

(No Model.)

T. T. PROSSER.
Cylinder Car.

2 Sheets—Sheet 1.

No. 231,089.

Patented Aug. 10, 1880.

Fig. 1.

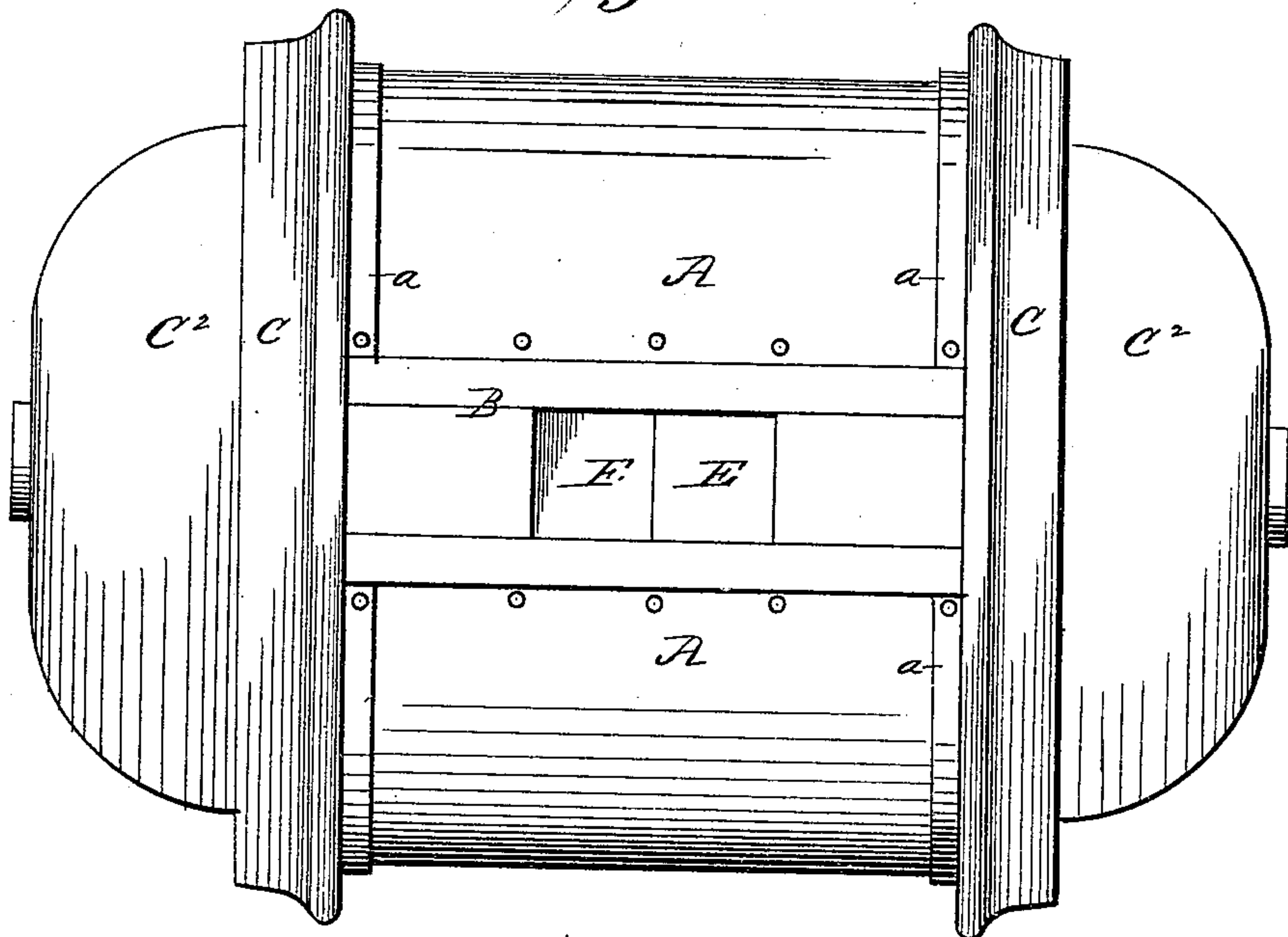
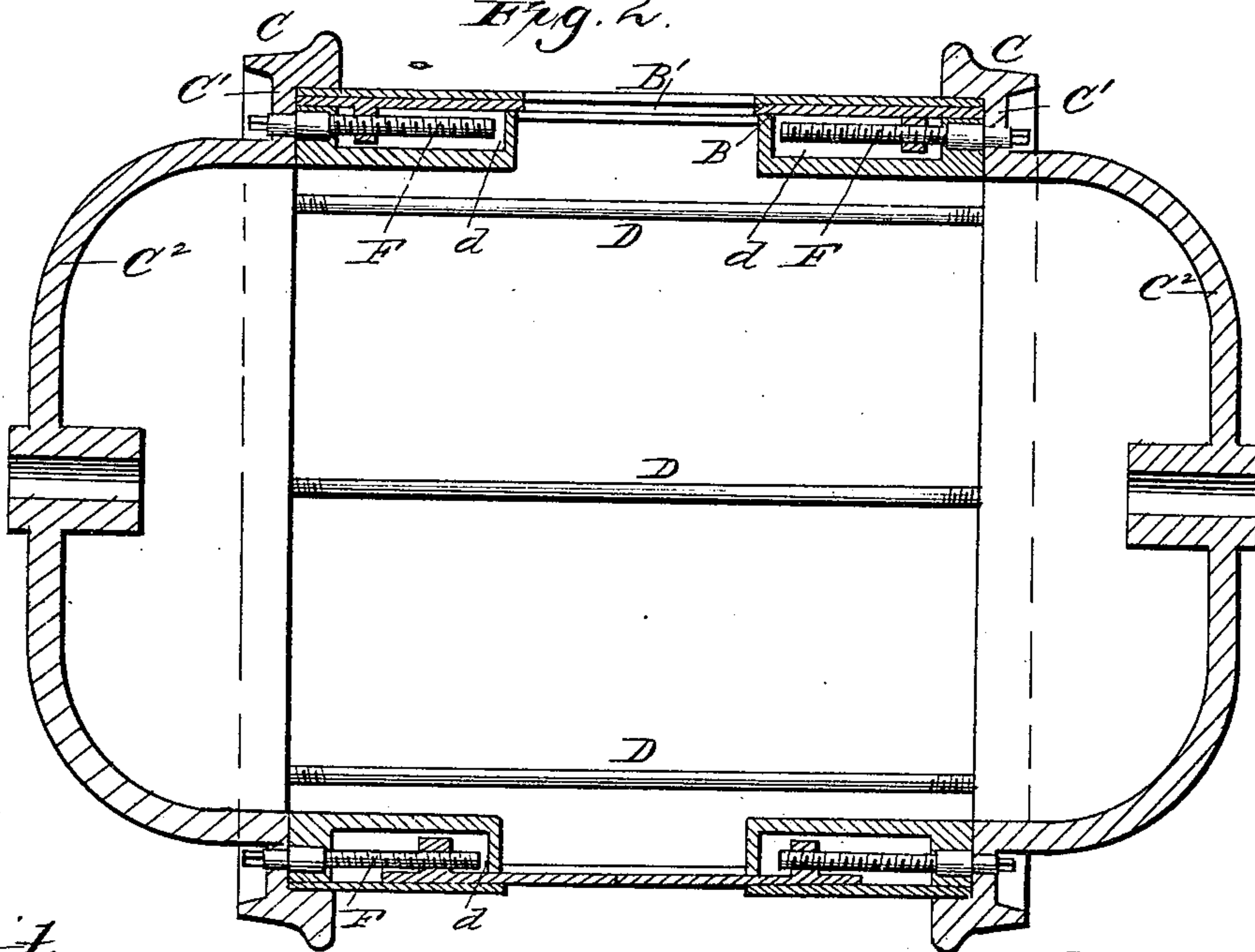


Fig. 2.



Witnesses.

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(No Model.)

2 Sheets—Sheet 2.

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Cylinder Car.

