Dec. 27, 1938. H. M. MURPHY 2,141,693

ERRACING AND DITCHING MACHINE

Filed Nov. 19, 1937 2 Sheets-Sheet 1

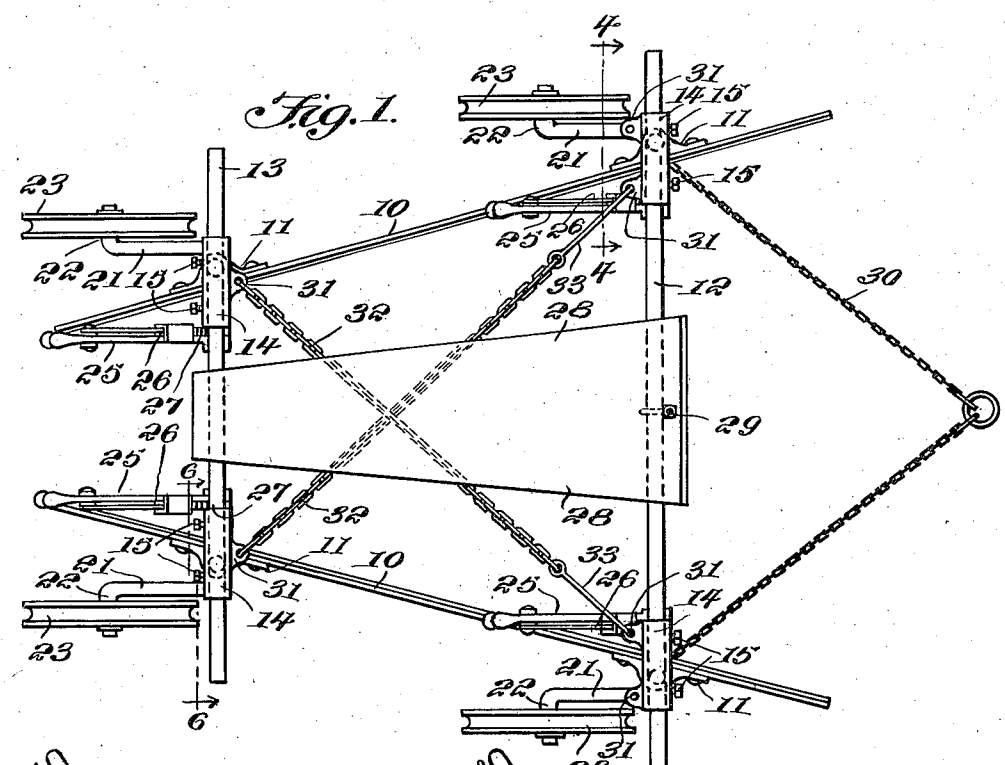


Fig. 1.

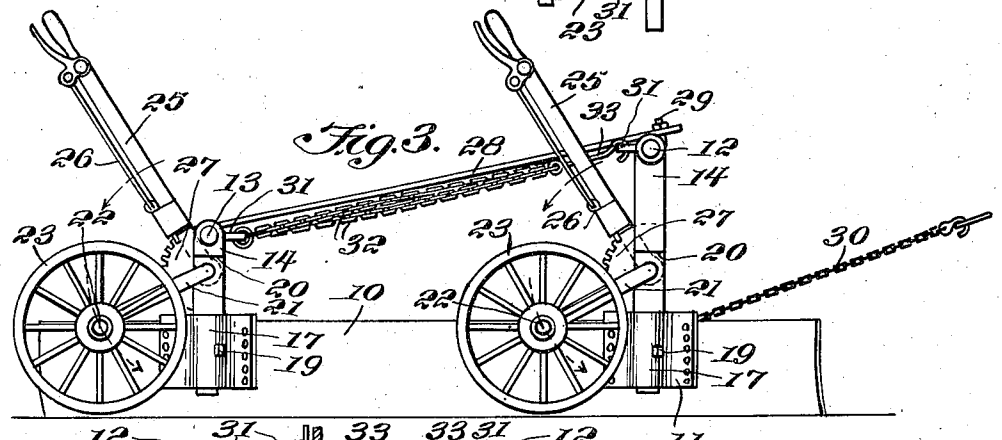


Fig. 3.

