

W. D. WINTON.  
Pitmen.

No. 155,561.

Patented Sept. 29, 1874.

Fig. 1.

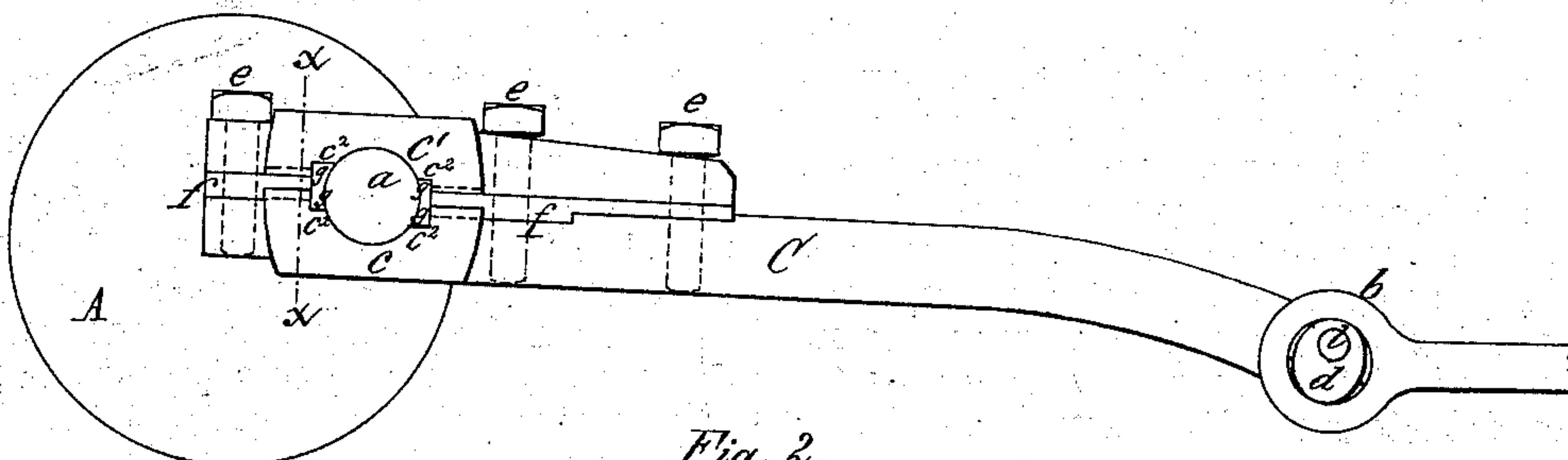


Fig. 2.