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Fig. 3.

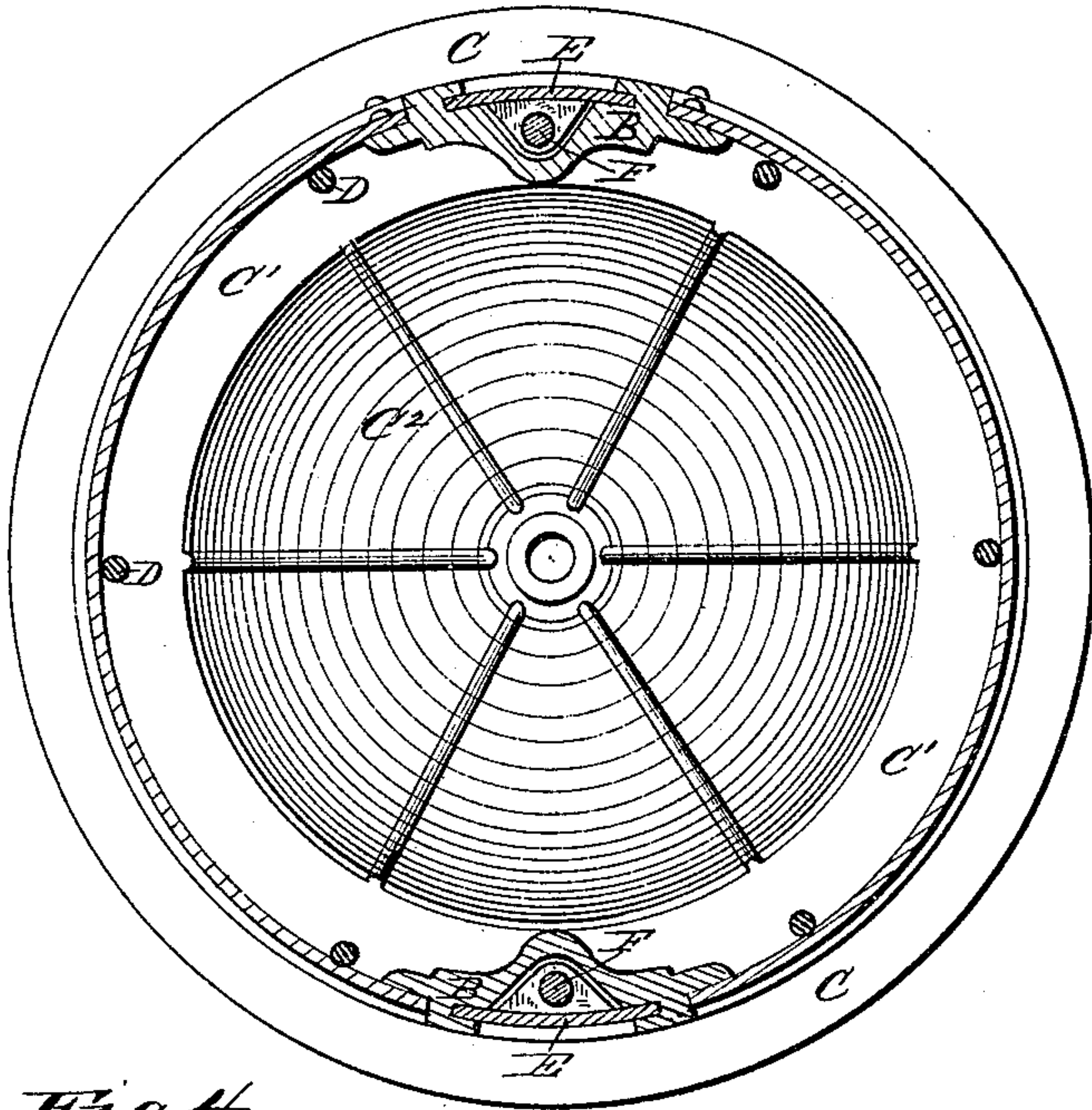


Fig. 4.

