

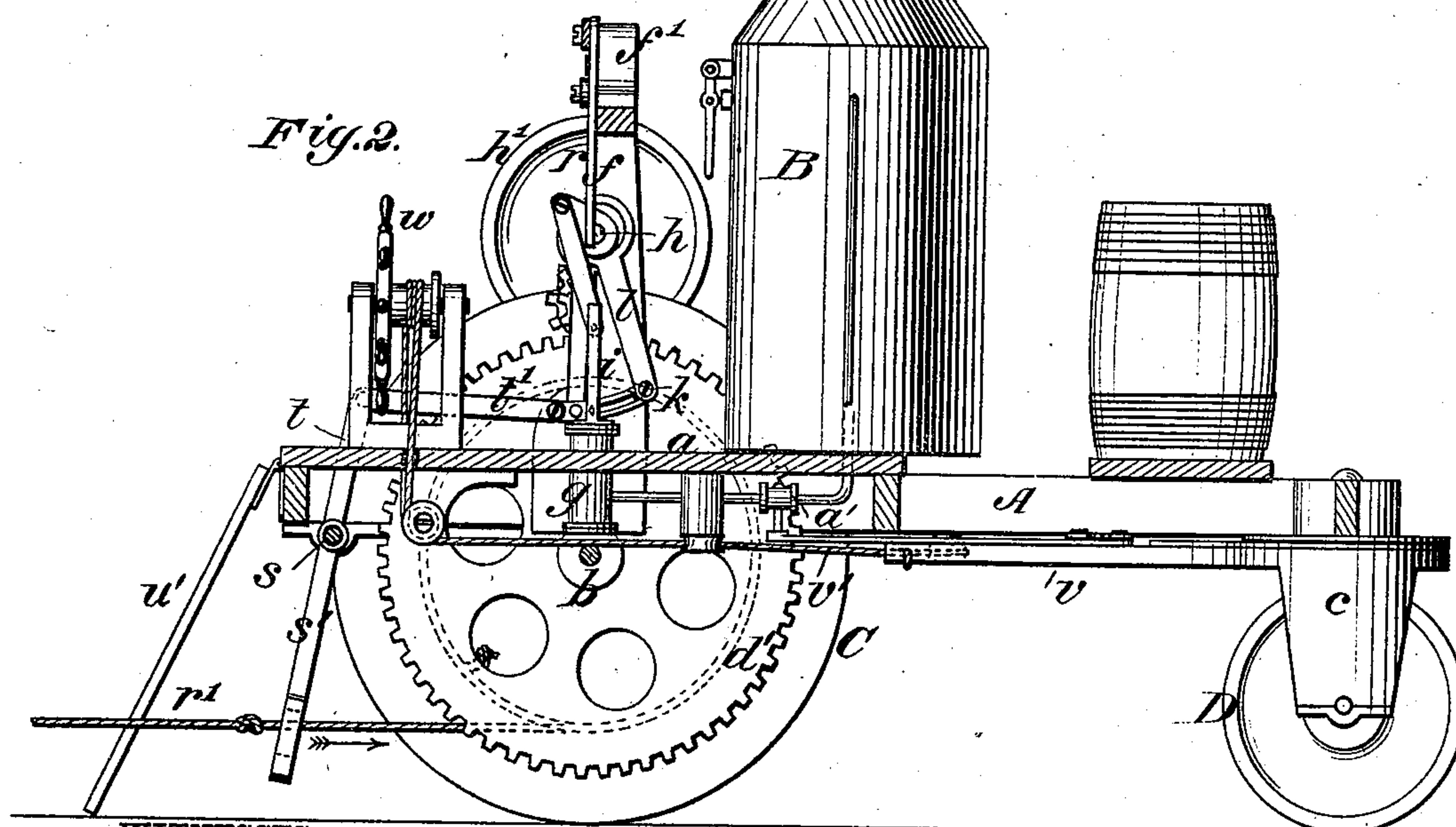
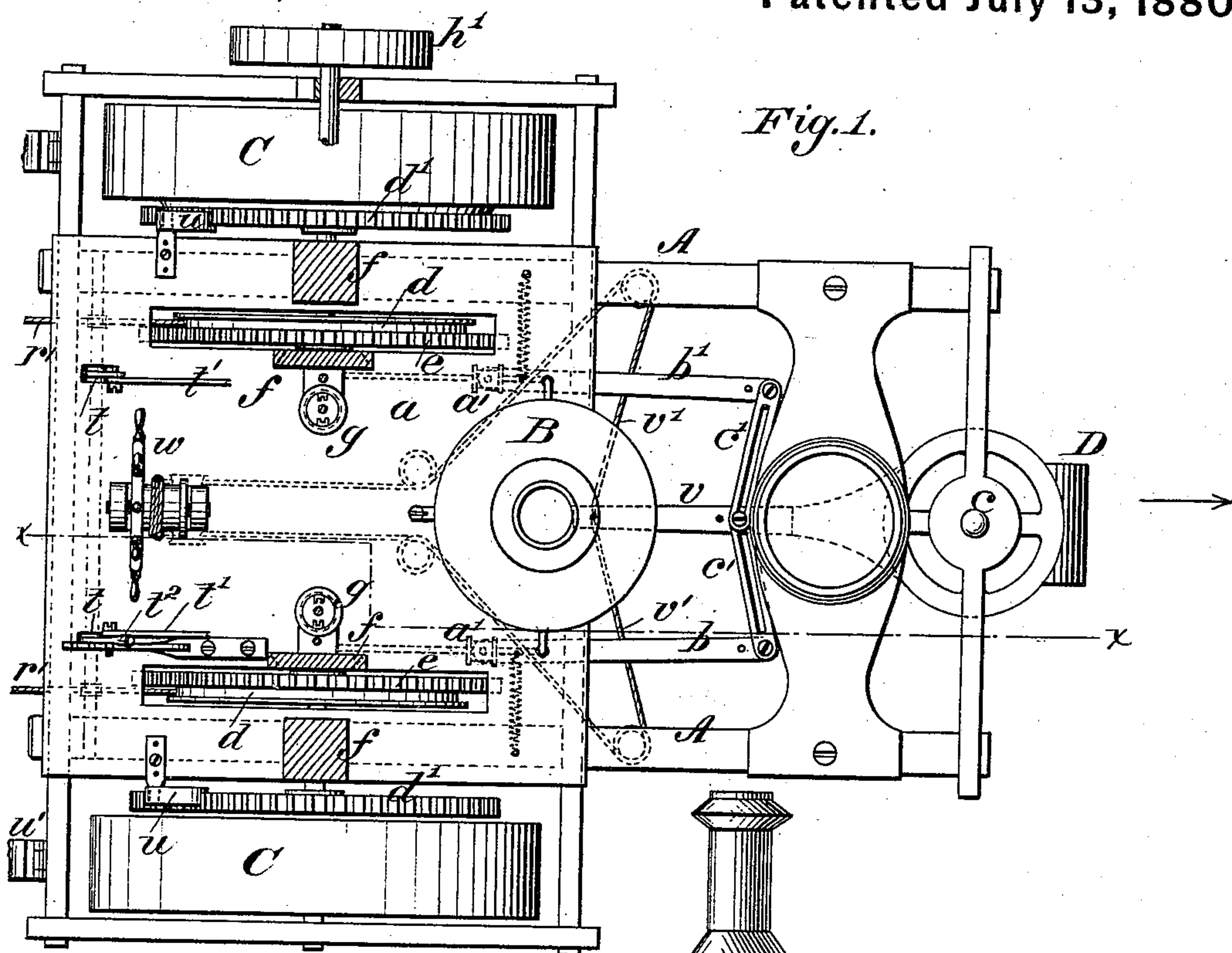
(No Model.,

2 Sheets—Sheet 1.

J. POITEVENT.  
Traction Engine.

No. 230,052.

