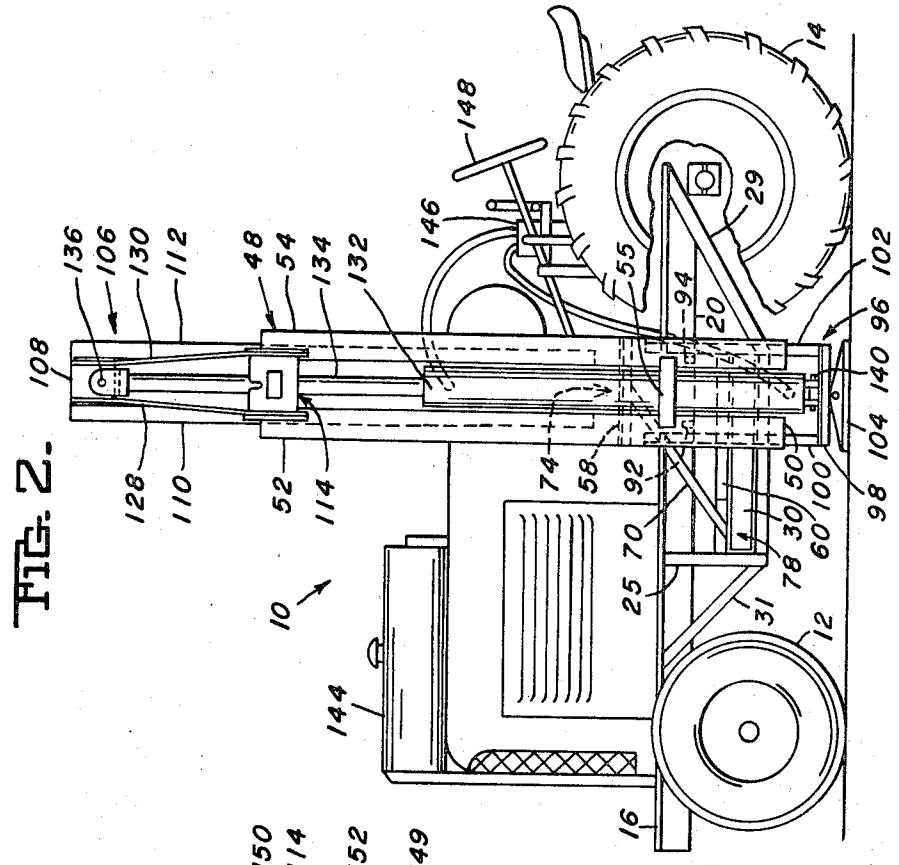
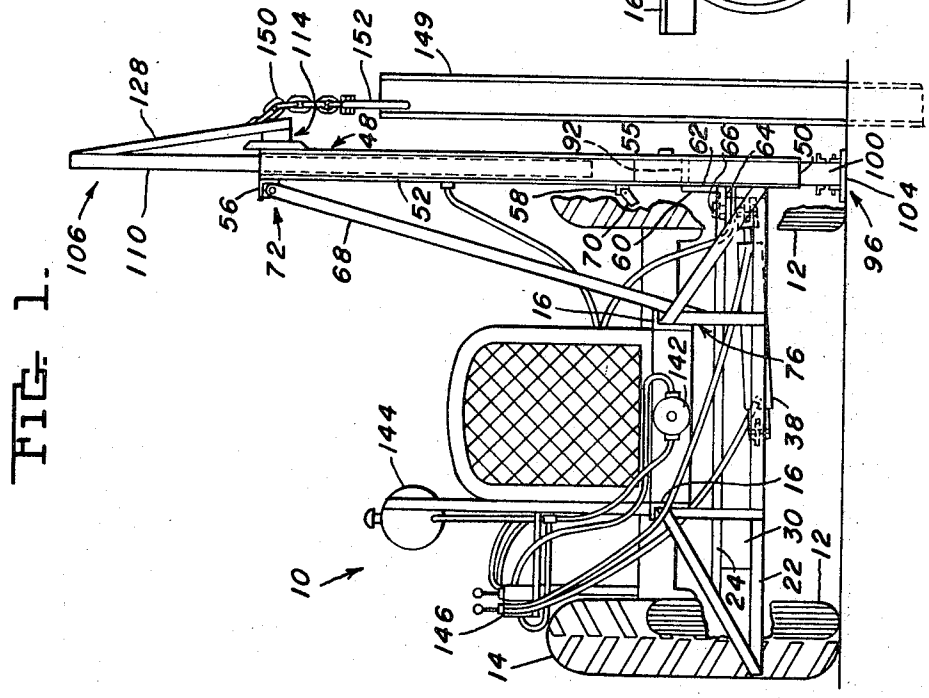
Aug. 25, 1970 A. L. FISHER 3,525,502

POST PULLER

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POST PULLER

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FIG. 3.

