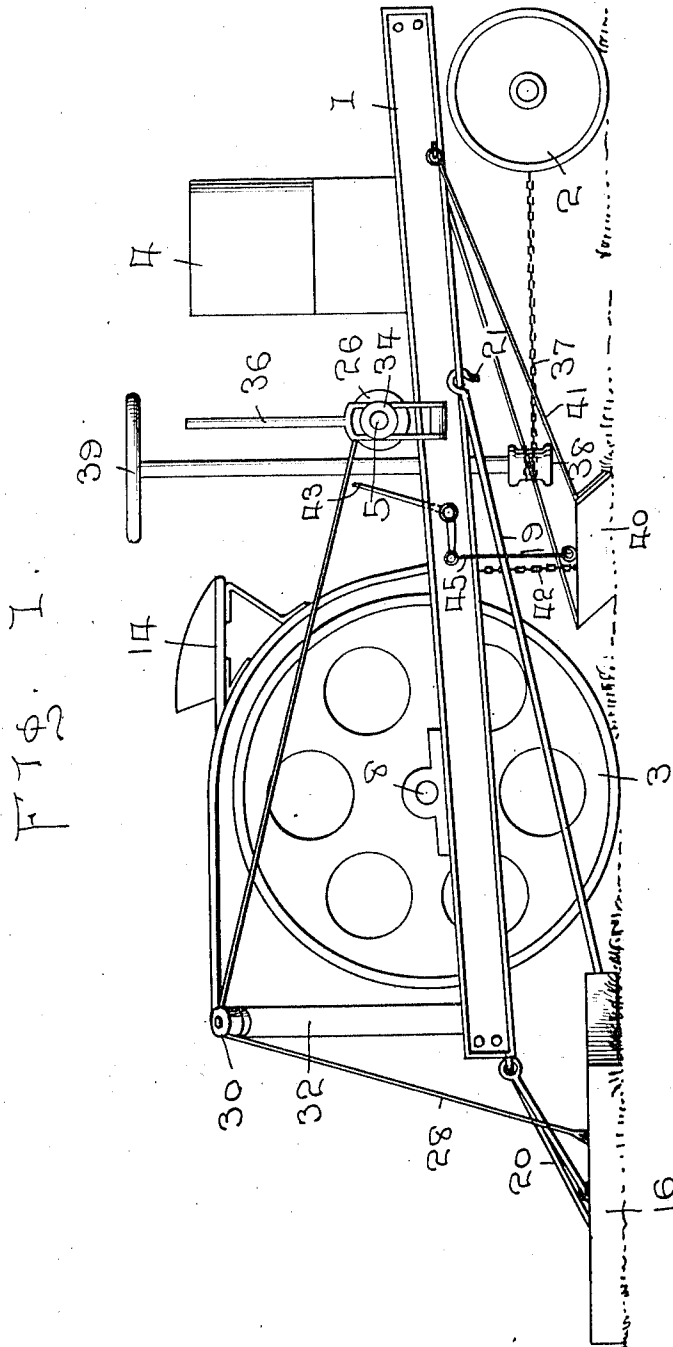


E. C. JEWETT.
GRADING MACHINE.
APPLICATION FILED JUNE 15, 1911.

1,021,047.

Patented Mar. 26, 1912.

2 SHEETS—SHEET 1.



WITNESSES:

Thos. W. Riley
M. Newcomb

INVENTORS
E. C. Jewett

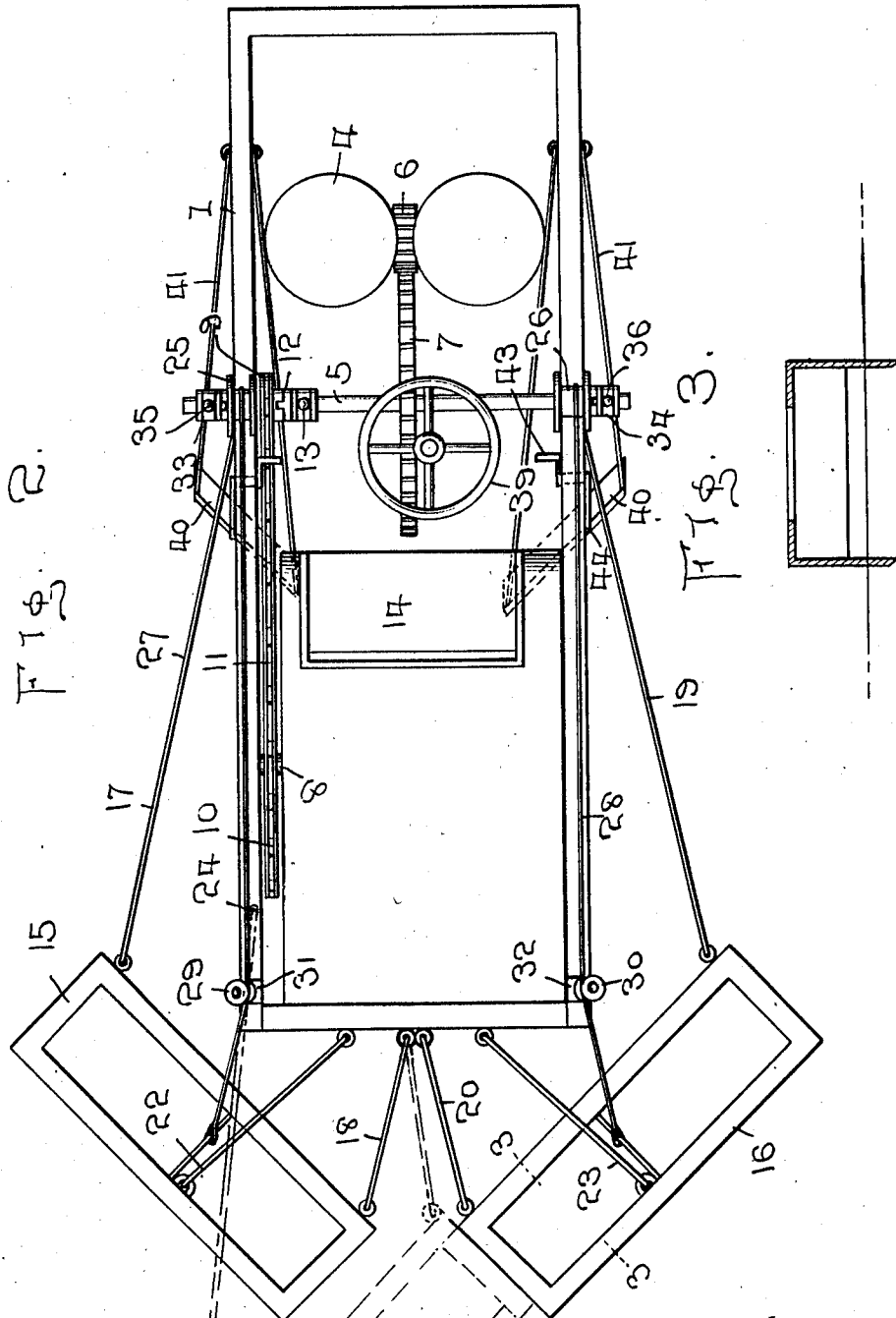
BY
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UNITED STATES PATENT OFFICE.

EUGENE C. JEWETT, OF EAGLE GROVE, IOWA.

GRADING-MACHINE.

1,021,047.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed June 15, 1911. Serial No. 633,258.

To all whom it may concern:

Be it known that I, EUGENE C. JEWETT, citizen of the United States, residing at Eagle Grove, in the county of Wright and State of Iowa, have invented certain new and useful Improvements in Grading-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in grading machines and more particularly to that class used for grading roadways, street surfaces, etc., and my object is to provide a pair of drags or scraping blades and means for attaching the same to a suitable frame.

A further object is to provide means whereby the drags may be arranged at an angle to each other and the soil moved to a point in alinement with the longitudinal center of the frame or arranged in alinement with each other to form a continuous drag whereby the soil will be moved, to one side of the path of the frame.

A further object is to provide a motor for propelling the grading machine, and a further object is to provide means for raising or lowering the drags in unison or independently of each other.

Other objects and advantages will be hereinafter set forth and pointed out in the specification and claim.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation of my improved grader. Fig. 2 is a top plan view thereof showing the position of one of the drags in dotted lines, and Fig. 3 is a sectional view of one of the drags as seen on line 3—3 Fig. 2.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the frame of my improved grading machine which is preferably constructed of angle iron, while 2 indicates the forward or guiding wheels and 3 the rear or drive wheels. Located preferably adjacent the forward end of the frame 1 is a motor 4 of any preferred construction which transmits its power to the shaft 5 through the pinion 6 and gear 7 while the power is transmitted to the axle 8 upon which the driving wheels 3 are mounted through the medium of sprockets 9 and 10 and a sprocket chain 11.

