

UNITED STATES PATENT OFFICE.

CHARLES G. ABRAHAMSON, OF CHICAGO, ILLINOIS.

PITMAN FOR MOWERS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 652,068, dated June 19, 1900.

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To all whom it may concern:

Be it known that I, CHARLES G. ABRAHAMSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pitmen for Mowers or the Like; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in pitmen of that class embodied in mowing-machines and the like.

The invention consists in the matters hereinafter more fully described, and pointed out and defined in the appended claims.

In the drawings, Figure 1 is a side elevation of a pitman adapted for use in a mowing-machine. Fig. 2 is a top plan view of the same. Fig. 3 is a section of the pitman-coupling, taken on line 3 3 of Fig. 1. Fig. 4 is a similar section of the pitman-box and attached parts, taken on line 4 4 of Fig. 1. Fig. 5 is an end elevation of the pitman-box. Fig. 6 is a section taken on line 6 6 of Fig. 4. Fig. 7 is a section taken on line 7 7 of Fig. 2.

As shown in the said drawings, A indicates a pitman-rod. B indicates a pitman-coupling adapted to be secured on one end of the rod; C, a pitman-box, and C' the pitman-yoke, adapted to receive the pitman-box and secured at the end of said pitman-rod opposite the pitman-coupling B. The said pitman-coupling consists, as shown, of a single casting, preferably of malleable iron, and is provided at its inner end with a tubular socket adapted to receive the end of the pitman-rod A. The outer end of said coupling is provided with a longitudinal slit or slot a , which renders the same dilatable. The outer extremity of the said coupling is provided on its inner sides with oppositely-directed spherical concave sockets opening into said slot and adapted to receive a complementary ball member on the end of a sickle or the like and together therewith form a ball-and-socket joint in a familiar manner. A bolt b' passes through said pitman-coupling adjacent to the end thereof transversely of the said slot a and affords means whereby said socket may

be closed on the said complementary ball member. A transverse guide-pin b^2 is provided at the outer extremity of said coupling and integral therewith in a familiar manner.

The pitman-yoke C' consists, as shown, of a one-piece malleable-iron casting and is provided at one end with a socket adapted to receive one of the ends of said pitman-rod A. The outer or yoke end of said pitman-bearing yoke consists of two integral parallel yoke-arms adapted to receive between them the pitman-bearing box. Said yoke-arms, as shown, are provided on their inner sides, at their outer ends, with conical inwardly-projecting lugs $c' c'$, (clearly illustrated in Fig. 7,) which form the pivot for the said pitman-bearing box C. Said pitman-bearing box, as shown, consists of a cylindric sleeve having an octagonal bore and which projects forwardly in said yoke. Said sleeve is provided on its rear side with a transverse cylindric lug. Said lug is in length equal to the width between the arms of said yoke and is provided at the ends with sockets adapted to receive the lugs $c' c'$ on which said pitman-bearing box is pivoted. Said yoke-arms and lug on the pitman-bearing box are drilled, and a bolt D passes through said arms and lug and acts to retain the said pitman-bearing box and said yoke-arms in operative position, while not preventing free movement of said pitman-bearing box on its pivots. Obviously from the construction described the said pitman-bearing box will be retained by said lugs $c' c'$ between said yoke-arms when said bolt D is removed. Within said octagonal bore of said sleeve of the pitman-bearing box C is secured a two-part or split sleeve or bushing E, having an inner cylindric bearing-surface for the wrist-pin which throws said pitman. The outer form of said bushing, as shown, is octagonal and complementary to the bore of the pitman-bearing box. Obviously said bushing E, owing to its form, is secured non-rotatively in the pitman-bearing box. For the purpose of adjusting said bushings in the sleeve each of the same is provided at one end with lugs $e e$, and complementary sockets are provided at the corresponding end of said sleeve, adapted to receive said lugs. For the purpose of lubricating said bearing an oil-cup c^2 is provided at the rear of said cylindric

