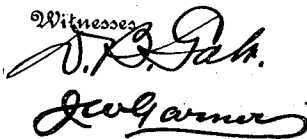


PITMAN.

1,011,101.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

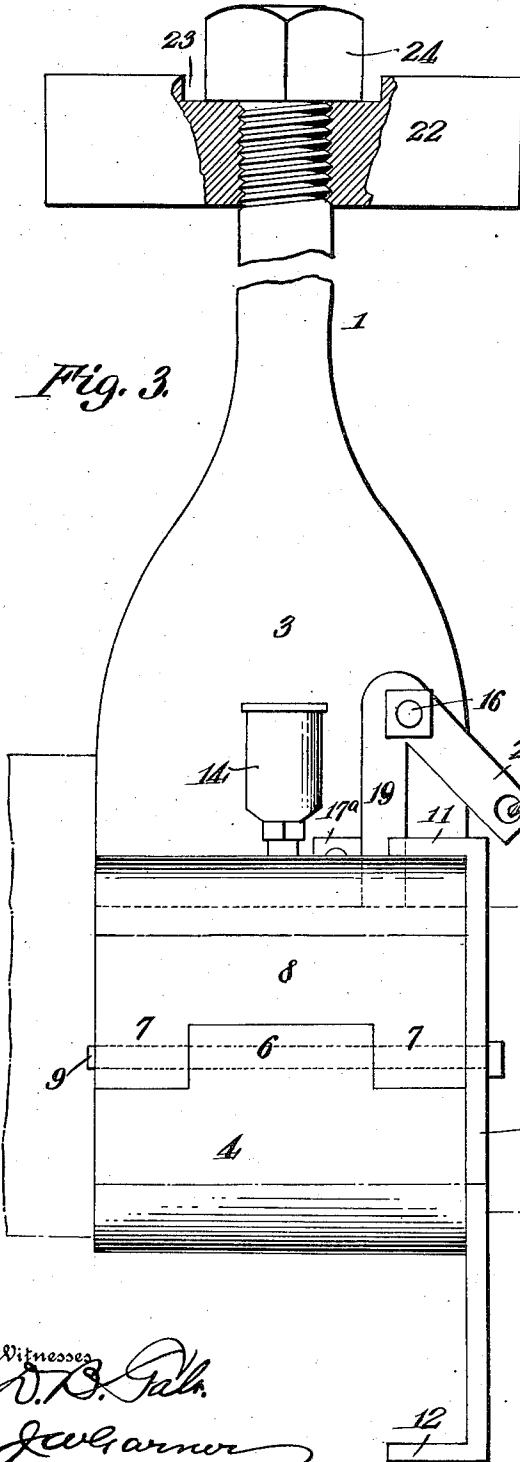


Fig. 3.

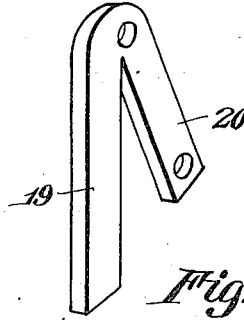


Fig. 4.

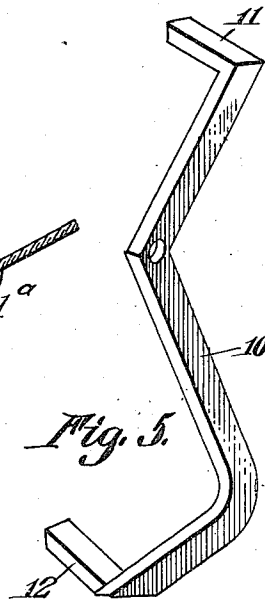


Fig. 5.

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UNITED STATES PATENT OFFICE.

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PITMAN.

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To all whom it may concern:

Be it known that I, CLYDE R. ZUVER, a citizen of the United States, residing at Maricopa, in the county of Kern and State of California, have invented new and useful Improvements in Pitmen, of which the following is a specification.

This invention is an improved pitman such as used in connection with the crank wheel of an oil well rig for the walking beam, the object of this invention being to provide an improved pitman which is very much lighter, stronger and more durable than the wooden pitmen now in common use and which may be readily attached to and detached from the wrist of the crank wheel as hereinafter described and claimed.