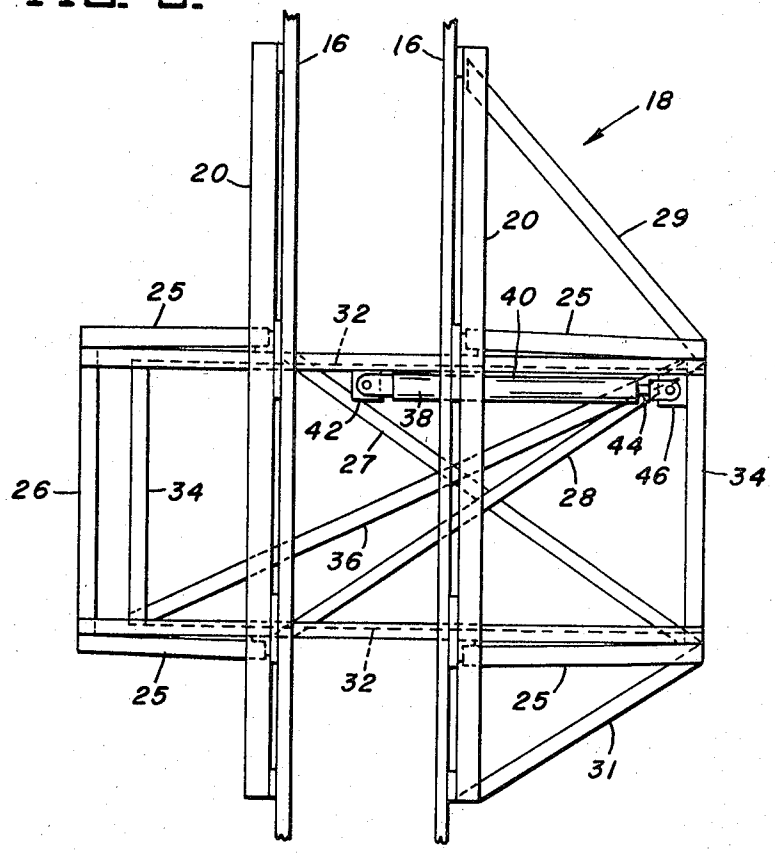
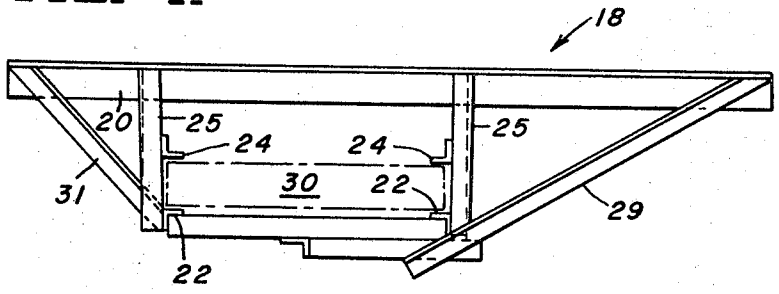


FIG. 4.



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FIG. 5.

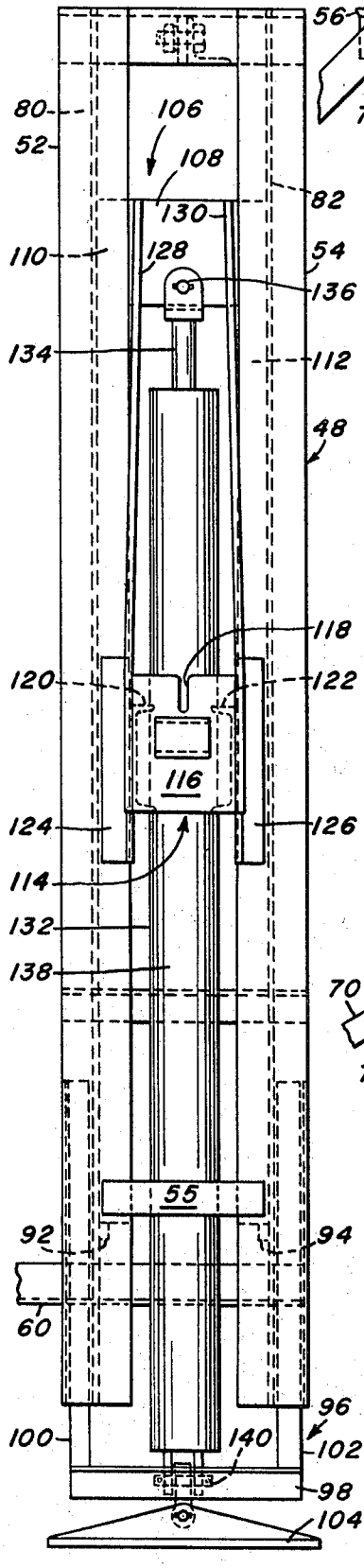


FIG. 7.

