8399X

# I. Clowe,

## Anti-Friction Roller,

Patented Sept. 9, 1834.

Fig. 2.

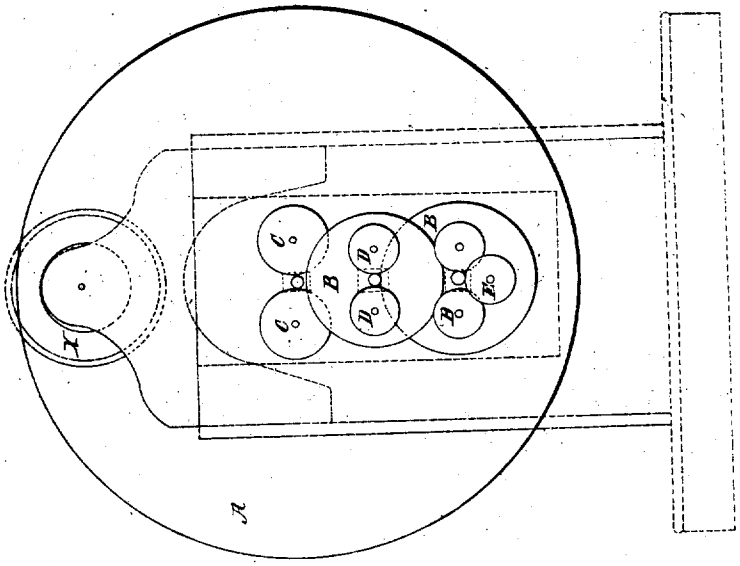
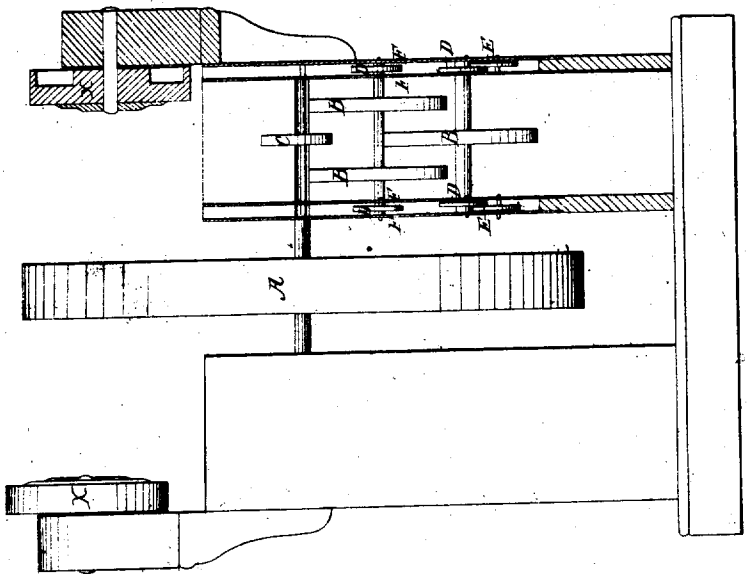



Fig. 1.



July 9 1834



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Isaac Blowes.

# Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said Isaac Blowes himself, of his improvement in overcoming friction on all kinds of Machinery by the application of compound friction rollers.

To all to whom these presents shall come.

Be it known, that I, Isaac Blowes, of Norfolk Borough in the County of Norfolk, and State of Virginia, have invented a new and useful improvement in the art of overcoming, or lessening of friction on all kinds of Machinery by the application of compound friction rollers and that the following is a full and exact description of the construction and operation of the machine as invented or improved by me, to show the advantages resulting from the application of friction rollers to all kinds of Machinery.

First I have eight or more frames made of brass, copper, cast iron or bar iron, or any other Material sufficiently strong to sustain the weight required, according to the size of the Machine, and so constructed as to contain seventeen large friction rollers between four of those frames. By screw bolts. There is to be attached to a large scale, seven moveable metal boxes, to each frame, in which the gudgeons of fourteen of the friction rollers play, surrounded by small friction roller in each box, of any size, or Metal, according to fancy. My model is built on a small scale, of half an inch to the foot, except the gudgeons, which are 1/4 of an inch to the foot, and exhibit my full plan and manner of placing the large compound friction rollers, without the moveable boxes, and the small friction rollers in them, on which the gudgeons of the large friction rollers play, which I do not claim as my invention. The large wheel represents the large wheel of a grist mill, or steam boat, of sixteen feet

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feet diameter, with its gudgeons or axles kept on the periphery of the two large friction rollers, by two small side friction rollers of one inch diameter. Each of those F. rollers are on a deale of one inch to the forth. Then the axles of this large, two inch double friction roller is kept in its station with the centre of its axle revolving on the periphery of one large friction roller of 3¼ inches diameter, and is kept in its station by four side friction rollers; then this large 3¼ inch friction roller is likewise kept in its station by four other side friction rollers, the gudgeons of which role over on the periphery of two other large F. rollers of one inch and ¼ diameter, the gudgeons of these inch and quarter F. rollers play in the brass boxes as you see in this model, as do all the side friction rollers, which I claim as my invention, but on a large scale, they will all play in the boxes surrounded by the small friction rollers as above stated. The axle trees of a carriage, car, or gudgeon of a mill, may be turned off, much smaller than usual, not allowing any thing for wear; then to prevent their ever wearing altogether, a brass composition or metal box is placed permanent on to them, which makes them but little, if any, larger than is common, when calculating them to wear a long time. Then four of those frames are to be attached together at proper distances, with screw bolts and thimbles or washers, with all their friction rollers as above stated, and are to be placed under each gudgeon of a steam boat or grist Mill, or on the top of each axle tree of a car, or carriage, where the friction is intended to be lessened or overcome. What I claim as my invention or improvement, is, the mode of preventing the axles or gudgeons from wear by applying composition or metal boxes of any kind, stationary or otherwise, around them, and the method of applying the large friction rollers with the frames and moveable boxes, & with or without the small friction rollers under the gudgeons of the large friction rollers, which are not

immediately

immediately under the axles of gears or gudgeons &c, as usual, or thereto fore applied, preventing both friction and wear on those large friction rollers that move remarkably slow to what the axletrees or main gudgeons do.

Witnesses
Robt. Clarke
Henry Clerk

Isaac Clowes.

(191 words)

Drawing

(Granted September 9. 1834)