

*L. G. Mason,
Friction Clutch.*

N^o 57,352.

Patented Aug 21, 1866.

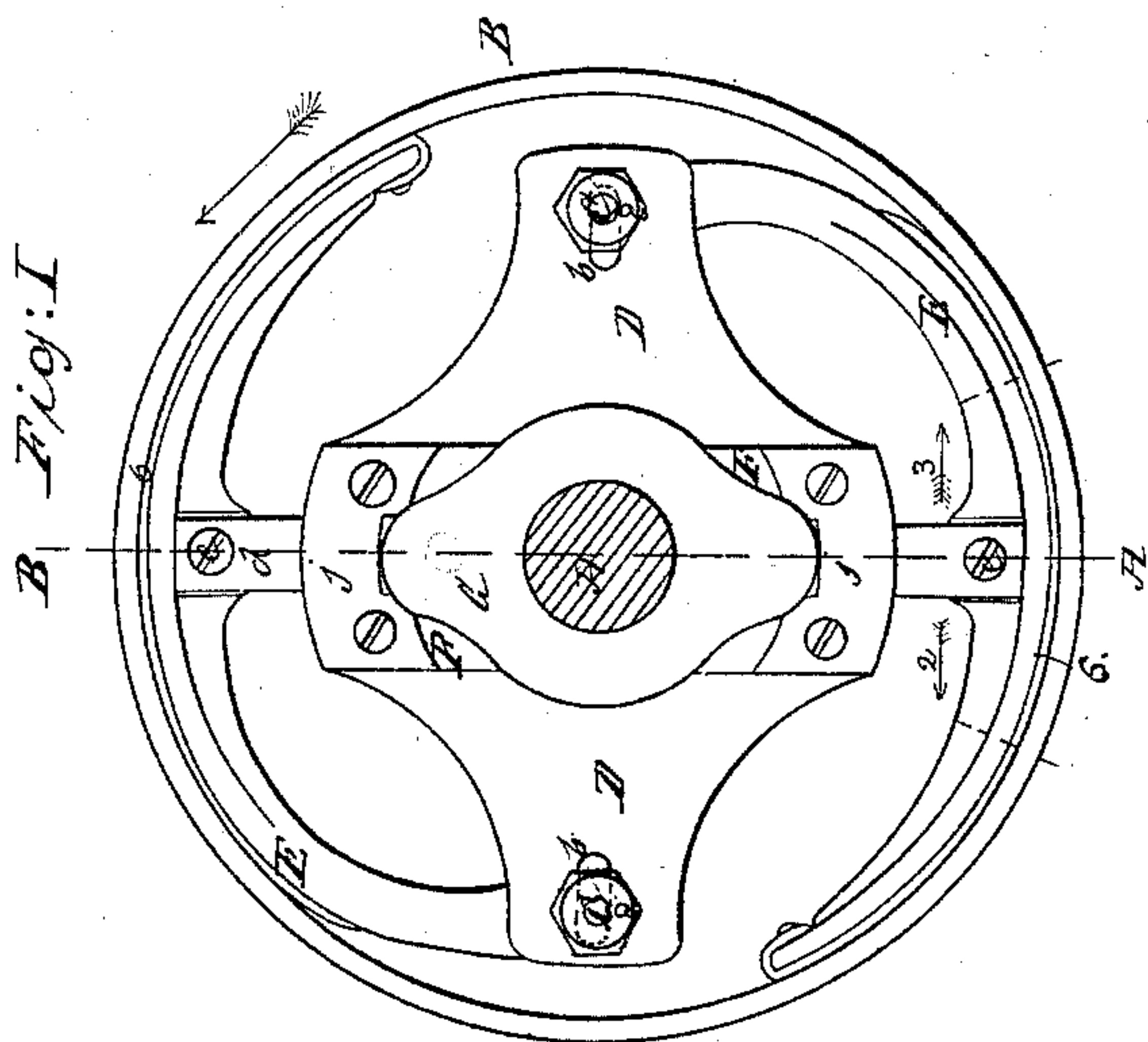


Fig: 4

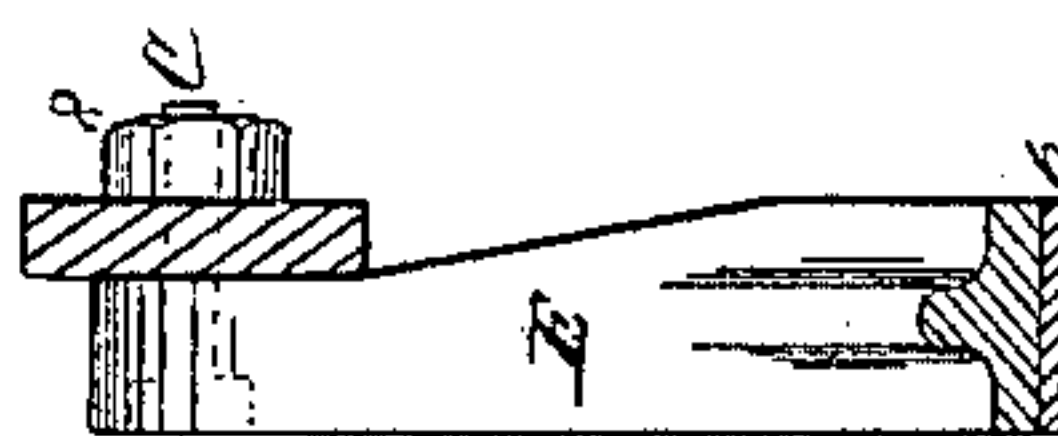


Fig: 3

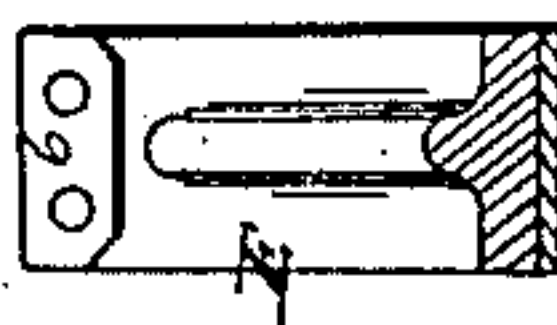
