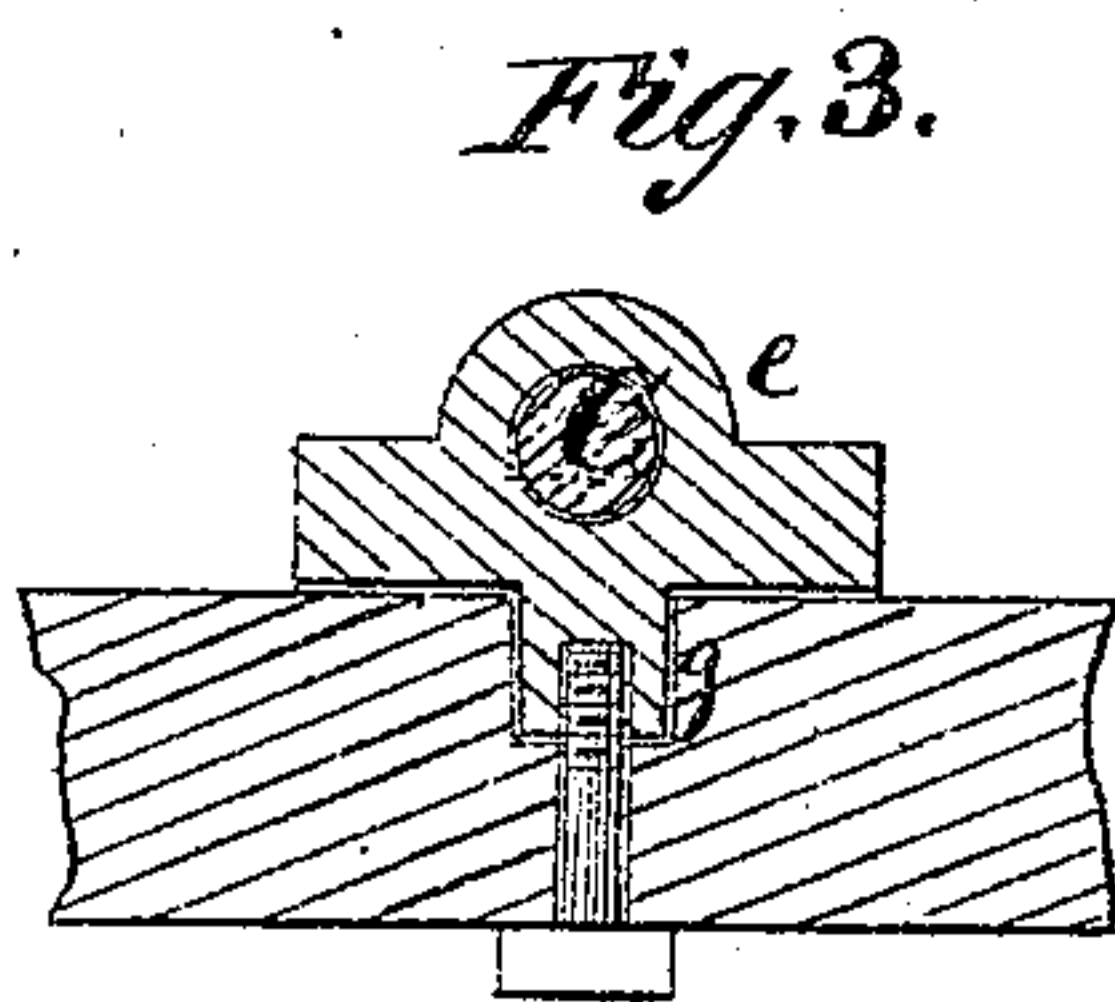
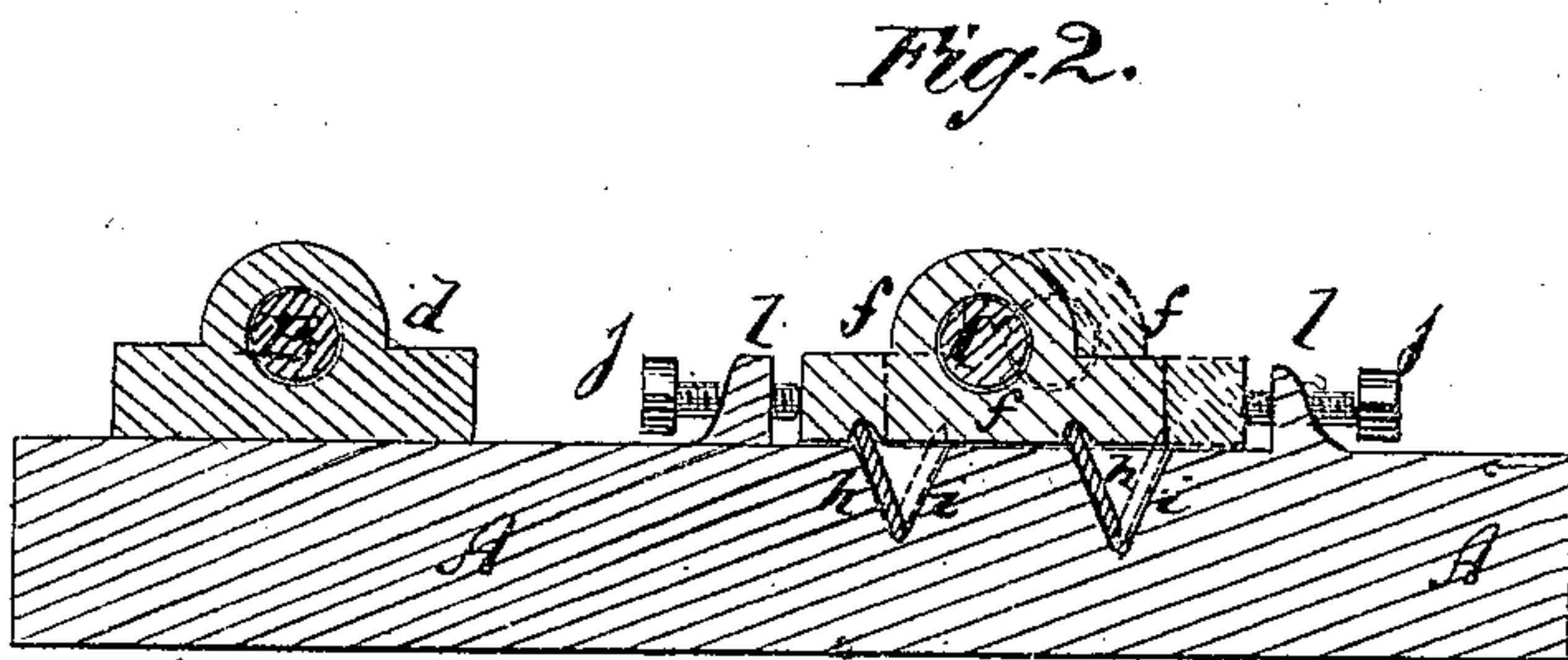