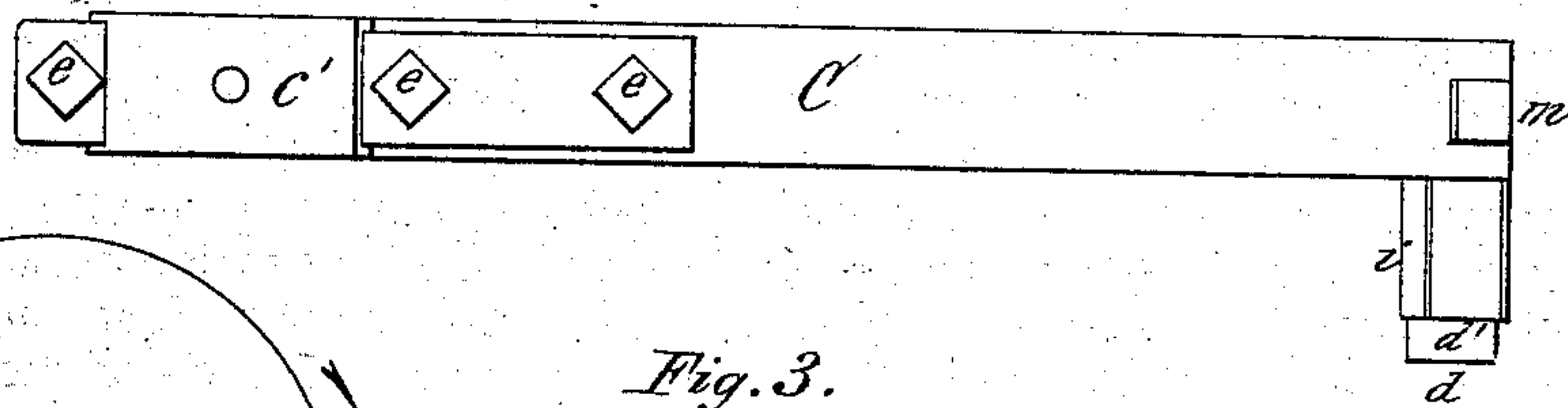


Fig. 3.

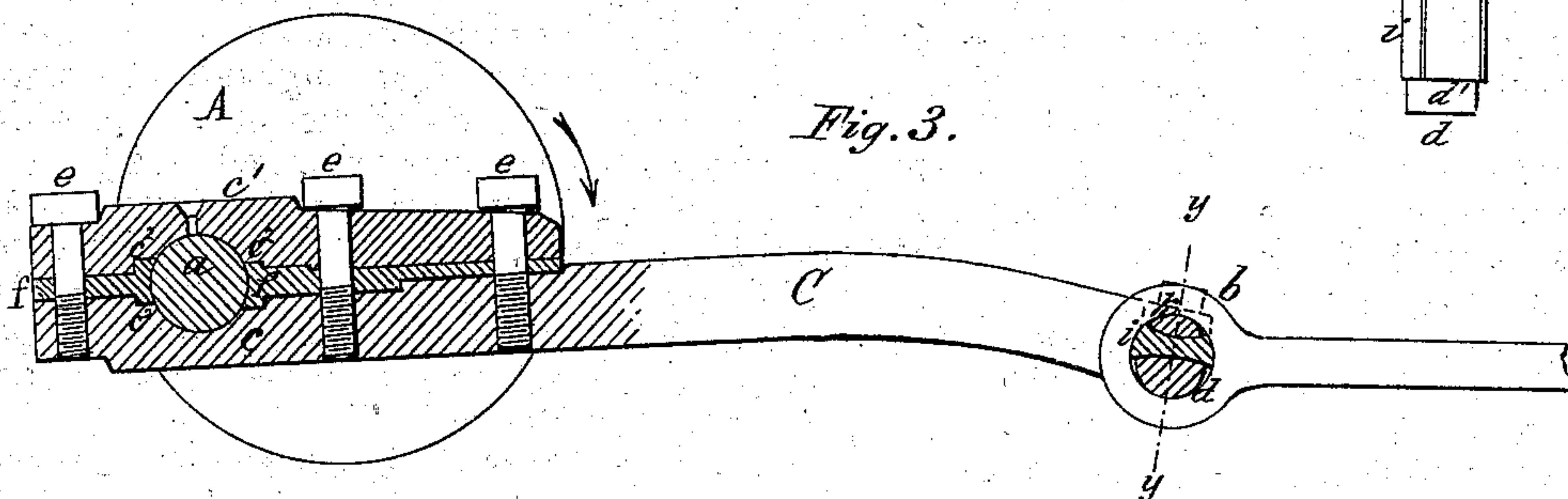


Fig. 4.

