

A. S. HALLIDIE.  
Grip Pulley.

No. 100,140.

Patented Feb. 22, 1870.

Fig. 1.

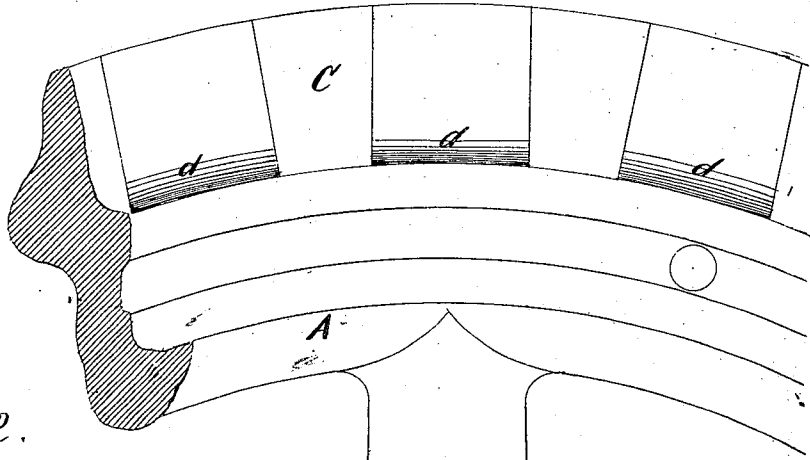
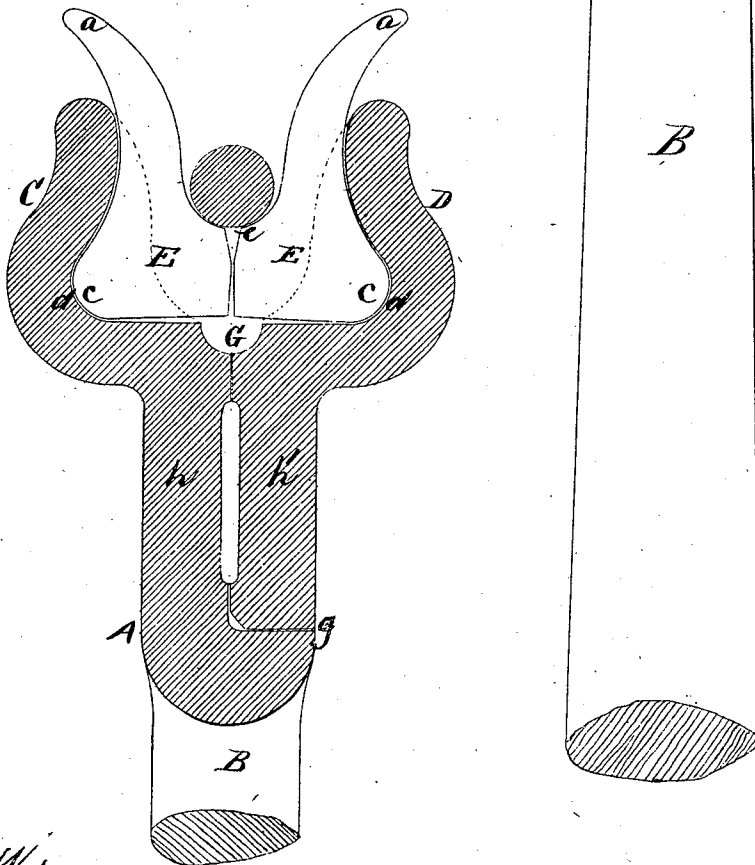


Fig. 2.



Witnesses.  
John L. Boone  
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# UNITED STATES PATENT OFFICE.

ANDREW S. HALLIDIE, OF SAN FRANCISCO, CALIFORNIA.

## IMPROVEMENT IN GRIP-PULLEYS.

Specification forming part of Letters Patent No. 100,140, dated February 22, 1870.

*To all whom it may concern:*

Be it known that I, ANDREW S. HALLIDIE, of the city and county of San Francisco, State of California, have invented an Improved Grip-Pulley; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to an improved construction of that class of pulleys known as "grip-pulleys," and which are employed more particularly wherever wire rope is used in transmitting power.

The novelty in my pulleys consists in the manner of arranging the two gripping-jaws or clips, so that they will be operated by the strain upon the rope, without the necessity of bolts, rivets, screws, or other device for holding them in place.

In order to more fully illustrate and explain my said invention, reference is had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 shows a section of a pulley, with the removable side taken away. Fig. 2 is a sectional view showing the arrangement of the two gripping-jaws.

A is a segment or section from the rim of a pulley-wheel, and B one of the arms of the wheel. The rim of the wheel is made in two parts, the part *h* being formed solid with the arm B, and of only half the desired thickness of the rim, so to form a shoulder at *g*. The part *h'* is then bolted or riveted to the part *h*, thus bringing the rim to the desired thickness.

The flanges C and D, between which the gripping-jaws or clips are, simply spread apart in the ordinary manner of forming the groove in pulleys. At intervals around the entire grooved periphery of the wheel I, make cavities or recesses *d d*, opposite to each other in the two flanges C and D. These cavities are so made that they will be widest at the lowest part, being, when completed, in the form shown at Fig. 2, the dotted lines showing the inner face of the original groove.

The clips or jaws E are formed, as shown at Fig. 2, with spreading arms *a a*, so as to admit the rope easily. The corners *c c* extend into the cavities *d d* in the flanges, which prevents their dropping out, but allows them to have a slight motion to and from each other. These jaws are inserted before the two parts *h* and *h'* are bolted together. A groove or space, G, is made just below the point of meeting of the clips, so that when the strain comes on the rope or chain, which rests upon the bottom of the groove between the two jaws, as at *e*, the central part of each clip will be depressed, thus causing the jaws to compress or grip the rope and prevent its slipping or moving, while the strain is on; but as soon as the strain is removed the jaws will work freely in their sockets, and allow the rope to open them, and consequently free itself from the pulley.

The above-described pulley can be constructed at a much less cost than any other known style of grip-pulley. There are no complicated parts to get out of order, and there is no danger of breaking any of the parts, as they are fixed in their position by the enlargement of the socket or recess without the aid of bolts, screws, rivets, or other fastenings.

Having thus described my improvements in grip-pulleys, it is to be understood that I do not claim gripping-jaws pivoted, and having beneath their interior ends an elastic cushion, or pivoted in slots, and connected together at the bottom by an elastic plate; but

What I do claim, and desire to secure by Letters Patent, is—

The arrangement of the gripping-jaws E when held in recesses *d* by enlarged corners *c*, and provided with a free space, G, beneath their meeting ends, so as to allow them to be rocked or tilted upon their lower or bearing surface, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal.

A. S. HALLIDIE. [L. S.]

Witnesses:

JOSEPH TUTTLE,  
WM. GERLACH.