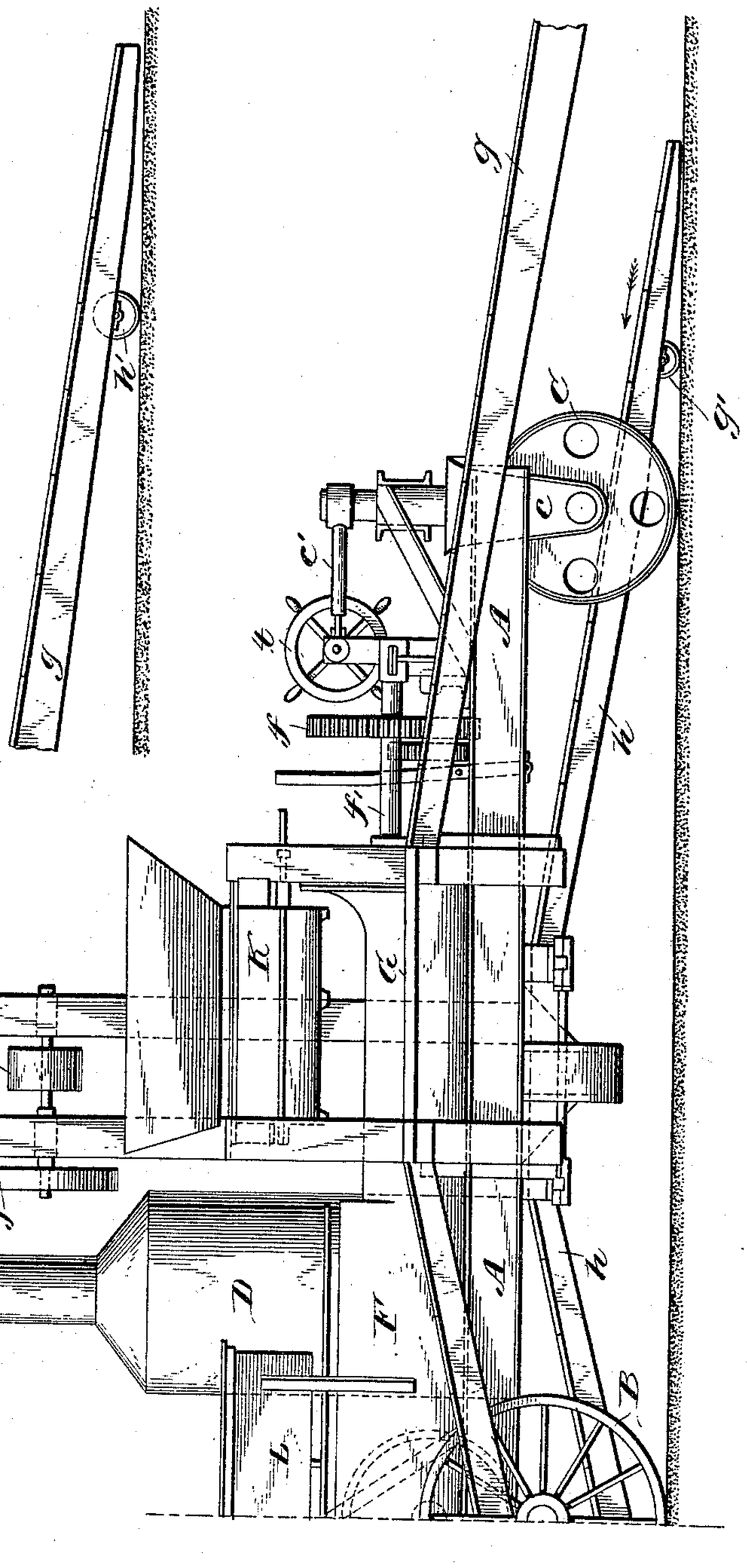
(No Model.) 6 Sheets—Sheet 1.

S. WHINERY.

CONCRETE MIXING MACHINE.

No. 542,700. Patented July 16, 1895.



Witnesses.
J. Thomson Cross
James H. Bawley

Inventor.
Samuel Whinery,
by Geo. B. Harrington,
His Attorney

(No Model.)

6 Sheets—Sheet 2.

S. WHINERY.

CONCRETE MIXING MACHINE.

