

L. COBURN.

DEVICES FOR OILING SPINDLES IN SPINNING-FRAMES.

No. 194,765.

Patented Sept. 4, 1877.

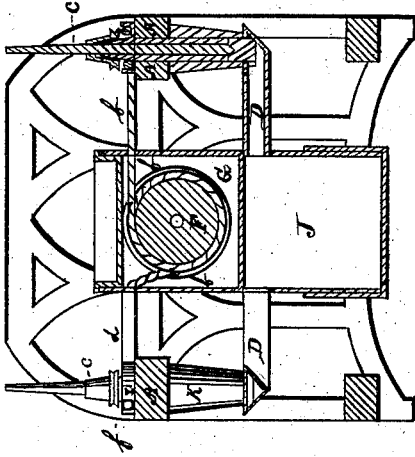


Fig. 2.

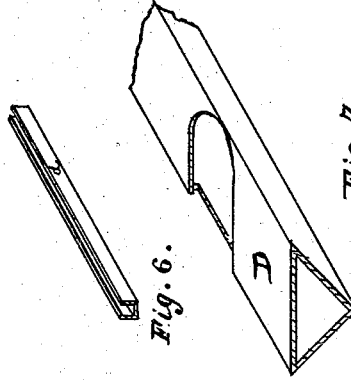


Fig. 6.

Fig. 7.

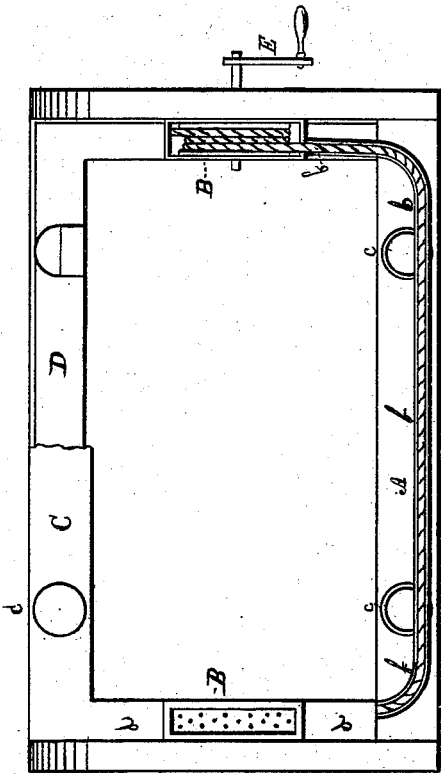


Fig. 1.

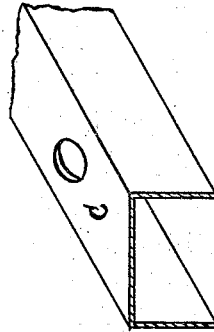


Fig. 4.



Fig. 5.

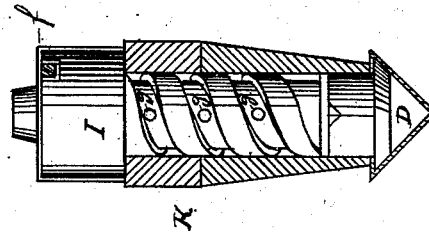


Fig. 3.

Witnesses.

John Luther
Moses W. Wheeler

INVENTOR.

Lemuel Coburn

L. COBURN.

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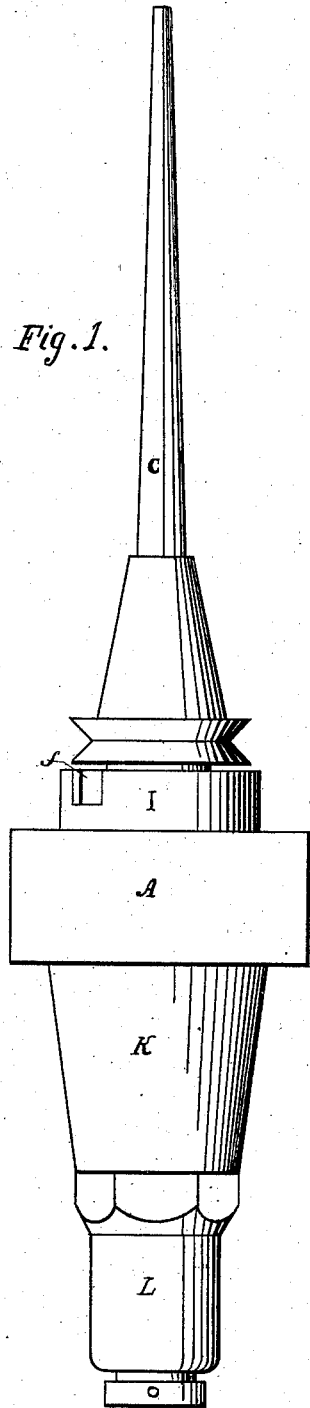


