(No Model.)

J. M. BUCKLEY.

GRADING AND LEVELING MACHINE.

No. 282,701. Patented Aug. 7, 1883.

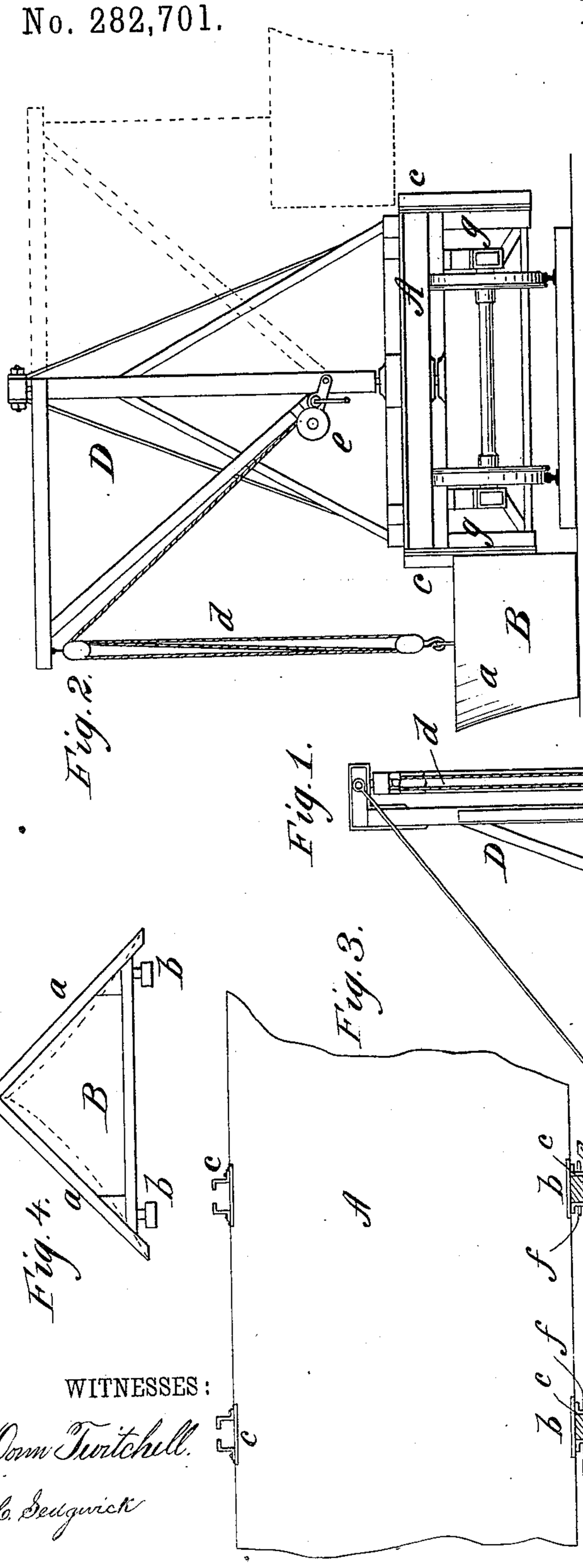

Fig. 2.