Patented July 13, 1880.



WITNESSES:

Donn J. Twitchell.  
C. Sedgwick

INVENTOR:

BY

ATTORNEYS.

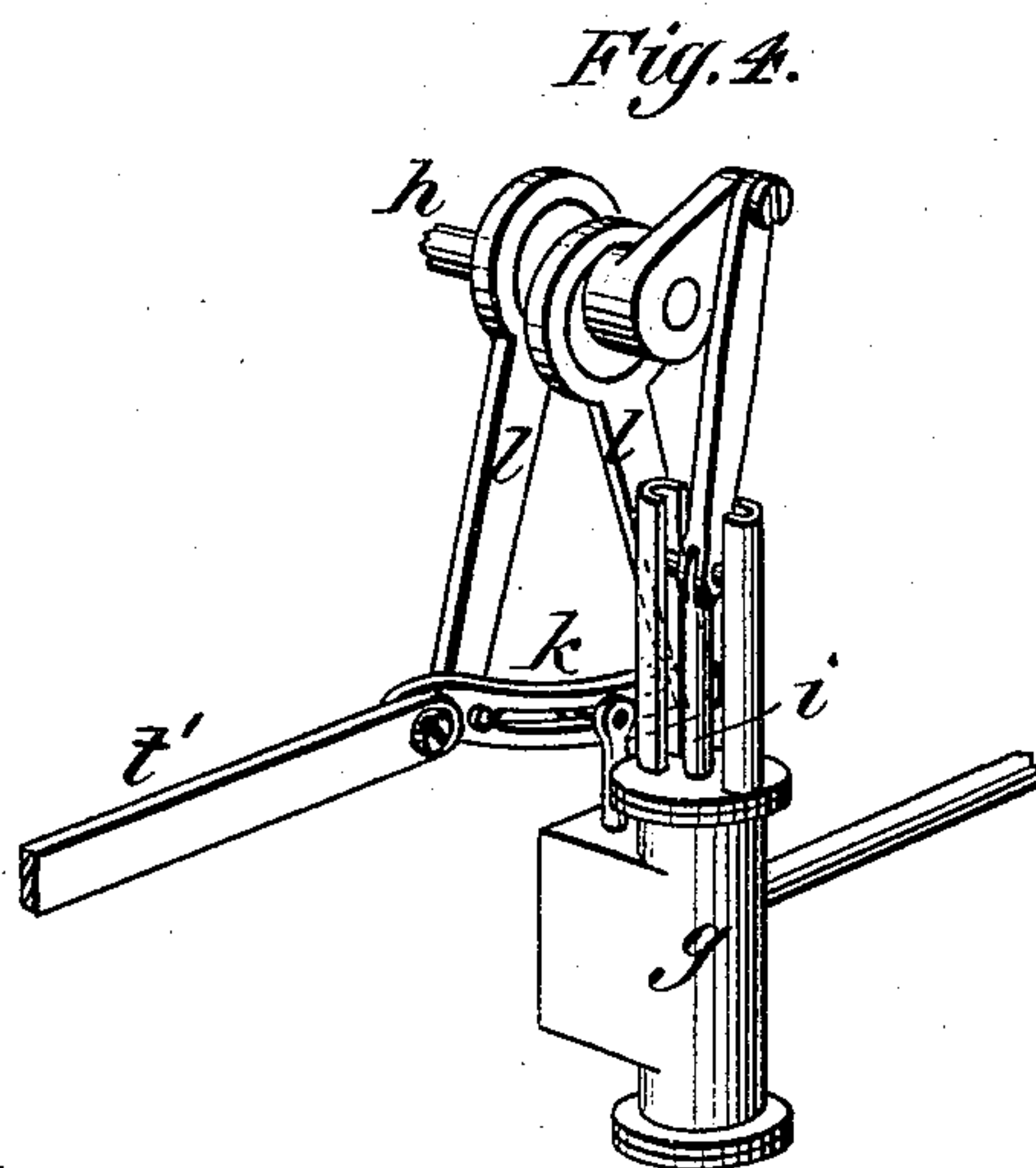
