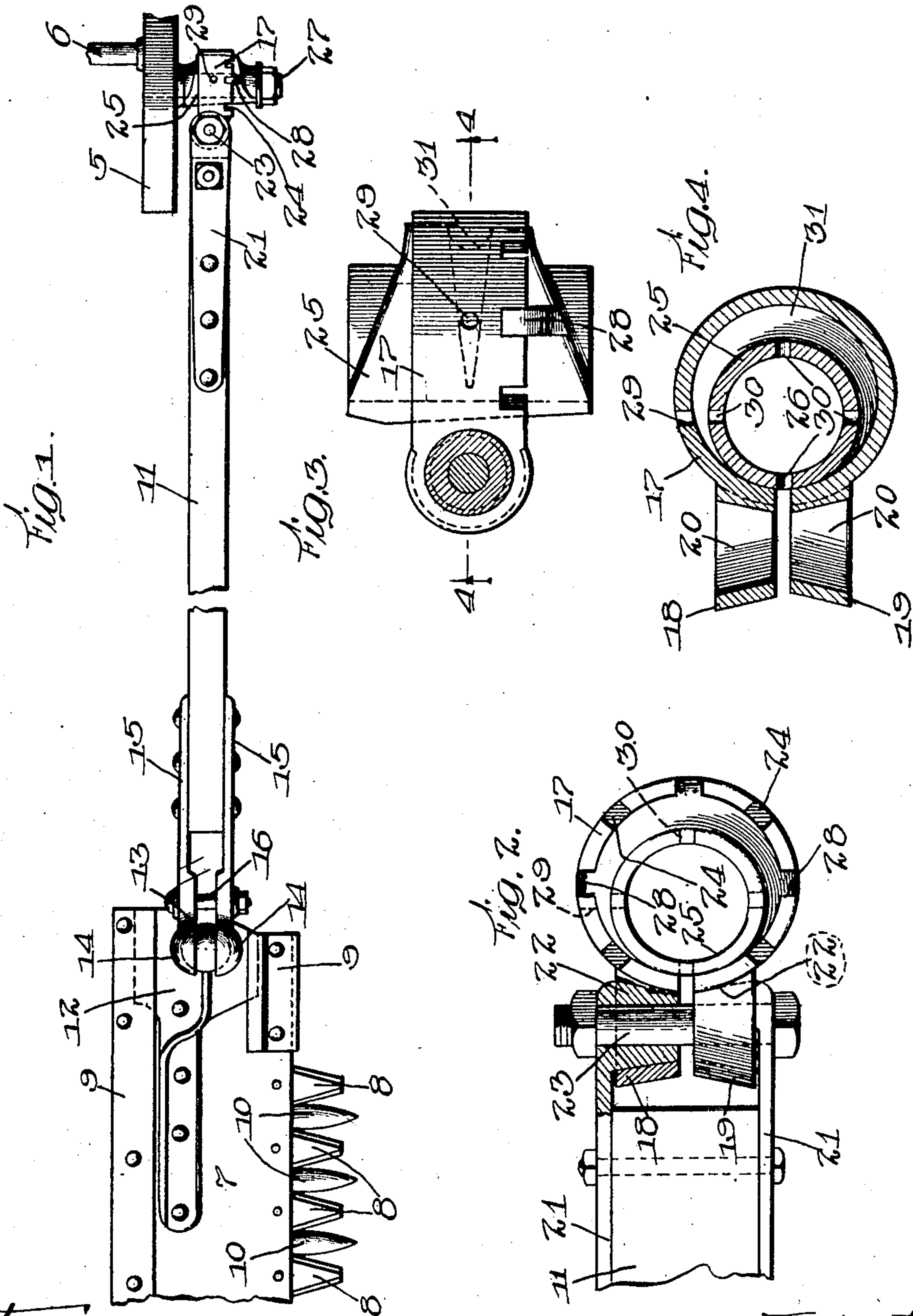


J. DAIN.  
PITMAN.

APPLICATION FILED OCT. 19, 1907.

919,542.

Patented Apr. 27, 1909.



Witnesses:  
*Ed. D. Perry*  
*L. V. Dumas Jr.*

Inventor:  
*Joseph Dain*  
*Paul Adams, Richard J. Adams*  
*attys.*



# UNITED STATES PATENT OFFICE.

JOSEPH DAIN, OF OTTUMWA, IOWA.

PITMAN.

No. 919,542.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed October 19, 1907. Serial No. 398,207.

