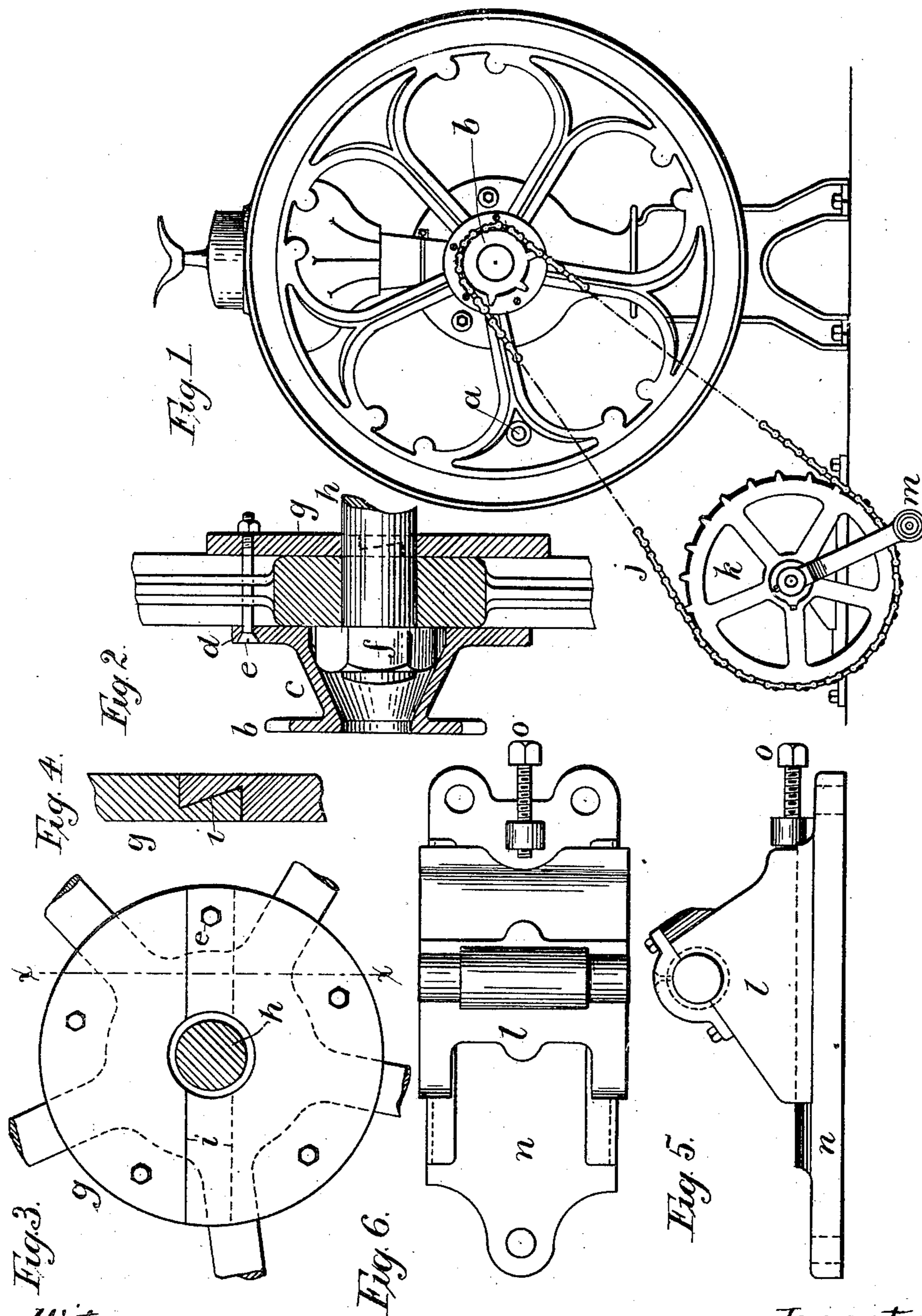


No. 693,642.

Patented Feb. 18, 1902.

J. W. CUSHING.
SPEEDING ATTACHMENT FOR MILLS.

(Application filed Mar. 29, 1901.)



Witnesses:
E. M. Howatson
Carlyle Geisler

Inventor,
John Wesley Cushing
by J. Geisler
Atty.

UNITED STATES PATENT OFFICE.

JOHN WESLEY CUSHING, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF
ONE-HALF TO GEORGE R. ELLIOTT, OF BAKER CITY, OREGON.

SPEEDING ATTACHMENT FOR MILLS.

SPECIFICATION forming part of Letters Patent No. 693,642, dated February 18, 1902.

Application filed March 29, 1901. Serial No. 53,525. (No model.)

To all whom it may concern:

Be it known that I, JOHN WESLEY CUSHING, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Speeding Attachments for Mills, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

My invention relates particularly to coffee-mills used in retail stores. Such mills are used at frequent intervals during the day, and though, perhaps, generally operated only for a short while at any one time the work is laborious. What makes the work especially tiresome is the required long reach of the arm and consequent motion of the entire body to rotate the fly-wheels by the crank-handle. The advantage due to the great leverage obtained by placing the crank-handle as far as possible from the axle of the wheels is more than offset by such muscular exertion.

