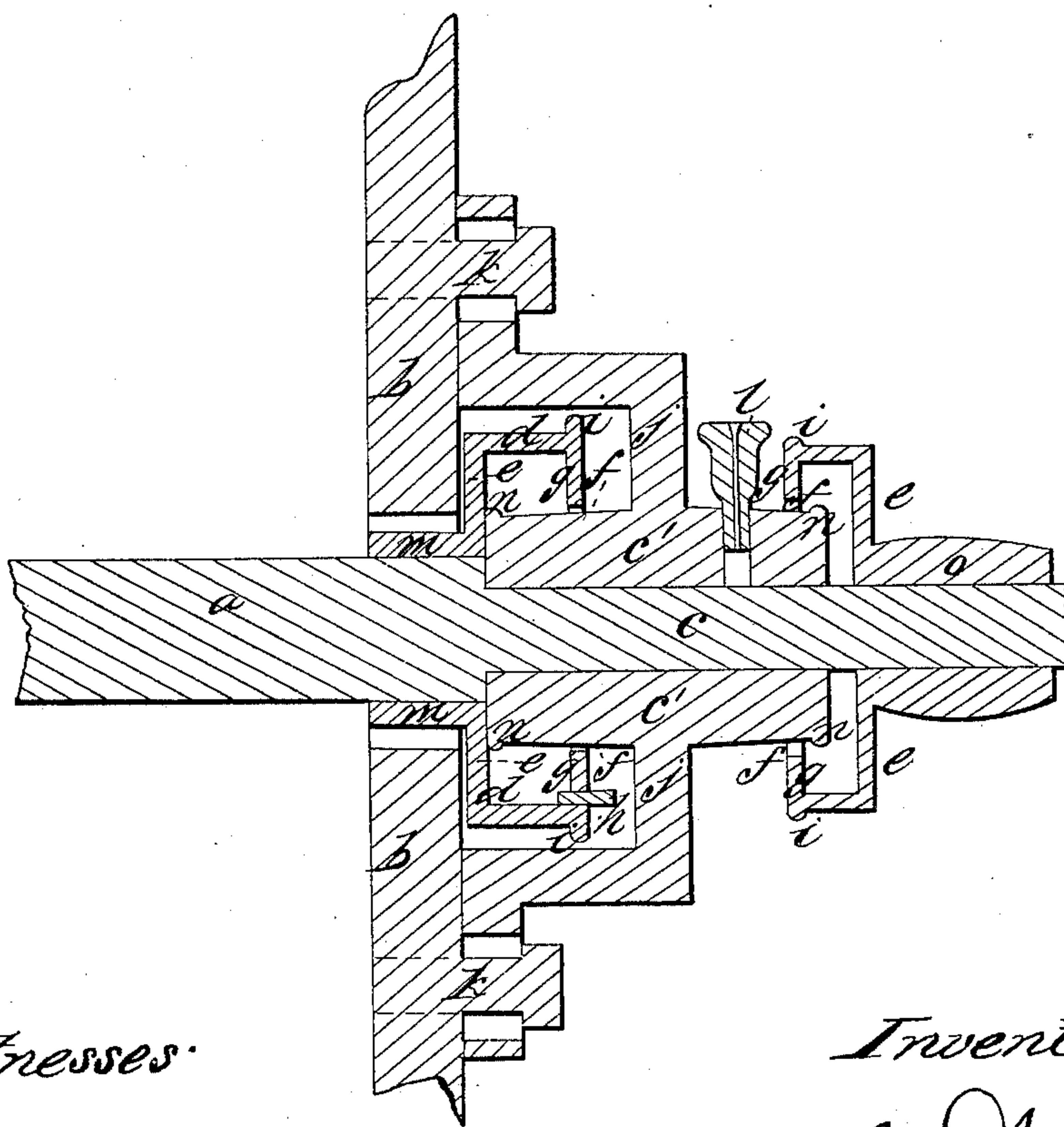


Burr & Rockwell,
Journal Lubricator.
Nº 37,084. Patented Dec. 9, 1862.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY A. BURR AND LUCIUS E. ROCKWELL, OF NEW YORK, N. Y.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. 37,084, dated December 9, 1862.

To all whom it may concern:

Be it known that we, HENRY A. BURR and LUCIUS E. ROCKWELL, of the city, county, and State of New York, have invented a new and useful improvement in the method of preventing the waste and injurious effects of oil used to lubricate the journals of rotating shafts; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, which represents a section of the picker-shaft of a hat-forming machine with our improvement applied.