*To all whom it may concern:*

Be it known that I, JOSEPH DAIN, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have  
5 invented certain new and useful Improvements in Pitmen, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to pitmen, and particularly to pitmen adapted to driving the  
10 knife of a mowing machine or similar machine, and its principal object is to provide a new and improved mechanism by which the pitman can be adjusted so that the stroke of  
15 the knives will register properly with the ledger-plates on the guards. In other words, by which the distance between the wrist pin on the crank-wheel and the connecting-head on the knife can be shortened or lengthened  
20 as may be necessary in order to cause the centers of the sections of the knife to stroke to the center of the ledger-plates on the guards.

In use a mowing or similar machine is apt  
25 to wear in its various joints so that the cutter-bar is apt to lag somewhat, thereby affecting the register. In addition to this, the pitmen seem to vary slightly in length, and it has been found necessary to provide means for a  
30 proper adjustment of the pitmen to secure the proper registry whenever the knife sections fail to stroke to the centers of the ledger plates on the guard. This registry is necessary in order to insure its cutting freely and  
35 easily and to leave even stubble. It has been usual, therefore, to make the pitman of iron, steel or other similar metal and to screw-thread it at one end or the other so that it might be screwed farther into or out of the  
40 wrist-pin box or knife-head connection in order that the distance between the wrist-pin on the crank wheel and the connecting-head might be shortened or lengthened to secure proper registry. Owing, however, to the pit-  
45 men traveling at high speed and making two full stops and starts at each revolution of the crank-wheel crystallization of the metal is apt to occur, which causes frequent breakings of the pitmen-rod, causing annoying delays and  
50 time and expense in repairing. As a result of trials and experiments it has been demonstrated that a pitman made of suitable wood is better because the crystallization and consequent breakage is thereby eliminated.  
55 The weight of the pitman is also reduced, lessening wear and tear on the wrist-pin as

well as pressure on the knife, and in addition to that it is not so easily sprung or bent, which often happens to the iron pitman, causing a loss of considerable power and undue friction. The disadvantage, however,  
60 of the wood-pitman was that it has not been practical to provide it with suitable means of adjustment. The straps or clamps which fasten the pitman at one end to the journal  
65 box of the wrist-pin and at the other end to the knife-head have been usually fastened to the wood with rivets or bolts, and it has been attempted to correct the register by making new holes in the wood so as to set the straps  
70 or jaws in different positions. This, however, is objectionable because it is very seldom necessary to make the new holes more than a quarter of an inch away from the old  
75 holes. This is not a sufficient distance from the old holes to prevent the breaking of the rivets or bolts through to the old holes under the thrust and pull of the rapid motion given to the pitman.

It is the object of my invention, therefore,  
80 to provide a new and improved means for adjusting the pitman to overcome the difficulties above described, by means of which a wooden pitman may be used and readily  
85 and easily adjusted.

To that end, therefore, my invention consists in providing for the pitman an eccentric bearing-box in which the wrist-pin of the crank shaft is journaled and which is mounted  
90 in a box strap so that it may be turned therein and locked in any desired position. I accomplish this object as illustrated in the drawings and hereinafter described.

That which I believe to be new is set forth  
95 in the claims.

In the drawings,—Figure 1 is a top or plan view of a part of the knife-bar and its supports, the pitman and the crank-wheel of a mower, showing the pitman-rod broken  
100 away; Fig. 2 is an enlarged detail, being a side view of my improved bearing-box and means for securing it to the pitman; Fig. 3 is an enlarged detail, being a top or plan view of the bearing-box and box-strap; Fig. 4 is an enlarged detail, being a vertical section on  
105 line 4—4 of Fig. 3.

Referring to the drawings,—5 indicates the crank-wheel or disk of a mower secured to the shaft 6 of a mower.

7 indicates the knife-bar provided with  
110 knife-sections 8, which is slidingly mounted in bearings 9—9 and moves in the usual man-



ner over the ledger-plates 10 of the usual guard.

As the crank-wheel shaft, the knife and its sections, the bearings in which it is mounted and the ledger-plates on the guards are all of the well-known form and description and form of themselves no part of my present invention, and as they are secured to a mowing machine of any well-known form and description in the well-known way, it is believed that it is not necessary to show the other parts of the mowing machine or similar machine, or to further describe the parts in question.

11 indicates a pitman, which is preferably made of wood.

12 indicates the knife-head, which is riveted or bolted to the knife 7 and is provided with the usual ball 13 which engages with the sockets 14 to form a universal bearing. The sockets 14 are formed upon the ends of the straps 15, which are bolted or riveted to the knife end of the pitman 11 and are adjusted by means of a bolt 16.