No. 542,700. Patented July 16, 1895.

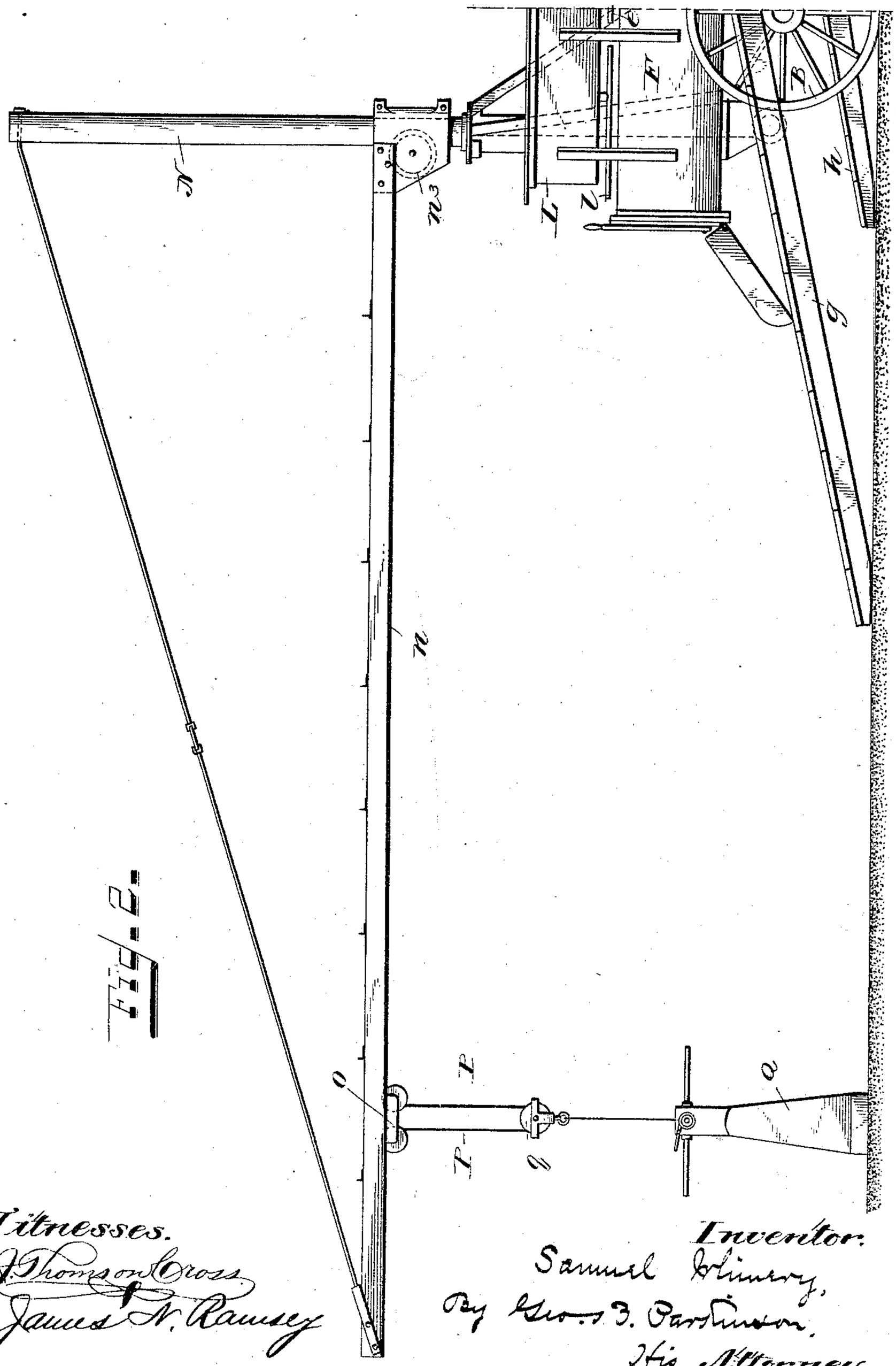


Fig. 2.

Witnesses.
J. Thomson Cross.
James N. Ramsey

Inventor.
Samuel Whinery.
By Geo. S. Parkinson.
His Attorney.