sleeve, and at the bottom part of said cup an aperture is made therefrom leading through the wall of said sleeve and through the said bushing E. A lubricating-oil put in said oil-cup will flow continuously into the bearing. As a further improvement I provide said cylindrical sleeve C' with an oil-receptacle in the front side thereof, said oil-receptacle being clearly shown in the drawings in Figs. 4 and 7 and consists of a cavity or chamber in the front side of said sleeve. Said cavity extends longitudinally of said sleeve and upwardly, and an aperture is provided at the top thereof, which registers with a similar aperture extending through the upper arm of said yoke. A duct or channel extends through the inner side of said sleeve and bushing and connects the said oil-cavity with the bearing, as clearly shown in Figs. 4 and 7. Obviously the aperture extending through said upper arm of said yoke may be provided with a raised surrounding flange in the manner common to oil-pour holes, and a suitable cover may be provided therefor. Obviously said pitman-rod may be of wood or of a rod or tube of iron or other metal, and if of metal the same may be secured in the said sockets of the pitman-coupling and pitman-bearing yoke by bolting, riveting, or the like. I, however, prefer to use a connecting-rod of wood, in which event I construct within said sockets adapted to receive the ends of said connecting-rod longitudinal ridges or corrugations, so that when the said rod is driven into said socket the same will be retained therein by means of frictional effect of ridges or corrugations. In addition to the said corrugations a screw, rivet, or bolt may be inserted through the socket-walls and rod after the same are connected. As shown in said drawings, said sockets are shown as being made slightly lighter by cutting away opposite sides thereof, as illustrated in Figs. 1, 2, and 4.

I claim as my invention—

1. In a pitman the combination with a connecting-rod, of a pitman-coupling comprising a casting provided at one end with a socket having interior ridges or corrugations and adapted to engage the end of said connecting-rod and at its other end with integral parallel arms having at their outer ends and inner sides spherically-concave recesses adapted to engage a complementary ball secured upon the member to be actuated by said pitman and clamping means acting to hold said arms in operative engagement with said ball member.

2. In a pitman, the combination with a connecting-rod, of a pitman-coupling comprising a casting provided at one end with a socket having a plurality of interior ridges or corrugations adapted to receive an end of said connecting-rod, and at the other end with integral parallel arms having at their outer ends and inner sides spherically-concave recesses adapted to engage a complementary ball secured upon the member to be actuated by said pitman and means acting to hold said

arm in operative engagement with said ball member, and a guide-pin integral with one of said arms.

3. The combination with a connecting-rod, of a pitman-coupling comprising a casting provided at one end with a socket adapted to receive the end of said connecting-rod and at the other end with integral parallel arms having at their outer and inner sides spherically-concave recesses adapted to engage a complementary ball secured upon the member to be actuated by said pitman, a transverse bolt acting to hold said arm into operative engagement with the part to be actuated, a guide-pin integral with one of said arms, and longitudinal ridges or corrugations in said socket.

4. In a pitman the combination with a connecting-rod, of a pitman-bearing yoke comprising a casting provided at one end with a socket having interior ridges or corrugations adapted to engage the end of said connecting-rod and at the other end having integral parallel arms providing between the same, an unobstructed space adapted to receive and inclose the bearing-box, said arms having at their outer ends inwardly-directed convex lugs adapted to pivotally engage complementary recesses at the rear side of said pitman-bearing box.

5. In a pitman, the combination with a connecting-rod, of a pitman-yoke comprising a casting provided at one end with a socket adapted to receive the end of said connecting-rod, and the other end provided with integral parallel arms, spherically-convex inwardly-directed lugs at the outer end of said arms, and a pitman-bearing box comprising a sleeve retained between said yoke-arms and adapted to receive the wrist-pin whereby said pitman is actuated, a lug on the rear side of said sleeve and spherically-concave recesses at each end of said lugs whereby said sleeve is pivotally supported between said yoke-arms.

6. In a pitman, the combination with a connecting-rod, of a pitman-yoke comprising a casting provided at one end with a socket adapted to receive the end of said connecting-rod, and the other end provided with integral parallel arms, spherically-convex inwardly-directed lugs at the outer end of said arms, and a pitman-bearing box comprising a sleeve retained between said yoke-arms and adapted to receive the wrist-pin whereby said pitman is actuated, a lug on the rear side of said sleeve and spherically-concave recesses at each end of said lugs whereby said sleeve is pivotally supported between said yoke-arms, and longitudinal corrugations, or ridges, in the inner side of said socket.

