(No Model.)

# M. McALEENAN.

## PULLEY.

No. 342,804. Patented June 1, 1886.

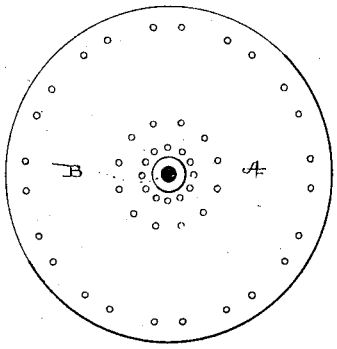



Fig. 1.

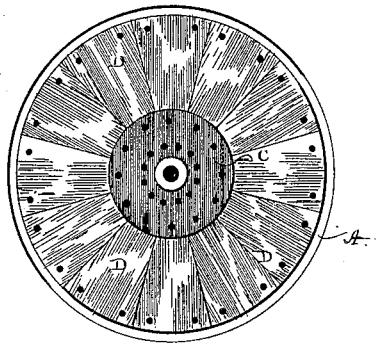



Fig. 2.

Fig. 4.

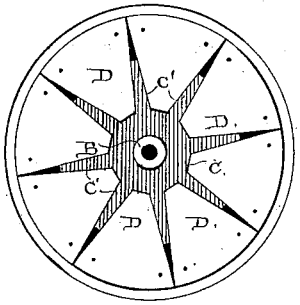



Fig. 3.

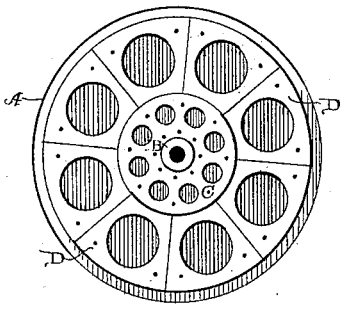
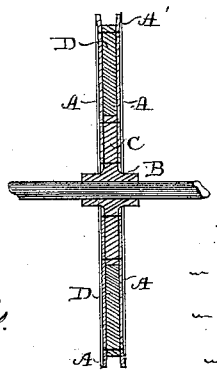



Fig. 5.

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# UNITED STATES PATENT OFFICE.

MICHAEL McALEENAN, OF PEORIA, ILLINOIS.

## PULLEY.

SPECIFICATION forming part of Letters Patent No. 342,804, dated June 1, 1886.

Application filed December 11, 1885. Serial No. 185,348. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL MCALEENAN, of Peoria, in the county of Peoria, in the State of Illinois, have invented an Improved Pulley; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a side view of the pulley; Fig. 2, a similar view with one of the binding-disks removed; Figs. 3 and 4, modifications of the pulley; Fig. 5, a central transverse section of Fig. 1.

This pulley I particularly design for use in connection with mines and other purposes in which perfect safety is desired in the supporting of moving ropes and cables.

In the raising and lowering of buckets in mines it is customary to pass the hoisting-rope from the bucket over a large pulley to the winding-engine. These pulleys, being usually formed wholly or partially of cast metal, are liable to fracture and consequent danger both of the breaking of the rope and of the falling of the pieces of the pulley. This dangerous liability to fracture is what I have endeavored to overcome by my improvements, which consist, essentially, in forming the pulley of a hub and separate tread-blocks securely bound together between two binding-disks.

In the drawings, B represents the hub, D the tread-blocks abutting thereagainst, and A the binding-disks bolted to each side of the said hub and blocks, and having their edges project sufficiently beyond the tread-blocks to form the rope-securing flanges A′. The hub B, I usually make of cast metal, and have the hub-disk C integral therewith. The tread-blocks D, which are of any number and fit together on radial lines, abut at their inner ends against the periphery of the hub-disk C. The binding-disks A have a central opening, to make room for the laterally-prolonged hub B, and have their peripheries concentric with the outer ends of the tread-blocks D, but of larger diameter. The hub-disk C and the tread-blocks D being made of the same thickness, the binding-disks A can fit snugly against them, and are secured thereto by means of suitable bolts passing entirely through them. As I usually make the binding-disks A of sheet metal, preferably of boiler-iron, and the tread-blocks fast between them are in effect a web, I have a truss-like arrangement, which completely prevents the same from lateral bending and forms a firm and rigid wheel.

The tread-blocks D, I prefer to make of wood, although they can be formed of cast-iron, as indicated in Fig. 3, which shows the same and also the hub-disk C as skeletonized by means of recesses therein.

Instead of forming the hub-disk C as shown in Figs. 2 and 3, I design in the cases of extra large wheels to cast said disks with the radial projections C′ and fit the tread-blocks between the same, as in Fig. 4. By this means not only is there greater rigidity given to the pulley, but said blocks are more firmly held in place. This latter consideration is of especial importance when it is desired to employ the pulley for transmitting motion, the tangential force imparted to the tread-blocks being conveyed to the hub by the radial projections C′, instead of by the securing-bolts.

The flanges A′, which form the rope-groove, are made somewhat flaring, as shown in Fig. 5, for the better reception of the rope.

I am aware that prior to my invention car-wheels have been made with exterior wrought-iron shells, filled in with various materials, and that pulleys have been formed with different combinations of wood and metal; but I am not aware that pulleys have been built up in the manner herein described.

What I claim as new is—

1. In a pulley, the combination of the hub, the tread-blocks, and the binding-disks all secured together, substantially as and for the purpose set forth.

2. In a pulley, the combination of the hub, the tread-blocks, and the binding-disks fastened together, as set forth, the edges of said disks projecting beyond the periphery of the tread-blocks, as and for the purpose specified.

3. In a pulley, the hub B, having the hub-disk C, the tread-blocks D, abutting at their inner ends against the periphery of said hub-disk, and the binding-disks A, all combined as set forth, for the purpose described.

4. In a pulley, the cast-metal hub B, hav-

ing the hub-disk C, the wooden tread-blocks D, and the sheet-metal binding-disks A, all bolted or riveted together, as and for the purposes specified.

5. In a pulley, the hub B, having the radial projections C', in combination with the tread-blocks D, fitting between said projections and the binding-disks A, substantially as and for the purpose specified.

In testimony that I claim the foregoing invention I have hereunto set my hand this 7th day of December, 1885.

MICHAEL McALEENAN.

In presence of—
CYRUS W. RICE,
EDWARD KIESTE.