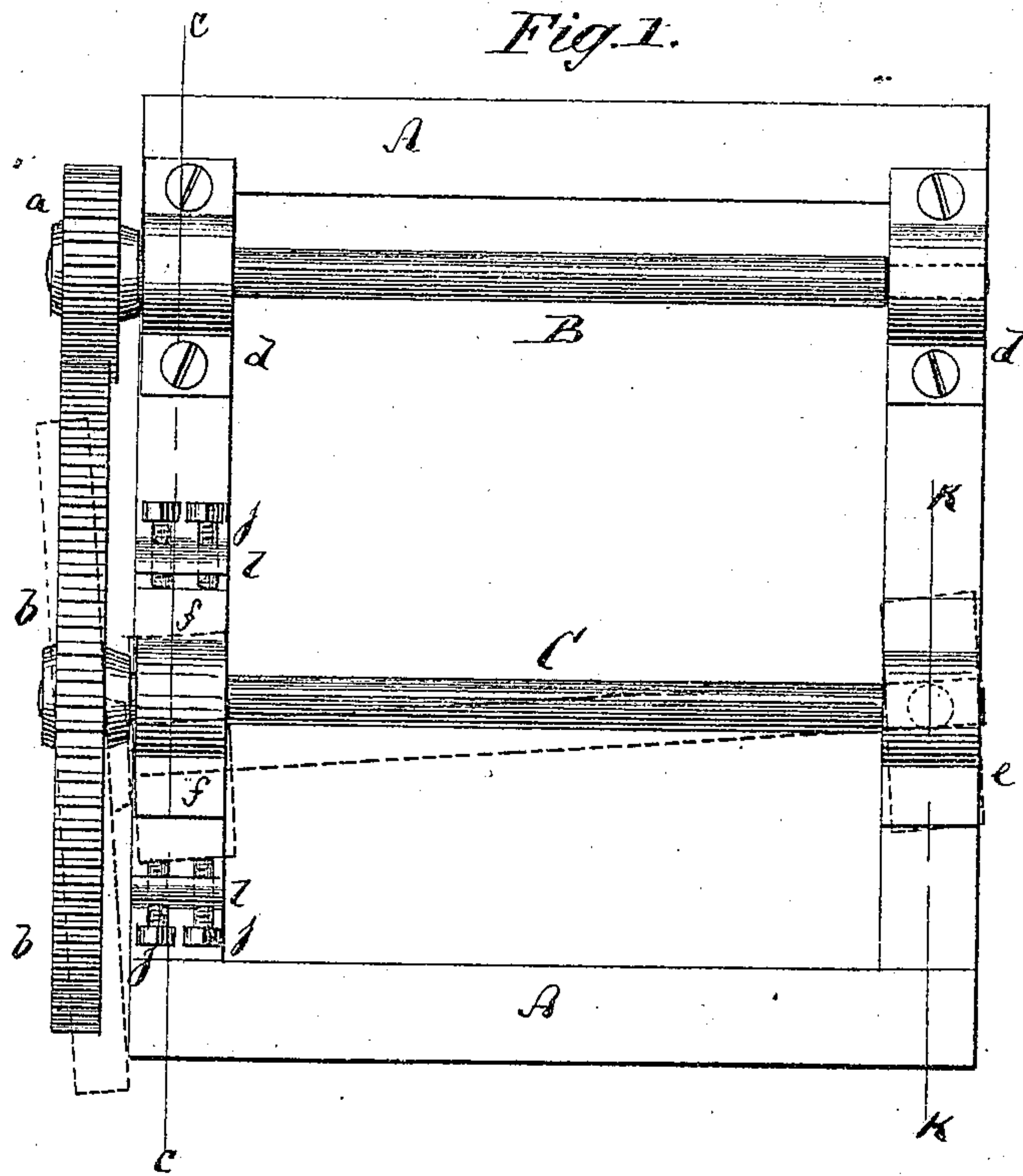


