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C. W. ECKBERG.

SAFETY RIDING ATTACHMENT FOR PLOWS.

APPLICATION FILED MAY 1, 1907.

2 SHEETS—SHEET 1.

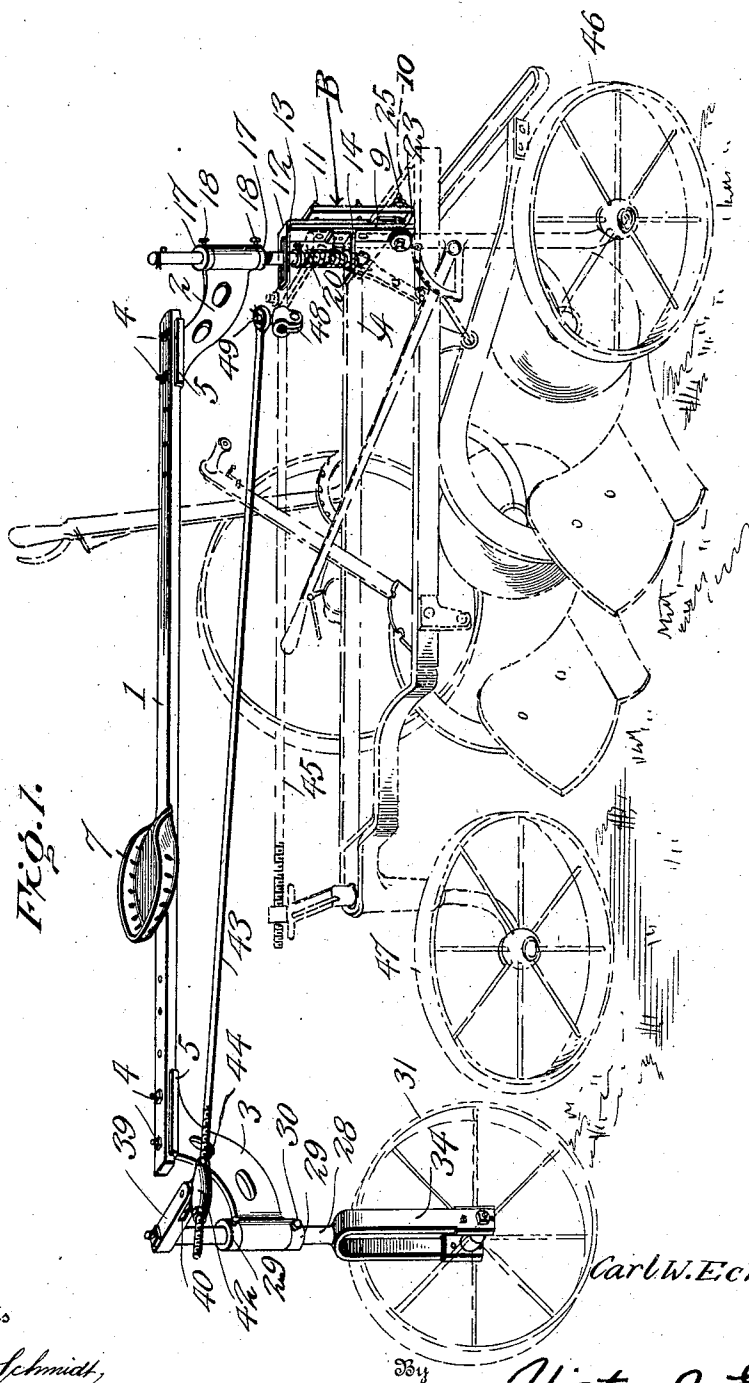


Fig. 1.

