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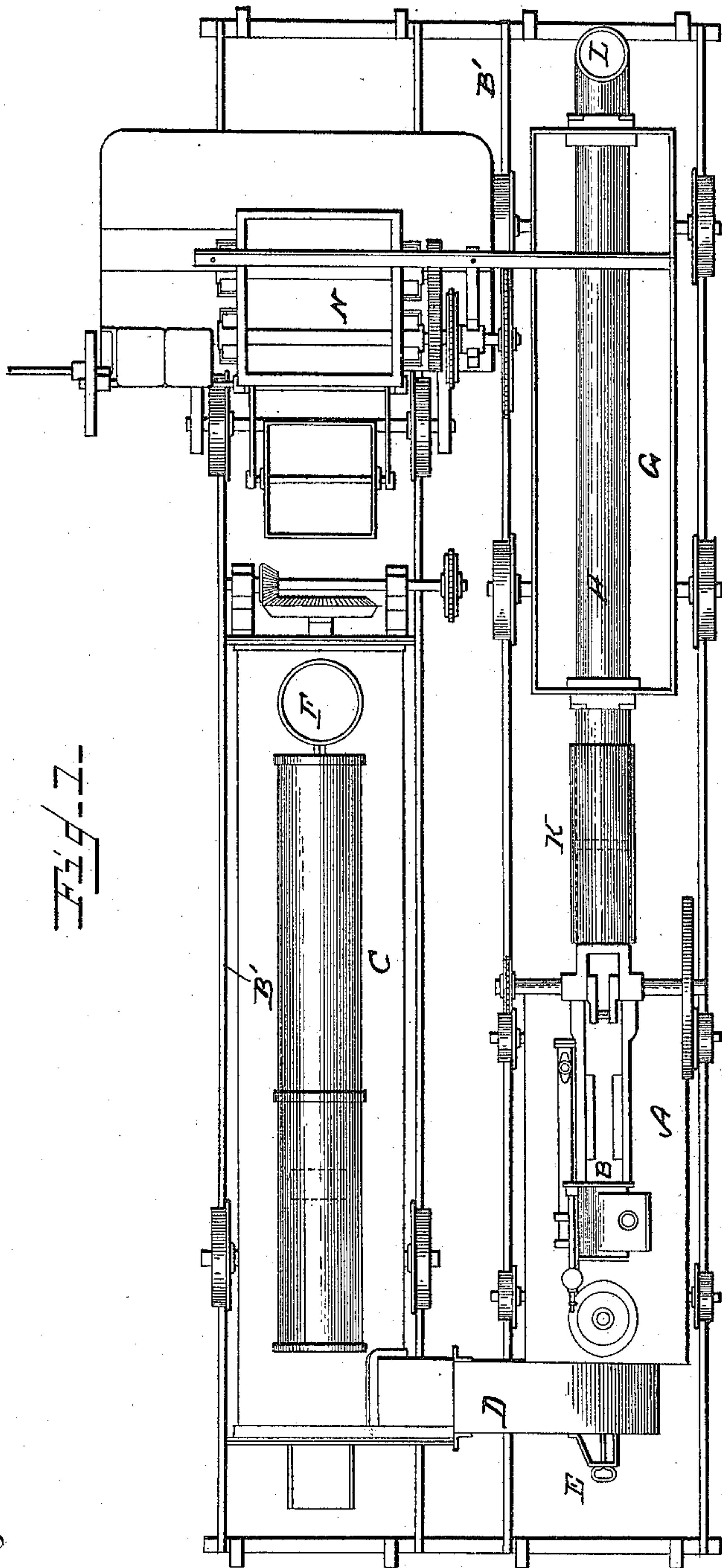
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H. FRANKE.

APPARATUS FOR THE MANUFACTURE OF ASPHALT CONCRETE FOR
PAVING PURPOSES.

No. 363,132.

Patented May 17, 1887.



Witnesses
Edwin D. Jewell,
W. E. Stearns

Inventor
Henry Franke

By his Attorney
S. M. Ginsburgh

(No Model.)