17 indicates a strap or split-ring whose opening is circular in section and which is provided with two projections 18—19 having tapered openings 20.

21 indicates straps, which are bolted, or otherwise secured, to the crank end of the pitman 11 and project beyond the end of the same. The projecting ends of the straps 21 are provided upon their under or opposing surfaces with tapered bearings 22 which are adapted to fit revolvably within the tapered openings 20 of the projections 18—19 of the split-ring 17 and are secured in place by means of a bolt 23, by means of which they may be suitably tightened in position so as to lock the split-ring or box-strap upon the eccentric bearing-box hereinafter described. One edge of the split-ring is provided with a number of notches 24 to engage the lugs on the eccentric bearing-box hereinafter described.

25 indicates a bearing-box circular in section and adapted to revolvably fit within the split-ring or strap-bearing 17. The bearing-box 25 is supplied with an eccentric opening 26 in which the wrist-pin 27 of the crank wheel 5 is journaled.

28—28 indicate lugs, which are preferably two in number and located diametrically opposite each other formed in the outer surface of the bearing-box 25 and adapted to engage the notches 24 of the split-ring 17. The bearing-box 25, as is best shown in Fig. 3, tapers slightly from the opposite end toward the lugs 28 and the interior surface of the split-ring or strap-bearing 17 is correspondingly tapered in order to insure the rigid holding of the bearing-box with only a slight clamping of the split-ring by the bolt 23, because the natural tendency will be for the lugs owing to the taper to work deeper

into engagement with the notches and any tendency for the box to work in the opposite direction will be counteracted by the taper. As is best shown in dotted lines in Fig. 3 and in section in Fig. 4, the surface of the bearing-box 26, which lies within the split-ring, is provided with a groove 31 which extends around the greater part of the periphery of the bearing-box and widens and deepens from its ends toward the middle, constituting an oil chamber by means of which the parts may be oiled.

29 indicates an opening in the split-ring through which oil, or other lubricant, may be introduced into the groove 28, and 30 indicates openings leading into the eccentric opening 26 of the bearing-box 25, by means of which oil may pass through to properly lubricate the wrist-pin in the eccentric bearing-box.

It will be obvious from the above description that by loosening the bolt 23 the pressure of the split-ring or box-strap 17 upon the eccentric bearing-box may be loosened, and said box-strap pushed toward the crank-wheel and thus disengage the lugs 28 from the openings 24. By then turning the eccentric bearing-box 25 in the split-ring 17 the distance between the wrist-pin 27 and the knife-head 12 may be suitably lengthened or shortened and adjusted to cause the proper register of the knife sections with the ledger-plates of the guards. When this adjustment is secured, the split-ring 17 is again slid down the taper so that the lugs 28 may engage with others of the notches 24 and locked in position by the tightening on the bolt 23.

That which I claim as my invention, and desire to secure by Letters Patent, is,—

1. The combination with an eccentric having a tapered surface, of a bearing strap having a correspondingly tapered opening, said eccentric and strap being provided with a lug and notches adapted to interengage to lock said eccentric against rotation in said strap in any desired position.

2. The combination with a pitman, and a wrist pin, of a bearing sleeve having an eccentric opening for said wrist pin and having its bearing surface tapered, a strap having its opening correspondingly tapered, said eccentric and strap being provided, near the smaller end of said tapered portions, with lugs and notches adapted to interengage and lock said eccentric in any desired operative position in said strap.

3. The combination with a pitman, and a wrist pin, of a bearing-sleeve having an eccentric opening for said wrist pin and having its bearing surface tapered, a strap having its opening correspondingly tapered and having a plurality of notches on its edge at the smaller end of said tapered opening, and lugs on said eccentric near the smaller por-



tion of said tapered surface adapted to engage said notches.

4. The combination with a box-strap having its opening slightly tapered and having 5 notches upon its periphery at the smaller side of its tapered opening, of a journal bearing correspondingly tapered and revolubly mounted in said box-strap and having an eccentric opening adapted to receive a wrist- 10 pin, lugs on said journal bearing adapted to engage said notches, and means for clamping said box-strap on said journal bearing.

5. The combination with an eccentric having an opening adapted to receive a wrist pin

and having on its periphery extending circumferentially around the greater portion of the same an oil groove gradually widening and deepening from each of its ends toward the center and having oil openings connecting said oil groove with said wrist pin opening, of a bearing strap provided with an oil 20 opening communicating from its exterior to the groove on said eccentric.

JOSEPH DAIN.

Witnesses:

MERRILL C. GILMORE,  
W. G. DUFFIELD.