(No Model.)

W. E. BADGER.

SELF LUBRICATING ROLL FOR ROLLER SKATES.

No. 303,412. Patented Aug. 12, 1884.

Fig. 1.

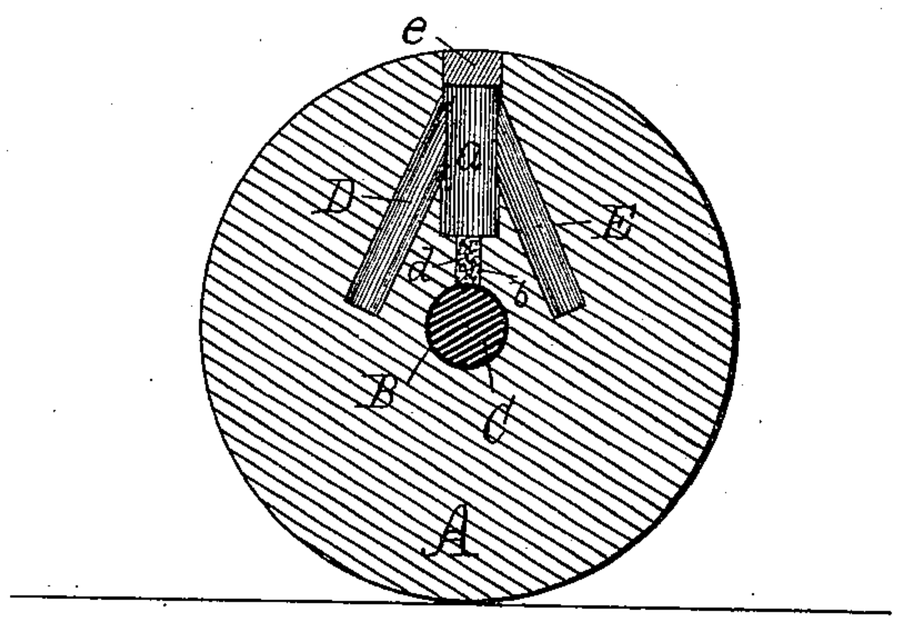
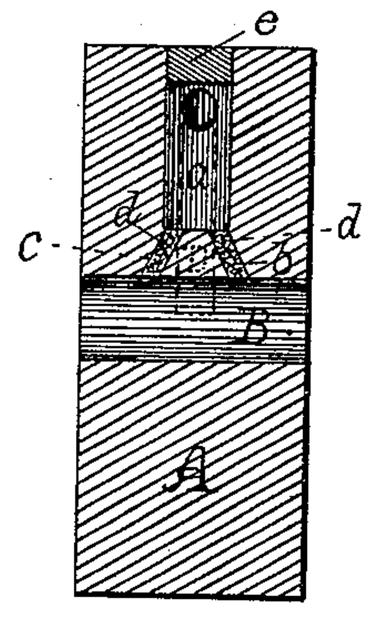


Fig. 2.



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SELF-LUBRICATING ROLL FOR ROLLER-SKATES.

SPECIFICATION forming part of Letters Patent No. 303,412, dated August 12, 1884.

Application filed May 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EZRA BADGER, a citizen of the United States, residing at Quincy, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Self-Lubricating Rolls for Roller-Skates; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to means for self-lubricating the rolls of roller-skates, which at present are provided with two pair of rolls revolving loosely upon a metal arbor or spindle; and it consists, mainly, in constructing each individual roll with a reservoir or reservoirs, formed by removing a portion of the material composing the rolls, and stopped by a smooth plug, which is flush with the periphery. Small ducts, provided with some fibrous material stowed therein, conduct the lubricant from the reservoirs or oil-chambers to the periphery of the arbor. The fibrous material prevents too free escape of the lubricant, yet allows sufficient to escape to properly oil the arbor, this act occurring only when the roll is revolving, or when the skates are actively employed.

The drawings accompanying this specification represent in Figure 1 a vertical longitudinal, and Fig. 2 a similar cross-section, of a roll embodying my invention.

In these drawings I have shown a roll belonging to a roller-skate at A, as made from some fine hard grained wood properly turned, and centrally bored at B, to receive the arbor C. I make the roll A of the ordinary shape, as usual, but at any point upon its face I bore a radial hole, forming a reservoir, *a*, circular in shape, by preference, because more easily made. This is to extend about two-thirds the distance between the circumference or face of the roll and the periphery of the bore B, while from the bottom of this reservoir extend one or more small divergent ducts, *b c*, leading to and opening upon the arbor C. As the reservoir *a* does not hold a sufficient supply of lubricant, and would require constant attention to be kept full, I have increased the oil-space by forming two converging tangentially-disposed chambers D E, which lead into the main supply-chamber *a*. It is essential that the face of the circumference of the roll should not be impaired, otherwise the skate would travel roughly and with successive jumps. I have therefore formed these chambers D E by inserting the boring-tool in the mouth of *a*, and then deviating it from the vertical, the axis of said holes *a* D E being in alignment or parallel with the sides of the roll. The small ducts *b c* open upon the arbor centrally of the roll, or thereabout, where the oil is most required, and are stuffed or filled with some fibrous material *d d*, which will prevent free flow of the lubricant from the reservoir, and yet, upon rotation of the roll, permit a sufficient quantity to escape to maintain the arbor well oiled. No flow of lubricant occurs with this arrangement, except upon revolution of the roll and arbor. After the roll has been properly chambered, nothing further is to be done but to insert the lubricant, either liquid or paste, and close the mouth of the chamber *a* by a plug, *e*, of cork, rubber, or some other suitable material tightly driven in. This leaves the face of the roll smooth and intact at that point.

Owing to the position of secondary chambers D E, almost any position of the roll will tend to gravitate the lubricant toward the central reservoir and maintain a constant feed to the small ducts *b c* and the material contained therein until the entire supply is exhausted. These chambers are of such diameter and so arranged as not to injure or impair the strength of the roll. The secondary chambers may be bored by perforating the periphery of the roll at other points, and still unite them with the main chamber *a;* but I prefer to make them through the mouth of the latter, as but one hole is required in the face of the roll.

The spaces D E may be dispensed with, and one or more main chambers *a*, with ducts similar to *b c*, be employed in lieu thereof.

By my device, as herein adapted to rolls, the cost of the latter is but slightly increased, and

a very efficient and cheap way of maintaining them lubricated is obtained.

What I claim, and desire to secure by Letters Patent, is—

1. In a self-lubricating roll for roller-skates, the reservoirs *a* D E, formed in the substance composing the roll, in combination with the ducts *b c* and fibrous material *d d*, arranged as and for purposes herein described.

2. In a roller-skate, the combination, with the arbor C and roll A, of the chambers *a* D E, ducts *b c*, leading to the periphery of the arbor, and the fibrous material *d*, contained in the ducts, for purposes described.

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

WILLIAM EZRA BADGER.

Witnesses:

H. E. LODGE,

THOS. T. BAILEY.