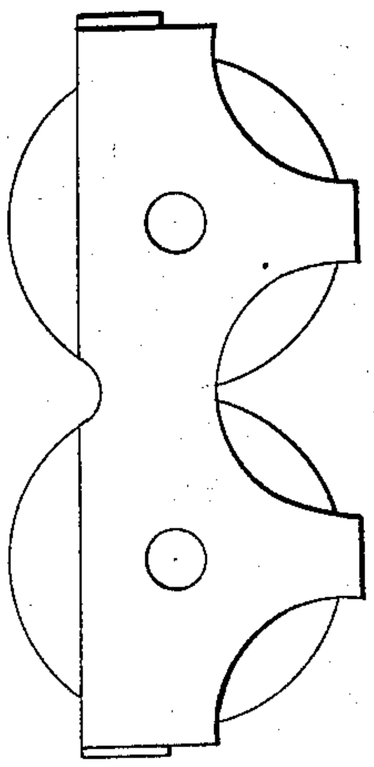
Dickinson & Merriman,

Anti-Friction Roller.

No. 657. Patented Mar. 28, 1838.



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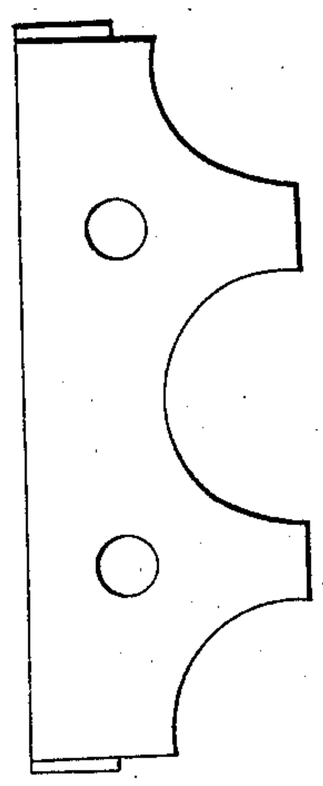

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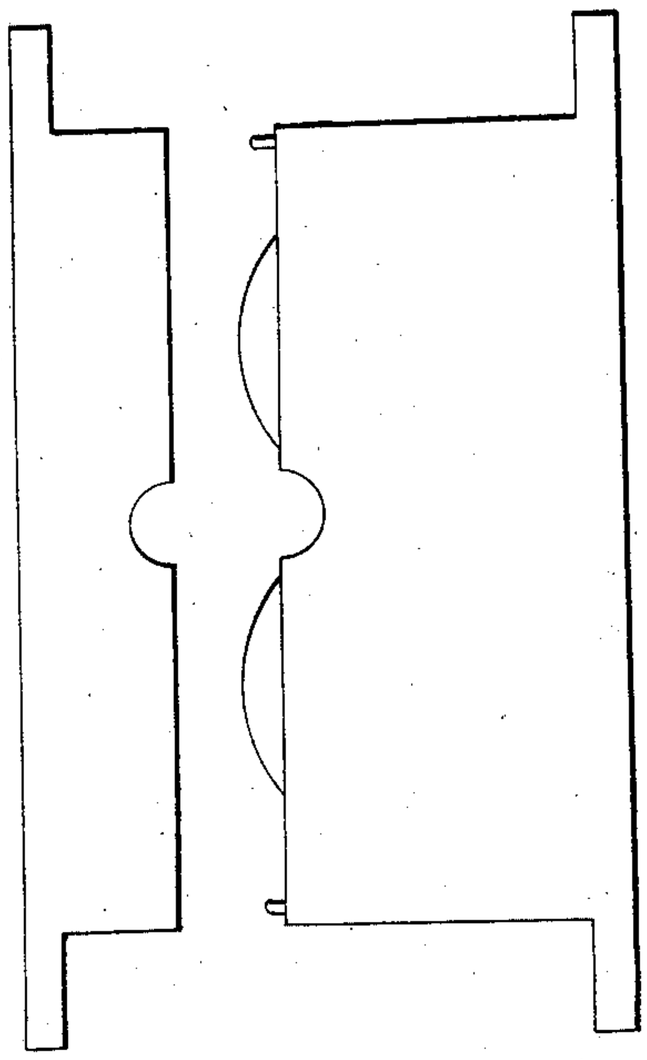

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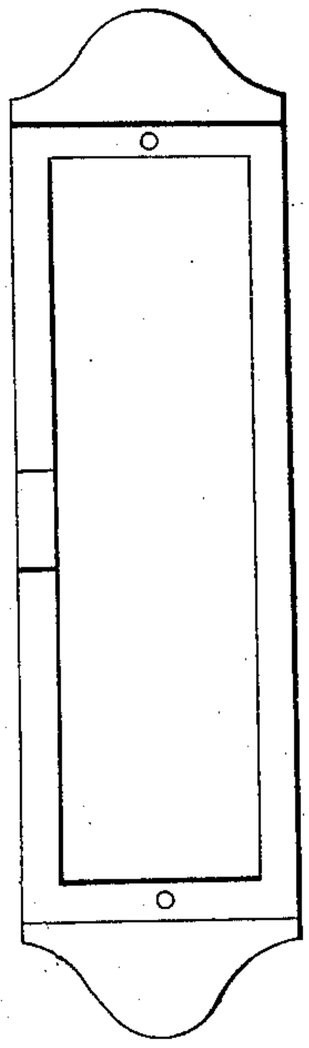