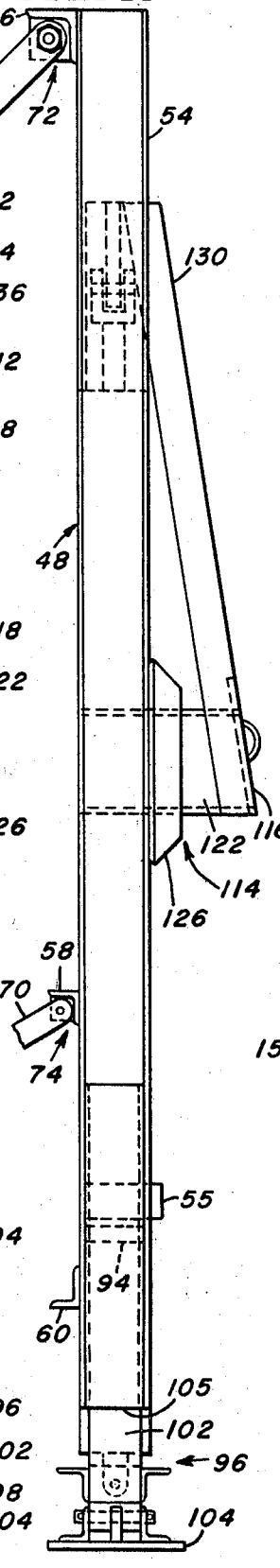


FIG. 6.

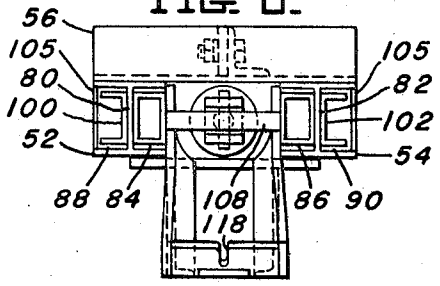


FIG. 8.

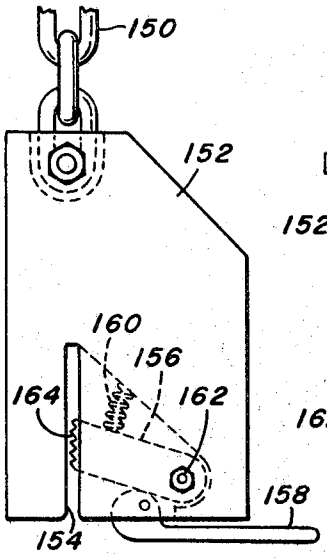


FIG. 9.

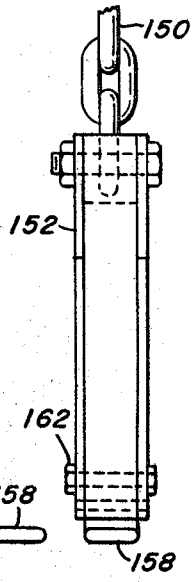
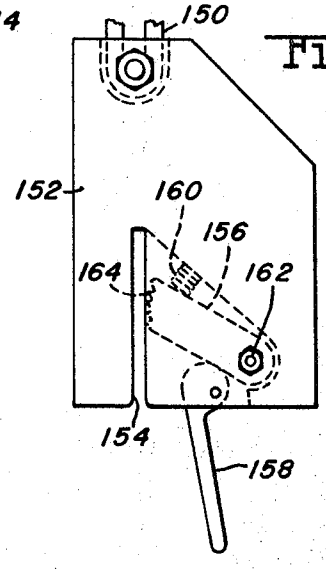


FIG. 10.



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United States Patent Office 3,525,502 Patented Aug. 25, 1970

3,525,502

POST PULLER

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Filed Sept. 3, 1968, Ser. No. 756,979
Int. Cl. E21b 19/00
U.S. Cl. 254—30 14 Claims

ABSTRACT OF THE DISCLOSURE

An attachment for a self-propelled vehicle for use in pulling posts from the ground is disclosed. The attachment comprises a frame structure detachably securable to chassis of the vehicle. A slide structure is reciprocally supported by the frame structure for movement laterally with respect to the longitudinal axis of the chassis and a vertical mast is supported on one end of the slide structure for movement therewith and with its lower end being at a level above the ground surface on which the vehicle is supported. An extensible frame assembly is provided adjacent the lower end of the mast which is normally raised above the ground surface in a transporting position and extensible from its normal position to an extended ground engaging position to bear the force of pulling a post from the ground. There is also provided on the mast a puller frame assembly which is movable up and down with respect to the mast and which has engagement means thereon for effecting detachable engagement thereof with a post to be pulled. A common power means is operatively connected to the puller and extensible frame assemblies which is constructed and arranged to first move the extensible frame assembly into its ground engaging position when it is desired to pull a post from the ground and then move the puller frame assembly upwardly with respect to the mast and thus pull a post from the ground when the puller frame is engaged with a post.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to an apparatus for pulling posts. More particularly, the invention is concerned with a self-propelled vehicle adapted for pulling from the ground steel fence posts used on the guard fences of highways, but applicable also to pulling other fence posts, either wood or metal.

