O. L. OWEN.

REEL.

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899,676.

Patented Sept. 29, 1908.

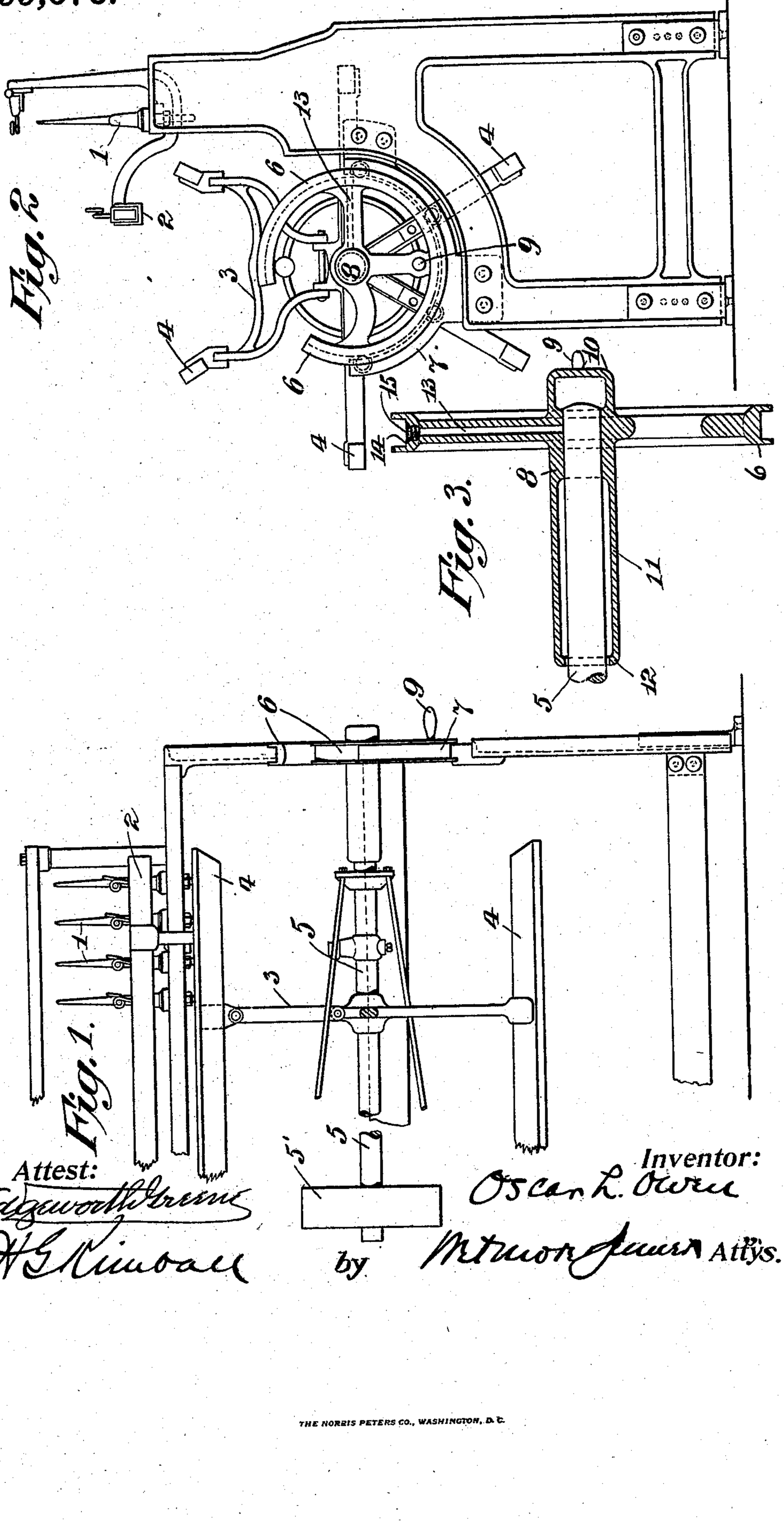

Fig. 1.

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

OSCAR L. OWEN, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE WHITIN MACHINE WORKS, OF WHITINSVILLE, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

REEL.

No. 899,676. Specification of Letters Patent. Patented Sept. 29, 1908.

Application filed August 9, 1907. Serial No. 387,808.

To all whom it may concern:

Be it known that I, OSCAR L. OWEN, a citizen of the United States, residing at Whitinsville, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Reels, of which the following is a full, true, and concise specification.

My invention relates to reels, and consists of an improved construction of the doffing wheels of such machines whereby the oil or lubricant employed therein is effectively prevented from spreading onto parts likely to come into contact with the reeled hanks of yarn while the latter are being removed from the machine.

Referring to the drawings, Figure 1 is a side elevation of one end of a reel having my invention applied to it; Fig. 2 is an end elevation of the parts shown in Fig. 1; and Fig. 3 is an enlarged central section of the doffing wheel of Figs. 1 and 2, showing also the end of the reel-shaft in elevation.