(No Model.)

6 Sheets—Sheet 3.

S. WHINERY.

CONCRETE MIXING MACHINE.

No. 542,700. Patented July 16, 1895.

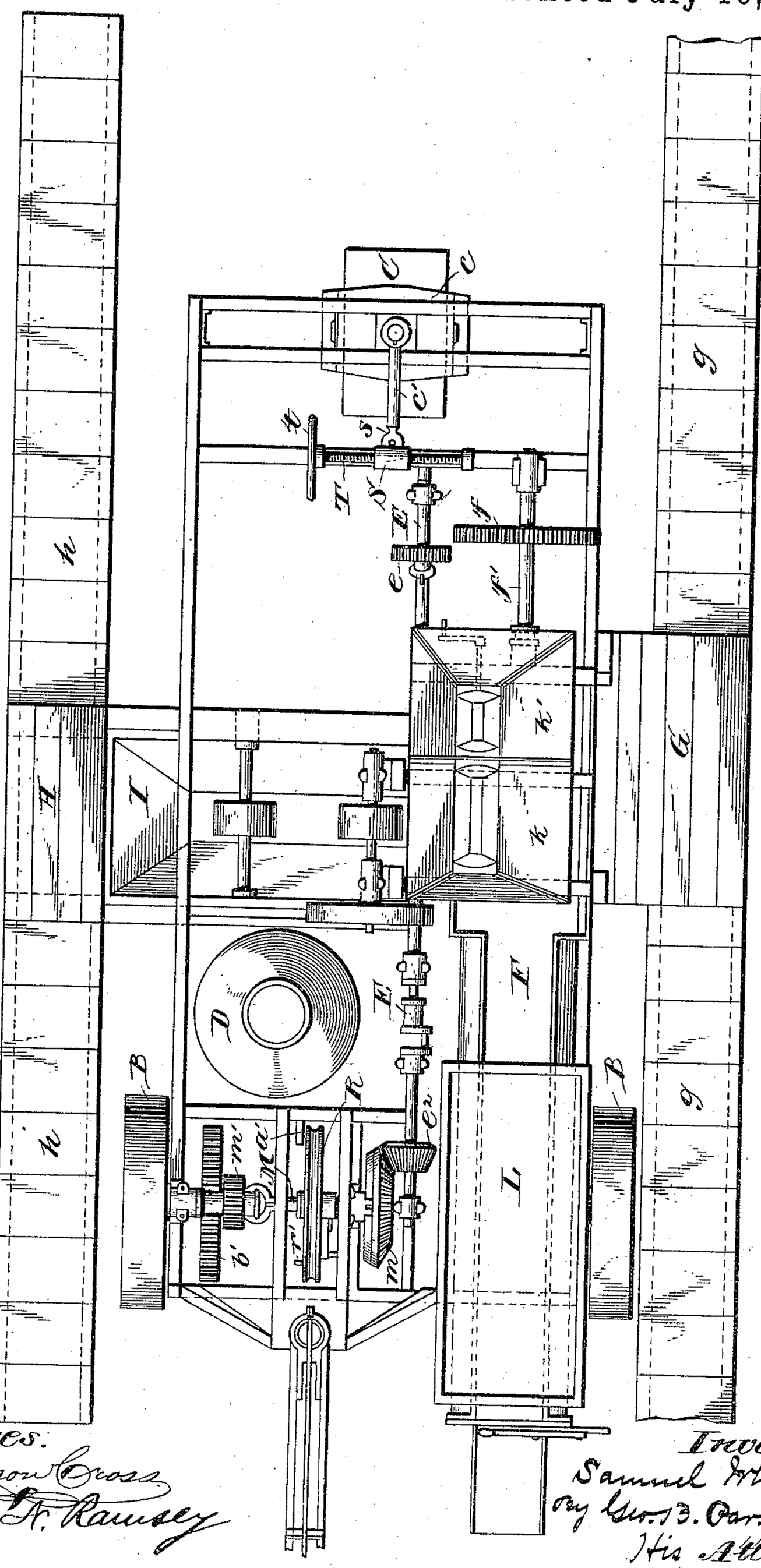


Fig. 3.