In forming fur-hat bodies it often happens that bodies are produced which have grease-spots on them, and when this occurs such body is greatly reduced in value and cannot be used for light-colored hats. We have discovered that these grease-spots are produced by drops of oil which are thrown by the picker which picks and throws the fur onto the cone or other former on which the hat-bodies are formed. The oil which is used to lubricate the journals of the picker-shaft is caused by the rapid rotation of the picker to travel out of the journal-boxes onto the shaft, and thence onto the picker, from which it is thrown among the fur as it travels toward or after it gets onto the cone, thereby producing injurious stains, and at the same time wasting oil.

The object of our invention is to prevent the oil used to lubricate the journals from getting onto the shaft and being thrown therefrom and wasted; and to this end our said invention consists in attaching to or forming on the shaft next to each journal a circular cup or hollow wheel entirely closed on the inner side and open toward the journal, and extending over the end of the journal-box, the opening being of smaller diameter than the inside of the cup, so that all the oil which leaves the journal and journal-box shall enter and be caught by the said cup and there retained until it shall have been collected in sufficient quantities to be drawn out.

In the accompanying drawing, *a* represents the shaft of a picker, such as is used in machines for forming fur-hat bodies, and passing through a hole in the side piece, *b*, of the framing to which the casing for inclosing the picker is usually secured.

The journal *c* of the shaft is outside of the

side piece, *b*, of the framing, and it runs in a journal-box, *c'*, which is formed with bracket-arms *j j*, adapted to receive screw-bolts *k k*, by which it is secured to the side piece, *b*, of the frame. The journal-box is supplied with oil through a hole, *l*.

Thus constructed the oil would travel toward both ends of the journal and be there discharged by centrifugal force when rotating, and by dripping when at rest causing waste. Waste, however, is not the most serious difficulty. When the oil reaches the periphery of the shaft at the inner end of the journal, much of it travels inward, and when it gets inside of the framing or casing *b* it is thrown off by centrifugal force, and when such rotating shafts are used in machinery for forming hat-bodies, or for other purposes—such as fur-pickers—the oil thus thrown off stains the material operated upon, causing serious loss.

To prevent the injurious effect above stated, as well as to avoid waste, there is secured to or formed upon the shaft a cup, *d*, which rotates with it. If made separately from the shaft, the hub *m* of this cup should be driven onto the shaft, so as to form a close joint, through which oil will not pass. This cup is in the form of a hollow wheel with the face *e* toward the frame perfectly closed, and the central portion of the face *g* toward the journal open, as at *f*, and extending over the journal-box, so that oil from the journal will enter the cup and be there retained; and as the cavity of this cup is of greater diameter than the rim or face *g* surrounding the opening *f*, whether the shaft be at rest or rotating the oil will be caught and retained therein, from which it can be drawn through a hole by simply drawing out the plug *h*. As a further security against the travel of the oil from the journal to the shaft and what may be on the shaft—such as a picker—under the influence of capillary attraction, I form the periphery of this cup or hollow wheel with a projecting rib or flange, *i*, near the outer edge, so that any oil which may by accident reach the outer surface of the rim *g* will be prevented by centrifugal force from running down the opposite face of the flange to the outer surface of the cup beyond the said flange and toward the shaft.

Such is the tendency of oil to travel on metallic surfaces that some of it will run down the end face of the journal-box and drip in

the lower part of the cup or hollow wheel, but a portion of it would tend to run onto the periphery of the box, and finally to drop therefrom outside of the cup. To prevent this, a flange is formed on the periphery of the box and at or near the end thereof, so that whatever oil may run down shall drip from this flange into the cup, as capillary attraction is not sufficient to carry it up the other face of the flange to the periphery of the box.

On the outer end of the shaft, beyond the journal *c*, there is a similar arrangement of parts, but recessed, and marked with corresponding letters. This will catch and prevent the waste of oil at the outer end of the journal. When desired, this cup or hollow wheel can be secured to the face of the pulley *o* or made part of the pulley by which the shaft is to be driven.

By the means above described we not only prevent the possibility of any oil from the journals reaching the shaft and picker or other instruments thereon, but at the same time save all the oil which would otherwise be wasted; and although we have described our said improvement as applied to the pickers of hat-

forming machines, for which it was specially invented, we do not wish to be understood as limiting our claim of invention to such application, as it will be obvious that it can be advantageously applied to all shafts where it is desirable to prevent the oil from being wasted or thrown from the shaft.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The rotating cup or hollow wheel, substantially such as herein described, in combination with a shaft and journal-box, and placed with its open end next to and extending over the end of the journal-box, substantially as and for the purpose specified.

2. In combination with the rotating cup or hollow wheel on the shaft, and extending over the end of the journal-box, the projecting flange on the end of the journal-box, substantially as and for the purpose specified.

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Witnesses:

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