The thread or yarn to be reeled is carried by a number of spindles 1, mounted on the frame of the machine, and from thence is drawn through the guides on the traverse bar 2, onto the revolving reel, designated 3, upon which it is wound into a corresponding number of hanks. The reel 3 is of usual construction, being formed of a number of bars 4 appropriately mounted and trussed together around and upon the central reel-shaft 5 which is driven at one end by means of a pulley 5′. Certain of the bars 4 are movably supported with respect to the other bars so that the reel may be collapsed and the hanks removed from the bars and hung upon the end of the reel-shaft. In order to remove the hanks from this position it is necessary to pass them over or around the end of the reel-shaft, and for this purpose it is usual to support the end of that shaft in a movable journal seat, called a doffing wheel. This wheel consists of a segmental flanged rim portion 6 fitted for rotary movement in an arcuate roller track 7, which is built into the frame upright at the end of the machine. The hollow hub 8 of the wheel receives the end of the reel-shaft and provides a journal seat for the same. The wheel has a handle 9 by which it may be manually rotated upon the arcuate track. One stretch of a hank of yarn hanging upon the shaft 5 may be placed in the opening in the rim 6 of this wheel, and then by rotating the latter, may be carried through the frame around and over the end of the journal of the reel-shaft, which operation frees the hank from the reel in obvious and well understood manner.

The foregoing construction and operation are well understood and familiar to those skilled in this art.

My invention aims to prevent the contamination of the yarn by the oil or lubricant escaping from the interior of the doffing wheel, which frequently occurs in existing machines when the hanks are temporarily hung on the end of the shaft or come into contact with the spokes of the wheel during the operation of doffing, and to this end I form the hub of the wheel with an integral end wall 10 closing the end of the hub journal seat and a long boss 11 on the other side of the journal seat, which surrounds the reel-shaft and extends to a point well under the reel bars 4. The boss 11 is preferably chambered in its interior so as to be out of contact with the shaft, and is provided with a circular flange or lip 12 adapted to retain excess of oil escaping from the journal. The employment of the long boss, however, as just described, is not essential to my invention, and other equally effective means may be employed to catch and hold oil escaping at this point.

In combination with the foregoing I provide an oil-duct 13 leading to the journal seat within the hub 8 from a point located in the peripheral portion of the wheel, the duct being formed entirely within the body of the wheel from one end to the other so that none of the lubricant can escape. Preferably I form the oil-duct with its orifice in the rim face 14 of the wheel, by boring a hole radially through the latter and through one of the spokes, directly into the journal seat, as clearly shown in Fig. 3. The orifice of the oil-duct is normally closed by a spring cover 15 of ordinary construction which is flush with the rim face. In normal condition the oil-duct is generally in a horizontal or upright position and is also additionally covered by the track 7 when the wheel is being revolved. By thus confining and inclosing the journal of the reel-shaft and removing the oiling orifice to a relatively remote point, it will be seen that the oil or lubricant at no time requires to be brought near to the outside of the hub or spokes of the wheel, and when introduced through the rim as above

described is the least likely to spread over upon the spokes or other parts that are touched by the yarn. The formation of the end wall 10 integrally with the hub is of special and practical advantage, inasmuch as the greatest care will not keep oil from leaking through attached covers, and it has the further advantage of economy in that the wheel may be made of a single casting.

Having described my invention, what I claim and desire to secure by United States Letters Patent is

1. In a reel, a reel shaft and a movable doffing member providing a journal seat therefor, and inclosing means for the ends of said journal seat adapted to hold oil escaping therefrom out of contact with the yarn, said member being provided with an oil duct leading to said journal seat and having its oil receiving orifice in the peripheral part of said member.

2. In a reel, a reel-shaft, a rim-supported doffing wheel providing a journal-seat for said shaft in its hub, and means for confining the oil of said seat out of contact with the yarn, said wheel being provided with an oil duct leading to the journal seat and having its oil-receiving orifice in the rim face of said wheel.

3. In a reel, a reel shaft, a doffing wheel, a hub for said wheel in which said shaft is journaled, said hub being formed with an integral wall closing one end thereof, and an oil-duct formed in said wheel extending from the interior of said hub to the peripheral portion of the wheel.

4. In a reel, a reel shaft, a doffing wheel, a hub therefor providing a journal seat for said shaft, closed at one end, and provided at its other end with a long boss adapted to hold the yarn, said hub and wheel being formed with an oil-duct extending from said journal seat to the rim of the wheel.

5. In a reel, a reel shaft, a doffing wheel, an integral hub therefor providing a journal seat for said shaft and provided with an oil-duct leading from said journal seat to the rim of the wheel, in combination with an integral closure for one end of said hub, and a boss on the other end formed as a lubricant-receiving chamber.

In testimony whereof, I have signed my name to the specification in the presence of two subscribing witnesses.

OSCAR L. OWEN.

Witnesses:
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LEVI A. FORD.