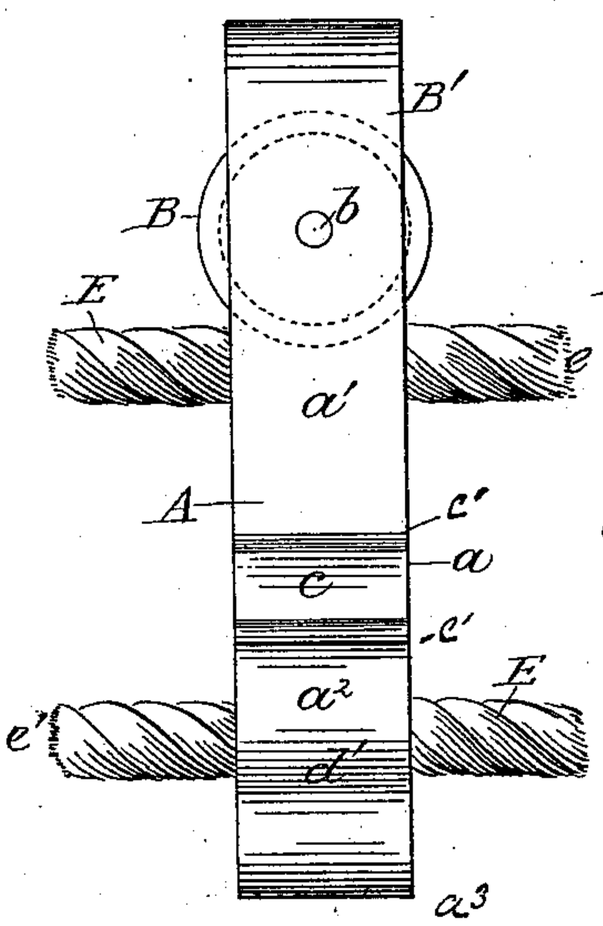

Fig. 1.

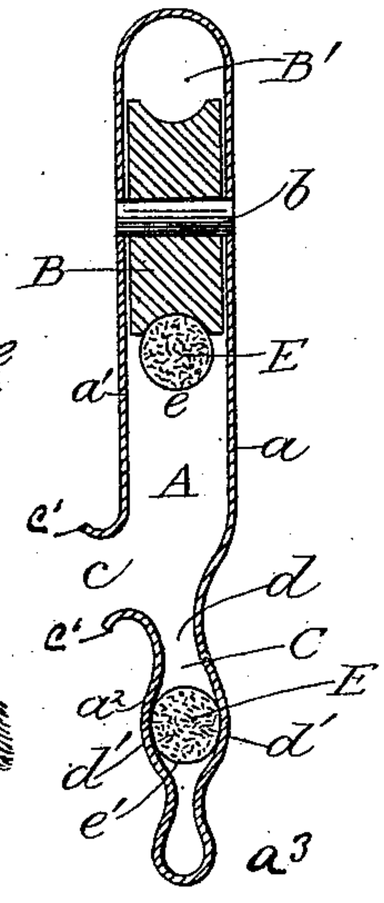

Fig. 2.

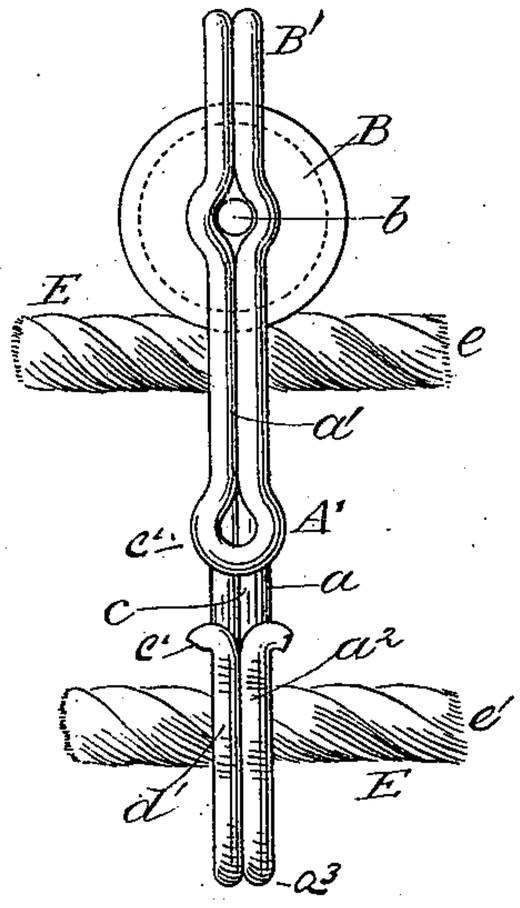

Fig. 3.

