

No. 696,283.

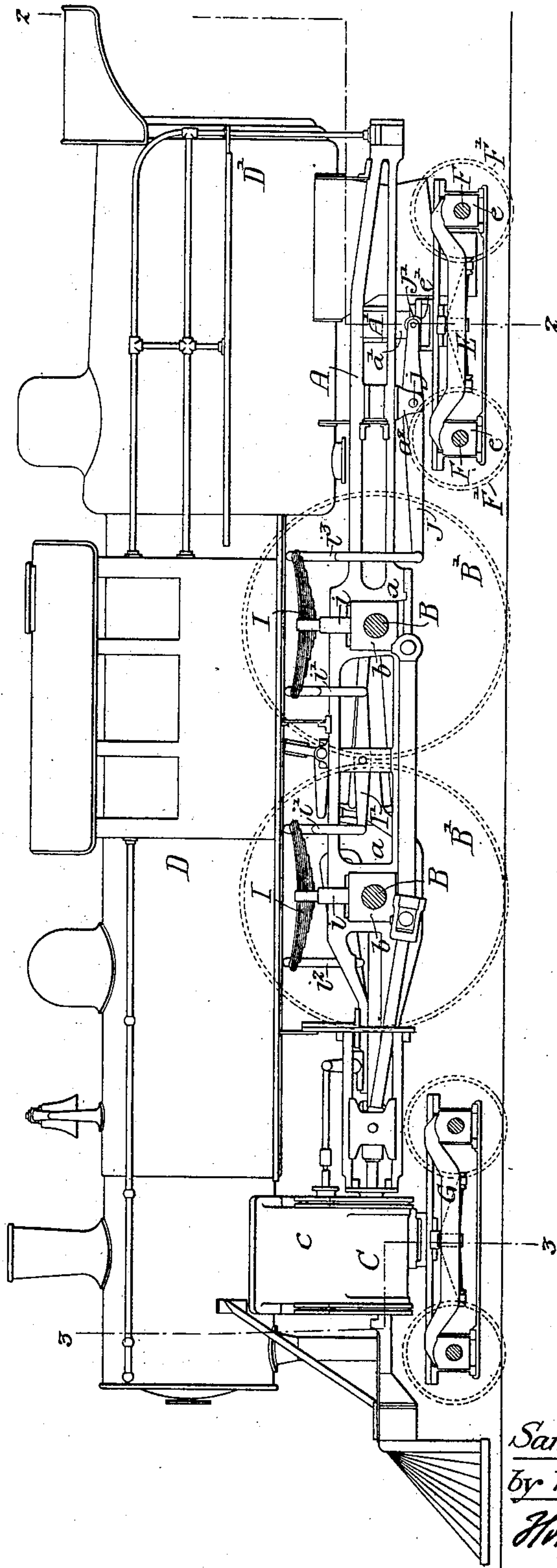
Patented Mar. 25, 1902.

S. M. VAUCLAIN.
LOCOMOTIVE.

(Application filed Dec '8, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:-

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Louis H. F. Whithead.

Inventor:

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Fig. 5.