Description of the prior art

It may be explained that steel posts are generally replacing wooden posts on the guard fences of highways. These steel posts are generally H-beam sections that are driven into the ground. In my copending application Ser. No. 749,853 filed Aug. 2, 1968, I have disclosed an apparatus for driving such posts into the ground. As explained in said copending application, there is a particular problem with such posts, due to the fact that especially in cold climates, the metal readily conducts cold and heat deep into the ground, intensifying the freezing and thawing to loosen the posts and cause them to heave and move out of line. Also, these posts are at times moved out of line by vehicles hitting them or the guard fences attached to the posts. As a result of these and other maintenance factors, those posts which are to be reset or those damaged to the extent that they must be replaced with new posts must be pulled from the ground in which they are imbeded.

Post pullers have heretofore been constructed for use on tractors or other self-propelled vehicles as for example those disclosed in U.S. Pat. No. 2,634,092 wherein the post puller is arranged at the front of a tractor and U.S. Pat. No. 3,129,924 wherein the post puller is arranged at the rear of the tractor. In either construction, however, it may require considerable manuvering of the vehicle to get the puller apparatus in position to engage a selected post and with the type post pullers as shown in these patents, the force of pulling a post from the ground is borne by the vehicle causing considerable stress to be placed thereon.

SUMMARY OF THE INVENTION

Briefly, my invention provides an attachment for a self-propelled vehicle comprising a frame structure detachably securable to the chassis of the vehicle. There is a slide structure supported on this frame structure for movement laterally with respect to the longitudinal axis of the chassis and means for effecting such movement. A vertical mast is supported on one end of the slide structure for movement therewith and the lower end of the mast is at a level above the ground surface on which the vehicle is supported. An extensible frame assembly is arranged on the mast for movement from a normally retracted transporting position above the ground surface to an extended ground surface engaging position. There is also a puller frame assembly arranged on the mast for movement up and down with respect thereto and the puller frame assembly has engagement means thereon for effecting detachable engagement thereof with a post to be pulled. A common power means is operatively connected to the puller and extensible frame assemblies to effect movement thereof.

With this arrangement, the vehicle may travel along the road close to the guard fence with the slide structure retracted to a position where the mast is close in to the side of the vehicle and when the vehicle is along side a post to be pulled, the slide structure, if necessary, can be extended to position the mast adjacent the post thereby eliminating the maneuvering of the vehicle necessary in certain prior constructions in order to place the puller in position to engage a selected post. Also, the common operating means for effecting movement of the puller and extensible frame assemblies is constructed and arranged to be selectively operable whereby the extensible frame assembly can be first moved into its ground engaging position to bear the force of pulling a post from the ground and thereafter move the puller frame assembly upwardly with respect to the mast and thus pull a post from the ground when the puller frame assembly is engaged with the post. Because of this arrangement, none of the pulling force is transmitted to the vehicle as in the case of certain prior constructions.

Further advantages and capabilities of the invention will become apparent from the following description, taken in conjunction with the accompanying drawings showing only a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational view of the front end of the self-propelled post puller according to the present invention illustrating the same in pulling a post from the ground;

FIG. 2 is a view in side elevation of the self-propelled post puller shown in FIG. 1 but omitting the post seen in FIG. 1;

FIG. 3 is a plan view of the frame and slide structures illustrating the structural interrelationships of the frame and slide structures with the chassis of the vehicle;

FIG. 4 is a view in side elevation looking into the right side in FIG. 3 with the slide structure being shown in broken lines;

FIG. 5 is a view similar to FIG. 2 but omitting the vehicle and illustrating the post pulling attachment on a larger scale;

FIG. 6 is a plan view of FIG. 5;

FIG. 7 is a view in side elevation of FIG. 5;

FIG. 8 is a detailed view in front elevation of the post engaging clamp shown in FIG. 1 with its parts shown in a post engaging position;

FIG. 9 is a view in side elevation of FIG. 8; and

FIG. 10 is a view similar to FIG. 8 but illustrating the clamp parts as they would be when the clamp is being released from the post.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings wherein like reference numerals refer to like parts throughout the several views, **10** designates generally a self-propelled vehicle, here shown as a utility tractor of known construction having front and rear wheels **12** and **14**, respectively, and parallel longitudinal beams **16** comprising the chassis of the tractor.

Supported on the chassis of the tractor is a frame structure **18** which is best seen in FIGS. 3 and 4. The frame structure **18** comprises longitudinally extending parallel side members **20**, spaced slide rails **22** which are oppositely disposed and suspended beneath the chassis beams **16** and which extend laterally at right angles with respect to the longitudinal axis of the chassis, guide rails **24** positioned above the rails **22**, and bracing members **25, 26, 27, 28, 29** and **31** which provide stability and rigidity to the frame structure **18**. The structural members of which the frame structure **18** is made up comprise rigid channel and angle iron sections which are joined together as by welding. The frame structure **18** is detachably securable to the chassis or beams **16** of the tractor as by bolting the side members **20** to the beams **16** so that if the transmission, for example, needs any attention, the frame structure **18** can be dropped from the chassis by removing a few bolts and pulled out from under the tractor. The chassis on tractors of the type with which this invention is concerned are usually the same, but adapters may be necessary to adapt the frame structure **18** as an attachment to any particular make of tractor or other vehicle.