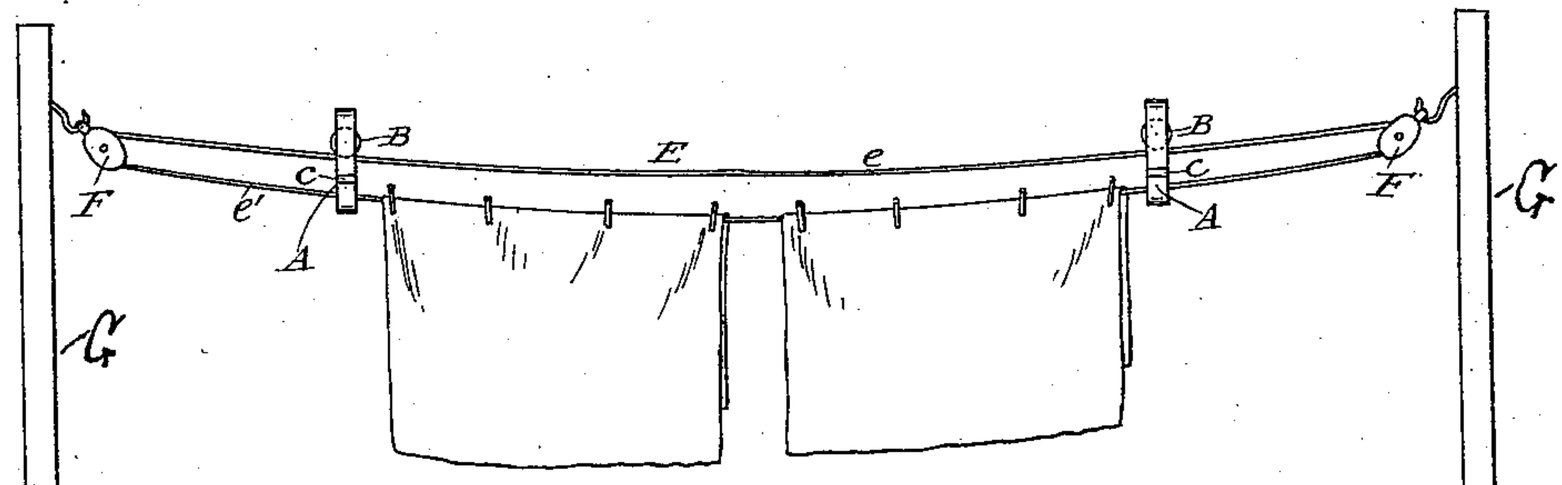

Fig. 4.

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UNITED STATES PATENT OFFICE.

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PULLEY-COUPLING FOR CLOTHES-LINES.

SPECIFICATION forming part of Letters Patent No. 466,458, dated January 5, 1892.

Application filed April 11, 1891. Serial No. 388,516. (No model.)

To all whom it may concern:

Be it known that I, NATHAN W. DONNAN, a citizen of the United States, residing at Amsterdam, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Pulley-Couplings for Clothes-Lines; 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.

My invention relates to a pulley-coupling for clothes-lines; and it consists of the combinations of devices and elements hereinafter described, and specifically set forth in the claims.

My invention is illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a face view of my pulley-coupling for clothes-line. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a face view of a modification of the same having its yoke-body constructed of wire, and Fig. 4 is an elevation illustrating the clothes-line supported from the usual pulleys and having my invention applied thereto.

The same letters of reference refer to similar parts throughout the several views.

