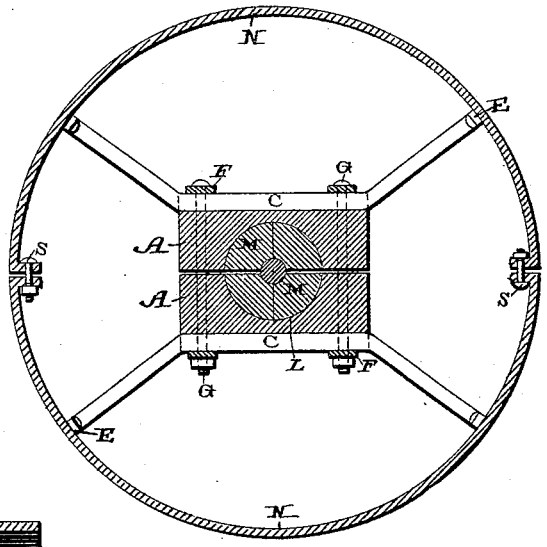
(No Model.)

D. T. McNIEL.

SPLIT PULLEY.

No. 453,937. Patented June 9, 1891.

Fig. 1.



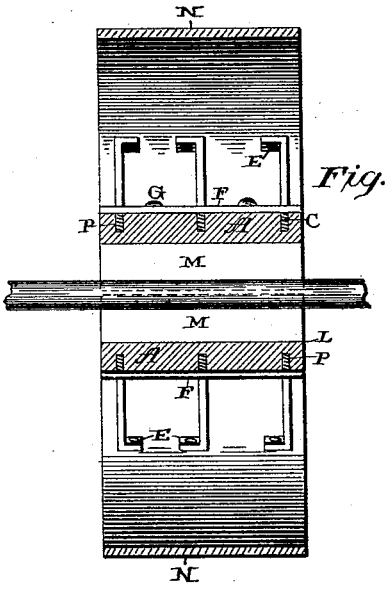


Fig. 2.

Fig. 3.

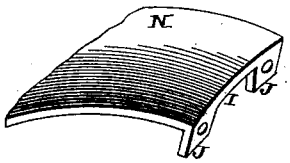
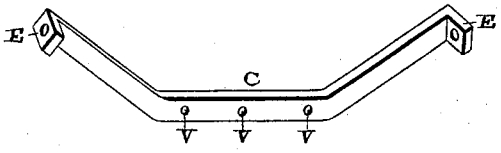


Fig. 4.



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UNITED STATES PATENT OFFICE.

DANIEL T. MCNIEL, OF KOKOMO, INDIANA.

SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 453,937, dated June 9, 1891.

Application filed February 27, 1891. Serial No. 383,055. (No model.)

To all whom it may concern:

Be it known that I, DANIEL T. MCNIEL, of Kokomo, in the county of Howard and State of Indiana, have invented certain new and useful Improvements in Split Pulleys; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in split pulleys; and it consists in the construction and arrangement of parts, which will be fully described hereinafter.

The object of my invention is to produce a split pulley in which the good results of the wood clamp in a wood pulley and the metal rim in a metal pulley are brought together in a single pulley by combining them in the manner hereinafter shown and described.

In the drawings, Figure 1 is a vertical longitudinal section of a split pulley which embodies my invention. Fig. 2 is a vertical section at right angles thereto. Fig. 3 is a detached perspective view of the meeting ends of the rim of the pulley. Fig. 4 is a detached perspective view of one of the truss-arms.

A indicates two blocks of wood, which are provided at the center of their meeting edges with semicircular grooves which together form the circular opening L, in which a split bushing M, having an opening of any desired size, is inserted, and through this bushing the axle passes, and the parts of the pulley are clamped together and to the axle in a manner to be hereinafter described. These blocks are provided with longitudinal recesses P, in which the truss-arms are placed edgewise, as shown. The number of these recesses and truss-arms will vary according to the width and circumference of the pulley to which they are applied. These truss-arms are formed from flat bars, which are provided with the substantially straight central portions C, which fit in the grooves P of the blocks A and have their upper edges just flush with the outer edges or surfaces of the said blocks. Extending across the grooves P of the blocks A and the outer edges of the central portions C of the truss-arms are the plates F, through which and the clamping-blocks A the clamping-bolts G pass for clamping the two parts of the pulley together and the pulley to the shaft. The truss-arms are bent edgewise at an incline to their straight portions C from the ends of the blocks A, as shown, and have their extremities E bent flatwise laterally, as shown, and are secured to the inner side of the rim N in any desired manner. As shown, these truss-arms extend edgewise the revolution and entirely across the pulley for the purpose of adding strength to the pulley in the direction in which it is needed and to prevent fanning of the air.

The meeting ends of the rim of the pulley are bent laterally inward and have the clamping-bolts S passed through them. When a flat pulley is formed, the ends of the rim will be bent entirely across their width; but when a crown or oval pulley rim is formed the ends of the rim must be provided with a recess I to allow the rim to be so bent, and in this instance only the lips J are bent inward for the clamping-bolts S.

If desired, the truss-arms may be provided with a series of openings V, and be secured to the blocks by transverse pins, screws, or bolts, or the grooves, clamping-plates F, and the bolts G may be alone depended upon to hold the said arms in place, as may be preferred.

It will be seen from the above description, in connection with the drawings, that I have produced a combined wooden-clamp and metal-rim split pulley which embodies all of the advantages of the wood and metal split pulleys, while at the same time their disadvantages are avoided. By means of this arrangement I am enabled to produce a pulley which is from twenty to twenty-five per cent. cheaper than a wooden pulley, and which is more durable and capable of being put to uses and successfully operated under conditions which would make a wood pulley or a metal pulley a failure practically.

A pulley thus constructed can be used out in the weather, the only effect being to slightly swell the blocks A, which will only clamp the shaft more tightly. When the blocks have

decayed or have become otherwise injured, they can be readily removed and other blocks substituted.

Having thus described my invention, I claim—

1. In a split pulley, two clamping-blocks between which the shaft passes, having a series of grooves in their outer faces which extend entirely across them, and transverse bolt-holes between the grooves, continuous truss-arms placed in said grooves, a plate or plates which are applied to the blocks outside of the truss-arms and transverse to the grooves, and clamping-bolts which pass through the plates and the said bolt-holes, substantially as shown.

2. In a split pulley, the rim, two clamping-blocks between which the shaft passes, having a series of grooves which extend entirely across the outer faces of the blocks, and continuous truss-arms which are formed of plates having a straight central portion placed edgewise in the said grooves, bent edgewise outward from the blocks and then secured to the rim, and a means for securing the truss-arms to the blocks, whereby they extend edgewise entirely across the pulley and the arms in the two blocks diverge from each other, the parts combined substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

D. T. McNIEL.

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