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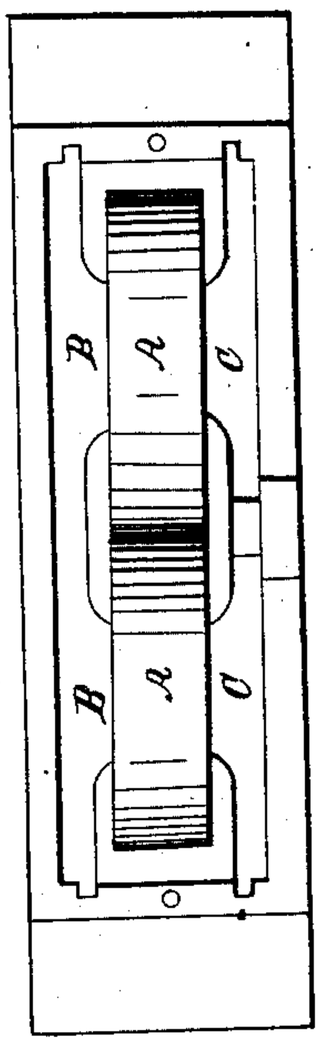

No. 3.

Witnesses.
Isaac Shepard
Attest

Inventor.
Rollin Dickinson
Samuel G. Merriman

UNITED STATES PATENT OFFICE.

ROLLIN DICKINSON AND SAMUEL G. MERRIMAN, OF SOUTHINGTON, CONNECTICUT.

MODE OF APPLYING FRICTION-ROLLERS.

Specification of Letters Patent No. 657, dated March 26, 1838; Antedated September 26, 1837.

To all whom it may concern:

Be it known that we, ROLLIN DICKINSON and SAMUEL G. MERRIMAN, both of Southington, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in the Mode of Constructing and Suspending Friction-Rollers; and we hereby declare that the following is a full and exact description.

The nature and object of our invention consists, in so forming the box and support for friction rollers, that they shall always run in oil, and be protected from dust and other interfering substances. To effect this and to enable others, skilled in the art, to make and use our improvement, we describe its construction and operation as follows:

The sizes of the boxes and rollers will vary according to the size, weight and speed of the shaft to run upon them. The box and rollers of a medium size and such as would be proper for a cotton gin or other ordinary machinery may be of the following dimensions, and consist of the following parts viz: a box or chest about ten inches long and about three inches wide on the inside, the sides and ends rising about four inches and forming a hollow square about nine by three inches inside, the sides and bottom being about half an inch thick. Within this box we place side pieces or bridges to support the rollers. These bridges are placed in close contact with the sides, resting on the bottom, and may be held in place by well fitted ends, by dovetails on the sides, or by grooves in the ends of the box. Between these bridges, before they are placed in the box, we insert the rollers, about four inches in diameter and three fourths of an inch thick, resting on axles inserted into the bridges and so placed and guarded by shoulders, as to revolve freely, near to but not touching each other. The box or chest should be made of cast iron or other suitable metal, in one piece and water tight, half an inch thick more or less except the bottom which may be more when the weight requires it, and it should extend beyond the ends of the box and form a flange to receive the bolts to hold it in place. On the side of the box, where the shaft would rest on the rollers we make an orifice to receive the gudgeon of the shaft; and over the whole on the top of the box we place a cover of cast iron, made exactly to fit the box and thereby exclude dust and all other foreign materials. This box or chest being made water tight we fill with oil, to the height of the gudgeon or shaft, so that when in motion the rollers and gudgeon will always run in oil. This improved mode is applicable to all mills, grindstones and other machinery running on gudgeons aided by friction rollers. The same box may be made to contain more rollers than two if the machinery requires it. Some of the advantages of this mode of construction, are that the parts of machinery exposed to friction, are not liable, by accident, by dust, or otherwise, to be suffered to work dry; but may be supplied with a constant fountain of oil, and be protected from the friction of all injurious substances—which in cotton mills is a great protection against fire occasioned by such friction.

For a more full illustration, we refer to the drawings with references accompanying this specification as part thereof.

We do not claim as our invention friction rollers as such, but

We do claim as our invention and improvement—

The mode of supporting friction rollers in a tight box, filled with oil, and working them in oil, covered from dust or other foreign substances, as specified above and therefor we ask for Letters Patent.

ROLLIN DICKINSON.
SAMUEL G. MERRIMAN.

Witnesses:
ISAAC SHEPARD,
JOHN WIGHTMAN.