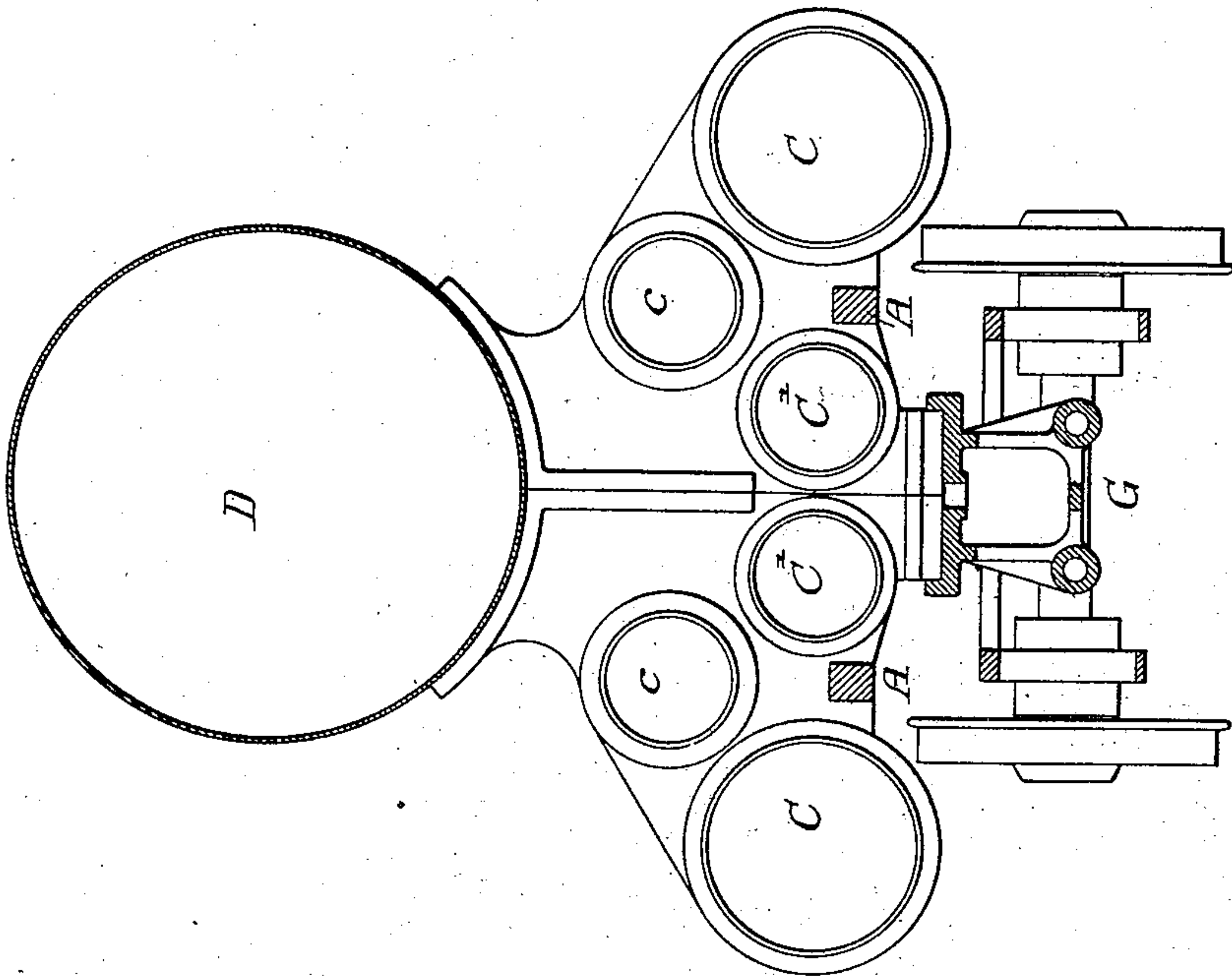
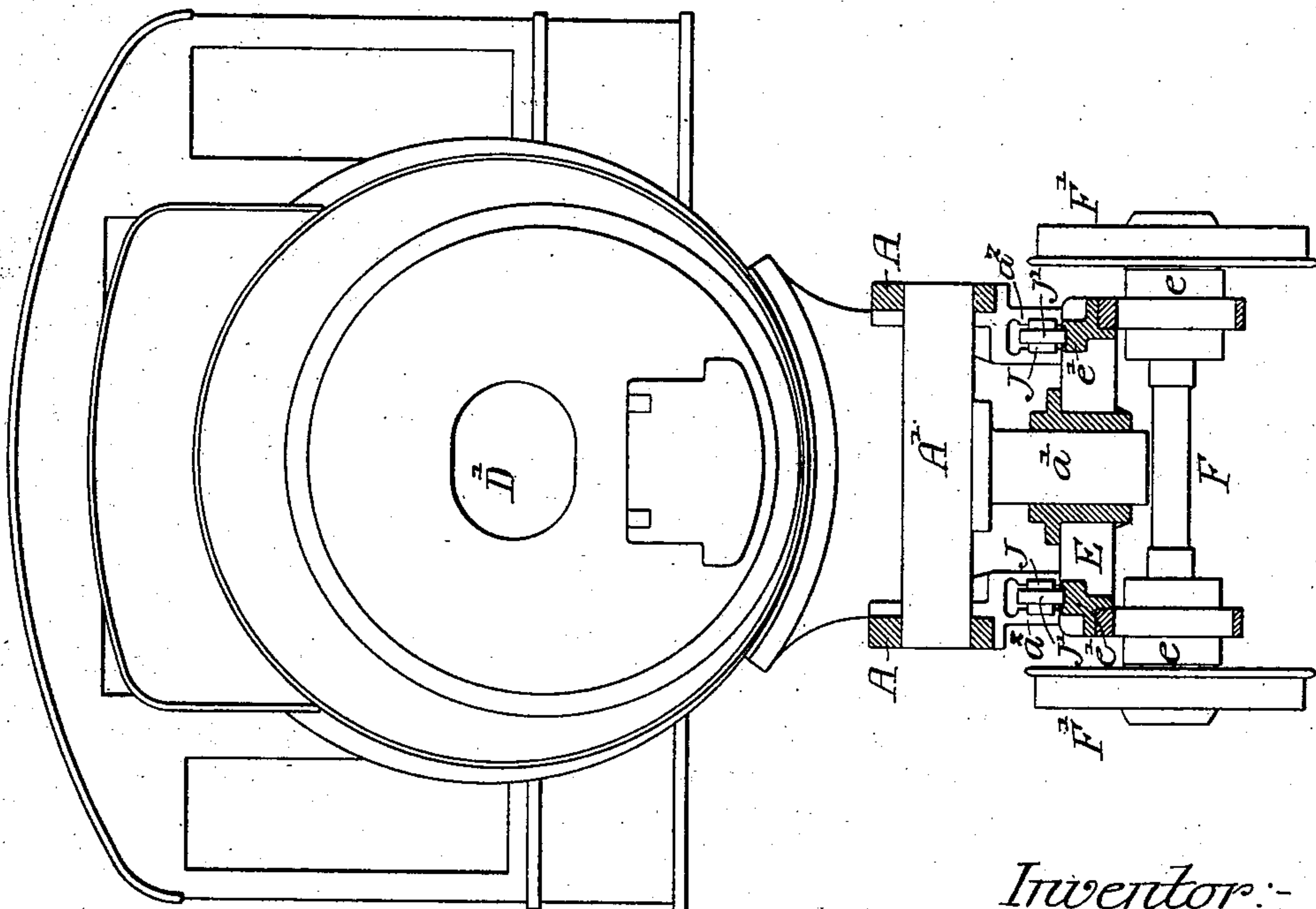