A slide structure **30** is reciprocally supported by the frame structure **18** for movement laterally with respect to the longitudinal axis of the chassis when the frame structure **18** is secured thereto. The slide structure **30** is supported by the rails **22** for movement therealong crosswise or transversely of the chassis of the tractor and it is guided in its movement by the guide rails **24**. The slide structure **30** is thus suspended from the chassis **16** intermediate the ends of the tractor and between the front and rear wheels thereof. Slide structure **30** comprises spaced side members **32** connected by cross members **34** and diagonal bracing member **36**. There is a power means or hydraulic cylinder and piston unit **38** having a cylinder **40** connected to a plate **42** on frame structure **18** and a piston rod **44** connected to a plate **46** on slide structure **30** for effecting movement of the slide structure **30** back and forth along the slide rails **22** from a retracted to an extended position with respect to the tractor **10**.

Returning now to FIGS. 1 and 2, at the off-side or outside of the slide structure **30** there is supported thereon an elongated, rigid vertical mast **48**. The mast **48** is supported on the slide structure **30** for movement therewith and with its lower end **50** spaced above the ground surface on which the tractor **10** is supported. The mast **48** is thus positioned between the front and rear wheels of the tractor close in to the side of the tractor when the slide structure **30** is retracted and moved outwardly away from the chassis of the tractor as the slide structure **30** moves towards its extended position.

The mast **48** comprises a pair of vertically disposed H-beam sections **52** and **54** connected in spaced substantially parallel relation by angle iron cross bracing members **56** and **58**, the vertical portions of which are welded

on the rear sides of sections **52** and **54**, and flat bar **55** welded onto the front surfaces of the sections **52, 54**. There is also provided on the rear side of the mast **48** an angle iron mounting bracket **60**. The vertical portion **62** of bracket **60** is secured to the H-beam sections **52** and **54** as by welding and the horizontal portion **64** is provided with openings through which bolts **66** pass for securing the mast **48** to the slide structure **30**. A pair of bracing members **68** and **70** are secured at their upper ends to the mast **48** as at **72** and **74** and are secured to the slide structure **30** at their lower ends as at **76** and **78**.

Referring now more particularly to FIGS. 5–7, the web portions **80** and **82** of the H-beam sections **52** and **54**, respectively, are disposed in opposed substantially parallel relation thereby providing a pair of opposed inner guide channels **84** and **86** and a pair of outer guide channels **88** and **90** on the mast **48**. A pair of abutments **92** and **94** are provided in the inner guide channels **84** and **86** and the purpose of these abutments will appear hereinafter.

Adjacent the lower end **50** of the mast **48** there is an extensible frame assembly **96**. This extensible frame assembly **96** is arranged on the mast **48** for movement from a normally retracted transporting position above the ground surface to an extended ground surface engaging position. In FIG. 1, 2, 5 and 7 the extensible frame assembly **96** is seen in its extended position.

The extensible frame assembly **96** comprises a U-shaped frame made up of channel sections and has a horizontal portion **98** and an opposed pair of upwardly extending arm portions **100** and **102** at the opposite ends of the horizontal portion **98**, and a pressure foot **104** pivotally secured to the horizontal portion **98** of the U-shaped frame and depending therefrom. The upwardly extending arm portions **100** and **102** are received in the outer guide channels **88** and **90**, respectively, which guide the extensible frame assembly **96** in its movement from its retracted to its extended position and when in its extended position, the pressure foot **104** rests on the ground surface. There is also provided a pair of end plates **105** to close the lower ends of the outer guide channels.

A puller frame assembly, shown generally at **106**, is arranged on the mast **48** for movement up and down with respect thereto. As seen in FIGS. 1 and 2, the puller frame assembly **106** is shown in its up position and in FIGS. 5 and 7 in its down position. The puller frame assembly **106** comprises an inverted U-shaped frame made up of box beam sections and has a horizontal portion **108** and a pair of downwardly extending arms **110** and **112**. The puller frame assembly **106** is positioned between the H-beam sections **52** and **54** with the outer side portions or arms **110** and **112** thereof being received in the inner guide channels **84** and **86** which guide the puller frame assembly **106** in its up and down movement with respect to the mast **48**.