Witnesses.
J. Thomson Cross
James F. Ramsey

Inventor.
Samuel Whinery,
by Geo. B. Parkinson
His Attorney.

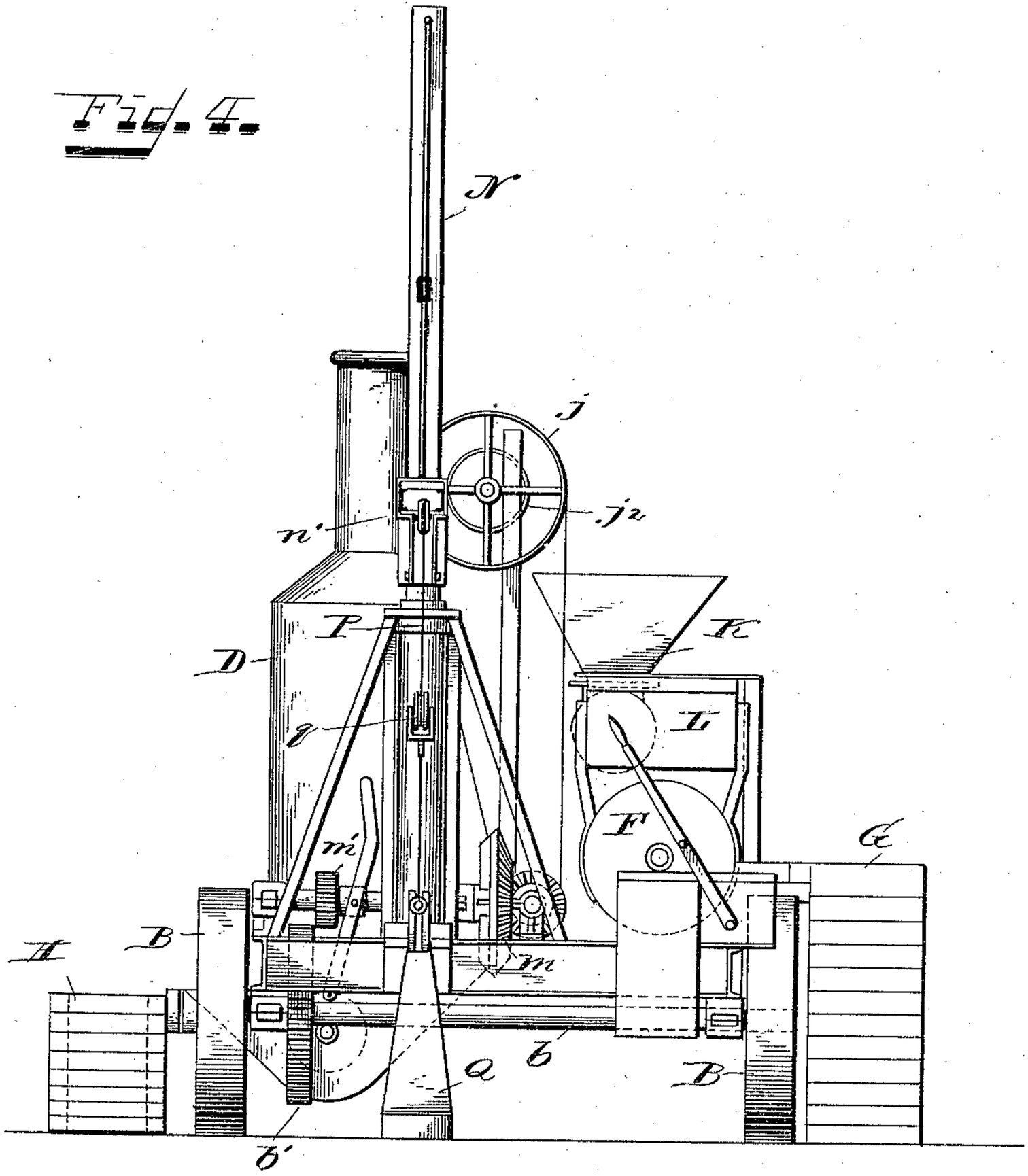
(No Model.) 6 Sheets—Sheet 4.

S. WHINERY.

CONCRETE MIXING MACHINE.

No. 542,700. Patented July 16, 1895.