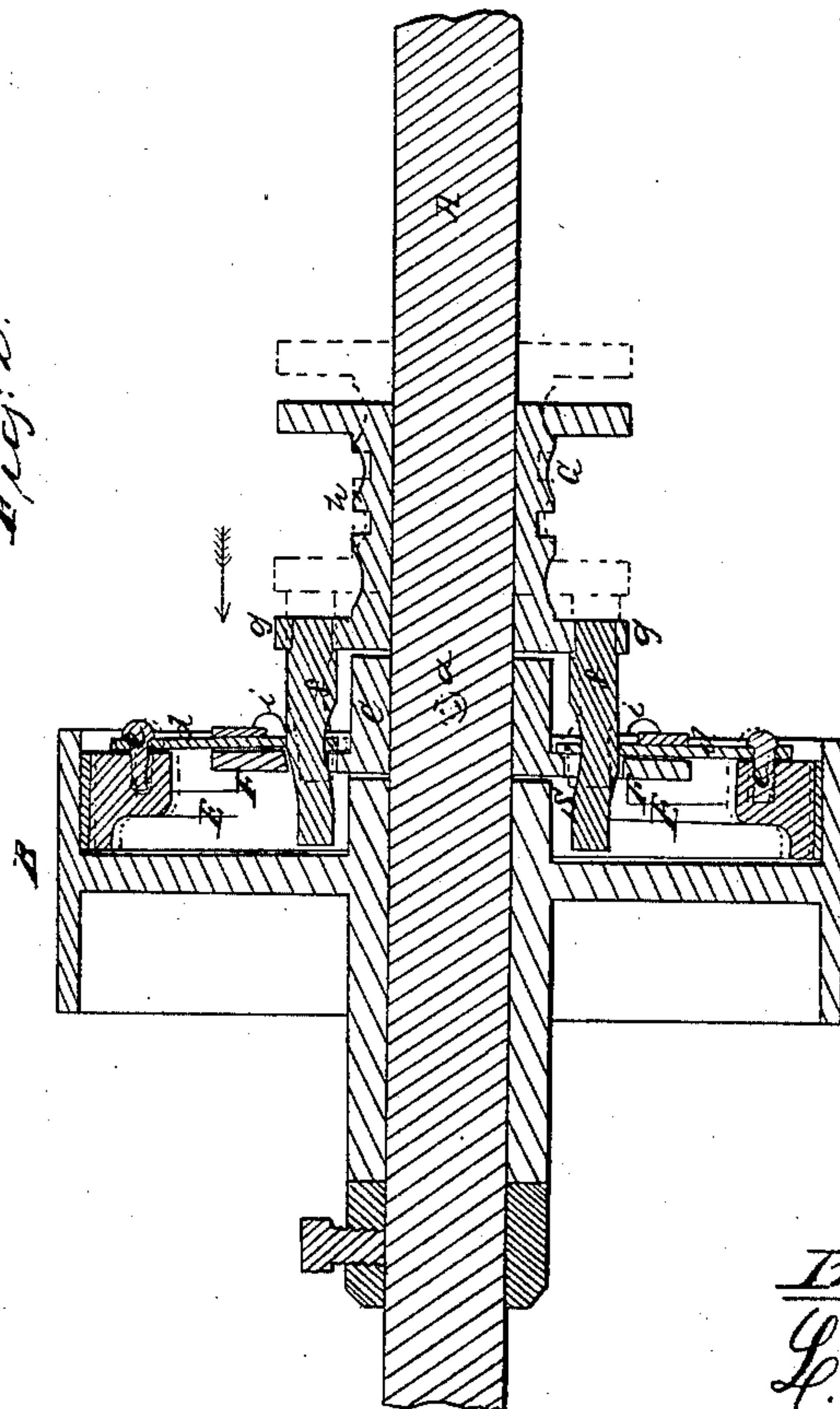


Fig: 2



Witnesses:

*Thos. H. Dodge
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Inventor:

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UNITED STATES PATENT OFFICE.