Witnesses

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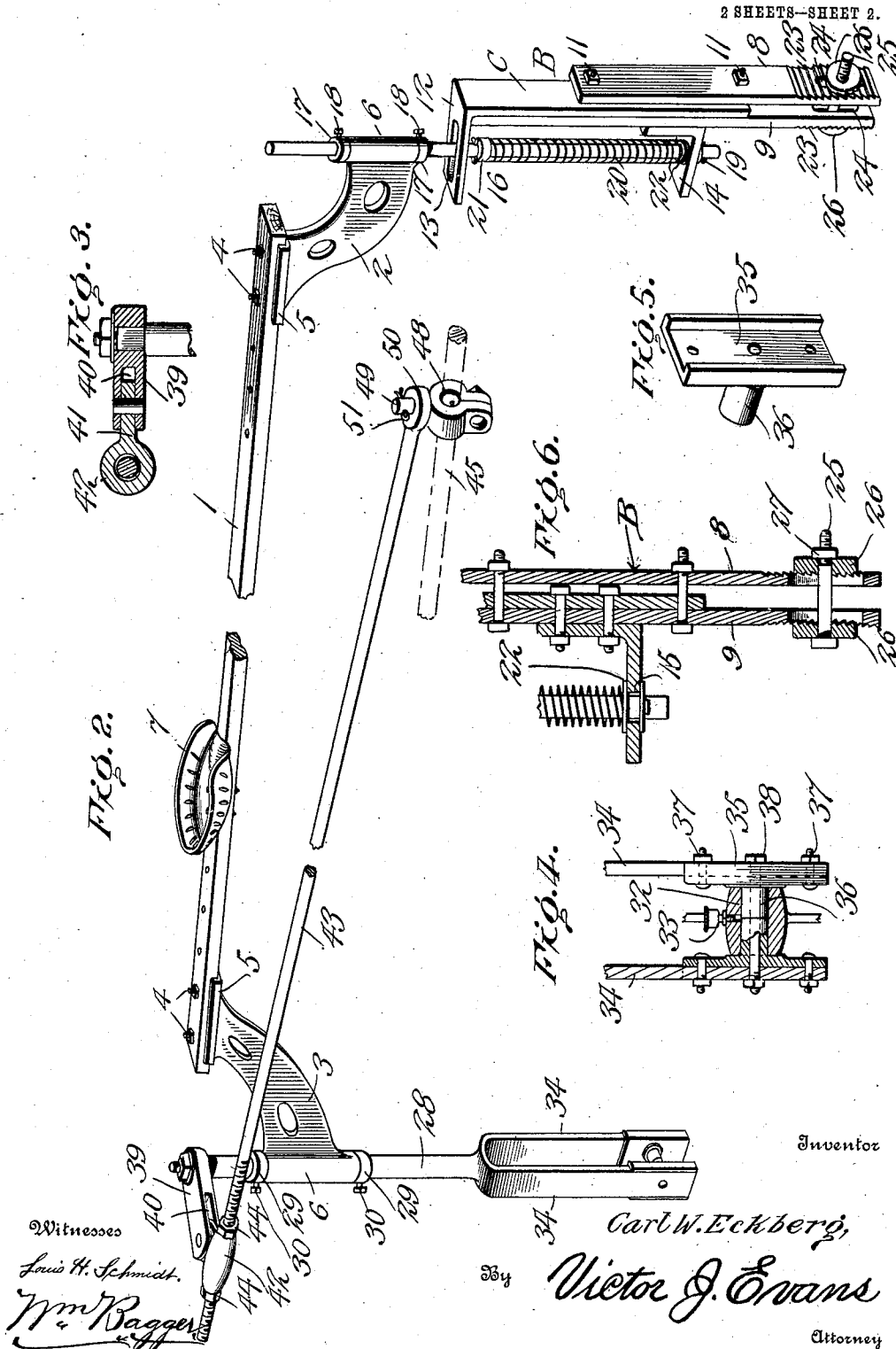
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UNITED STATES PATENT OFFICE.

CARL W. ECKBERG, OF MOHALL, NORTH DAKOTA.

SAFETY RIDING ATTACHMENT FOR PLOWS.

No. 865,876.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed May 1, 1907. Serial No. 371,337.

To all whom it may concern:

Be it known that I, CARL W. ECKBERG, a citizen of the United States, residing at Mohall, in the county of Ward and State of North Dakota, have invented new and useful Improvements in Safety Riding Attachments for Plows, of which the following is a specification.

This invention relates to riding attachments for plows; and it has for its object to provide a simple and efficient device of this class which shall be capable of being applied to and used in connection with any of the various forms of gang plows or any of the various forms of gang and sulky plows commonly used; a further object of the invention is to provide a riding attachment upon which the operator will be supported safely against jolting, especially when the land is rough, and uneven or in localities where stumps and rocks abound, and where accidents frequently occur by operators being thrown from their seats when obstructions are encountered.

A further object of the invention is to provide a riding attachment in which the weight of the operator shall be supported independently of the plow or plows and in which the latter, being relieved from the weight of the operator, may be successfully operated with less expenditure of power, thus greatly relieving the strain upon the draft animals.

Further objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a perspective view of the improved riding attachment showing the same applied in position for operation to a gang plow of conventional construction, the latter being shown in dotted lines. Fig. 2 is a perspective view, larger scale, showing the several parts of the improved riding attachment detached. Fig. 3 is a sectional detail view showing the upper end of the shank of the seat supporting wheel and adjacent parts. Fig. 4 is a sectional detail view taken through the hub of the seat supporting wheel and adjacent parts. Fig. 5 is a perspective detail view of one of the supporting plates of the seat supporting wheel.

