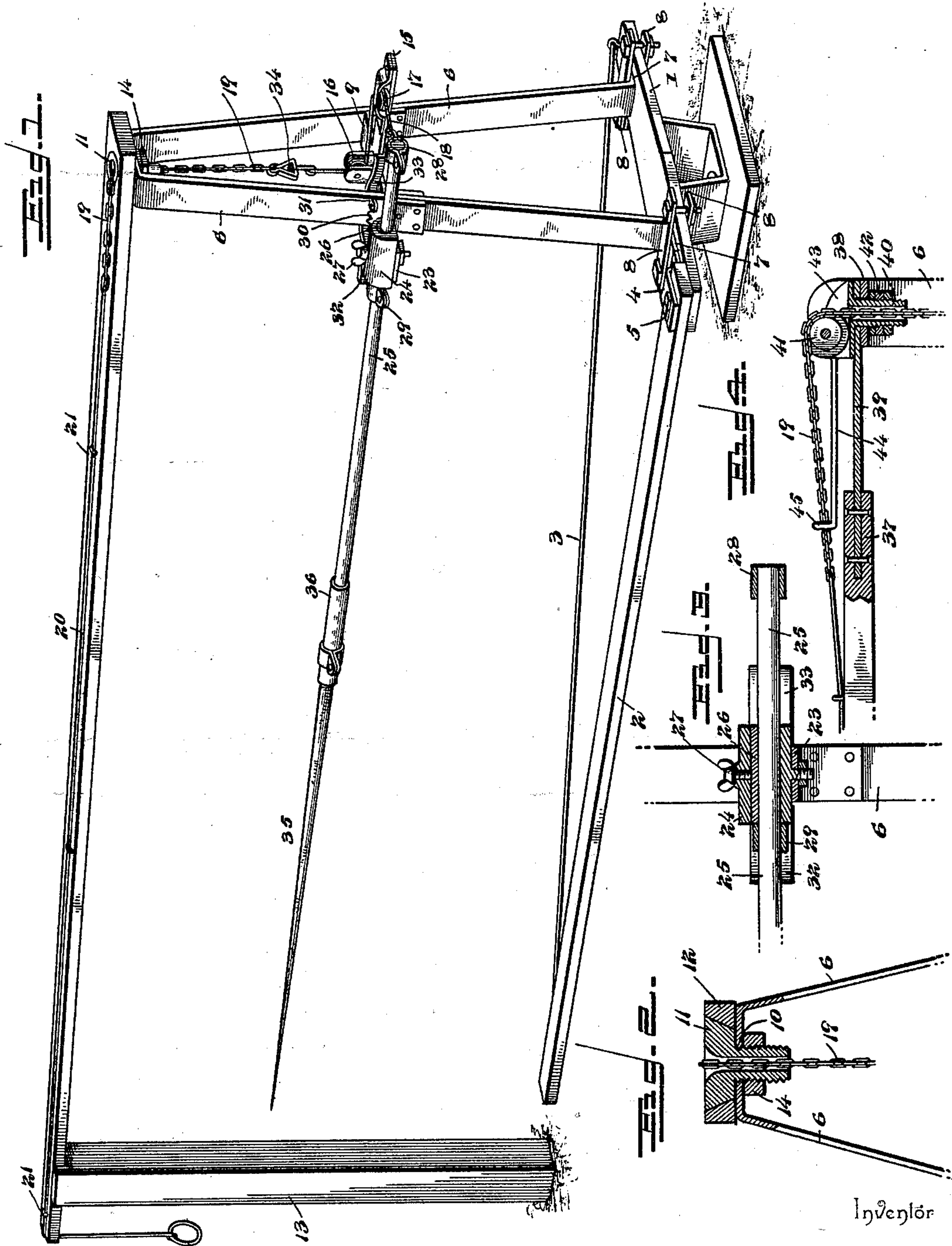


(No Model.)

G. W. RICKERD.  
HORSE DRIVER.

No. 561,283.