Heretofore in oil well rigs for deep well drilling, extremely large and heavy pitmen have been used, some weighing in many instances three hundred pounds, and in the course of the day's work the attendant is obliged to unship the pitman as many as fifty times, necessitating his passing back and forth between the well and band wheel to which the pitman is connected. It is evident, therefore, that a great deal of time is consumed in coupling and uncoupling the pitman and unnecessary labor imposed on the attendant. Furthermore, the pitman is provided with a hard wood block which is driven by a wedge into engagement with the wrist pin of the band wheel, and owing to the undue friction between the wrist pin, pitman and block, the bearing becomes hot and fire often results. Another objection attending the use of such pitmen is the fact that the lower end of the pitman has to be moved laterally on and off the wrist pin a considerable distance, and this in turn pulls the walking beam out of line and often causes trouble, since the beam must hang exactly over the well at the end of the beam opposite from the pitman.

The present invention is designed to avoid the objections above noted, by providing a connection between the pitman and wrist pin whereby the pitman can be coupled or uncoupled without the attendant leaving his position at the well.

In the accompanying drawings:—Figure 1 is a side elevation of a pitman constructed in accordance with my invention, the hinge section of the bearing being shown closed in full lines and open in dotted lines and the rocker at the upper end of the pitman

being shown in cross section. Fig. 2 is a detail elevation of a portion of the broadened lower end of the pitman. Fig. 3 is a front elevation of the pitman. Fig. 4 is a detail perspective view of the locking device for the hinge section of the bearing. Fig. 5 is a similar view of the shifting lever which is employed to support the hinge section of the bearing in open position and to close said hinge section of the bearing.

In accordance with my invention, the pitman 1 is an iron bar of suitable length and diameter provided with a screw threaded portion 2 at its upper end and formed at its lower end with a widened bearing portion 3, integral with which is the lower half of the bearing for the reception of the wrist pin of the crank wheel, said lower bearing portion being provided in its upper side with a lining of Babbitt metal 5. The said lower bearing member is formed at its outer upper edge with a hinge member 6 which fits between the hinge members 7 of the upper bearing section 8, said upper bearing section being pivotally connected to the integral lower bearing section or member by means of a pintle bolt 9 which fits in alining openings in the hinge members 6—7. The said pintle bolt also forms the fulcrum for a lever 10 which is employed for closing the hinge section of the bearing and also for supporting said hinge section when the latter is open as shown in dotted lines in Fig. 1, the said shipping lever having an arm 11 at its upper end and an arm 12 at its lower end, said arm 11 bearing on the upper section of the bearing when said upper section is closed and bearing under the same when said upper section is opened. The hinge upper section of the bearing is babbitted as at 13 and is provided with an oil cup 14. Hence when said hinge section of the bearing is closed, the oil cup which is on the upper side of the same will operate to supply lubricant to the bearing and the wrist pin. When the said hinge section is open, the oil cup will be turned down and hence the supply of lubricant will be discontinued and waste thereof will be avoided.

On the rear side of the broadened lower portion of the pitman is a bracket 15 which is secured by bolts 16, 17, and is provided at its lower end with a rearwardly extending handle 18. The tap 17^a of the bolt 17 projects from the front side of the broadened portion of the pitman and forms a

stop for the locking device hereinafter described. The bolt 16 also serves as a pivot for the locking device, the said locking device operating by gravity to bear normally against the stop nut 17^a and being provided with a downwardly and outwardly inclined arm 20, the locking device being indicated by the numeral 19. When the bearing member 8 is closed, the locking device 19 by gravity bears on the upper side of the same so as to lock the said hinge section of the bearing in closed position.