Fig. 4.



Witnesses.
J. Thomson Cross.
James N. Ramsey

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His Attorney.

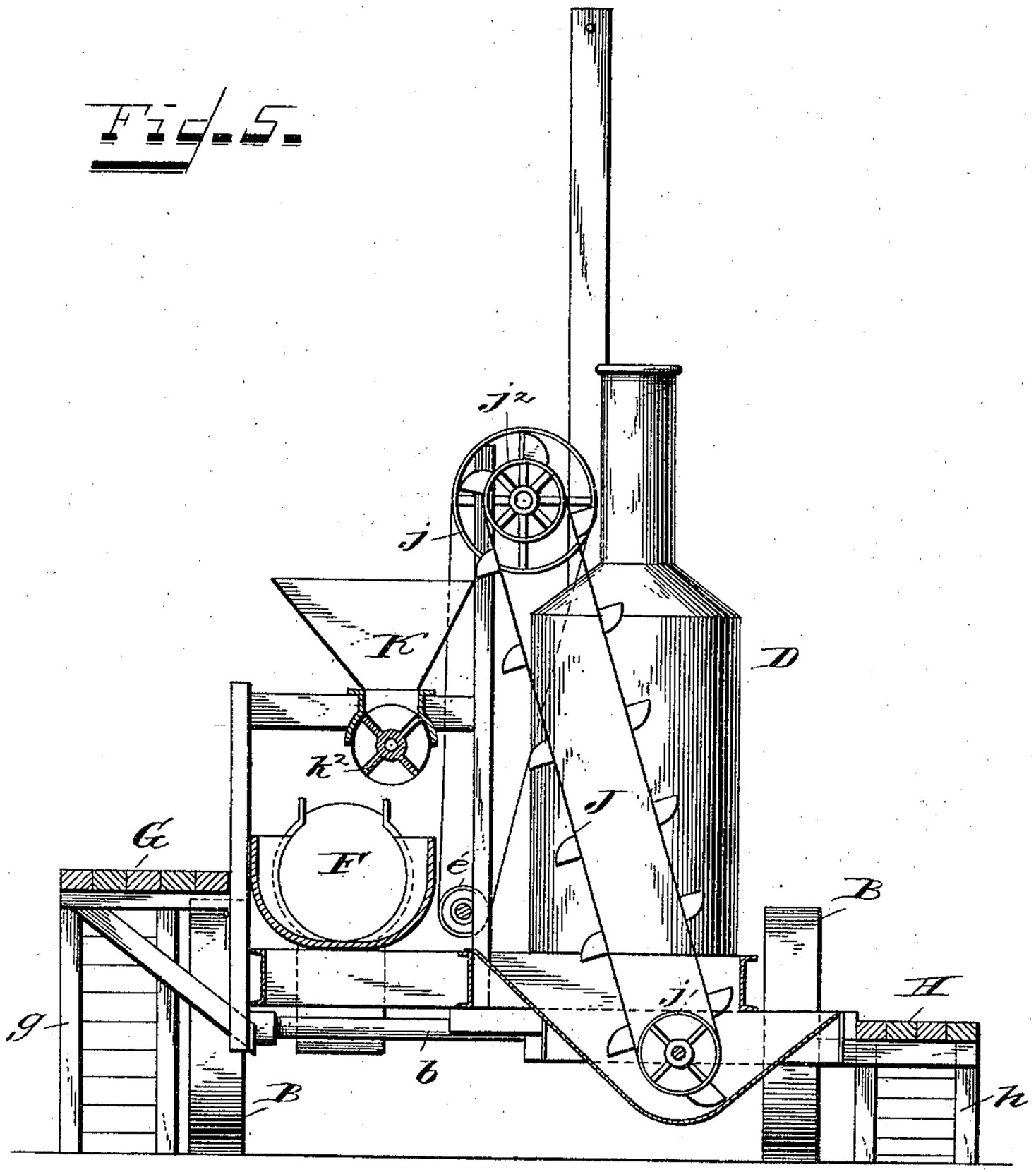
(No Model.) 6 Sheets—Sheet 5.

S. WHINERY.

CONCRETE MIXING MACHINE.

No. 542,700. Patented July 16, 1895.

Fig. 5.