7. In a pitman the combination with a connecting-rod of a pitman-coupling comprising a casting provided at one end with a socket adapted to receive one end of said connecting-rod, at the other end with integral parallel arms having at their outer ends and inner sides spherical concave recesses adapted to engage a complementary ball secured upon the

member to be actuated by said pitman, a pitman-bearing yoke secured at the other end of said connecting-rod, said yoke being provided at its inner end with a socket having interior ridges adapted to engage the said end of said connecting-rod, the outer end of said pitman-bearing yoke comprising rearwardly - extending parallel integral arms adapted to receive between the same a pitman-bearing box and having at their outer ends convex lugs adapted to engage complementary recesses in the rear side of said pitman-bearing box.

8. The combination with a pitman, of a pitman-bearing box pivoted thereon, and comprising a sleeve having an oil-chamber in the walls thereof and having a part of one side of the bore of said sleeve flat, a two-part bushing rigidly secured in said bore, the outer side thereof being complementary thereto, said bushing having a cylindric bore adapted to receive a wrist-pin or the like, said sleeve and bushing being provided with a duct or channel leading from said oil-chamber to the bearing-surface.

9. The combination with a pitman, of a pitman-bearing box pivoted thereon and comprising a sleeve the bore thereof having a plane side, a two-part bushing rigidly secured within said bore and having its outer sides complementary thereto, said bushing having a cylindric bore adapted to receive a wrist-pin or the like, said sleeve having in one side thereof an oil-chamber and provided with a duct or channel leading from said oil-chamber to said bearing-surface.

10. In a pitman, the combination with a connecting-rod, of a one-piece pitman-coupling provided with a socket adapted to receive one end of said rod, a pitman-yoke provided at one end with a socket adapted to receive the opposite end of said coupling, the other end of said yoke being provided with integral parallel arms spherically-convex lugs at the outer ends of said arms, a pitman-bearing box pivotally secured on said lugs between the arms of said yoke, said pitman-bearing box comprising a sleeve having an octagonal bore, a two-part bushing having its outer surface complementary with the bore of said sleeve and adapted to be rigidly secured therein, the bore of said bushing being cylindrical and adapted to receive the wrist-pin whereby said pitman is actuated, a lug on the rear side of said sleeve, concave recesses, the ends of said lugs complementary to the spherically-convex lugs on the ends of said arms, and adapted to receive the same whereby said pitman-bearing box is pivotally supported between said arms.

11. In a pitman, the combination with a connecting-rod, of a one-piece pitman-coupling

adapted to be rigidly secured thereon at one end thereof, a pitman-bearing yoke adapted to be secured on the opposite end of said connecting-rod, said yoke comprising a socket adapted to receive the ends of the connecting-rod, rearwardly-extending parallel arms provided at the ends with inwardly-directed spherically-convex lugs, a pitman-bearing box pivotally secured upon said spherically-convex lugs and projecting inwardly between the arms of said yoke, said box comprising a sleeve having an octagonal bore, a two-part bushing rigidly secured within said bore, said bushing on its outer sides being complementary to the bore of said sleeve and having a cylindrical bore adapted to receive the wrist-pin whereby said pitman is actuated, and means for lubricating said bearing comprising a chamber provided within the wall of said sleeve, there being a duct or channel leading from the bottom of said chamber or receptacle inwardly to said bearing-surface, and also an aperture communicating with the top of said chamber whereby same may be filled with lubricant.

12. In a pitman, the combination with a pitman-rod provided on one end with a one-piece pitman-coupling, of a pitman-bearing yoke provided at one end with a socket adapted to receive the end of the connecting-rod and at the other end with rearwardly-directed yoke-arms, having at the extremity thereof, inwardly-directed spherically-convex lugs, a pitman-box comprising a sleeve provided in its front side thereof with a lubricating-chamber, said sleeve being provided with an octagonal bore, a two-part bushing secured in said bore, the outer surface of said bushing being complementary to the bore of said sleeve, the inner surface thereof being cylindrical and adapted to receive the wrist-pin, whereby said pitman is actuated, there being a duct leading from the lubricating-chamber of the sleeve to the wrist-pin bearings, a transverse lug integral with the rear of said sleeve, said lug being provided in its ends with concave recesses complementary to the lugs on the ends of said yoke-arms and adapted therewith to form a pivot whereby said box is supported between said yoke-arms, said yoke-arms with their lugs, said lugs on said sleeve being apertured to receive a bolt or the like whereby said box is retained in pivotal engagement with said yoke-arms.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 25th day of January, A. D. 1900.

CHARLES G. ABRAHAMSON.

Witnesses:

C. W. HILLS,

TAYLOR E. BROWNE.