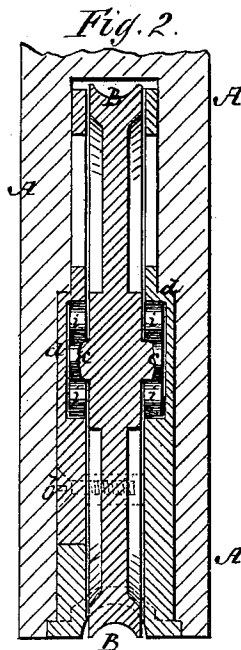
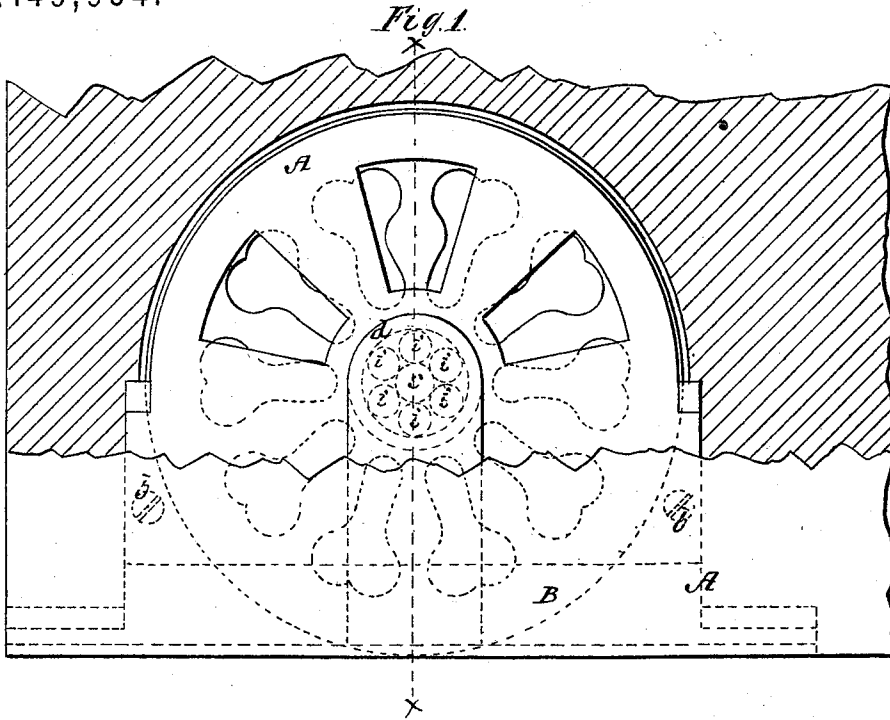


J. COLLINS.
Door-Hangers.

No. 149,994.

Patented April 21, 1874.



Witnesses.

E. Wolff.
Jacob Felbel

Inventor.

John Collins
By his attorney
J. M. L. L. L.

UNITED STATES PATENT OFFICE.

JOHN COLLINS, OF HOHOKUS TOWNSHIP, BERGEN COUNTY, NEW JERSEY,
ASSIGNOR TO HOPKINS AND DICKINSON MANUFACTURING COMPANY.

IMPROVEMENT IN DOOR-HANGERS.

Specification forming part of Letters Patent No. **149,994**, dated April 21, 1874; application filed
March 21, 1874.

To all whom it may concern:

Be it known that I, JOHN COLLINS, of Hohokus township, Bergen county, in the State of New Jersey, have invented a new and useful Improvement in Sliding Door-Sheave; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Previous to my invention, all the sheaves with which I am familiar have been more or less impracticable, owing to certain defects in construction.

The objects and ends of my invention are to overcome all the various objections and provide a sheave simple and economic in construction, and perfectly practicable in operation; and to these ends and objects my invention consists in a sheave for sliding doors, &c., constructed with a properly-grooved pulley or wheel, having trunnions, and mounted in a frame or housing, in which are formed casings for, and in which are placed two sets of anti-friction rolls or wheels, as will be hereinafter more fully described.

To enable those skilled in the art to make and use my improved fixture, I will proceed to more fully to describe its construction and operation, referring by letters to the accompanying drawings, in which—

Figure 1 is a side elevation; and Fig. 2, a vertical cross-section of the same.

A represents the cast-iron frame or housing, which is made in two parts, as shown, bolted together at *b b*, and which is adapted to be let into the door in the usual manner. B is the wheel, the face of which is grooved, or otherwise formed, to properly adapt it to the kind (or shape) of rail on which it is to travel. This wheel B is formed with two trunnions or laterally-projecting axes, *c c*, around each of which is arranged a series or set of anti-friction rolls or wheels, *i i*, &c., about six in number, and about equal in diameter to the diameter of the axes *c*. These anti-friction wheels take their bearings in the dished-out portions *d d* of the frame A, the whole being so constructed and arranged together that while the wheels *i* bear their peripheries against the in-

ternal circumferences of these portions *d* of the frame, and also against each other, the axles or trunnions *c c* are respectively held in suspension between each (surrounding) set of wheels *i*, as clearly illustrated. By this arrangement it follows that whenever the wheel B is rotated its axes *c c* will revolve against the moving peripheries on the anti-friction wheels *i*, which in turn will rotate about their axes, and at the same time travel round within the dish-like receptacles *d* of the frame.

As thus all the surfaces of contact are moving together, it follows that very little friction or wear will occur, and that the fixture will work with great ease.

In the sides of the housing A are formed openings at *f*, through which the working parts may be examined, and at which oil may be applied to lubricate the journals and wheels. I propose in the manufacture of my improved fixture to make the wheel B and housing A of cast-iron, as usual, and the anti-friction rolls *i* of steel.

It will be observed that in a fixture made according to my invention the diameters of the axes and anti-friction rolls can be proportioned as desired, and can be made just as great as may be deemed best, without any enlargement of the hub of the wheel, since to increase the size of the parts named only necessitates an enlargement of the receptacles *d d* of the housing or frame A.

Having so fully described my improved fixture that any one skilled in the art can make and use it, what I claim as new therein, and desire to secure by Letters Patent, is—

The combination, with a wheel, B, having trunnions or axes *c c*, of a frame or housing, A, formed with circular receptacles, *d d*, and two sets of anti-friction wheels, *i i*, the whole constructed and arranged to operate substantially in the manner and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 11th day of March, 1874.

JOHN COLLINS. [L. S.]

In presence of—

HENRY R. WANMAKER,
JOHN N. BLAKELEY.