Witnesses.
J. Thomson Coss.
James N. Ramsey

Inventor.
Samuel Whinery,
By Geo. B. Parkinson,
His Attorney.

(No Model.)

6 Sheets—Sheet 6.

S. WHINERY.

CONCRETE MIXING MACHINE.

No. 542,700. Patented July 16, 1895.

Fig. 6.

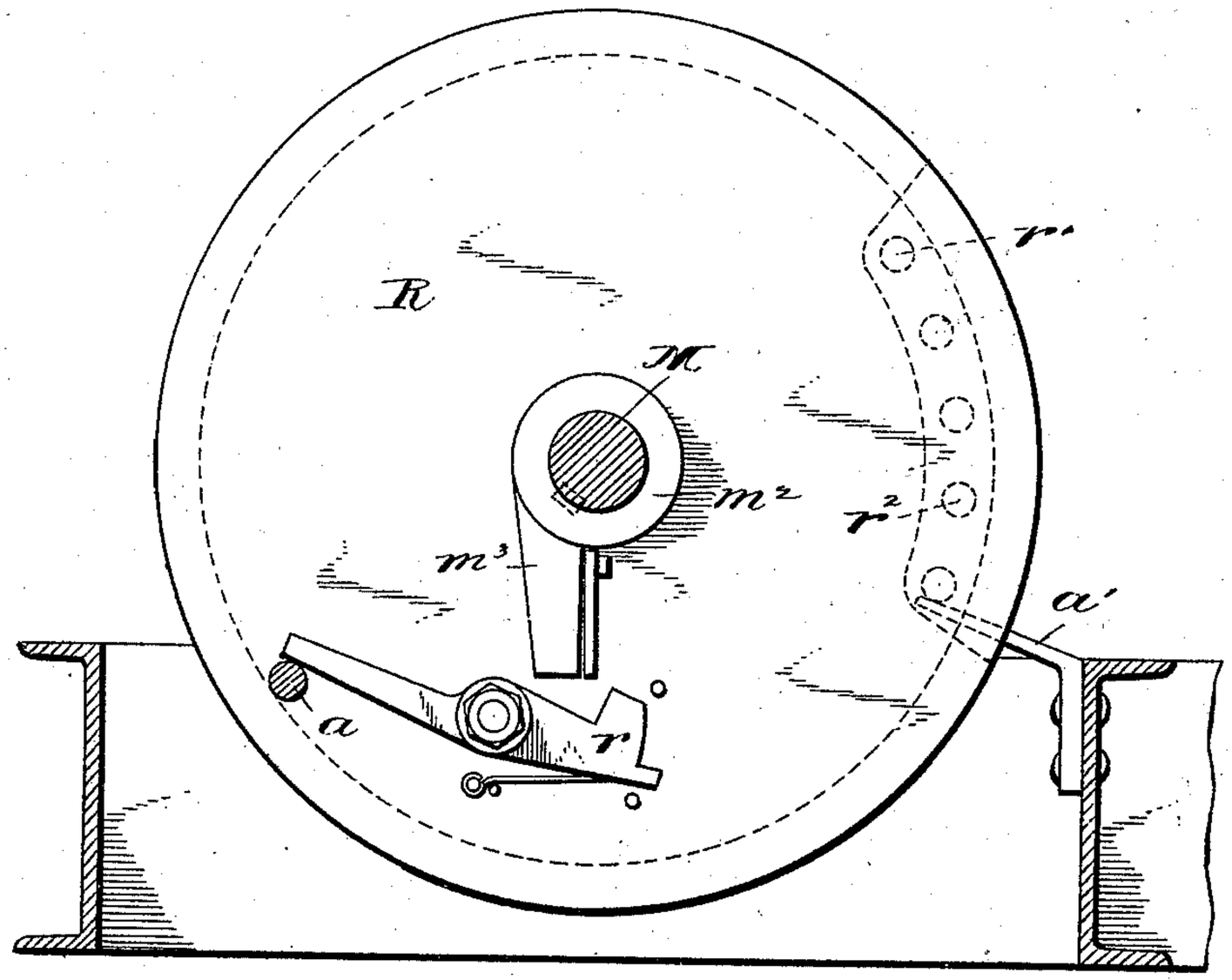
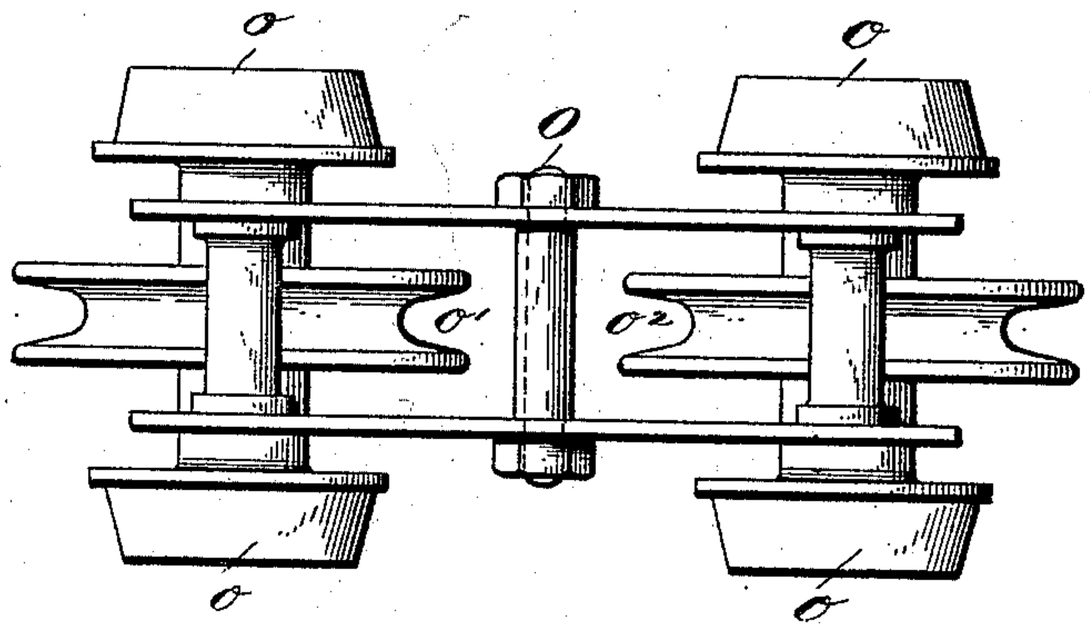


