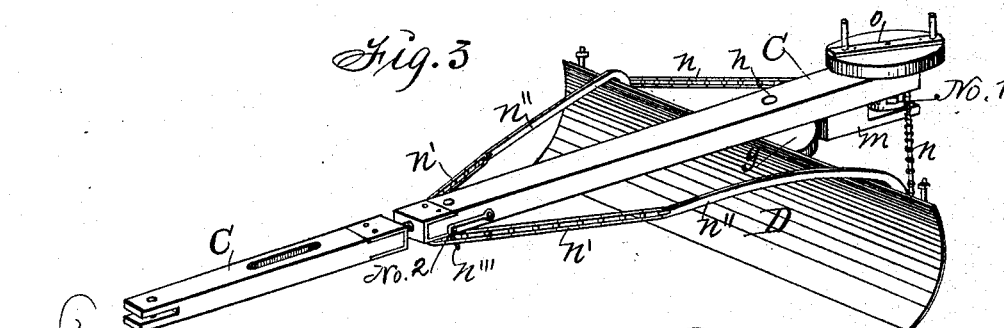
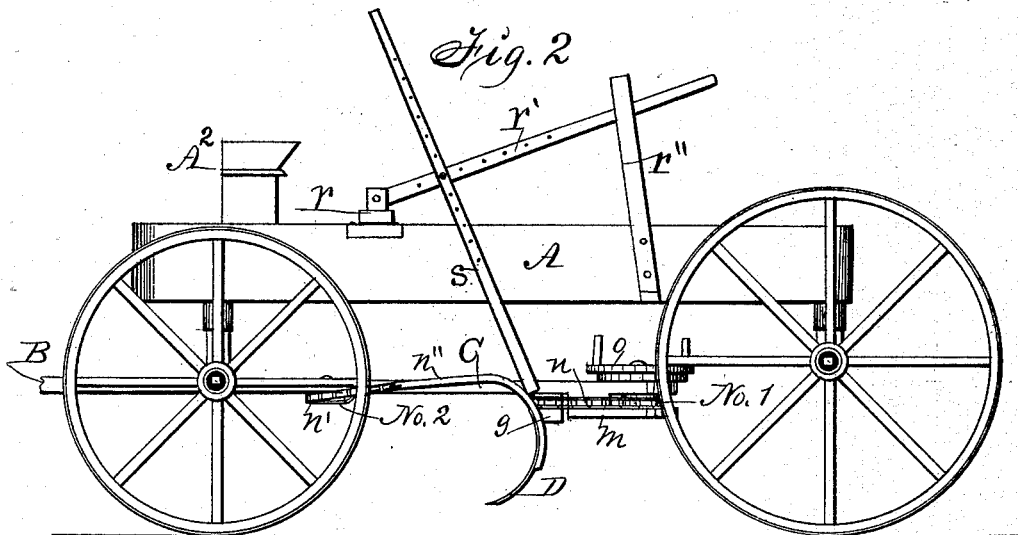
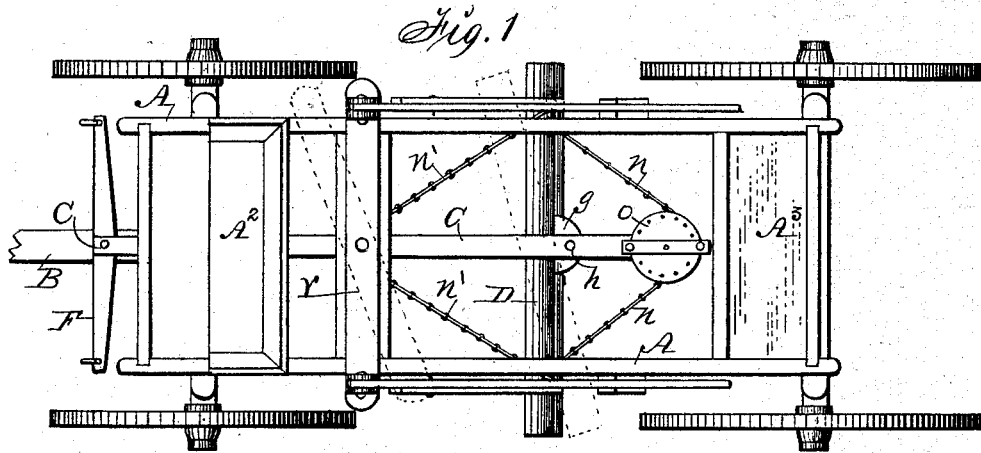


(No Model.)

J. R. DAWSON.
ROAD GRADING MACHINE.

No. 384,894.

Patented June 19, 1888.



Witnesses:

J. O. Tate.

M. P. Smith.

Inventor:

Joseph R. Dawson,

By Thomas G. Orwig, Attorney.

UNITED STATES PATENT OFFICE.

JOSEPH R. DAWSON, OF KNOXVILLE, ASSIGNOR OF ONE-HALF TO HENRY C. LANGEBAEELS, OF STAR, IOWA.

ROAD-GRADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 384,894, dated June 19, 1888.

Application filed September 20, 1887. Serial No. 250,254. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. DAWSON, a citizen of the United States of America, and a resident of Knoxville, in the county of Marion and State of Iowa, have invented an Improved Road-Grading Machine, of which the following is a specification.

My invention relates to that class of machines in which a scraper is combined with a tractable carriage; and my object is to construct and combine a scraper with a four-wheeled carriage in such a manner that the draft of the horses attached will be direct in line with the center of the scraper, adjustable so that it can be readily set at any angle desired relative to the carriage and line of advance as required to move ground directly forward or to scrape and deposit it at either side of the carriage and line of advance; and I accomplish this desideratum as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view, and Fig. 2 a side view, of my complete machine; and Fig. 3, a perspective view of the scraper detached from the carriage.