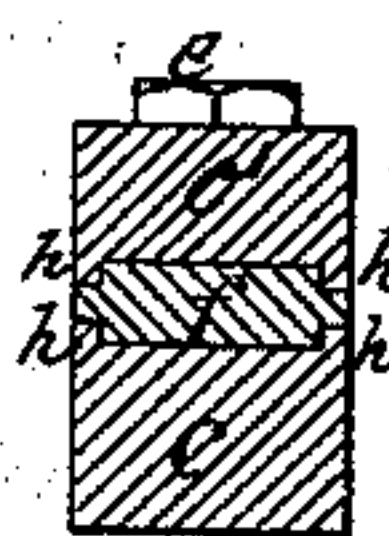
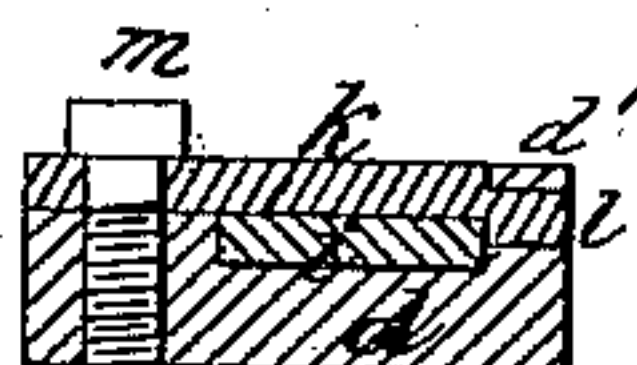


Fig. 5.



J. J. Donner  
Ernest Hodrick  
Witnesses

W. D. Winton, Inventor  
by Jay Hyatt  
Atty.



# UNITED STATES PATENT OFFICE

WILLIAM D. WINTON, OF SHERIDAN, NEW YORK.

## IMPROVEMENT IN PITMEN.

Specification forming part of Letters Patent No. **155,561**, dated September 29, 1874; application filed September 8, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM D. WINTON, of Sheridan, in the county of Chautauqua and State of New York, have invented certain Improvements in Pitmen or Connecting-Rods, of which the following is a specification:

In pitmen, connecting-rods, and similar devices employed in machinery for converting rotary or oscillating motion into reciprocating motion, and vice versa, the journal-boxes or eyes of the reciprocating parts become most rapidly worn at two opposite points lying in the line of the thrust and pull. This wear soon results in a certain amount of play of the pin or journal in its bearing-box; and especially in machinery running at great speed, as, for instance, the cutter mechanism of mowing-machines, gang-saws, &c., and produces incessant jars and shocks, which, besides being objectionable on account of the noise, impair rapidly the efficiency of the machinery, and are frequently the cause of breakage of the parts. To compensate for this wear, and prevent the evil results thereof, is the object of my invention, which consists in the arrangement of a block of rubber, or equivalent material, in the bearing, journal-box, or wrist-pin of a pitman, or similar device, at the point or points of greatest wear, whereby a close fit of the pin or journal in the box or eye is insured, and the metallic bearing-surfaces relieved from the greater portion of the friction and wear, as hereinafter fully set forth.

In the accompanying drawing, Figure 1 is a side elevation of the pitman of a mowing-machine provided with my improvements. Fig. 2 is a plan view thereof. Fig. 3 is a sectional elevation of the pitman when near the opposite extreme of movement. Fig. 4 is a cross-section in line *x x*, Fig. 1. Fig. 5 is a section in line *y y*, Fig. 3.

Like letters of reference designate like parts in each of the figures.

A represents the crank-wheel of a mowing-machine; *a*, the crank-pin thereof, and *b* the eye at the heel of the cutter-bar. C is the body of the pitman; *c*, the head thereof, connecting with the pin *a*, and *c'* the removable cap forming one-half thereof, and secured to the body of the pitman by screws *e*. *d* is the wrist-pin of the pitman, engaging in the eye *b* of the cut-