F. N. BIXBY.

Shipping Mechanism for Machinery.

No. 136,483.

Patented March 4, 1873.



Witnesses.

John Becker
Fred Hough

F. N. Bixby
per Walter Brown & Allen
Attorneys

UNITED STATES PATENT OFFICE.

FREDERICK N. BIXBY, OF WEST MERIDEN, CONNECTICUT.

IMPROVEMENT IN SHIPPING MECHANISMS FOR MACHINERY.

Specification forming part of Letters Patent No. 136,483, dated March 4, 1873.

To all whom it may concern:

Be it known that I, FREDERICK N. BIXBY, of West Meriden, in the county of New Haven and State of Connecticut, have invented an Improved Shipping Mechanism for Machinery, of which the following is a specification:

This invention relates to a new means for throwing gear-wheels that are mounted upon their shafts into and out of gear, and has for its object to insure a speedy and reliable movement of the shipping movable gear, and avoid the injurious rattling of the gear-wheels against the outer parts of their teeth, respectively, which so frequently occurs in the machinery now employed with movable gears.

My invention consists in fitting under the movable journal of the shipping-shaft a tumbling block or link, which rests in the supporting-frame, and fits against the under side of the said box or journal, in such manner that when said box or journal is moved into or out of gear the said tumbling block or link is brought from an inclined to a vertical position, and thereby caused to raise the box or journal off the supporting-frame, making it, by its own weight and impetus, complete the desired motion, in whichever direction the same may have been started. By this means the weight of the running-gear and shaft is not only utilized to complete the desired movement, but moreover an inclined motion is produced which will greatly facilitate the proper fitting together of the two gears.

In the accompanying drawing, Figure 1 represents a plan or top view of my improved shipping mechanism. Fig. 2 is a vertical section thereof on the line C C, Fig. 1. Fig. 3 is a vertical section thereof on the line K K, Fig. 1.

Similar letters of reference indicate corresponding parts in the three figures.

The letter A represents the frame on which the shafts B and C, carrying gear-wheels *a b*, respectively, are supported. The shaft B is hung in fixed bearings or journals *d d*, while the shaft C is at one end hung in a pivoted bearing, *e*, and at the other end in a sliding bearing, *f*. The bearing *e* is in the custom-

ary manner pivoted by a vertical pin, *g*, as shown in Fig. 3, to the frame A. Between the bearing *f* and the supporting-frame A, are interposed two, more or less, blocks or tumbling-plates, *h*, which rest with their lower ends in V or other shaped recesses *i*, cut into the frame A, as shown in Fig. 2, while their upper ends enter notches or creases in the lower surface of the box *f*. When the box *f* rests on the frame A, as in Fig. 2, the blocks or plates *h* are in an inclined position and when the same is moved lengthwise on the frame A, it carries the blocks with it, at least their upper ends, and in vibrating them it causes them to assume a vertical position, and thereby to slightly raise the said box or journal *f* off the frame. When in its elevated position it is natural that the box, under the weight of the shaft C and gear-wheel *b*, and under the impetus of its movement, will swing of its own accord to the side toward which it is being moved, and thus aid the motion which has been imparted to it by the shipping-lever, or otherwise. The shipping-lever is not shown in the drawing. It may in suitable manner be connected with the shaft C or box *f*.

When with this arrangement the wheel *b* is to be thrown into gear, it is moved from the position shown by dotted lines in Fig. 1 to that shown by full lines in the same figure, and is by being so moved raised, as above stated, and caused to drop in an inclined position toward the wheel *a*. Thus the resistance of said wheel to receive the wheel *b* into gear with it will be overcome, not only by the power applied by the shipping-lever, but also by the aforementioned inclined motion of the last-named wheel, and of the shaft C. The same kind of motion will take place when the wheel *b* is thrown out of gear.

jj are set-screws fitted through lugs *l* that project from the frame A, and bearing with their ends against the ends of the box *f*, for the purpose of defining and limiting the motion of the same. By means of these set-screws, which constitute another feature of my invention, the degree of motion of the box *f* can be varied at will, and also the de-

gree to which the teeth of the two gear-wheels enter between each other.

Claims.

1. The tumbling plate or block *h*, fitted under the movable box *f* of the shipping mechanism for elevating said box during the shipping movement, as set forth.

2. The combination of the set-screws *jj*, with the movable box *f* and tumbling plate *h*, substantially as specified.

FREDERICK N. BIXBY.

Witnesses:

CHAS. H. SHAW,
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