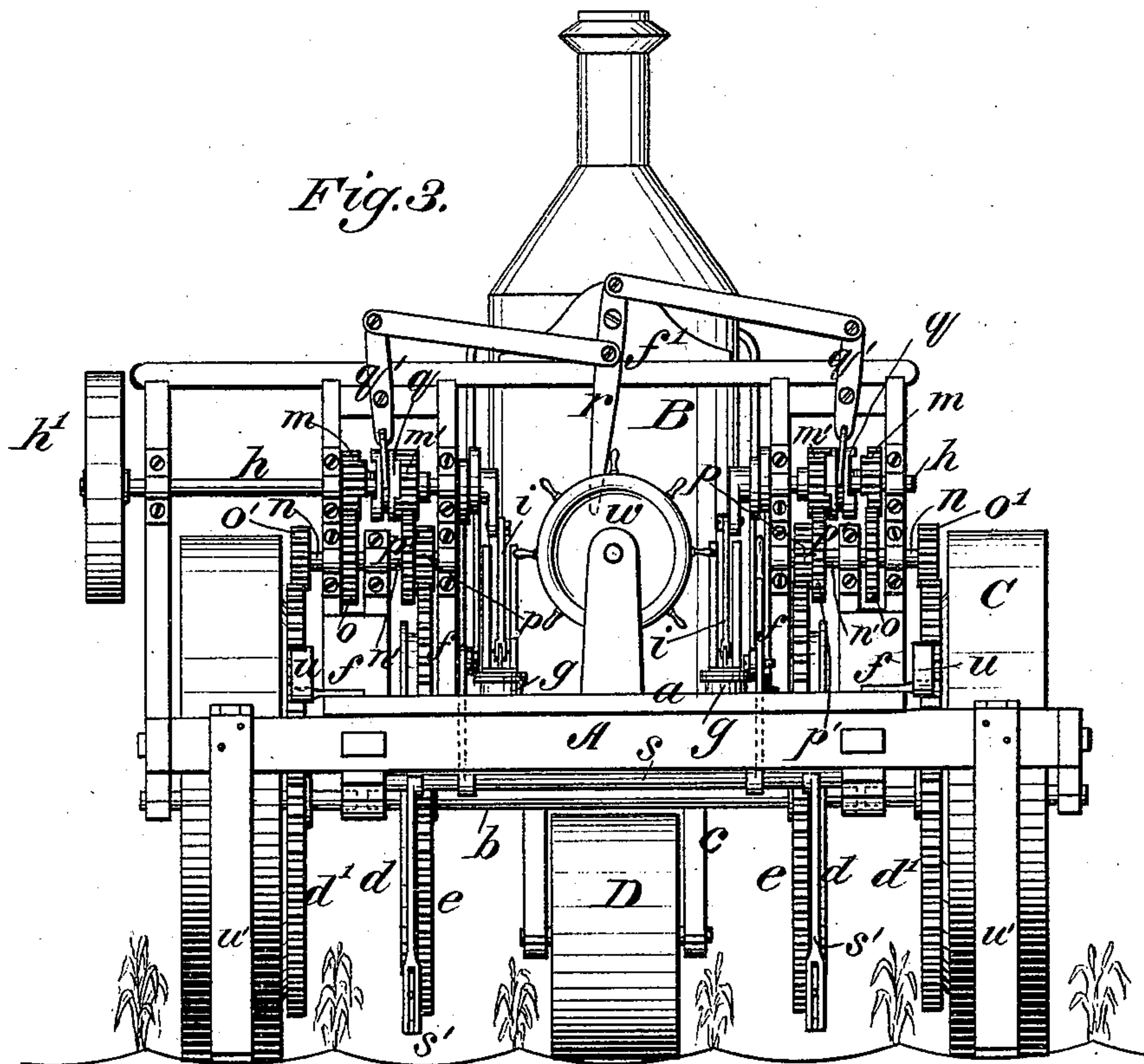
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Traction Engine.