ter-bar. *f* are blocks of rubber, or equivalent material, arranged between the cap *c'* and the body of the pitman on each side of the crank-pin *a*, and held securely in place by the screws *e*. The rubber blocks *f* project slightly into the eye of the pitman, (the eye being preferably slightly elongated in line of the rubber blocks,) so that when they are compressed a close fit on the pin *a* will be produced. In order to prevent their being pressed backward, or away from the crank-pin *a*, the blocks *f* are constructed on the upper and lower side with projecting transverse ledges *g*, fitting in corresponding recesses *c''* of the pitman head and cap. Both of the latter are also recessed longitudinally for the reception of the rubber blocks *f*, leaving projecting ledges *h* on each side for the prevention of any lateral displacement of said blocks. The longitudinal recesses in the cap *c'* and body of the pitman, in which the rubber blocks *f* are arranged, are preferably made slightly tapering outwardly or away from the crank-pin, so that the cap *c'*, in being tightened, will act as a wedge, and press the rubber blocks inwardly against the crank-pin, thereby affording a ready means for properly adjusting the blocks.

It is evident that the elasticity of the blocks *f* will insure a most perfect and close fit of the pitman-head on the crank-pin, which fit is readily maintained by adjusting the blocks *f* from time to time as they become worn, or replacing them by new ones when no longer serviceable, while the lubrication is greatly simplified and rendered less essential, as the anti-frictional qualities of the blocks *f* will prevent heating of the journal.

In pitmen of the curved form shown in the drawing the bearing-surfaces of the blocks *f* are preferably not arranged equally on both sides of the cut or joint of the journal-box, but on both sides of the line of thrust drawn through the centers of the wrist-pin *d* and crank-pin *a*, as represented in Fig. 1.

The wrist-pin *d* of the pitman is made slightly oval or reduced in diameter in the line of the thrust, as clearly shown in the drawing. The upper portion of the wrist-pin is cut away, except at the outer end, where a narrow collar, *d'*, is left. *i* is a block of rubber secured to the pin *d* by a cap, *k*, provided at the outer



end with a pin, *l*, fitting in a corresponding hole of the collar *d'*, and fastened at the opposite end to the pitman by a screw, *m*. The outer or bearing-surfaces of the block *i* project sufficiently beyond the oval sides of the wrist-pin to cause a close fit of the latter in the eye *b* of the cutter-bar. The surfaces of the pin *d* and cap *k*, between which the rubber block *i* is clamped, are preferably made convex, as shown in Fig. 3, in order to enable the bearing-surfaces of the block *i* to be wedged outwardly by tightening the screw *m*, in adjusting the block *i* as it becomes worn. The latter is also readily removed and replaced by a new one, if required.

The bearing-block *c'* is arranged on that side of the wrist-pin which is most exposed to the friction and consequent wear, this side being above the thrust-line when the crank-wheel revolves in the direction of the arrow, Fig. 3, or below the thrust-line when revolving in the opposite direction.

Although I prefer the means shown for fastening the rubber blocks *f* and *i* in place, the same may be modified in various ways, according to the requirements of each particular case.

In pillow or bearing blocks of crank-shafts, especially for horizontal engines, the rubber blocks *f*, arranged between the cap and the body of the bearing, may be very advantage-

ously employed. The elasticity of the rubber prevents the nuts of the bolts which hold the rubber-clamping parts together from working loose.

What I claim as my invention is—

1. The combination of rubber blocks, or equivalent elastic material, in the eye of a pitman, or equivalent bearing, on opposite sides thereof, and in line of the "pull" or "thrust" of the pitman or connecting-rod, substantially as and for the purposes hereinbefore set forth.
2. The combination, with the head and cap *c c'* of a pitman, provided with recesses *g* and ledges *h*, of the rubber blocks *f*, constructed as and for the purpose herein shown and described.
3. The combination of rubber blocks, or equivalent elastic material, in opposite sides of the wrist-pins and journals, and in line of the pull and thrust of the pitman or connecting-rod, substantially as and for the purpose hereinbefore set forth.
4. The combination of the wrist-pin *d*, cap *k*, and rubber block *i*, constructed and arranged as hereinbefore set forth.

WILLIAM D. WINTON.

Witnesses:

JOHN HUTCHINSON,  
H. A. SHELLEY.