An engagement means or puller block assembly **114** is secured to the puller frame structure **106** for effecting detachable engagement of the puller frame assembly **106** with a post to be pulled from the ground. The puller block assembly **114** comprises an outer plate **116** provided with a slot **118**, a pair of inwardly extending channel sections **120** and **122** which are secured as by welding to the arms **110** and **112** and a pair of short sections **124** and **126** which are secured as by welding to the channel sections **120** and **122**. The sections **124** and **126** slide over the outer faces of the H-beam sections **52** and **54** as the puller frame assembly moves up and down with respect to the mast **48** and further guide the puller frame assembly **106** in its movement. A pair of upwardly extending braces **128** and **130** are joined at their upper ends to the horizontal portion **108** of the puller frame assembly **106** and at their lower ends to the channel sections **120** and **122**.

To effect movement of the puller and extensible frame assemblies, there is provided a common power means **132**. The common power means **132** comprises a hydraulic cylinder and piston unit which is disposed between the puller and extensible frame assemblies. The power means **132** has an upwardly extending piston rod **134** operatively connected to the puller frame assembly **106** as at **136** and a cylinder **138** operatively connected to the extensible frame assembly **96** as at **140**. The opposite ends of the cylinder **138** are arranged to be connected to a source of fluid under pressure such that fluid under pressure may be introduced into either end thereof and apply pressure on either side of the piston of the unit **132**. The same is true of the piston and cylinder unit **38**. Fluid under pressure can be supplied and drained on each side of the piston of each cylinder and piston unit **38** and **132**, and each unit is supplied with fluid under pressure through flexible conduits as shown by a pump **142** and from a source of hydraulic fluid **144** on the tractor **10**. The hydraulic controls for the units **38** and **132** are grouped in a control consol **146** just forward of the steering wheel **148**.

In order to effect engagement of the puller frame assembly **106** to a post **149** to be pulled from the ground, a chain **150** is secured to the puller block assembly **114** by having one of its links positioned in the slot **118**. The free end of the chain **150** has a clamp **152** thereon and this clamp is best seen in FIGS. 8–10. The clamp **152** has a slot **154** for receiving the flanges or the central web of the post **114**, a spring loaded pawl **15**, and a cam lever **158**. The spring **160** biases the pawl **156** downwardly to the position shown in FIG. 8. As a result of this arrangement, when the clamp **152** is slid down over the web of the post, the pawl **156** pivots at **162** allowing the post to fully enter the slot **154** and the serrations **164** at the end of the pawl **156** bite into web when the clamp is pulled upwardly by the chain **150** thus firmly securing the clamp to the post. In order to release the clamp from the post, the lever **158** is moved downwardly and this raises the pawl **156** as shown in FIG. 10, thereby releasing the clamp from the post.

The operation of the self-propelled post puller just described is as follows: Having first selected a post to be pulled from the ground, and, if necessary, having extended the slide **30** to position the mast **48** adjacent the post, the chain **150** is engaged with the puller block **114** and the clamp **152** is slid down over the web or flanges of the post **149**. The puller frame assembly will be in its down position and the depending arms will be positioned against the abutment means **92** and **94** as shown in FIG. 5. Fluid under pressure is then introduced into the lower end of cylinder **138** and because the piston rod **134** is effectively connected to the post which is imbedded in the ground, the fluid under pressure acting on the underside of the piston and against the cylinder **138** will first apply a moving force to the cylinder **138** and thus cause the cylinder **138** and the extensible frame assembly **96** to move downwardly into its ground engaging position to bear the force of pulling the post. When the extensible frame assembly **96** is in contact with the ground and further fluid under pressure is introduced into the lower end of the cylinder **138**, the piston together with the piston rod **134** will then move upwardly under the force being applied thereto by the fluid, thus moving the puller frame assembly upwardly away from the abutment means **92, 94**, and thus cause the post to be pulled from the ground. After the post has been pulled from the ground and in order to lower the puller frame assembly and raise the extensible frame assembly into its transporting position, fluid under pressure is then introduced into the upper end of the cylinder **138**. This will cause the piston and piston rod to move downwardly thus causing the puller frame assembly to move downwardly until the arms **110, 112** abut the abutment means **92, 94** and this prevents the puller frame assembly from moving further down in the channels **84, 86**. Thereafter upon the further introduction of fluid into the upper end of the cylinder **138**, the cylinder will begin to move upwardly thus causing the extensible frame assembly **96** to move to its retracted position above the ground surface.

While I have described the mast **48** as being mounted on the slide structure **30**, it can of course be considered as a separate attachment for a self-propelled vehicle and be easily mounted at the front, rear or side of the vehicle, but the arrangement shown and decsribed is preferred.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

I claim:

1. An attachment for a self-propelled vehicle for use in pulling posts from the ground comprising:

(a) an elongated mast constructed and arranged to be vertically supported on a vehicle with its lower end spaced above the ground surface on which the vehicle is supported,

(b) an extensible frame assembly arranged on the mast for movement from a normally retracted position above the ground surface to an extended ground surface engaging position,

(c) a puller frame assembly arranged on the mast for movement up and down with respect thereto, the puller frame assembly having engagement means thereon for effecting detachable engagement thereof with a post to be pulled, and

(d) power means operatively connected to the extensible and puller frame assemblies and being selectively operable to effect movement of the assemblies whereby the extensible frame assembly can be first moved into its ground surface engaging position to bear the force of pulling a post from the ground and thereafter the puller frame assembly can be moved upwardly with respect to the mast and thus pull a post from the ground when the puller frame assembly is engaged with the post.