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WITNESSES:

Donn P. Fritchell.  
A. Sulzinger

INVENTOR:

BY

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# UNITED STATES PATENT OFFICE.

JUNIUS POITEVENT, OF OCEAN SPRINGS, MISSISSIPPI.

## TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 230,052, dated July 13, 1880.

Application filed April 29, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, JUNIUS POITEVENT, of Ocean Springs, in the county of Jackson and State of Mississippi, have invented a new and  
5 useful Improvement in Traction-Engines, of which the following is a specification.

The object of my invention is to furnish a traction-engine constructed in such a manner that the same may be used at will with full  
10 power for traction purposes, or as a stationary engine, whereby such engine is especially adapted for plowing.

In the drawings, Figure 1 is a sectional plan view of the engine. Fig. 2 is a vertical longitudinal section on line *x x* of Fig. 1. Fig. 3 is  
15 a rear elevation of the engine. Fig. 4 is a perspective view of one cylinder and its reversing mechanism.

Similar letters of reference indicate corresponding parts.

A is the frame of the engine, of suitable size and strength, and provided with a platform, *a*, at the rear portion, upon which is mounted a vertical boiler, B, and the mechanism, as hereinafter described. The frame A is supported upon an axle, *b*, at the rear, which carries the loose driving-wheels C C, and at the forward end the frame A rests on a pivoted standard, *c*, that is forked to receive the wheel  
30 D. The wheels C D are formed with broad treads, so as to support the engine without sinking in the ground, and the drive-wheels C are of sufficient diameter to allow the machine to pass over growing crops when it is used for cultivation.

To the inner sides of the driving-wheels C gear-wheels *d'* are attached, and upon the axle *b*, between the driving-wheels, are winding-drums *d*, which are formed with or attached  
40 upon gear-wheels *e*, that are fast on the axles.

Upon the frame A, above the axle, standards *f* are fixed, which are connected by a top brace, *f'*, and serve to support the cylinders and driving-gears. There are two cylinders,  
45 *g*, hang at the level of platform *a*, at opposite sides of the center line of the machine, each operating independently in connection with one driving-wheel and winding-drum, and, the connecting-gearing being similar at each side, the following description will be understood  
50 as applying to either.

Upon the standards *f*, in suitable bearings, is fitted a crank-shaft, *h*, connecting with the piston-rod *i* of cylinder *g*, and carrying two eccentrics, the rods *l* of which are connected  
55 by a slotted link, *k*, to which the valve-rod connects. There are also upon the shaft *h* two loose gear-wheels, *m m'*, and between these a sliding clutch, *q*, fitted for movement by a forked lever, *q'*, for engagement with either  
60 wheel *m* or *m'*.

Upon the standards *f*, below and parallel with shaft *h*, are two short shafts, *n n'*, fitted respectively with fast pinions *o o'* and *p p'*. These engage the pinion *o* on shaft *n* with  
65 gear *m*, and *o'* with the gear-wheel *d'* of the driving-wheel C, and the pinion *p'* on shaft *n'* with gear *m'*, and *p* with the gear *e* of drum *d*. By this construction the revolution of shaft *h* is transferred to either the driving-wheel or  
70 the winding-drum by movement of clutch *q*; or the clutch may be held at an intermediate point and power taken from shaft *h* from a pulley, *h'*, which it carries, for any desired purpose.

To permit simultaneous movement of the clutches a lever, *r*, is hung on the cross-brace *f'* in convenient position for movement by the operator, which lever *r* is connected, as shown  
80 in Fig. 3, to the clutch-levers *q'*.