Fig. 6 is a sectional detail view of the seat bar supporting standards or frame bars.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved attachment includes a seat supporting bar 1 provided at its front and rear ends with brackets 2—3 suitably connected with said seat bar by means of bolts or fastening members 4, said brackets being provided at their upper ends with flanges 5 disposed adjacent to the side edges of the seat bar which latter will thus be very firmly connected with said brackets. The front bracket 2 extends downwardly and forwardly from the seat bar and the rear bracket 3 extends downwardly and rearwardly from said seat bar, as will be clearly seen in Figs. 1 and 2 of the drawings, and said brackets are provided with vertically disposed terminal sleeves 6. The seat 7 is adjustably secured upon the seat bar intermediate the ends of the latter.

The forward end of the seat bar is connected with the plow frame A by means of a supporting device B including a pair of clamping members consisting of vertically disposed plates or bars 8 and 9 disposed respectively adjacent to the front and rear sides of the front cross bar 10 of the plow frame, said bars or clamping members being connected together by bolts 11 and including between them an angle bar C, the lower extremity of which is adapted to rest upon the upper edge of the frame bar 10, the horizontal member 12 at the upper end of said angle bar being provided with an oblong slot 13. Secured upon the rear side of the clamping member 9 is a horizontally disposed bracket 14 which is substantially parallel to the horizontal member 12 of the angle bar C, and is provided with an aperture 15 for the reception of the lower end of a rod or shank 16, the upper end of which is extended through the slot 13 in the horizontal member of the angle bar C and through the sleeve 6 of the bracket 2 at the front end of the seat bar; said sleeve being adjusted upon the rod or shank 16 between a pair of collars 17 having set screws 18 whereby they are adjustably secured upon the rod or shank. The latter is provided adjacent to the underside of the bracket 14 with a key or cotter pin 19. A coil spring 20 is disposed upon the rod or shank 16 intermediate the bracket members 12 and 14, and a key or cotter pin 21 extends transversely through said rod or shank adjacent to the upper end of the spring; washers, 22, being suitably arranged adjacent to the ends of the spring and to the bracket members 12 and 14. The rod or shank 16 which supports the forward end of the seat bar will thus be flexibly and yieldably supported by the spring 20, and the said rod or shank will be free to rock or move in the slot 13 of the bracket member 12.

The lower ends of the clamping members 8 and 9 are

corrugated or serrated upon their outer sides as shown at 23, and they are provided with vertical slots 24 for the passage of a clamping bolt 25 having washers 26, the inner faces of which are transversely corrugated or serrated to engage the faces of the clamping members which latter may thus, by tightening the nut 27 upon the clamping bolt, be securely clamped in position upon the front cross-bar 10 of an ordinary plow frame.

The rear end of the seat supporting bar is supported upon a shank 28 extending through the sleeve 6 of the bracket 3 and connected adjustably with said bracket by means of collars 29 having set screws 30. The lower end of the shank 28 is bifurcated for the reception of a supporting wheel 31, the hub of which is provided with an axle box 32 and an oil cup 33. The wheel is connected with the side members 34 of the bifurcated shank by means of flanged supporting plates 35 having laterally extending cylindrical lugs or bosses 36 upon which the hub is journaled for rotation; said flanged supporting plates being secured upon the side members 34 by means of bolts 37 and 38, which latter extends through the lugs or bosses 36; the supporting wheel will in this manner be very securely and efficiently mounted for rotation.

The shank 28 of the supporting wheel is provided at its upper end with a laterally extending crank 39 provided at its outer end with a horizontally disposed recess 40 wherein is pivoted a plate 41 having at its outer end a horizontally disposed sleeve 42 through which extends the rear end of a steering rod 43 which is adjustably connected with said sleeve by means of nuts 44 engaging a threaded portion of said rod adjacent to the ends of the sleeve.