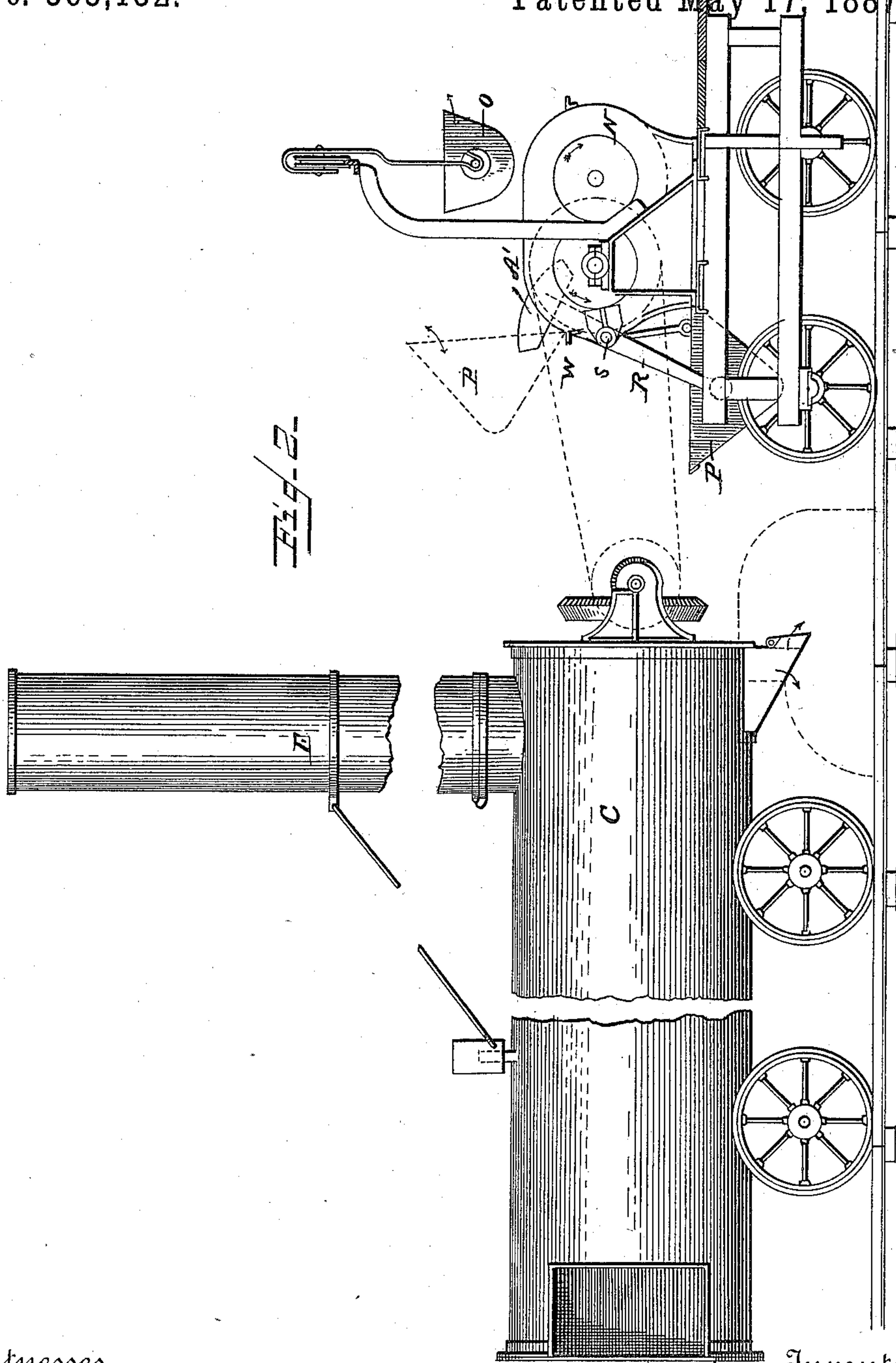
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Witnesses
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By his Attorney

