

(No Model.)

C. W. HUNT.
HOISTING APPARATUS.

No. 541,613.

Patented June 25, 1895.

Fig. 3.

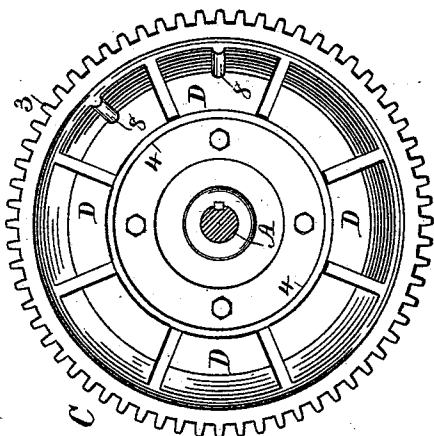


Fig. 1.

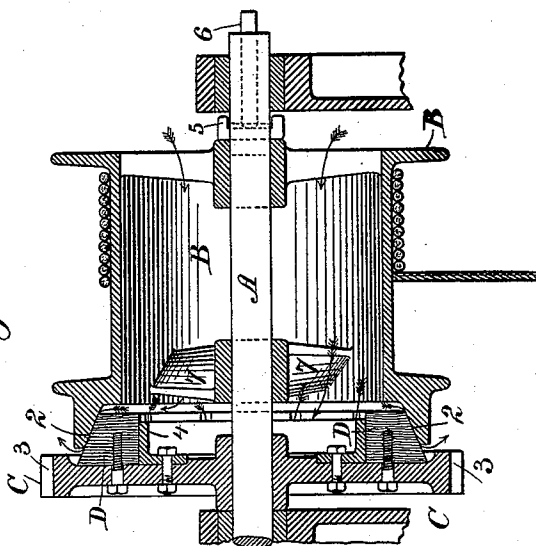
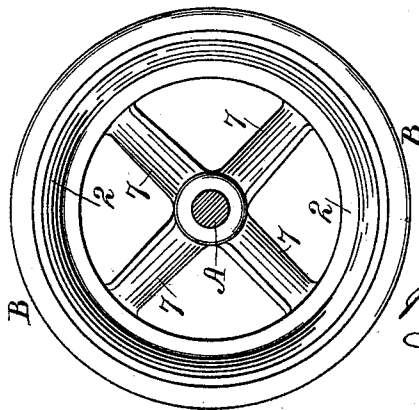


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 541,613, dated June 25, 1895.

Application filed July 2, 1894. Serial No. 516,280. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HUNT, a citizen of the United States, residing at West New Brighton, in the county of Richmond and State of New York, have invented an Improvement in Hoisting Apparatus, of which the following is a specification.

In hoisting apparatus made use of with excavating buckets, pile driving machinery and elevators of various characters, a drum has been made use of around which the rope is wound by the rotation of the drum, there being a frictional connection between the drum and the power, and the rope is allowed to unwind and the weight to descend by relieving the friction between the power and the hoisting drum. During this operation the drum is rapidly rotated by the rope drawing off the same, and the parts become heated by the frictional contact and by unequal expansion are unreliable in their action, and to prevent injury to the frictional surfaces by the heat developed metal has usually been made use of for both surfaces of the frictional coupling that connects the power to the drum.

In my present improvement I am enabled to make use of frictional contact blocks of wood which are more efficient in their action than metallic surfaces, and I provide openings through the blocks and force currents of air through between or adjacent to the frictional surfaces in such a manner as to prevent the parts becoming heated while the rope or chain is being drawn off the drum.

In the drawings, Figure 1 is a vertical section representing a portion of the drum and of the frictional coupling for the same. Fig. 2 is an end elevation of the drum. Fig. 3 is an elevation of the frictional blocks and their supporting-wheel.

The shaft A and drum B are of any desired size and character, and upon one end of the drum is a frictional clutch formed of a ring or flange with a conical surface 2, and upon the shaft A is the wheel C to which the power is applied either by a gear wheel or pinion engaging the teeth 3, or the power may be applied to rotate the shaft A and wheel C, the two being keyed together, and upon the side of the wheel C next to the drum B are the friction blocks D, preferably of wood and secured upon the flange 4 by bolts or in any suitable manner, and the surfaces of the blocks D are to be beveled or conical to fit the inclined or conical surface 2 upon the

drum B, and the angle of the incline or bevel may vary according to the character of the work to be done and also according to the character of the blocks of wood made use of, and the drum B is to be pressed toward the wheel C, or the wheel C pressed toward the drum B in any suitable manner. For this purpose it is usual to employ a key 5 passing through a mortise in the shaft A and acted upon by a pin 6 passing through the tubular end of the shaft A and acted upon by a lever.

The arms 7 of the drum B are placed diagonally and made in the form of blades, so that by the rotation of the drum B the arms 7 will act as fans to drive the air in one direction or the other. It is preferable for the opposite end of the drum B to the arms 7 to be left open for the free ingress of air or to be provided with similar arms, and said arms 7 should be placed at such an inclination in relation to the rotation of the drum as the rope or chain is drawn off, that such arms 7 will circulate the air in the direction represented by the arrows—that is to say, the air will be forced between the blocks D and the conical surfaces 2 when these surfaces are separated, or the air will pass through channels 8 provided in the blocks D or between one block and the next for the atmosphere to circulate and cool the end of the drum B and also the surfaces of the blocks D, so as to neutralize and carry away the heat developed by the frictional contact.

The channels 8 are shown in Fig. 1, in the conical surfaces of some of the blocks, and openings are also shown between these blocks. These channels or openings may be radial as represented, so that the air travels through them from the inside of the wheel outwardly.

I am aware that atmospheric air has been blown upon journals and bearings and upon friction wheels at the points of contact.

I claim as my invention—

The combination with the hoisting drum and shaft and the power wheel and the intervening frictional coupling, of diagonal arms around the shaft and within the drum and forming a blower to direct a current of air upon the frictional surfaces, substantially as specified.

Signed by me this 28th day of June, 1894.

CHAS. W. HUNT.

Witnesses:

GEO. T. PINCKNEY,
A. M. OLIVER.