The coupling and uncoupling of the pitman takes place while the weight of the drill and drill cable is held by the bull wheel of the oil well rig and it remains merely for the attendant to pull a cord 21^a which is attached to the locking device 19 and passes therefrom on the derrick of the rig to a convenient point where the attendant can grasp the cord. The pull of the cord 21^a tilts the locking device 19 so that it will disengage the upper member of the bearing and allow the same to swing open as the wrist pin continues to revolve. After the bearing is thus opened, the attendant at the well exerts a further pull on the cord 21^a so as to tilt the pitman to such a position that its lower end will be out of the path of the rotating wrist pin when the engine of the rig is used for some other purpose. As shown in Fig. 1, the lever 10 will be disposed above and extend across the lower section of the bearing when the pitman is uncoupled, and when it is desired to re-couple the pitman, the cord 21^a is slackened so that the pitman will swing back into the path of the wrist pin. The wrist pin will first strike the raised lever 10 and cause the latter to be depressed, and by this movement, the upper section of the bearing will close. As the wrist pin and pitman continue to move downwardly, the attendant will further slacken the cord so that the locking device 19 can gravitate to locking position. After the pitman is thus coupled, the temper screw can be clamped to the cable and the cable between the screw and bull wheel slackened so that the drilling of the well can be carried on.

To enable the locking device to be adjusted to compensate for wear of the bearing, slots 21 are preferably provided in the lower portion of the pitman for the bolts 16, 17, said slots being vertically disposed and admitting of slight adjustment of said bolts and hence of said locking device and the bracket 15. When the hinge section of the bearing is open, the arm 12 of the shipping lever 10 engages the lower end of the bracket 15 as indicated in dotted lines in Fig. 1, said bracket hence forming a stop for the said shipping lever and enabling the latter to support the weight of the hinge section of the bearing so as to support said hinge bearing section in open position.

At the upper end of the pitman is a rocker pin 22 which is preferably cylindrical in form and is provided with a recess 23 on its upper side presenting a flattened surface. The threaded portion 2 of the pitman extends through and engages a threaded opening in the center of the rocker pin and the nut 24 which bears on the upper side of the rocker pin engages said threaded portion of the pitman. The rocker pin in use bears on the upper side of the walking beam.

What is claimed is:—

1. A pitman of the class described having a bearing at its lower end, said bearing having a hinged section forming its upper side and adapted to be opened and closed, means to lock said hinged section of the bearing in closed position, a shipping lever connected to the pitman for use in closing the hinged section of the bearing and to support the same when said section is in opened position, and a stop device on the pitman coacting with said shipping lever to hold the same in position to support said hinged section of the bearing.

2. In a well rig, a pitman, means on the upper end thereof for supporting the pitman on the walking beam of the rig, a bearing on the lower end of the pitman and disposed wholly at one side thereof, said bearing having a hinged upper section, a locking device on the pitman arranged to hold the upper section normally in closed position, and means adapted to be engaged by the wrist pin for automatically closing the said upper section to couple the pitman with the wrist pin.

3. In a well rig, the combination of a pitman, means for attaching the upper end of the pitman to the walking beam of the rig, a lower wrist pin bearing section on the pitman, an upper bearing section hinged to swing outwardly from the pitman to open position to uncouple the latter from the wrist pin, and a device having a portion engaged with the upper section of the bearing and having another portion adapted to be disposed in the path of the wrist pin and to be struck thereby when the upper section is opened for causing the device to close the upper section.

4. In a well rig, the combination of a pitman, means for attaching the upper end of the pitman to the walking beam of the rig, a lower wrist pin bearing section on the pitman, an upper bearing section hinged to swing outwardly from the pitman to open position to uncouple the latter from the wrist pin, a device having a portion engaged with the upper section of the bearing and having another portion adapted to be disposed in the path of the wrist pin and to be struck thereby when the upper section is opened for causing the device to close the upper section, and a pivoted gravitating lock-

ing device for holding the upper section normally closed.

5 In a well rig, the combination of a pitman, a lower wrist pin bearing section thereon, an upper bearing section hingedly-connected with the lower section to swing outwardly away from the pitman to open position, a lever pivoted to swing on the same axis with the upper section and having one
10 member engaged with the upper section to move therewith and another member arranged to be disposed above the lower bearing section when the upper section is open,

and a stop on the pitman with which the last-mentioned member engages for limiting
15 the opening movement of the upper section, a locking device mounted on the pitman to engage the upper section of the bearing when in closed position, and means connected with the device for operating the same. 20

In testimony whereof I affix my signature in presence of two witnesses.

CLYDE R. ZUVER.

Witnesses:

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G. I. PIPER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."