2. An attachment for a self-propelled vehicle for use in pulling posts from the ground as defined in claim **1** wherein the mast comprises:

a pair of vertically-disposed H-beam sections connected in spaced substantially parallel relation by cross-bracing, the webs of the H-beam sections being disposed in opposed substantially parallel relation thereby providing a pair of opposed inner guide channels and a pair of outer guide channels on the mast, the puller frame assembly being positioned between the H-beam sections with outer side portions thereof being received in the inner guide channels which guide the puller frame assembly in its up and down movement with respect to the mast.

3. An attachment for a self-propelled vehicle for use in pulling posts as defined in claim **2** wherein the extensible frame assembly comprises a U-shaped frame having a horizontal portion and an opposed pair of upwardly-extending arm portions at the ends of the horizontal portion and a pressure foot pivotally secured to the horizontal portion of the U-shaped frame and depending therefrom,

the upwardly-extending arm portions being received in the outer guide channels which guide the extensible frame assembly in its movement from its retracted to its extended position and the pressure foot resting on the ground surface when the extensible frame assembly is in its ground-engaging position.

4. An attachment for a self-propelled vehicle for use in pulling posts from the ground comprising:

(a) a mast having abutment means thereon and being constructed and arranged to be supported on a vehicle with its lower end above the level of the ground on which the vehicle is supported,

(b) a puller frame assembly having engagement means thereon for effecting detachable engagement thereof with a post to be pulled from the ground and being

arranged on the mast for longitudinal movement relative thereto, the puller frame assembly normally being positioned against the abutment means of the mast and movable away therefrom when effecting pulling of a post from the ground,

(c) an extensible frame assembly on the mast arranged for longitudinal movement relative thereto from a retracted position above the ground surface to an extended ground-engaging position, and

(d) power means operatively connected to the puller and extensible frame assemblies and being selectively operable to effect movement of the extensible frame assembly from its retracted to its ground-engaging position and vice-versa and to effect movement of the puller frame assembly away from the abutment means of the mast and vice-versa, the puller frame assembly when engaged with a post and being moved away from the abutment means causing the post to be pulled from the ground and the extensible frame assembly when in its ground-engaging position bearing the force of pulling the post from the ground.

5. An attachment for a self-propelled vehicle for use in pulling posts from the ground as defined in claim **4** wherein:

the power means comprises a hydraulic cylinder and piston unit disposed between the puller and extensible frame assemblies, the opposite ends of the cylinder of the unit arranged to be connected to a source of fluid under pressure such that fluid under pressure may be introduced into either end thereof and apply pressure on either side of the piston of the unit, a piston rod connected to the piston and extending upwardly from the cylinder and connected to the puller frame assembly and the lower end of the cylinder being secured to the extensible frame assembly whereby when fluid under pressure is introduced into the lower end of the cylinder, the cylinder will move downwardly, thus causing the extensible frame assembly to move downwardly into its ground-engaging position and when the extensible frame assembly is in contact with the ground and further fluid under pressure is introduced into the lower end of the cylinder the piston, together with the piston rod, will then move upwardly, thus moving the puller frame assembly upwardly, and whereby when the puller frame assembly is in a raised upward position and fluid is introduced into the upper end of the cylinder, the piston and piston rod will move downwardly causing the puller frame assembly to move downwardly until its abuts the abutment means, and thereafter, upon the further introduction of fluid into the upper end of the cylinder, the cylinder will move upwardly, thus causing the extensible frame assembly to move to its retracted position above the ground surface.

6. An attachment for a self-propelled vehicle for use in pulling posts from the ground comprising:

(a) an elongated mast constructed and arranged to be vertically supported on a vehicle with its lower end spaced above the ground surface on which the vehicle is supported,

(b) an extensible frame assembly arranged on the mast for movement from a normally retracted position above the ground surface to an extended ground surface-engaging position,

(c) a puller frame assembly arranged on the mast for movement up and down with respect thereto, the puller frame assembly having engagement means thereon for effecting detachable engagement thereof with a post to be pulled, and

(d) a common power means operatively connected to the puller and extensible frame assemblies which is constructed and arranged to first move the extensible frame assembly into its ground-engaging position when it is desired to pull a post from the ground

and then move the puller frame assembly upwardly with respect to the mast and thus pull a post from the ground when the puller frame assembly is engaged with the post, and to first move the puller frame assembly downwardly with respect to the mast and then move the extensible frame assembly to its retracted position.