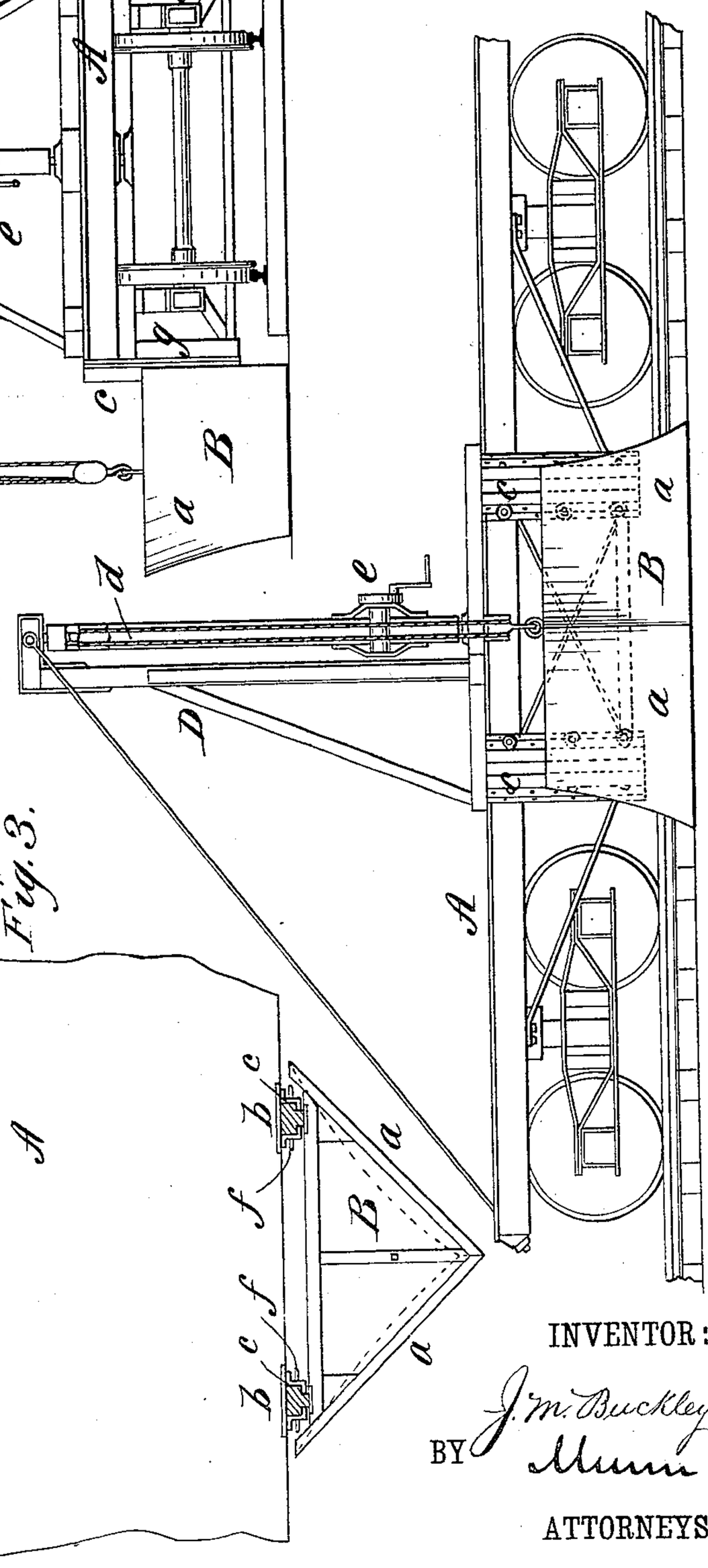

Fig. 1.

Fig. 4.

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES M. BUCKLEY, OF PORTLAND, OREGON.

GRADING AND LEVELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,701, dated August 7, 1883.

Application filed January 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. BUCKLEY, of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Grading and Leveling Machine, of which the following is a full, clear, and exact description.

My improvements relate to machines for grading or leveling earth in the construction of railroad or other embankments, the object being to save the labor of shoveling the earth or other material after it has been dumped from the cars.

My invention consists in adjustable plows or levelers, combined with a platform-car or engine, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the leveling apparatus and cars. Fig. 2 is an end view of the same. Fig. 3 is a plan view. Fig. 4 is a plan view of one of the plows detached.

A represents a platform-car of the ordinary construction; and B is the plow or leveler applied at the side of the car.

The plow consists of two mold-boards, *a a*, connected in V form, and suitably braced. This double plow is provided with guide-bars *b b*, which engage slotted guides *c*, that are attached upon the side of the car, so that the plow can be raised and lowered for its adjustment in the operation of leveling, or raised entirely above the platform of the car when not required for use or when being shifted from one side of the car to the other. The plow is suspended by ropes or chains *d* from a derrick, D, that is fixed upon the car, and the derrick is provided with a windlass, *e*, to which the rope passes, so that the plow can be raised and lowered, and when raised above the car can be swung to either side with the derrick.

For holding the plow in place upon the guides, bolts or pins may be passed transversely through the guides *c* and bars *b*, as shown at *f*; or, if desired, the plows may be fitted for being raised and lowered by means of screws or equivalent devices.

The guides *c* are preferably formed of angle-iron bolted to suitable frames, *g*, that depend from the sides of the car.

The plows may be attached to a platform-car or to an engine or tender.

In operation the car is moved along the track, at the side of which the earth or other material has been dumped from a train as usual, and the plows will act to level and spread the earth at the side of the track, so as to widen the embankment to allow shifting of the track from time to time as usual. By using the double plow the apparatus can be operated when moved in either direction and upon either side of the car. In this manner the work of leveling and grading the embankment can be rapidly carried on, and the usual hand-labor required for shoveling and spreading the earth or other material is saved. The apparatus may also be used for widening cuts through snow-banks after a snow-plow has passed through them.

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

1. In a grading and leveling machine, the combination, with the car having vertical side rails or guides, of the grading and leveling double plow having its working-faces formed of two symetrically-arranged mold-boards projecting laterally from the car, substantially as and for the purpose set forth.

2. The plows B, provided with guide-bars *b*, combined with the car A, having guides *c*, substantially as described.

3. The combination, with a railroad-car, of the derrick D, the rope or chain *d*, and plow B, substantially as and for the purpose specified.

JAMES M. BUCKLEY.

Witnesses:
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