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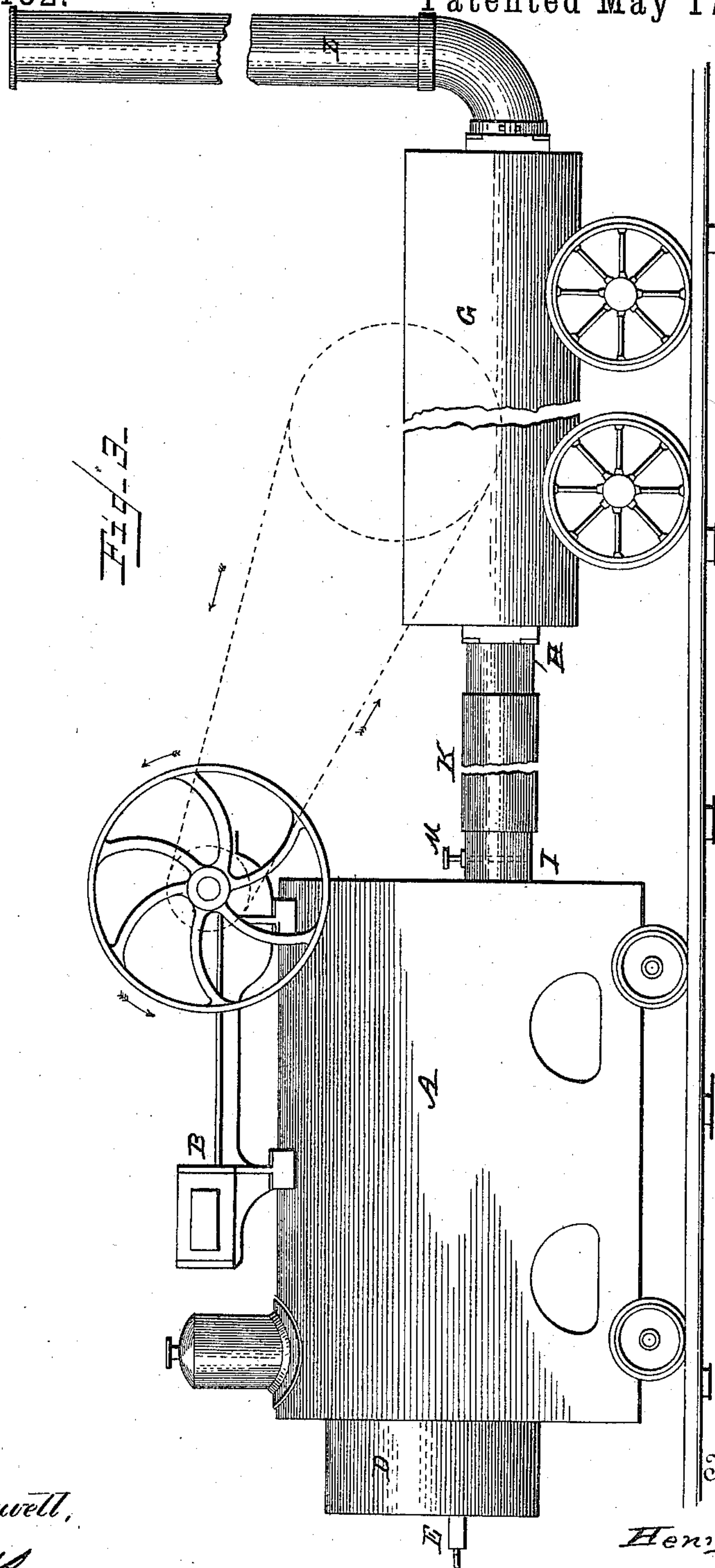
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Witnesses
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(No Model.)