L. G. MASON, OF WORCESTER, ASSIGNOR TO HIMSELF AND S. S. BARBER,
OF FITCHBURG, MASSACHUSETTS.

IMPROVED FRICTION-PULLEY.

Specification forming part of Letters Patent No. 57,352, dated August 21, 1866.

To all whom it may concern:

Be it known that I, L. G. MASON, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Friction-Pulleys; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side view of a pulley applied to its shaft. Fig. 2 represents a longitudinal central section on line A B, Fig. 1. Fig. 3 represents a cross-section of one of the friction-arms, looking in the direction of the arrow 2; and Fig. 4 represents a similar view of the other end of the same friction-arm, looking in the direction of arrow 3.

To enable those skilled in the art to make and use my invention, I will proceed to describe it.

In the drawings, A represents the shaft, upon which is placed the loose-pulley B and the friction-lever frame C, the latter being fastened to shaft A, in this instance, by a set-screw, *a*. (Seen in dotted lines in Fig. 2.)

Frame C has two projecting arms, D D, each of which has a slot, *b*, in which is placed a headed pivot-bolt, *c*, which supports the rear end of a friction-lever, E, which is also pivoted at *e* to a slide-piece, *d*, which is arranged to slide up and down in a groove or slot in a flange, F, upon the friction-lever frame C.

The slide-pieces *d* have holes at their inner ends, through which cam-forks *f f* pass, the latter being fastened to projections or ears *g g* upon the shipper-piece G, which has a groove, *h*, and is operated in the usual manner by a fork or clutch lever.

The operation is as follows: Pulley B is loose upon shaft A, and is to be driven by a belt, which is always in motion during working hours.

When it is desired to operate shaft A, and thus put in motion any machinery connected with or driven by it, the operator forces the shipper-piece G toward pulley B, thereby forcing forks *f f* also in the same direction, whereby the cam-surfaces *i i* cause slides *d*

d to move toward the periphery of wheel B, and thus bear the outer surface of the friction-arms E against the inner surface of a part of wheel B, as shown in dark lines, Fig. 2.

As wheel B turns in the direction of arrow 1, as soon as the friction-arms E come in contact with the inner surface of the rim of wheel B the face of the pulley has a tendency to cause arms E E to expand and hug the rim of the wheel still closer, so that shaft A is caused to revolve with pulley B as long as the forks *f f* remain in the position shown in black lines, Fig. 2.

When, however, it is desired to stop shaft A, the operator throws the shipper-piece G back, as shown in red lines, Fig. 2, by which operation the cam-surfaces *s s* of the forks *f f* strike against the inner surfaces of the slots in slides *d d*, and withdraw the slides toward shaft A, as indicated in red lines, Fig. 2.

By this movement of the parts the friction-arms E E are withdrawn from contact with pulley B, and shaft A stops.

In this instance a leather covering, 6, is applied to the outer surface of the arms E; but, if desired, they can be used without such covering.

Again, in the drawings, plates *j j* are screwed on to hold slides *d d* in place in the slots in flange F; but the flange might be cast whole and cored out, so as to obviate the necessity of screws or extra plates.

The friction-lever frame C might be cast with a flange to extend in over the hub 7 of wheel B, and thus give the ends of forks *f f* a support as they are moved back and forth.

If at any time it is desirable to have the friction-levers E E thrown farther out nut 8 is loosened and bolt *c* moved in slot *b* toward shaft A the proper distance, after which nut 8 is screwed up again.

It will thus be seen that this friction device can be easily adjusted to compensate for any wear of the parts.

The device is simple in construction, not liable to get out of order, and thus obviates many of the objections to the various friction-pulleys now in use.

One or more friction arms or levers E may

be employed to operate in connection with each pulley.

Having described my improved friction-pulley, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of a hinged friction-lever, E, with the slide *d*, frame *c*, and shipper-piece G, with a cam-fork, *f*, substantially as and for the purpose set forth.

2. Making flange F with slots to receive the slides *d*, in combination with providing arms D with slots *b*, for the purposes stated.

L. G. MASON.

Witnesses:

THOS. H. DODGE,
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