7. An attachment for a vehicle for use in pulling posts from the ground as defined in claim **6** wherein the common power means comprises a hydraulic cylinder and piston unit having a piston rod operatively connected with the puller frame assembly and having a cylinder operatively connected to the extensible frame assembly.

8. An apparatus for pulling a post from the ground comprising:

(a) a self-propelled vehicle having a chassis and front and rear wheels,

(b) a vertically-elongated mast mounted on the vehicle, the lower end of the mast being located above the level of the ground on which the vehicle is supported,

(c) a puller frame assembly supported by the mast, the puller frame assembly being movable up and down with respect to the mast and including engagement means thereon for effecting detachable engagement thereof with a post to be pulled,

(d) an extensible frame assembly adjacent the lower end of the mast, the extensible frame assembly being normally raised above the ground surface and extensible from its normal position to an extended ground-engaging position, and

(e) power means operatively connected to the puller and extensible frame assemblies, the power means being selectively actuable to apply a moving force to the puller frame assembly and an oppositely-directed moving force to the extensible frame assembly for causing the extensible frame assembly to move from its normal position to its ground-engaging position,

and for causing the puller frame assembly to move upwardly with respect to the main frame structure and thus pull a post from the ground when the slide frame assembly is engaged with a post.

9. An apparatus for pulling posts from the ground comprising:

(a) a vehicle having a chassis and wheels,

(b) a slide structure movable crosswise of the vehicle intermediate its ends,

(c) a vertical mast supported on one end of the slide structure with its lower end being at a level above the ground surface on which the vehicle is supported,

(d) extensible means arranged on the lower end of the mast for movement from a normally retracted position above the ground surface to an extended ground surface-engaging position,

(e) puller means arranged on the mast for movement up and down relative thereto, and

(f) power means operatively connected to the extensible and puller means to effect movement of the extensible and puller means.

10. An apparatus for pulling posts comprising:

(a) a self-propelled vehicle having a chassis and front and rear wheels,

(b) a slide structure suspended from the chassis between the front and rear wheels for movement in a direction crosswise of the chassis,

(c) means for moving the slide structure from a retracted to an extended position,

(d) the slide structure having a vertical mast supported thereon with the lower end of the mast being at a level above the ground on which the vehicle is supported, the mast being positioned between the front and rear wheels of the vehicle close in to the side of the vehicle when the slide is retracted and moved outwardly away from the chassis of the vehicle as the slide structure moves toward its extended position,

(e) puller means supported by the mast for movement up and down relative thereto, and

(f) means operatively connected to the puller means for effecting movement thereof.

11. An apparatus for pulling posts as defined in claim **10** including:

extensible means arranged on the mast for movement from a normally retracted position above the ground to an extended ground-engaging position, and wherein the last-named means comprises a common power means operatively connected to the puller means and to the extensible means to selectively effect movement of both.

12. A self-propelled post puller comprising:

(a) a self-propelled tractor having a chassis,

(b) a frame structure detachably secured to the chassis,

(c) a slide structure reciprocally supported by the frame structure for movement laterally with respect to the longitudinal axis of the chassis,

(d) means operatively connected to the slide structure to effect movement thereof,

(e) a vertical mast supported on one end of the slide structure for movement therewith, the lower end of the mast being at a level above the ground surface on which the vehicle is supported,

(f) an extensible frame assembly adjacent the lower end of the mast, the extensible frame assembly being normally raised above the ground surface in a transporting position and extensible from its normal position to an extended ground-engaging position to bear the force of pulling a post from the ground,

(g) a puller frame assembly supported by the mast, the puller frame assembly being movable up with respect to the mast and having engagement means thereon for effecting detachable engagement thereof with a post to be pulled, and

(h) a common power means operatively connected to the puller and extensible frame assemblies which is constructed and arranged to first move the extensible frame assembly into its ground-engaging position when it is desired to pull a post from the ground and then move the puller frame assembly upwardly with respect to the mast and thus pull a post from the ground when the puller frame assembly is engaged with a post.

13. An attachment for a self-propelled vehicle for use in pulling posts from the ground comprising:

(a) a frame structure having means for detachably securing it to the chassis of a self-propelled vehicle,

(b) a slide structure reciprocally supported by the frame structure for movement laterally with respect to the longitudinal axis of the chassis when the frame structure is secured thereto,

(c) means operatively connected to the slide structure to effect movement thereof,

(d) a vertical mast supported on one end of the slide structure for movement therewith and with its lower end being at a level above the ground surface on which the vehicle is supported,

(e) puller means supported by the mast for movement up and down relative thereto, and

(f) means operatively connected to the puller means for effecting movement thereof.

14. An attachment for a self-propelled vehicle for use in pulling posts from the ground as defined in claim **13** wherein the frame structure includes a pair of oppositely-disposed slide rails suspended beneath and extending laterally at a right angle with respect to the longitudinal axis of the chassis when the frame is secured thereto and a pair of guide rails positioned above the slide rails, the slide structure being supported on the slide rails for movement therealong and guided in its movement by the guide rails.

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