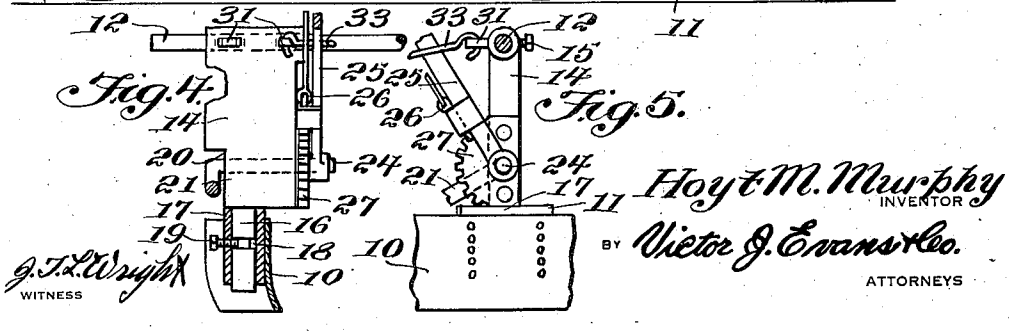


Fig. 4.

Fig. 5.

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TERRACING AND DITCHING MACHINE

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Fig. 2.

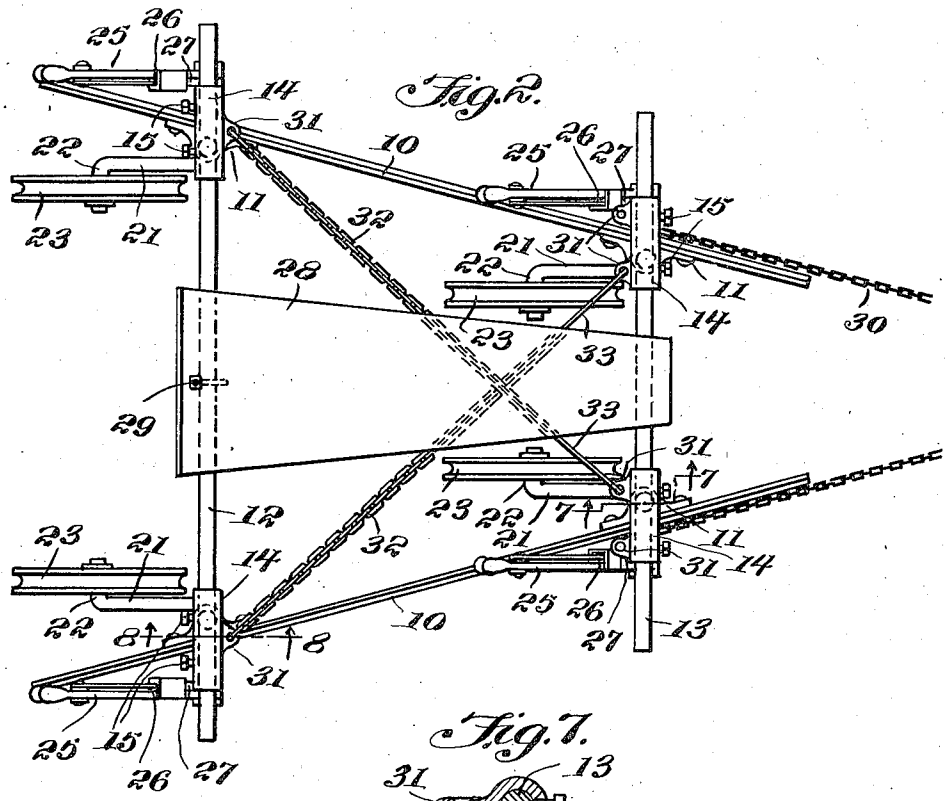


Fig. 7.