A is the coupling-yoke, which may be made of thin sheet or strip metal, as represented in Figs. 1, 2, and 4, or a yoke A′, made of wire, as in Fig. 3, may be substituted for said yoke A. When iron or steel is used, I tin or coat with zinc or other suitable non-corroding material or substance the outer surface of the same. This coupling-yoke has in one of its end portions, as in the upper end portion, a sheave B, loosely pivoted therein by pivot-pin *b*, so as to be freely revolved between the limbs *a* and *a′*, as shown. In its opposite end portion this yoke is provided with a clamping device C, which is formed between the limbs *a* and a^2. The said yoke, whether made of a strip of sheet metal, as shown in Figs. 1 and 2, or of wire, as in Fig. 3, is composed of the limbs *a*, *a′*, and a^2, formed of a single piece, with the limbs *a′* and a^2 integral with the main limb *a*, as shown. Of this yoke the limb *a′*, together with the upper half portion of limb *a*, forms the sheave-holder B′, receiving sheave B, and the pivot-pin *b*, on which said sheave revolves, while the limb a^2 and the lower half portion of limb *a* constitute the coacting portions of the clamping device C for clamping the yoke to the line E. This clamping device has for its elastic element the loop a^3 at the lower end of the yoke and integral with both the said limb a^2 and lower end of limb *a*, and the facing sides of the said portions *a* a^2 of this clamping device C are made with a concave form, as at *d′*, for presenting to the line to be clamped a large amount of holding-surface, which will not injure the same. Between the lower end of limb *a′*, forming a part of the sheave-holder B′, and the upper end of limb a^2, forming a part of the clamping device C, is the passage-way *c*, leading to both the sheave B and to the said clamping device. The ends of the said limbs *a′* and a^2, terminating at the said passage-way *c*, are each provided with an outwardly-turned guiding-lip *c′*, which contributes to facilitate the operations for bringing the rope of the endless line to opposite the said passage-way. Below the plane of the guiding-lip *c′*, at the upper terminal of the limb a^2, forming a part of the clamping device C, is the throat *d*, leading from opening *c* to between the sides *d′ d′* of the said clamping device. This throat *d* is made contracted in relation to both the passage-way *c* and the opening between the sides *d′ d′* of the clamping device, so that while the rope of the endless clothes-line may readily pass to the sheave it will not readily pass down between the said clamping sides *d′ d′* without application of force, as the force of the gravity of the clothes loading the lower line of the endless rope or line E.

E is an endless clothes-line suspended in the usual manner from pulleys F F, connected with suitable supports G G. The pulley-coupling is shown in Fig. 4 to be applied to the two lines *e e′* and holding the lower line *e′* coupled or yoked with the line *e*, so that the weight of the clothes on line *e′* will be supported equally by the two lines *e* and *e′* of the endless clothes-line. In an endless clothes-line of a length of, say, fifty feet between the pulleys F F two or three of these pulley-couplings will be sufficient for use in holding the lower line *e′* yoked to the upper one, so that the latter will be made to sustain an equal amount of weight with the former.

The manner in which this pulley-coupling is applied is as follows: An operator, working at one end of the endless clothes-line E, will hang on the lower line e' of the same the garments to be held suspended therefrom until twelve or fifteen feet (more or less) of said line e' is filled, when he will apply one of these pulley-couplings to the clothes-lines by first passing the upper line through the opening c between the sheave-holder B′ and clamping device C. Then dropping the device down until the groove in the sheave B rides on the said upper line e, he will raise the lower line e' sufficiently to pass the same through the opening c, and then allow said lower line to pass down the contracted throat d to between the sides d' d' of the clamping device C, when the two halves or lines e e' will be coupled together. The operator will then proceed to fill another twelve or fifteen feet of the lower line with clothes and apply a second pulley-coupling in substantially the same manner, and will thus proceed until the line is filled as far as is desired. When these pulley-couplings have been applied, as above described, the operator can easily move this endless clothes-line, though loaded with clothes, through the pulleys F F, as the sheave B of this device will readily and freely travel on the upper line e, though its clamping device C tightly holds with the body of the lower line e'. A reversal of operations will enable the operator to remove the device.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pulley-coupling for endless lines, the combination, with sheave B, of the coupling-yoke composed of limbs a a' a^2, made integral and from a single piece of metal and provided in one side thereof with the passage-way c, formed between the terminals of limbs a' a^2 and leading to said sheave, and to the contracted throat d, leading to between the coacting sides of the elastic clamping device formed by the limb a^2, and the lower end portion of limb a made integral with each other by means of the elastic loop a^3, substantially as and for the purposes set forth.

2. In a pulley-coupling for endless lines, the combination, with sheave B, of the coupling-yoke made of a single strip or piece of metal so bent to a form as to produce in one of its sides the unobstructed passage-way c to within the said yoke and have integral with its main limb a the limb a' for forming a holder for the sheave, and integral with the said main limb, the limb a^2 for forming the elastic clamping device C, which has its clamping sides d', of concave form, at a point below the contracted throat d, leading from said passage-way c to within said clamping device, substantially as and for the purposes set forth.

3. In a pulley-coupling for an endless line, the yoke formed of a single piece of metal composed of a main limb a and the limbs a' a^2, respectively, integral with the former, and having the passage-way c, provided with guiding-lips c', formed by the outward curving of the terminals of the said limbs a' a^2, and leading to the sheave B, loosely mounted between limbs a and a', and also to the contracted throat d, leading to between the concave sides of the elastic clamping device C, formed between limbs a and a^2, substantially as and for the purposes set forth.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

NATHAN W. DONNAN.

Witnesses:
F. W. YEAGGAST,
G. C. WILLIAMS.