Fig. 2.



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UNITED STATES PATENT OFFICE.

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L. AUSTIN, SAMUEL M. VAUCLAIN, ALBA B. JOHNSON, AND GEORGE
BURNHAM, JR., OF PHILADELPHIA, PENNSYLVANIA, (DOING BUSINESS
UNDER FIRM-NAME OF BURNHAM, WILLIAMS AND COMPANY.)

LOCOMOTIVE.

SPECIFICATION forming part of Letters Patent No. 696,283, dated March 25, 1902.

Application filed December 8, 1900. Serial No. 39,180. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. VAUCLAIN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Locomotives, of which the following is a specification.

The object of my invention is to so construct a locomotive that the rear portion will be properly supported.

My invention is especially applicable to a locomotive having a large cylindrical fire-box, and I use two driving-wheels with a four-wheeled truck swiveled at the front and a four-wheeled truck directly under the fire-box of the locomotive. I may use equalizing-gear for the rear truck in common with the equalizing-gear for the driving-wheels, or an independent equalizing-gear may be used, as desired.

In the accompanying drawings, Figure 1 is a side view of sufficient of a locomotive to illustrate my invention. Fig. 2 is a section on the line 2 2, Fig. 1; and Fig. 3 is a transverse section on the line 3 3, Fig. 1.

In the drawings I have shown necessarily several elements that form no part of my present invention, and therefore these elements will not be described in detail.