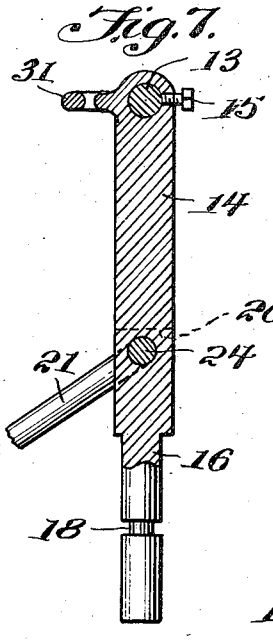


Fig. 6.

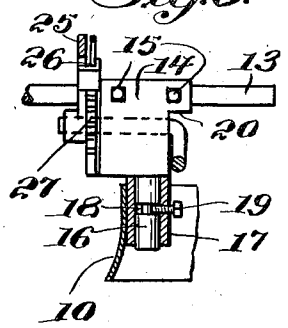
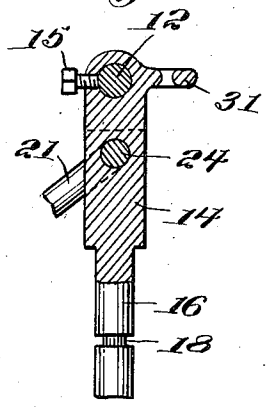


Fig. 8.



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UNITED STATES PATENT OFFICE

2,141,693

TERRACING AND DITCHING MACHINE

Hoyt M. Murphy, San Angelo, Tex.

Application November 19, 1937, Serial No. 175,511

3 Claims. (Cl. 37—154)

The invention relates to a road building machine and more especially to a terracing and ditching machine embracing refinements over the subject matter of United States Letters Patent No. 1,869,271, issued July 26, 1932.

The primary object of the invention is the provision of a machine of this character, wherein through the use of chains the side draft of the said machine will be eliminated and the advance under draft of the machine will be rendered forwardly.

Another object of the invention is the provision of a machine of this character, wherein the raising and lowering of the blades employed for terracing and ditching can be had with dispatch and are susceptible of being latched in the raised or lowered positions.

A further object of the invention is the provision of a machine of this character, wherein the chains in their arrangement will keep the blades even when either of the same hits a hard spot in the soil.

A still further object of the invention is the provision of a machine of this character, wherein refinements exist over the subject matter of United States Letters Patent No. 1,869,271, issued July 26, 1932.

A still further object of the invention is the provision of a machine of this character, which is simple in its construction, light in weight yet strong, durable, thoroughly reliable and efficient in operation and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a top plan view of the machine constructed in accordance with the invention showing the same adjusted for terracing purposes.

Figure 2 is a view similar to Figure 1 showing the machine adjusted for use in ditching.

Figure 3 is a side elevation thereof.

Figure 4 is a sectional view taken on the line 4—4 of Figure 1 looking in the direction of the arrows.

Figure 5 is an elevation of the parts shown in Figure 4.

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 1 looking in the direction of the arrows.

Figure 7 is a sectional view taken on the line 7—7 of Figure 2 looking in the direction of the arrows.

Figure 8 is a sectional view taken on the line 8—8 of Figure 2 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, particularly Figures 1 to 3 inclusive, the machine comprises a pair of gathering or scraper blades 10, each being preferably curved laterally toward its lowermost edge and has fixed thereto at one side sleeve-like perpendicularly arranged coupling members 11 for the mounting of the blades in a manner hereinafter appropriately set forth.