Fig. 7.



Witnesses.

J. Thomson Cross

James N. Bandy

Inventor.

Samuel Whinery,

By Geo. B. Parkinson,

His Attorney.

UNITED STATES PATENT OFFICE.

SAMUEL WHINERY, OF WYOMING, OHIO.

CONCRETE-MIXING MACHINE.

SPECIFICATION forming part of Letters Patent No. 542,700, dated July 16, 1895.

Application filed December 17, 1892. Serial No. 455,489. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL WHINERY, a citizen of the United States, residing at Wyoming, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Concrete-Mixing Machines, of which the following is a specification.

The object of my invention is to provide a portable concrete-mixing machine embodying in a single structure the motive and operating power and the conveying, mixing, and tamping apparatus.

The invention consists in the parts and combination and arrangement of parts hereinafter described and claimed.

In the drawings, Figures 1 and 2 are complementary views showing in side elevation a paving-plant embodying my invention. Fig. 3 is a plan view of the same; Fig. 4, an end elevation showing the discharge end; Fig. 5, a vertical cross-section on the line 5 5 of Fig. 3; Fig. 6, a detail of a portion of the mechanism for actuating the tamper, and Fig. 7, a top view of the tamper-carrier.

A represents the frame or platform upon which the mechanism is mounted; B B, supporting and driving wheels fixed to an axle *b;* C, a caster or steerage wheel; D, the boiler; E, the engine crank-shaft; F, a concrete-mixer which may be of any suitable type; *e*, a gear-wheel on the crank-shaft adapted to mesh with a gear-wheel *f* on a countershaft *f'* and thereby transmit motion to the mixing and conveying apparatus; G, a platform from which the rock is dumped into the concrete-mixer; *g g*, inclined ways leading to the rock-platform and preferably supported at the advancing end by one or more trucks *g';* H, a platform from which the sand is dumped into the sand-receptacle; *h h*, inclined ways leading to the sand-platform and preferably supported at the advancing end by one or more trucks *h;* I, the sand-receptacle; J, a sand-elevator which carries the sand from the sand-receptacle to the sand and cement meter; *e'*, a pulley on the crank-shaft connected by a belt to a pulley *j*, fixed to a shaft *j'*, which carries a pulley j^2, adapted to actuate the sand-elevator; K, the sand and cement meter having hoppers *k* and *k'* for the reception of the sand and cement, respectively, and a measuring-cylinder k^2, discharging into the concrete-mixer; L, a water-tank provided with one or more perforated pipes *l*, discharging into the concrete-mixer; e^2, a gear-wheel upon the crank-shaft meshing with a gear-wheel *m* upon a shaft M, which also carries a gear-wheel *m'*, adapted to be shifted into engagement with a gear-wheel *b'* on the axle *b* and transmit motion to the wheels B; N, the standard, and *n* the jib of a crane.

O is a carriage adapted to travel along the jib and preferably consisting of a frame in which are mounted the axles of two pairs of trucks *o*, adapted to travel on ways *n'* on the jib *n*, and carrying two sheaves *o'* and o^2.

P is a rope or cable fastened at one end to the jib of the crane passing over the sheave *o'*, under a sheave *q*, connected with a tamper Q, thence over sheave o^2 and a sheave n^3 and secured at its other end to a grooved wheel R, loosely mounted on shaft M.

A collar m^2 is keyed to shaft M, adjacent to wheel R, and carries an arm m^3, adapted to engage with a tripping-latch *r*, pivotally mounted upon the wheel R and normally spring-pressed into the path of travel of arm m^3.

Projecting from a suitable point on the frame is a pin *a*, adapted to engage with the heel of the tripping-latch and force its latch out of engagement with the arm m^3. The wheel is provided with a pin *r'*, adapted to engage with a stop or buffer *a'* and limit the return movement of the wheel. In order to adjust the throw of the wheel, it is provided with a series of holes r^2, in either of which the pin *r'* may be placed.

The axle of caster-wheel C is journaled in a yoke *c*, with which one end of an arm *c'* is rigidly connected. The other end of this arm is hollow and takes over one end of a rod *s*, the other end of which has a swiveling connection with an internally-threaded sleeve S, carried by a threaded rod T, mounted in fixed bearings on the frame and held against longitudinal movement. One end of this rod is provided with a hand-wheel *t*. By turning the rod in either direction the position of the sleeve S' and the angle of the caster-wheel relatively to the main frame are changed and the direction of travel of the machine may be regulated at will.

It will be seen that the sand is elevated, the materials mixed, the tamper actuated, and the machine propelled by simple connections from an engine mounted upon the frame, and that the parts are so arranged as to economize labor to the utmost without in any degree impairing the efficiency of the apparatus.

I claim—

1. The combination in a portable paving plant of an engine, a crank shaft, a secondary shaft driven thereby, a grooved wheel loosely mounted on the secondary shaft, means for automatically engaging and disengaging the wheel and the shaft, a crane carried by the frame, a carriage adapted to travel along the jib of the crane, a tamper traveling with the carriage and a rope adapted to support the tamper and connected with the grooved wheel, substantially as and for the purpose described.

2. The combination in a portable paving plant of an engine, a crank shaft, a secondary shaft driven thereby, a grooved wheel loosely mounted on the secondary shaft, means for automatically engaging and disengaging the wheel and the shaft, a crane carried by the frame, a carriage adapted to travel along the jib of the crane, and provided with sheaves, a tamper sheave connected with the tamper and a rope secured at one end to the crane, taking over a sheave on the carriage under the tamper sheave over another sheave on the carriage and secured to the grooved wheel, substantially as and for the purpose described.

3. The combination in a portable paving plant, of an engine a crank shaft, a shaft M driven thereby a grooved wheel R loosely mounted on the shaft, an arm m^3 carried by the shaft, a tripping latch r, a releasing pin a, a crane N having jib n, a carriage O adapted to travel along the jib of the crane, a tamper Q and a rope P connected and arranged, substantially as and for the purpose described.

SAMUEL WHINERY.

Witnesses:
JAMES N. RAMSEY,
BENJAMIN BLOCH.