A A are the side frames extending the full length of the locomotive, as shown in the drawings. On these side frames are the pedestals *a* for the boxes *b* of the axles B B, on which the driving-wheels B' are mounted.

C C' are the cylinders.

c represents the valve-chests.

The cylinders are provided with pistons, and the rods of these pistons are connected to the driving-wheels, as shown. The valve mechanism is connected also to the valves in the valve-chests c. The detailed construction of the cylinders and the arrangement of the driving mechanism are fully set forth and claimed in a separate application filed by me on November 2, 1900, Serial No. 35,229, and therefore need not be described in detail in this application, as they form no part of the present invention.

D is the boiler, having a fire-box D'. The

outside shell of the boiler at the fire-box end is cylindrical and the fire-box itself is cylindrical, as shown. The cab of the locomotive is mounted over the boiler directly in front of the fire-box.

Pivoted to the pin *a'* on the cross-bar A', connected to the frames A, is a truck E. Mounted on this truck are the boxes *e* for the axles F F, having the wheels F'. The truck is four-wheeled, and the structural details of the truck may be varied without departing from the essential features of my invention. This truck, it will be seen, supports the fire-box end of the locomotive and is swiveled, so that its wheels will accommodate themselves to the track.

G is the forward truck, being pivoted in the usual manner under the saddle of the locomotive, and this truck is also four-wheeled and may be constructed in any suitable manner.

The equalizing-gear illustrated in the drawings consists of the springs I I above each box of the driving-axles and supported by blocks *i*, which rest upon the boxes. I' is a pivoted lever which is connected to one end of each spring by links *i'*, and one of these springs is connected to the frame by a link *i*². The end of the other spring is connected by a link *i*³ to a lever J, pivoted at *j* to a block *a*² on the side frame A, and the other arm of this lever has a roller J', which bears upon a bearing-plate *e'* on the rear truck E. This equalizing-gear is duplicated on the opposite side of the locomotive.

In some instances the equalizing-gear of the rear truck may be entirely independent of the equalizing-gear of the driver, if desired, the main feature of the invention being the mounting of a four-wheeled truck directly under the fire-box end of a locomotive of this type, so as to give the proper wheel-base to the locomotive and at the same time provide sufficient room for the extended fire-box.

I claim as my invention—

1. The combination in a locomotive having side frames, of a boiler, a forward truck, a rear truck having bearing-surfaces, said rear truck being under a portion of the boiler

extending rearwardly beyond the driving-wheels, springs supported on the boxes of the driving-wheels, a lever on each side of the locomotive pivoted to the side frame, the
5 springs on one side of the locomotive each having one end connected to said lever, the second end of one of the springs being connected to the side frame, a second lever on each side of the locomotive also pivoted to the side
10 frame, one end of said lever having a link connecting it with the second of the springs and having its other end supported upon the bearing-surfaces of the rear truck, substantially as described.

15 2. The combination in a locomotive having side frames, of a boiler, a forward truck, a rear truck provided with bearing-plates, said truck extending under a portion of the boiler which projects rearwardly beyond the driving-wheels, springs supported on the boxes
20 of the driving-wheels, a lever on each side of the locomotive pivoted to the side frames, the springs on one side of the locomotive each having one end connected to said lever, the second end of one of the springs being connected to the side frame, a second lever on each side of the locomotive also pivoted to the side frame, one end of said lever having

a link connecting it with the second of the springs, the second end of the lever being
30 provided with a roller whereby it is supported upon the bearing-plates of the rear truck, substantially as described.

3. The combination in a locomotive having side frames, of a boiler, a forward truck, and
35 a rear truck under a portion of the boiler extending rearwardly beyond the driving-wheels, springs supported on the boxes of the driving-wheels, a lever on each side of the locomotive pivoted to the side frame, each of
40 said springs having one end connected to said lever, the second end of one of the springs being connected to the side frame, a second lever on each side of the locomotive also pivoted to the side frame, one end of said levers
45 bearing upon the rear truck and the other end being connected to one end of the second of the springs, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of
50 two subscribing witnesses.

SAMUEL M. VAUCLAIN.

Witnesses:

WILLIAM DE KRAFFT,
W. N. TUTTLE.