The plow structure which is conventionally indicated in dotted lines in Fig. 1 of the drawings includes a steering rod 45 which serves to connect cranks at the upper ends of the shanks of the furrow wheel 46 and the rear steering wheel or supporting wheel 47 respectively, said steering rod 45 being common to modern plow structures, as is well understood. Mounted upon said steering rod 45, near its front end, is a clip or collar 48 having an upwardly extending pin 49 engaging an eye 50 at the forward end of the steering rod 43 of the improved riding attachment, said eye being retained in engagement with the pin 49 by means of a cotter pin 51 extending therethrough.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of the improved riding attachment will be readily understood. The said attachment may be readily mounted in position for operation upon the frame of an ordinary gang plow or sulky plow from which the seat supporting bar and seat have been previously removed. The clamping device B, which is secured by the clamping bolt 25 upon the front cross bar of the plow frame supports the spring supported shank 16 with which the forward end of the seat bar 1 is connected by means of the sleeve 6 of the bracket 2; the rear end of the seat bar 1 being supported upon the shank 28 of the supporting wheel 31. When the plow is in operation, the supporting wheel 31 will be turned to correspond with the rear supporting wheel 47 of the plow structure through the medium of the rod 43 which is connected with the steering rod 45 in the manner described, and the improved riding attachment will thus

automatically adjust itself to the movements of the plow structure. The forward end of the seat supporting bar will be flexibly and yieldably supported by the spring supported shank 16 and the rear end of the seat supporting bar will be supported by the independent supporting wheel 31, thus relieving the plow structure of the greater part of the weight of the operator, and at the same time saving the operator from the greater part of the jolts or shocks to which the plow may be subjected by encountering stumps, rocks and other similar obstructions. Much of the strain upon the draft animals will thus incidentally be relieved, owing to the fact that the plows are relieved from the greater portion of the weight of the operator, and will thus bear against the soil much less forcibly than is usually the case, and thus reducing the friction to a considerable extent.

The improved riding attachment is simple in construction, and it may be very readily applied to the frame of any gang plow or sulky plow of usual or ordinary construction.

It may be found desirable in the construction of this improved riding attachment, to provide special braces of a simple construction whereby the supporting device B may be connected with the side members of the plow frame, for the purpose of reinforcing said supporting device against vibratory or lateral movement, thus greatly adding to the efficiency of the apparatus as a whole. Inasmuch, however, as braces and reinforcements are well known in the art it has been deemed unnecessary to particularly describe or illustrate these braces or reinforcements, it being merely desired to indicate that the use thereof may be found desirable at times.

Having thus fully described the invention, what I claim as new is:—

1. A riding attachment for plows comprising a seat supporting bar, means for yieldably supporting the front end of said bar upon a plow frame, and an independent rotary supporting member for the rear end of said bar.
2. In a riding attachment for plows, a seat supporting bar having vertically disposed sleeves at the ends thereof, a spring actuated shank engaging one of said sleeves, a bifurcated shank engaging the other sleeve, and a supporting wheel journaled upon the bifurcated shank.
3. In a riding attachment for plows, a seat bar having vertically disposed sleeves at its front and rear ends, shanks journaled in said sleeves, sleeve supporting collars adjustable upon said shanks, means for yieldably supporting the shank at the front end of the seat bar and rotary supporting means for the shank at the rear end of said bar.
4. In a riding attachment for plows, a seat bar provided at the ends thereof with brackets having vertically disposed sleeves, a flexible supported shank journaled in the sleeve upon the bracket at the forward end of the seat bar, a bifurcated shank journaled in the sleeve of the bracket at the rear end of the seat bar, and a supporting wheel journaled in the bifurcated shank.
5. In a riding attachment for plows, a clamping device adapted to be mounted upon a plow frame and having horizontally disposed bracket members, a spring supported shank engaging said bracket members and adapted for rocking movement in the upper bracket member, a wheel supported shank, and a seat bar having vertically disposed terminal sleeves journaled upon the shanks.
6. In a riding attachment for plows, a clamping device including clamping members, an intermediate member and horizontally disposed brackets, the lower bracket being provided with an aperture and the upper bracket with a longitudinal slot, a spring supported shank extended

through said aperture and slot, an independent wheel supported shank, and a seat bar having sleeves journaled upon the shanks.

- 5 7. In a riding attachment for plows, a seat bar having vertically disposed sleeves, a spring supported shank engaging the sleeve at the forward end of the seat bar, a wheel supported shank engaging the sleeve at the rear end of the seat bar, a crank upon the wheel supported shank, and a steering rod connected with said crank.

- 10 8. In a riding attachment for plows, a seat bar having sleeves at its front and rear ends, a spring supported shank engaging the sleeve at the forward end of the seat

bar, a wheel supported shank engaging the sleeve at the rear end of the seat bar, a crank upon the wheel supported shank, a steering rod connected with said crank, and a 15 clip or collar having swivel connection with the forward end of the steering rod and adapted to be mounted adjustably upon the steering rod of a plow structure.

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

CARL W. ECKBERG.

Witnesses:

N. IVERSON,

M. S. BEKLUND.