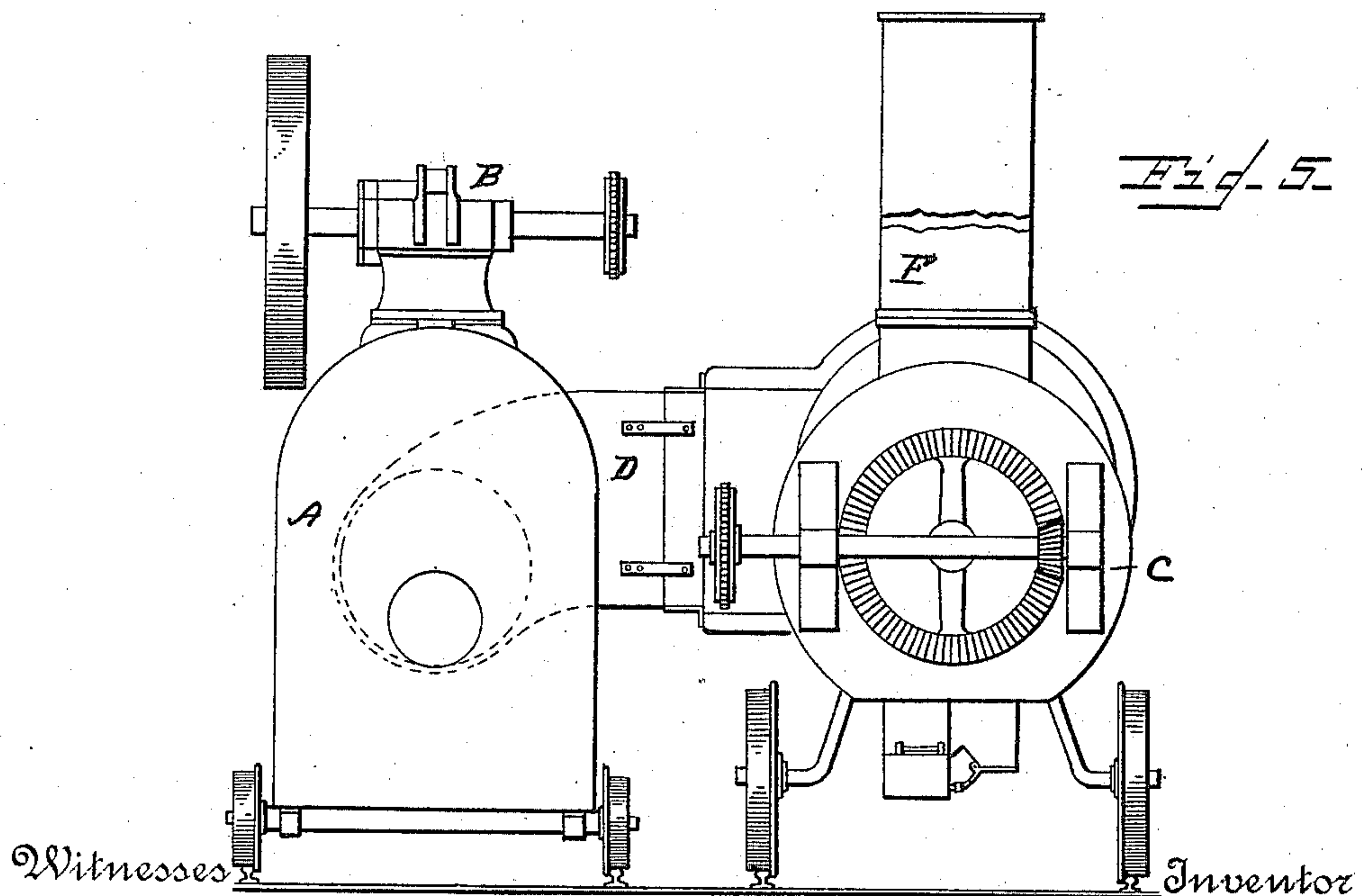
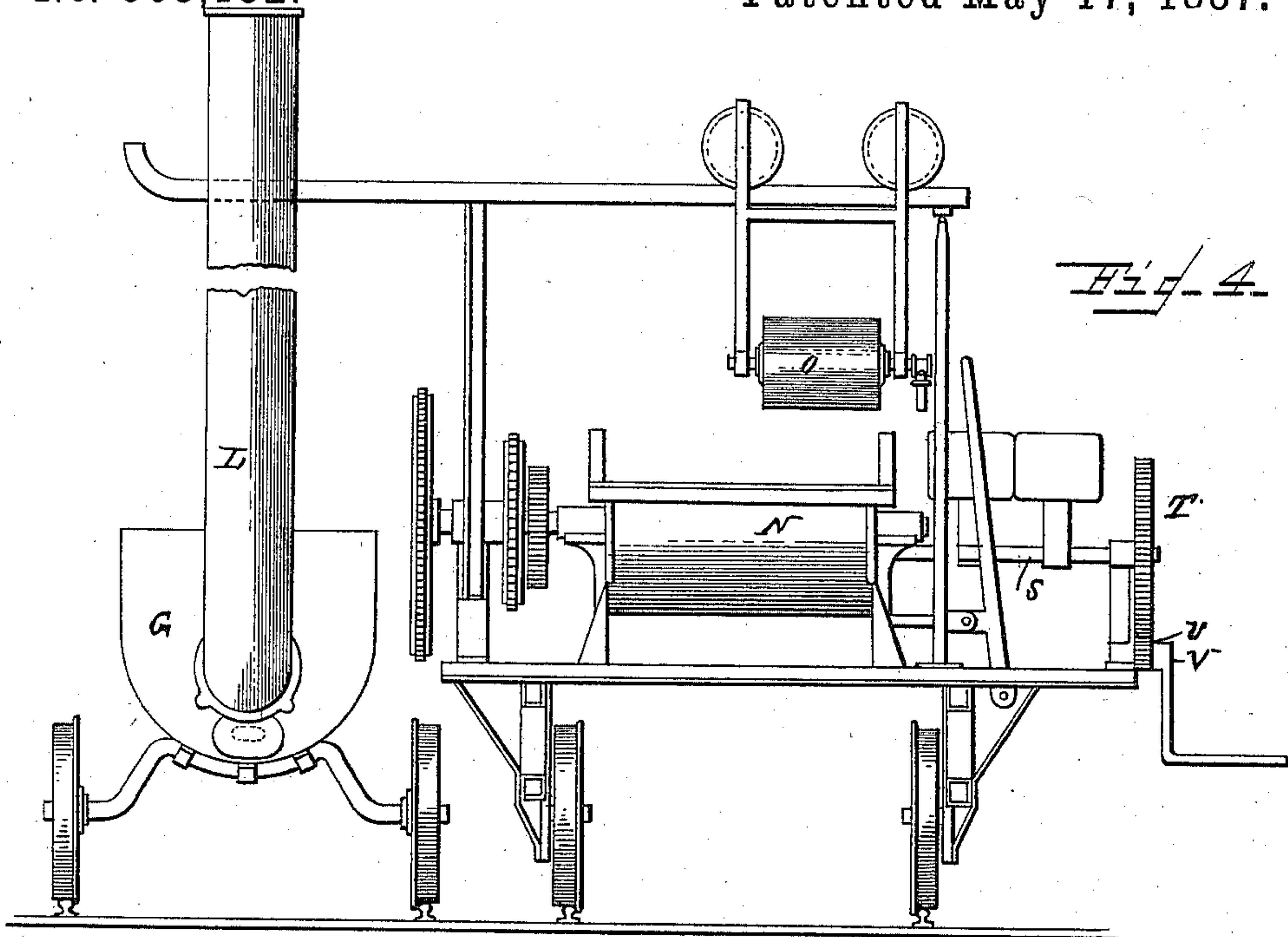
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Witnesses
Edwin T. Jewell,
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UNITED STATES PATENT OFFICE.