Fig. 1.

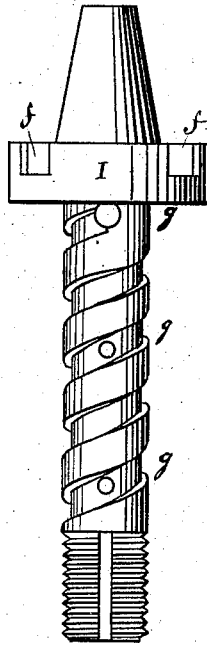


Fig. 3.

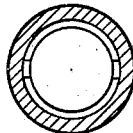


Fig. 4.

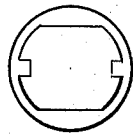


Fig. 5.

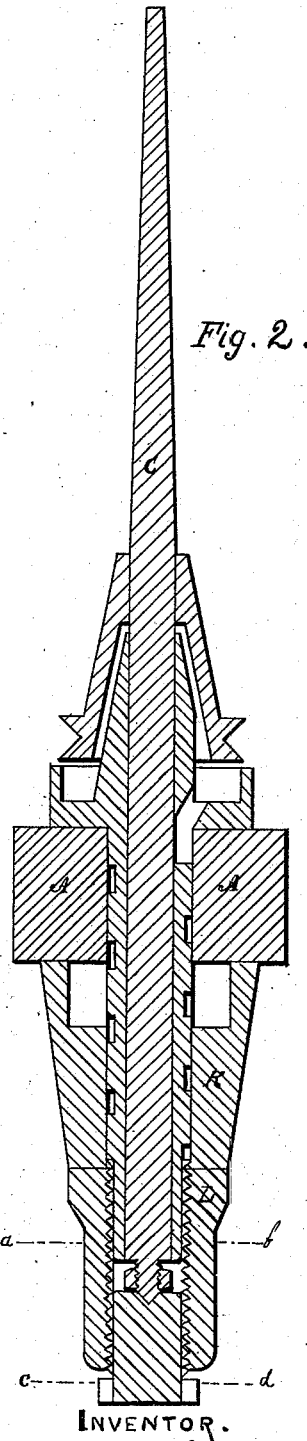


Fig. 2.

INVENTOR.

Witnesses.

Jonas Luther
Moses W. Wheeler

Lemuel Coburn

UNITED STATES PATENT OFFICE.

LEMUEL COBURN, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN DEVICES FOR OILING SPINDLES IN SPINNING-FRAMES.

Specification forming part of Letters Patent No. 194,765, dated September 4, 1877; application filed February 14, 1877.

To all whom it may concern:

Be it known that I, LEMUEL COBURN, of the city and county of Worcester, Commonwealth of Massachusetts, have invented certain new and useful Improvements for Lubricating Spindles in Spinning-Frames; and I do hereby declare the following to be a full and clear description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, which make a part of this specification.

The object of this invention is to deliver a constant supply of fresh clean oil to the bearings of spindles in the bolsters of spinning-frames without stopping the machine while spinning, thereby obviating the use of oil-cans and the usual waste of oil; and it consists in placing small oil-tanks at each end of the frame, in which there is a pulley revolved that is partially immersed in oil, and a small metallic tube set in the flanges of the bolsters and near to the spindles, extending the entire length of both sides of the frame, and turned at the ends of the frame, so as to connect with the tanks. A small outlet is made in the tube opposite each bolster to permit oil to escape to the spindles. A fibrous cord is laid through the entire length of the tube on each side of the frame, and banded around the pulleys in the tanks of oil. These cords are adjusted on the pulleys, so as to be drawn back and forth in the tube by revolving the pulleys in the tanks of oil by hand or other power, and when so operated they take along with them fresh clean oil sufficient to lubricate constantly all the spindle bearings and steps in each of the bolsters in a frame of one hundred and twenty spindles or more.