The object of my invention is to obtain an accelerating-gearing which can readily be applied to the standard mills now on the market for the purpose of rendering the same operable at high speed and in order that the force so developed may be brought into play to do a part of the work required and the labors of the operator correspondingly relieved.

The construction and operation of my speeding attachment are illustrated in the said drawings, which represent as follows:

Figure 1 is a side elevation of a mill having my attachment applied thereto for operating the same, as above mentioned. Fig. 2 is a transverse vertical section, on an enlarged scale, showing a portion of the mill-axle and the central part of the fly-wheel and the construction and attachment to the face of the fly-wheel of the smaller sprocket-wheel forming one of the elements of my invention. Fig. 3 is an elevation of the central portion back of the fly-wheel of the mill, showing the two-part plate adapted to receive one end of the bolts securing the small sprocket-wheel on the face of said fly-wheel. Fig. 4 is a partial transverse section on the line $x-x$ of Fig. 3, showing the beveled lips with which the

meeting edges of the two portions of the plate g are provided in order to interlock with each other. Fig. 5 is an elevation of the adjustable box for carrying the larger sprocket-wheel, and Fig. 6 is a plan of such adjustable box.

The letters designate the parts referred to throughout the several views.

In Fig. 1 is shown in elevation a coffee-mill of the well-known type. The handle has been removed from its usual threaded socket a . On the face of the hub of the fly-wheel is secured the smaller sprocket-wheel b . The construction of such smaller sprocket-wheel is more readily seen from Fig. 2 and comprises the sprocket-wheel portion having a base c , shaped like a truncated cone and provided with a flange d , suitably perforated in order to receive bolts e , whereby such sprocket-wheel is secured in place.

The particular form of the attachable sprocket-wheel just described is required because the hub of such wheel must be adapted to straddle the adjustment-nut f of the mill-axle, since, as stated, it was my object to so construct my invention that it could be conveniently attached to the coffee-mill as now common to the market without making any changes in the construction of such mill. The small sprocket-wheel b is securely fixed to the fly-wheel by means of the two-part back plate g , which is provided with perforations registering with those in the flanges d to receive the bolts e , the bolts having heads at one end and threads on the opposite ends to receive the nuts for clamping the parts firmly together. It was necessary to make the back plate g in two pieces in order that the same might be affixed around the mill-axle h . The two pieces of the back plate g are provided at their inner meeting edges with beveled interlocking lips i , so that when such two pieces have been properly adjusted and the bolts e are in place such back plate would render the same service as if it were made in one piece. Such construction I believe essential because the sprocket-wheel b is held on the fly-wheel by the binding action of the bolts e exerted on the flanges d and the back plate g , and should any of the bolts become loose those still tight would be sufficient to

hold the parts unitedly together, while if either of the portions of the back plate became loose and should slightly shift in place a proper operation of the speed devices might
5 be materially interfered with. It will also be observed that the construction of the interlocking two parts of the plate *g* is such as to require but a single casting, so that either part becoming broken may be readily re-
10 placed, the perforations being made where required. The smaller sprocket-wheel is operated by a sprocket-chain *j* from the larger sprocket-wheel *k*, the axle of which is jour-
15 naled in an adjustable box *l* and provided with a crank-handle *m*. The box *l* is slidably mounted on the base *n*, and the set-screw *o* is provided for properly adjusting the sprocket-wheel *k* so as to give suitable tension to the sprocket-chain as required in devices of this
20 character. The box *l* is so constructed as to be attachable to any suitable support.

Having fully described my invention, now what I claim, and desire to secure by Letters Patent, is—

25 1. As a speeding attachment for mills, the combination of a sprocket-wheel having a hollow base and flange, said base being adapted to provide space for the end of the mill-shaft;

and means for clamping said sprocket to the balance-wheel of the mill, substantially as 30 described.

2. As a speeding attachment for mills, the combination of a sprocket-wheel having a hollow base and flange, said base being adapted to provide space for the end of the mill-shaft, 35 and a plate comprising two interlocking sections adapted to encompass said shaft end; and means for clamping the parts on the balance-wheel, substantially as described.

3. In an accelerating-gearing, the combina- 40 tion with the balance-wheel of the sprocket-wheel having a hollow, conical base and flange, the clamping-plate comprising two interlocking, perforated sections encompassing said shaft on the rear side of said balance- 45 wheel, and bolts for clamping said parts to the said balance-wheel, substantially as described.

In testimony whereof I have hereunto affixed my signature, in the presence of two 50 witnesses, this 4th day of March, 1901.

JOHN WESLEY CUSHING.

Witnesses:

E. M. HOWATSON,
T. J. GEISLER.