J. CHARLTON.

Band-Pulley.

No. 161,204. Patented March 23, 1875.

Fig. 1.

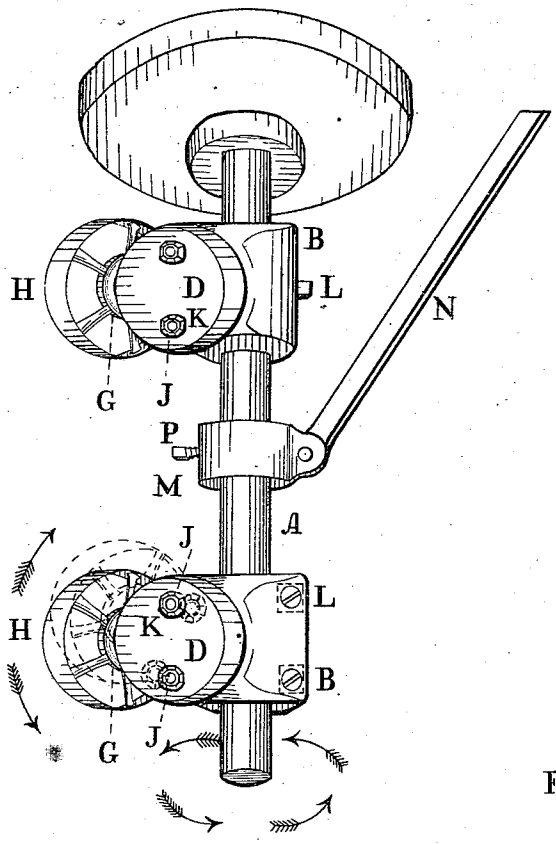


Fig. 2.

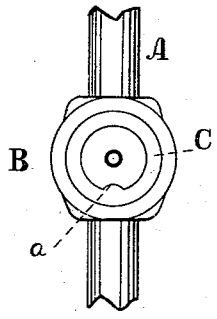


Fig. 3.

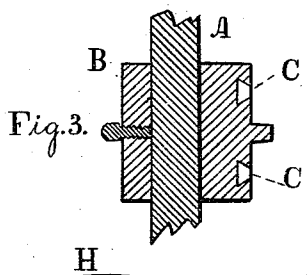


Fig. 4.

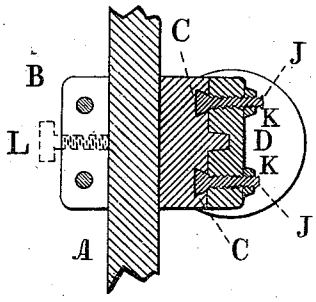
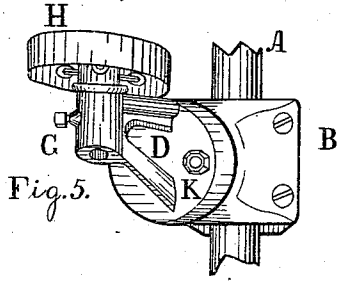


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN CHARLTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO GEORGE V. CRESSON, OF SAME PLACE.

IMPROVEMENT IN BAND-PULLEYS.

Specification forming part of Letters Patent No. **161,204**, dated March 23, 1875; application filed July 31, 1874.

To all whom it may concern:

Be it known that I, JOHN CHARLTON, of the city and county of Philadelphia, and the State of Pennsylvania, have invented a new and useful Improvement in Guide or Mule Pulleys; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the device embodying my invention. Fig. 2 is a front view of a detached portion. Figs. 3 and 4 are central transverse vertical sections of a detached portion. Fig. 5 is a perspective view of a modification.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to the class of pulleys which are designed to be set at various angles and positions to guide belts which run twisted, or require arrangement relatively to the conditions and circumstances of machine-shops.

The invention consists in the pulley-carrying head and hanger-post, adapted to permit the universal lateral adjustment of the pulley. It also consists in adapting the pulley to universal vertical and lateral adjustment. It also consists in so connecting the head with an axial disk fitted thereon that the pulley may be set at various angles and firmly held thereat. It also consists in a brace for the hanger-rod, made adjustable relatively to the adjustment of the rotary head.

Referring to the drawings, A represents a cylindrical rod or post, which is to be suspended vertically from the ceiling of the shop or factory; and B represents a horizontally-arranged head, through which passes the rod A, whereby the head is mounted on said rod, and is permitted to rotate completely thereon. In one face of the head B there is formed a conical or T or V shaped groove or channel, forming an annular cavity, C, the widest part being within, and to said face is fitted a vertically-arranged disk, D, which has an axial motion on the head, and carries the shaft G, on which the pulley H is mounted. J represents bolts or screws, which pass through the disk D, and their heads enter and move in the cavity C of the head B, as seen in Fig. 4. A certain point of the edge of the groove C is cut away, as at *a*, to permit the introduction of the widest portion of the heads of the bolts or screws J through the narrow portion of the groove C. Nuts K are fitted on the bolts or screws J, and serve to tighten the disk D against the head B.

It will be seen that the pulley H may be adjusted vertically by properly sliding the head up or down on the rod A to full extent of the latter, and likewise adjusted laterally by rotating the head B on the rod A, and thus the pulley may be swung and brought around to any part of the room, there being no limit to the rotation of the head, since there is no break in the surface of the rod, and thus no interruption of the rotary and vertical movements of the head.

When the adjustment is completed the head B is tightened on the rod by a screw, L, which may pass through the head and bear against the rod; or the head may be split at its back, and the screws pass through the two parts of the back in order to clamp them on the rod.

When the pulley is at a right angle to the line of the hanger-post, and is to be set at an acute or obtuse angle thereto, the nuts K being loosened, the disk D is turned until the pulley assumes the required angle. The nuts are then tightened, and the disk and head are thus firmly held to each other.

It will be seen that the shape of the cavity C and heads of the screws J causes the latter to wedge tightly in the cavity, whereby the immovability of the disk D, when adjusted, is insured. It will also be seen that the disk D may be rotated completely, and thus bring the pulley to any point of the compass of said disk, and that the cavity C is completely covered, whereby the entrance of dust thereinto is prevented.

In Fig. 4 the pulley is arranged horizontally; but its adjustive operation is similar to that stated.

M represents a sleeve, which is fitted upon the rod A, and adapted to have complete ro-

tary motion thereon. To the sleeve is jointed a brace-rod, N, whose upper end is adapted to be connected to the ceiling of the room in which the pulley is hung.

It will be seen that the brace can be shifted and secured to conform to the vertical and lateral adjustment of the head B and pulley H, whereby the belt is in no wise interfered with by or interferes with the brace or its sleeve M.

The sleeve will be held in position by one or more screws, P.

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

1. The guide-pulley head B, encircling the suspended rod A, and having universal lateral adjustment thereon, substantially as and for the purpose set forth.

2. The guide-pulley head B, fitted on the rod A, and sliding and rotating thereon for purposes of both universal vertical and rotary adjustments, substantially as described.

3. The guide-pulley head B, with cavity C, in combination with the disk D, with screws J, having their heads fitted in said cavity, and operating substantially as and for the purpose set forth.

4. The sleeve M, adjustable upon the pulley-hanger rod A, in combination with the rod N, jointed to said sleeve, substantially as and for the purpose set forth.

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Witnesses:

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