These appliances can be used successfully in connection with the ordinary bolster, but the one I have constructed for the purpose, as herein shown, is best adapted for this arrangement.

In this bolster a flange is formed at the top of the same for the oil-tube to rest in, and a spiral groove is formed on the outside of the inner spindle-bearings, which extends from the flange to the lower end of the bolster, and has holes pierced from the groove through to the bearings, so that the oil circulates in and around the spindle-bearings more perfectly.

The bolster is supported in the spindle-rail by the flange at the top side of the rail, and the sleeve which incloses the spiral groove below the rail. A nut at the end of the bolster presses the sleeve to the under side of the rail, and, together with the flange above, holds the sleeve in its place and the bolster securely in the rail.

In the end of the bolster I place a small screw-plug for the step of the spindle. A small outlet is made at this lower end of the bolster, and a conductor adjusted beneath extending along under each one of said bolsters receives the surplus oil and returns it to the oil-tanks to be used over again. The frame need not be stopped at any time for oiling, and the floor and the machine are kept clean, and much labor saved.

In the drawings, Figure 1 represents an upper and lower section of a frame cut down, showing the appliances. Fig. 2 represents an end view of the frame, a bolster and spindle adjusted in the rail, a sectional internal view of the bolster and spindle, and also the position of the oil-tank and pulley, cord, and drip-tank. Fig. 3 represents the bolster with a section of the sleeve taken off, showing the spiral groove. Fig. 4 represents a section of covering for the tube *d*. Fig. 5 represents a section of tube *d* and cord *b*. Fig. 6 represents a section of tube *d*. Fig. 7 represents a section of the conductor *D*. Fig. 1 in Plate 2 represents an elevation of the bolster and spindle adjusted in a section of the spindle-rail. Fig. 2, Plate 2, represents a sectional view of the same; Fig. 4, Plate 2, a sectional end view on line *a b*, Fig. 2; Fig. 5, Plate 2, a sectional end view on line *c d*, Fig. 2; and Fig. 3, Plate 2, the bolster with the sleeve taken off, showing the spiral grooves.

A in Figs. 1 and 2, Plate 1, represents the spindle-rail of the frame, and *c* the spindles, which are substantially the same as in nearly all spinning-frames for spinning cotton and woolen yarns. *G G* are the oil-tanks, which may be made of galvanized sheet-iron; and *F F* the pulleys adjusted in the tank *G*, so as to be revolved while being partially immersed in the oil. *d* is the tube adjusted in the slots *f* of the flanges of the bolsters *I*, and extending, as has been said, the entire length of both

sides of the frame, the ends thereof being turned or curved, so as to connect with the oil-tank G. Cord *b b* is laid through the entire length of the tube *d*, and banded around the pulleys F in the tanks of oil, and adjusted so as to be moved back and forth through tube *d* by revolving the pulleys F by hand or other power.

I is the bolster, having flanges at the top, with slot *f*, for tube *d* to rest in. This bolster has a spiral groove outside the spindle-bearing, with holes pierced at intervals from the said groove through to the spindle-bearings, for the purposes heretofore stated.

D in Figs. 1 and 2, Plate 1, is the conductor adjusted at the lower ends of the bolsters I.

This conductor may be made of tin or sheet-iron. It takes all the surplus oil that passes through the bearings in the bolsters to tank J under the oil-tank G, (see Fig. 2, Plate 1,) where it is saved to be used over again.

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

The combination, with a spinning-frame, of the oil-tank G, pulleys F, cord *b*, tube *d*, and bolsters I, provided with small openings opposite the spindle-bearings, as and for the purposes herein specified.

LEMUEL COBURN.

Witnesses:

JONA. LUTHER,
MOSES W. WHEELER.