A represents the body of a four-wheeled carriage. It is connected with the front and rear axles in such a manner that it will serve as a reach and allow the space underneath to be occupied by the scraper. It has a floor and a seat, A², at its front end, but is open at its central portion, as required to make the scraper visible and readily accessible to a person upon the platform A³ at the rear end of the carriage.

B is a carriage-pole fixed to the front axle in a common way, as required to govern the direction of the machine-carriage and complete machine.

C is the beam to which the scraper is attached. It is formed in two parts, preferably made of straight pieces of hard wood that are connected by means of a swivel coupling device in such a manner that the rear portion can revolve, so that the ends of the scraper D carried thereby can be adjusted and retained at different angles relative to the surface of the ground. The front portion of this jointed beam has a slot, through which a linchpin is passed to couple the scraper to the front axle

of the carriage in such a manner that it will have backward and forward motion relative to the carriage.

F is a doubletree pivoted to the front end of the beam C, so that the horses can be hitched thereto by means of harness-traces to apply draft direct to the beam, as required to advance the scraper and carriage while they are yoked to the front end of the carriage-pole in a common way, as required to direct the advance of the complete machine.

g is a semicircular-shaped block fixed to the rear side and center of the scraper D, a bolt, h, extended through the bolt and beam, as required to pivot the scraper to the under and rear portion of the beam.

m is a block fixed to the under side of the beam to form a bearing that will engage the semicircular block, to steady and support the scraper as it is revolved and operated upon the pivotal bolt h.

No. 1 is a chain-wheel journaled to the rear end of the beam C in such a manner that a chain, n, extended over the wheel and fastened at its ends to the opposite end portions of the scraper, will serve as a brace to the scraper in all the various positions it may be placed relative to the beam, the carriage, and the surface of the ground.

o represents a lever or hand-wheel fixed to the top of the axle of the chain wheel in such a manner that the angle of the scraper relative to the beam and carriage can be readily changed by turning the chain-wheel thereby.

No. 2 is a chain-wheel pivoted to the front portion of the beam, and a chain, n', is passed over it and connected with the opposite ends of the scraper by means of draft-bars n'', that are fixed to the convex back of the scraper in such a manner that the chain will always be taut, and at the same time allow the angle of the scraper to be changed as required to direct ground to the opposite sides of the machine at the will of the operator.

n''' represents a hook and locking device that will retain the scraper at a fixed angle.

r is a cross-bar pivoted on top of the carriage-body A and in rear of the seat.

r' are handles hinged to the ends of the cross-bar, so that they can be adjusted vertically upon racks r'', that extend up from the

sides of the carriage body, as clearly shown in Fig. 2.

s s are bars flexibly connected with the end portions of the scraper and adjustably connected with the hinged handles r' by means of perforations and bolts in such a manner that the opposite ends of the scraper can be independently raised and lowered, as required to change the angle of the scraper relative to the surface of the ground, and also as required to suspend the scraper in an inoperative position. These same bars s can also be adjusted backward and forward relative to the handles r' and racks r'' , as required to accommodate them to the angle of the cross-bar r , which will thus always be retained in parallel position with the scraper.

The scraper and adjusting devices and traces are thus flexibly connected, as required to elevate and reverse the position of the scraper so that it can be made inoperative or set at any vertical angle or any horizontal angle desired.

I am aware a scraper has been pivoted to a carriage in such a manner that it could be adjusted and placed at different angles relative to the line of advance, and also relative to the surface of the ground; but my manner of combining a jointed beam, a scraper, and a carriage is novel and greatly advantageous in that it facilitates the adjustment of the scraper relative to the surface of the ground and relieves the beam and scraper from torsional strain. I am also aware that levers have been connected with the ends of a scraper so that each end could be adjusted independently relative to the surface of the ground; but my manner of connecting the ends of a scraper with a carriage by means of bars that can be adjusted vertically and also horizontally relative to each other and the scraper and carriage is novel and advantageous.

I claim as my invention—

1. In a road-scraper, the combination of a jointed beam, a scraper, and a carriage, to operate in the manner set forth, for the purposes stated.

2. The jointed beam C, the scraper D, having a fixed block, g , the chain-wheel No. 1, block m , hand-wheel o , and chain n , arranged and combined substantially as and for the purposes stated.

3. The jointed beam C, having a fixed block, m , the scraper D, having a semicircular block, g , and fixed draft-bars n'' , the chain-wheels Nos. 1 and 2, and chains n and n' , arranged and combined to operate in the manner set forth, for the purposes stated.

4. The jointed beam C, having an elongated slot in its front portion, and the scraper D, pivoted to the rear portion of the said beam, in combination with a tractable carriage and mechanism for adjusting and elevating the scraper and beam, in the manner set forth, for the purposes stated.

5. The pivoted bar r , having hinged handles r' , the fixed racks r'' , and the bars s , in combination with the scraper D, pivoted to the jointed beam C, to operate in the manner set forth, for the purposes stated.

6. The improved road-scraping machine comprising a four-wheeled carriage, a jointed beam having a scraper pivoted to its under side and rear portion, mechanism for adjusting the scraper horizontally relative to the beam, and mechanism for adjusting the scraper vertically relative to the surface of the ground, arranged and combined to operate in the manner set forth.

JOSEPH R. DAWSON.

Witnesses:

M. M. GAMBLE,
GEO. SIMPSON.