HENRY FRANKE, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE BARBER ASPHALT PAVING COMPANY.

APPARATUS FOR THE MANUFACTURE OF ASPHALT CONCRETE FOR PAVING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 363,132, dated May 17, 1887.

Application filed September 27, 1886. Serial No. 214,600. (No model.)

To all whom it may concern:

Be it known that I, HENRY FRANKE, a citizen of the United States, residing at Brooklyn, in the county of Kings, State of New York, have invented certain new and useful Improvements in Apparatus for the Manufacture of Asphalt Concrete for Paving Purposes, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in devices for the manufacture of asphaltic concrete for paving purposes.

The object of my invention is to economize the heat of the engine-furnace to melt the asphaltum and heat the sand and gravel prior to being mixed, and is designed as an improvement on the patent granted to F. V. Greene August 31, 1886, No. 348,493.

My invention consists in conveying the heat and waste products of combustion from the engine through the tank for melting the asphaltum, and around the sand-heating drum, so that the heat of said furnace will be utilized, and thus avoid the expense and inconvenience of separate fires or furnaces.

Referring to the drawings, Figure 1 is a plan or top view of the plant, which consists of an engine, asphalt-melter, sand-heater, and mixer. Fig. 2 is a side elevation of the sand-heater and mixing devices. Fig. 3 is a side elevation of the engine and the asphalt-melter. Fig. 4 is an end view of the melter and mixing devices. Fig. 5 is an end view of the engine and the sand-heating apparatus.

The construction of the sand-heating drum and mixing devices, together with the bucket and appliances for conveying the liquid asphaltum from the melting-tank to the mixer, is essentially the same as that shown and described in the patent to F. V. Greene, as above indicated, and will be referred to only in a general way in this specification.

A indicates the boiler and furnace, and B the engine mounted thereon, both of which are of any desirable or suitable construction.

C is the sand drum or heater, composed of an outer casing and an interior revolving drum, the space between the two being connected to the furnace of the steam-boiler by means of the flue D, which is controlled by a

suitable damper, E, and by which means the waste heat and products of combustion from the engine-furnace are conveyed to the space around the sand-drum, and from thence to the smoke-stack F.

G is the melting-tank in which the asphaltum is reduced to a fluid or semi-fluid condition by heat, said tank being of any suitable form, but preferably of the rectangular form shown in Fig. 1.

H is a flue or pipe passing longitudinally through the tank G, said flue being detachably connected at one end to the short flue I of the furnace by means of the sleeve K, while the other end of the flue H is connected with the smoke-stack L.

The flue or tube I is provided with a damper or valve, M, by which the quantity of heat passing through the flue H is regulated. The flue or tube I communicates with the engine and conveys the heat and waste products of combustion therefrom through the flue H, which is surrounded by the asphaltum to be melted or to be kept in a fluid or semi-fluid condition. By this arrangement and system of dampers the heat from the furnace can be directed to the sand-heating drum or to the melting-tank at will, and thus all the heat from the engine-furnace is utilized, and obviates the need of having separate fires for the melter and sand-heater.

N is the mixing-chamber or vessel in which the asphaltum and heated sand or gravel are mixed to a homogeneous mass, the liquid and heated asphalt being carried over from the melter to the mixer in the vessel O, while the heated sand is conveyed to the mixer from the end of the heater in the vessel P, said vessel being pivoted to the arms R, which are secured to the shaft S. The shaft S is provided with a gear-wheel, T, which meshes with the pinion-wheel U on the crank-shaft V, and by which means the hopper P is raised from the position shown in full lines in Fig. 2 to the position shown in dotted lines in the same figure, a stop or catch, W, being secured at a proper point on the frame of the mixer, with which the edge of the hopper engages, so that in the further upward movement of the levers R the hopper P will be tilted to dump its load of heated sand into the mixer. The shaft S is

provided with suitable counter-weights, A', which prevents the hopper from falling down to its lowest position. The engine, sand-heater, melter, and mixer are all mounted on wheels 5 and adapted to travel on the track B'. The wheels may be plain-faced ones, however, so that the devices can be moved as ordinary vehicles.

Having thus described my invention, what I 10 claim, and desire to secure by Letters Patent, is—

1. A plant for the manufacture of asphaltic concrete for paving purposes, consisting of an engine, sand-heater, and asphalt-melter, the 15 heater and melter being connected to the furnace of the engine, as described, whereby the waste heat and products of combustion are util-

ized to heat the sand and melt the asphaltum, as set forth.

2. In a device for melting asphaltum, the 20 tank G, provided with the central flue, H, in combination with the sleeve K and pipe I, leading from the furnace of the engine, as set forth.

3. The hopper P, pivoted to the levers R, said 25 levers being secured to the shaft S, in combination with the gear-wheel T, pinion-wheel U, and crank V, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY FRANKE.

Witnesses:

N. J. O'CONNELL, Jr.,

F. V. GREENE.