To the winding-drums *d* ropes *r'* are connected, and to these ropes the plows or cultivators will be attached.

Across the rear part of frame A is hung a rock-shaft, *s*, fitted with depending arms *s'*,  
85 that are slotted at their lower ends for the ropes *r'* to pass through. Upon the shaft *s* there are also upwardly-projecting arms *t*, that connect by rods *t'* with the slotted links *k* of the eccentric-rods. These parts are for reversing and stopping the revolution of the driving-shaft *h*, which may be done by hand  
90 by means of a handle, *t<sup>2</sup>*, on one arm of the rock-shaft *s*, or automatically by means of knots in the ropes *r'*, placed so as to move the arms *s'* by contact therewith when the ropes are wound to the extent required. The engine will be stopped or reversed according as the mechanism is arranged.

There are pawls *u* hung at the sides of platform *a*, for engagement with the gear-wheels *d'*  
100 of the drive-wheels for blocking said wheels



when the engine is used as a stationary power or while the winding-drums are in operation. There are also arms  $u'$  hung at the back of frame A, so that they may be turned down to the ground, as shown in Fig. 2, to brace the engine against the backward strain of the plows while the drums are drawing up the rope.

The pivoted standard  $c$  of the guide-wheel D is braced laterally by a fixed and a turning segment or disk, and the latter carries an arm,  $v$ , that extends back beneath the frame A. To the end of arm  $v$  ropes  $v'$  are connected, such ropes passing sidewise in opposite directions and backward over friction-rollers to the windlass of the steering-wheel  $w$ , that is mounted on the rear part of the platform  $a$ . By the operation of the wheel  $w$  the guide-wheel D is turned to change the direction of the engine.

To aid the engine in turning I provide for giving increased power to the drive-wheel at the outer side of the curve by cutting off the steam more or less from the cylinder which drives the inner drive-wheel.

The arrangement is as follows: In the steam-pipes which pass to the cylinders  $g$  are valves  $a'$ , from the stems of which arms  $b'$  extend forward at opposite sides of the steering-arm  $v$ , and are connected to the latter by slotted links  $c'$ , as shown most clearly in Fig. 1. The movement of arm  $v$  in either direction gives motion to the arm  $b'$  of the valves, that is at the inner side of the curve, and the steam is cut off from the cylinder.

By the above-described construction the engine may be utilized for various purposes, and it is especially adapted for agricultural purposes. When used for plowing or cultivation the whole power can be applied to move the

engine forward the length of the ropes, and then to draw up the plows in the direction of the movement of the engine while the engine is stationary.

When used as a stationary power one or both cylinders may be used.

The engine is comparatively light, and may be readily handled while in operation.

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

1. In traction-engines, in combination with the independent drive-wheels C and winding-drums  $d$  and their separate gear-wheels  $d'$  and  $e$ , the shafts  $h$ , driven from separate cylinders, loose gears  $m$   $m'$ , sliding clutch  $q$ , shafts  $n$   $n'$ , and pinions  $o$   $o'$  and  $p$   $p'$ , substantially as described and shown.

2. In traction-engines, the combination, with the driving-shafts  $h$  and their steam-cylinders, of the double eccentrics, slotted links  $k$ , rods  $t$ , rock-shaft  $s$ , arms  $t'$ , and handle  $t^2$ , substantially as and for the purposes set forth.

3. In traction-engines, the slotted arms  $s'$  and knotted rope  $r'$ , combined with the winding-drums and the rock-shaft  $s$ , that is connected with the reversing or stopping mechanism of the engines, substantially as shown and described.

4. In traction-engines, the throttle-valves  $a'$ , arms  $b'$ , and links  $c'$ , combined with the steering-arm  $v$  and steam-pipes of the separate cylinders, substantially as and for the purposes specified.

JUNIUS POITEVENT.

Witnesses:

R. W. LEWIS,  
F. STAPLES.