Disposed crosswise of the blades are front and rear bars 12 and 13, the latter being shorter than said front bar 12, and both bars have adjustably fitted thereon blocks 14, each adjustably held through the use of set screws 15 tapped therein. The blocks at their lower ends are constructed with depending circular shanks or stems 16 engageable in the couplings 11, these having the socketed portions 17 accommodating the said shanks or stems. The shanks or stems 16 are formed with annular grooves 18 while carried by the socketed portions 17 are screw-like keys 19 engageable in the said channels or grooves 18 and in this fashion the blades 10 are adjustably and detachably coupled with the block 14.

Each block 14 is formed with a recess 20 cut into one side thereof providing a clearance for a wheel crank 21 having an axle end 22 on which is journalled a traction wheel 23. The crank at the turning end 24 has fixed thereto a throw lever 25 provided with a hand-released, spring-pressed latching device 26 selectively engageable with a toothed sector or keeper rack 27 fixed to the block 14 companion thereto. In this manner the wheels 23 can be selectively adjusted for raising and lowering movements vertically.

Arranged centrally of the machine to rest upon the front and rear bars 12 and 13 is a platform 28 which carries near one end a clip 29 to embrace a bar 12 or 13 for terracing and ditching operations of the machine as hereinafter set forth.

The platform 28 serves as a stand for the driver or operator of the machine so that the control for raising and lowering the blades 10 may be manually operated therefrom or when such driver or operator is standing upon the ground these levers 25 can be manipulated.

Attached to the machine at its foremost end is a chain hitch 30 for the draft of the machine.

The blocks 14 are formed at their upper portions with eyes 31 for the engagement and disengagement of crossed tie chains 32, one end of each being permanently fastened to an eye while the other end is provided with a hook 33 for detachable engagement with another eye, this being apparent from Figures 1, 2, 4 and 5 of the drawings.

In Figure 1 of the drawings, the traction wheels 23 are shown disposed outermost with respect to the blades 10 and in this arrangement the machine is set for terracing purposes.

It should be apparent from Figure 3 of the drawings that one pair of blocks is of greater height than another pair thereof used or employed in the machine so that the platform 28 inclines in one direction at the center of the machine.

In Figure 2 of the drawings the wheels 23 are located inside with respect to the blades 10 and in this arrangement the machine is set for ditching purposes, it being understood, of course, that the hitch 30 under the arrangement in Figure 1 has the pull thereof from the inside of the blades while in Figure 2 under the arrangement therein the hitch 30 has the pull from the outside of said blades.

The tie chains 32 in their crossed relation to each other eliminate side draft on the machine and steady the draft of said machine under advancement thereof. These chains 32 also assist to avoid the blades becoming uneven when either hits a hard spot in the soil.

The throw levers 25 fixed to the cranks 21 carrying the wheels 23 enable quick adjustment and increase the speed in raising and lowering the blades 10.

The crossed chains 32 and the throw levers 25 are the refinements over the subject matter of United States Letters Patent No. 1,869,271, issued July 26, 1932.

What is claimed is:

1. In a machine of the kind described, spaced fore and aft bars, blocks adjustably connected to the bars, crank axles swingingly mounted in the blocks, spring-latched throw levers fixed to the said axles for the turning thereof, traction wheels on the said axles, swinging gathering blades supported from the blocks, and crossed tie chains connected with the blocks fore and aft on the said bars.

2. In a machine of the kind described, spaced fore and aft bars, blocks adjustably connected to the bars, crank axles swingingly mounted in blocks, spring-latched throw levers fixed to the said axles for the turning thereof, traction wheels on the said axles, swinging gathering blades supported from the blocks, crossed tie chains connected with the blocks fore and aft on the said bars, and means for detachably engaging the crossed chains from a pair of the blocks.

3. In a machine of the kind described, spaced fore and aft bars, blocks adjustably connected to the bars, crank axles swingingly mounted in the blocks, spring-latched throw levers fixed to the said axles for the turning thereof, traction wheels on the said axles, swinging gathering blades supported from the blocks, crossed tie chains connected with the blocks fore and aft on the said bars, means for detachably engaging the crossed chains from a pair of the blocks, and a platform overlying the said bars.

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