Patented June 2, 1896.



Witnesses

*E. H. Stewart*  
*[Signature]*

By *his* Attorneys.

*George W. Rickard*

*Calhoun & Co.*



# UNITED STATES PATENT OFFICE.

GEORGE W. RICKERD, OF BURNS, KANSAS.

## HORSE-DRIVER.

SPECIFICATION forming part of Letters Patent No. 561,283, dated June 2, 1896.

Application filed May 2, 1895. Serial No. 547,915. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. RICKERD, a citizen of the United States, residing at Burns, in the county of Marion and State of Kansas, have invented a new and useful Horse-Driver, of which the following is a specification.

My invention relates to horse-driving mechanism adapted for use in connection with horse-powers; and the object in view is to provide a simple and efficient construction and arrangement of parts whereby a whip-arm may be operated from a fixed point outside of the path of the team to urge the latter to greater efforts in order that the motion communicated to the apparatus may be uniform.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of an apparatus embodying my invention. Fig. 2 is a detail vertical section of the top of same. Fig. 3 is a detail longitudinal section of the socket for the whip-arm. Fig. 4 is a vertical section of a slightly-modified form of the device.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a rotary head which may be connected with any suitable means (not shown) for communicating motion to machinery, and attached to this head is a sweep 2 and a brace-rod 3. The sweep is secured to one end of the rotary head by means of a clip 4, through which and the arm are passed vertical securing-bolts 5. Rising from the rotary head is an upright 6, having upwardly-convergent side arms terminating at their lower ends in feet 7, secured by clips 8 to the head, said arms being connected at intermediate points by a cross-bar 9. The upper closed or looped end of the upright is provided with a bearing 10, which is swiveled upon the reduced neck portion of a guide-socket 11, fixed in the end of a horizontal bar 12, said upright supporting one end of this horizontal bar, while the other end is supported by a standard 13, arranged outside of the path of movement of the sweep. The guide-socket, which is tubular in construction, is held in proper position

with relation to the upper end of the upright by means of a nut 14, threaded upon the reduced neck portion thereof and bearing against the inner surface of the upper looped end of the upright.

Extending laterally from the intermediate cross-bar connecting the sides of the upright is an arm 15, upon which are mounted a vertical guide-pulley 16 and a horizontal guide-pulley 17 for a flexible connection 18, which passes therearound, the upper extremity of this connection, which may be of cord or rope, being attached to a chain 19, extending through the guide-socket and in turn attached beyond the same to a driving cord or rope 20. This driving cord or rope, after extending through guide-eyes 21 on the horizontal bar 12, terminates at the outer end of said bar, beyond the standard 13, in a handle 22, which in the construction illustrated is in the form of a ring.

Swiveled upon a projection 23, extending laterally from the side of the upright at an intermediate point approximately in the plane of the cross-bar connecting the sides of the upright, is a socket 24, through which passes the adjustable whip-arm 25, a follower 26 being arranged in said socket and being adjustable by means of a thumb-screw 27, and secured adjustably to the whip-arm upon opposite sides of the socket are clamps 28 and 29, to the former of which is attached the extremity of the flexible connection 18, and to the latter of which is attached one end of a return-spring 30, said spring being attached at its inner end to an eye 31 on the side of the upright. Curved stop-arms 32 and 33 are arranged to project in opposite directions from the upright in the path of the whip-arm, whereby the movement thereof in either direction, when operated by the driving cord or rope or when returned to its initial position by means of the spring, is checked. In order to avoid the twisting of the driving cord or rope, a swivel connection 34 is interposed between said cord or rope and the chain, as shown in Fig. 2. The whip 35 is provided with a socket 36, fitted upon the extremity of the whip-arm and arranged in its normal position approximately over the sweep.