The sprocket 9 is rotatably mounted upon the shaft 5 and is driven with said shaft through the medium of a clutch mechanism 12, a lever 13 being employed whereby the clutch mechanism may be readily operated by the attendant from the seat 14 of the grader. The drags 15 and 16 are secured to the frame 1 through the medium of rods 17, 18, 19 and 20 respectively, the rods 17 and 19 having hooked terminals 21 at their forward ends which enter openings in the side bars of the frame 1, while the rods 18 and 20 are secured to the rear cross bar of the frame. Instead however of extending the drags in the rear of the frame they may be placed substantially at the longitudinal center of the frame and between the front and rear wheels. The drags 15 and 16 are held against undue lateral swinging motion by means of brace rods 22 and 23 respectively, the inner ends of said rods being attached to the rear bar of the frame, while the opposite ends thereof are attached to the drags and preferably adjacent the longitudinal center thereof.

When it is desired to make a continuous drag so that the soil will be moved to one side of the path of the frame the drags are arranged as shown by full and dotted lines in Fig. 2 in which instance the hooked terminal of the rod 17 is engaged with an opening 24 adjacent the rear end of the side bar of the frame, while the brace rod 22 is disengaged from the end bar of the frame thus disposing the drag 15 in alinement with the drag 16 and making a continuous drag.

The arrangement of the drags as shown in full lines in Fig. 2 is adapted for use in smoothing and grading narrow road surfaces, while the arrangement of the drags as shown by full and dotted lines is for grading street surfaces or the like. In order to raise the drags as when crossing a bridge or to free the same from trash, etc., I provide winding drums 25 and 26 at opposite ends of the shaft 5 and extend cables 27 and 28 from the drums to the drags 15 and 16 respectively, said cables extending over sheaves 29 and 30 placed between the drums and drags. The sheaves are mounted on standards 31 and 32 carried by the frame 1 and adjacent the rear end thereof, said sheaves being arranged a distance above the frame so that the drags will be elevated when the cables are wound upon their respective drums. The drums are rotatably

mounted upon the shaft 5 and are caused to rotate with the shaft either in unison or independently of each other by means of suitable clutch mechanisms 33 and 34, said clutch mechanisms being operated in any suitable manner, in this instance by means of hand levers 35 and 36 respectively. The grader is guided through the medium of chains 37 which extend from the axle carrying the forward wheels to a winding drum 38 which winding drum is controlled as is usual through the medium of a shaft 39, said shaft being positioned in reach of the operator while occupying the seat on the grader. By this construction it will be readily seen that the grader can be operated without the employment of draft animals. In order to positively remove any bumps or high places in the road surface prior to the grader passing thereover a pair of cutting blades 40 are positioned forwardly of the drive wheels 3 and are caused to travel with the machine by attaching rods 41 thereto, the forward ends of the rods being engaged with the frame 1. One of these rods is longer than the other so that the blades will be disposed at an angle to the line of travel of the grader, thereby directing the soil removed by the blades in a predetermined direction. As these blades are only intended to remove portions of the soil extending above the surrounding surface they are limited in their downward movement by means of chains 42, one end of the chains being attached to the blades and the opposite end to the frame. If, for any reason, it is desired to raise the blades, foot-levers 43 are provided which are pivoted to the frame 1 and are connected to the blades through the medium of arms 44 and connecting rods 45. By applying forward pressure on the foot-

levers said blades may be elevated out of engagement with the earth's surface. It will likewise be seen that the drags and cutting blades may be readily elevated for clearing the same of trash or for moving the machine from place to place; and while I have shown a mechanical means for elevating the drags any suitable mechanism may be employed. It will likewise be seen that the drags can be arranged for grading wide surfaces, such as streets or the like, when it is desired to move the soil to one side of the path of the grader and it will likewise be seen that all of the operating mechanisms are placed in convenient reach of the operator so that the grader can be easily manipulated.

What I claim is:

In a grading machine the combination with a frame having openings formed in the sides thereof, cutting blades movably secured centrally of said frame, means for raising and lowering said blades and means for limiting the downward movement thereof, of a pair of adjustable drags, a pair of short rods connecting the inner ends of said drags to the rear of said frame, a pair of long rods movably secured at one end to the outer ends of said drags and having their opposite ends bent for engagement with the openings in said frame, brace rods to hold the drags against swinging movement and means to raise said drags simultaneously or independently of each other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUGENE C. JEWETT.

Witnesses:

JAMES M. RUDY,
RICHARD FRANCE.