From the above description it will be seen that during the progress of the team it may be urged forward by drawing upon the driv-



ing cord or rope, and thereby communicating a horizontal oscillatory movement to the whip-arm sufficient to cause the whip to strike the team, and it is obvious that greater or less power may be had in operating the whip-arm by adjusting said arm in the whip-arm socket and by adjusting the clamps upon the whip-arm.

In the modification shown in Fig. 4 the connection of the inner end of the horizontal bar 37, which corresponds with the bar 12 in Figs. 1 and 2, with the upper end of the upright 38 is secured by means of a plate 39, having a depending tubular guide 40, which fits in the opening in the upper end of the upright, and a guide-pulley 41 is arranged upon the upper side of this plate contiguous to the upper end of the guide-tube over which the operating cord or rope extends. This guide-tube is secured in place by means of suitable nuts 42, and the guide is extended above the plane of the bar 37 to form ears 43, between which the pulley 41 is mounted. Extending rearwardly from the guide above the plane of the bar 37 is an arm 44, provided at its rear end with an eye 45, through which the flexible connection may be extended. It is obvious that the bar 37 may be made of any desired length, as may the plate 39, and the chain, which is shown in connection with the device to pass through the guide, may be substituted by a rope, if preferred.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is--

1. In a device of the class described, the combination with a rotary head, a sweep secured to the head, and an upright rising from the head, of a whip-arm socket carried by the upright and swiveled to swing in a horizontal plane, a whip-arm fitted at an intermediate point for longitudinal adjustment in said socket, means for securing the whip-arm at the desired adjustment, clamps fitted for longitudinal adjustment upon the whip-arm upon opposite sides of the socket, a return-spring secured at one end to the upright and attached at the other end to one of said clamps, whereby the tension of the spring may be varied by the adjustment of said clamp, a driving cord or rope extending from a point beyond the path of the outer end of the sweep to a point adjacent to the upright, and flexible connections between the inner end of the driving cord or rope and the other clamp, whereby the interval between the axis of the swivel and the point of attachment of the flexible connections may be varied to give the desired leverage, substantially as specified.

2. In a device of the class described, the combination with a rotary head, a sweep secured to the head, and an upright rising from the head, of a whip-arm socket carried by the upright and swiveled to swing in a horizontal plane, a whip-arm fitted at an intermediate point for longitudinal adjustment in said socket, means for securing the whip-arm at the desired adjustment, clamps fitted for longitudinal adjustment upon the whip-arm upon opposite sides of the socket, a return-spring secured at one end to the upright and attached at the other end to one of said clamps, whereby the tension of the spring may be varied by the adjustment of said clamp, a driving cord or rope extending from a point beyond the path of the outer end of the sweep to a point adjacent to the upright, flexible connections between the inner end of the driving cord or rope and the other clamp, whereby the interval between the axis of the swivel and the point of attachment of the flexible connections may be varied to give the desired leverage, and resilient stop-arms 32 and 33 arranged at their free ends in the paths of the portions of the whip-arm upon opposite sides of the pivotal point to limit the swinging movement thereof in both directions, substantially as specified.

3. In a device of the class described, the combination with a rotary head, a sweep secured to the head, and a looped upright rising from the head and provided at its upper end with a vertical bearing, of a horizontal bar arranged at its inner end contiguous to and above the upper end of the upright, a fixed vertical guide-socket secured to the inner end of the horizontal arm and provided with a depending reduced tubular neck extending through the bearing in the upper end of the upright, whereby the neck forms a swivel for the upper end of the upright, means, as a nut threaded upon said neck, for securing the parts in their proper relative positions, a whip-arm mounted upon the upright to swing in a horizontal plane and provided with a return-spring, guide-pulleys mounted upon the upright, an operating-cord terminating at its inner end contiguous to the inner end of the horizontal bar, a chain connected to the inner end of the driving-cord and extending through said guide-socket, and a flexible connection between the extremity of the chain and the inner end of the whip-arm, said connection extending around the said guide-pulleys, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. RICKERD.

Witnesses:

F. J. CUPPLE,  
JOHN L. KOEHELE.