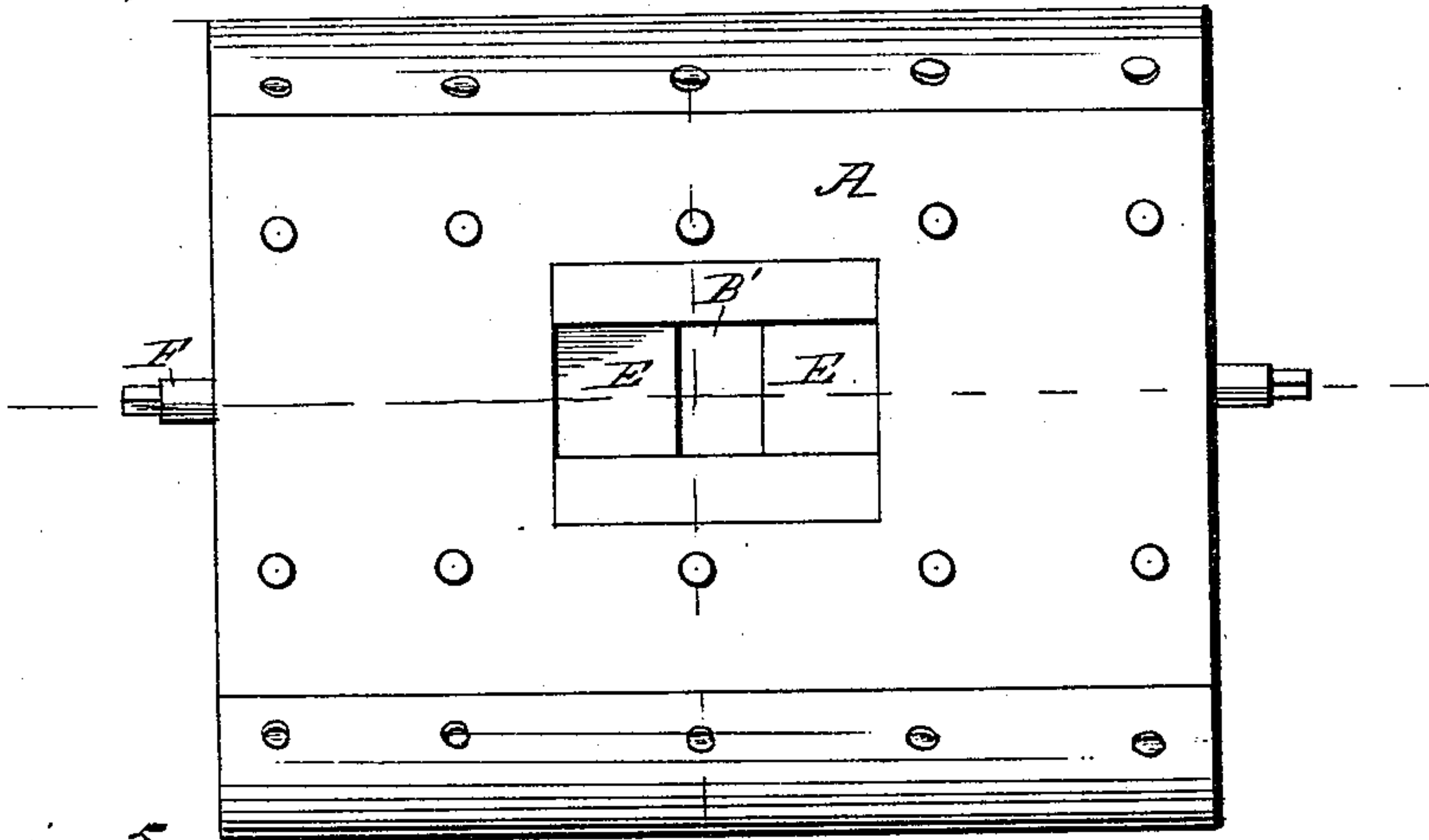
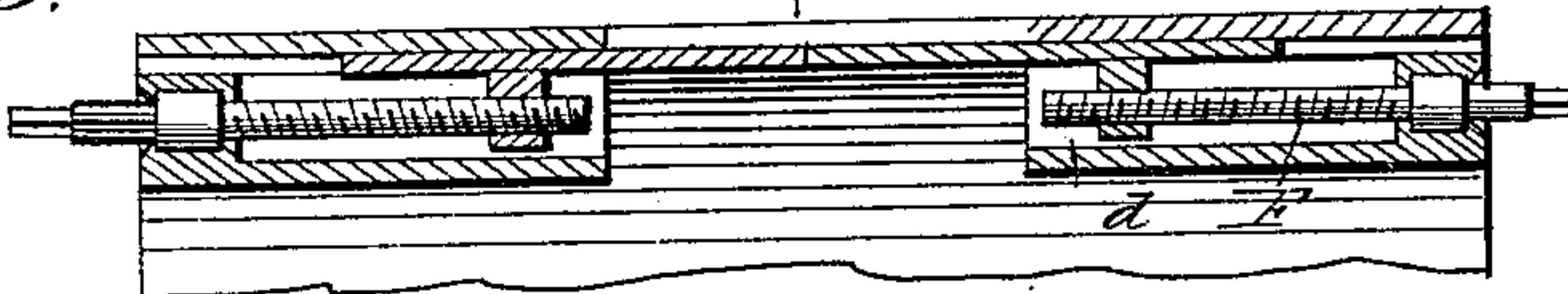
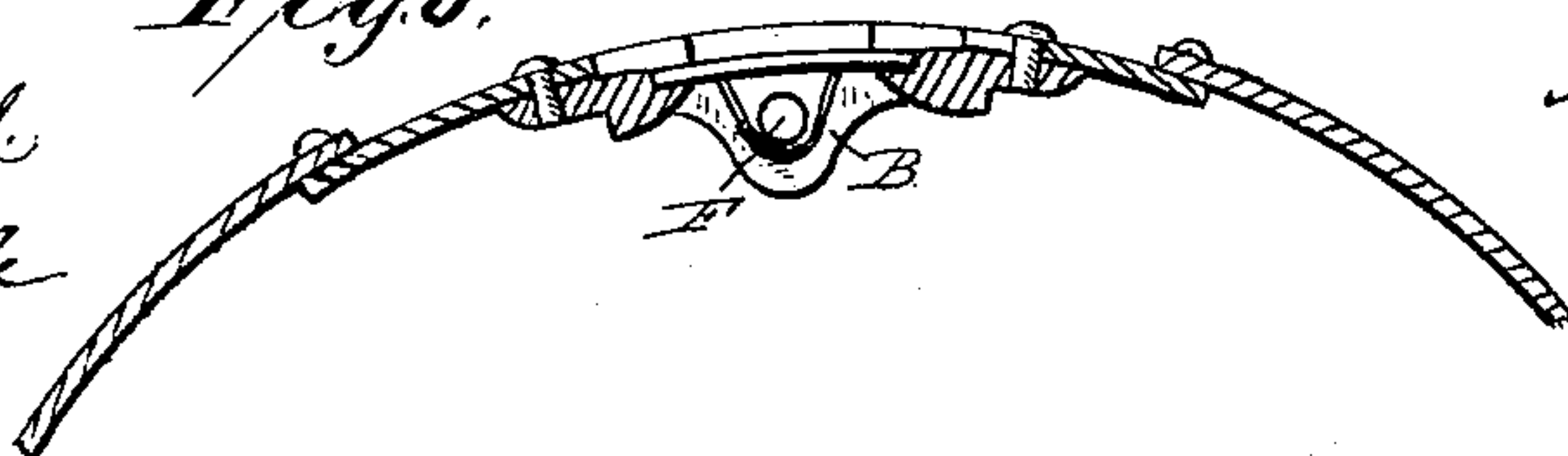


Fig. 5.



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Fig. 6.



Inventor.
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UNITED STATES PATENT OFFICE.

TREAT T. PROSSER, OF CHICAGO, ILLINOIS.

CYLINDER-CAR.

SPECIFICATION forming part of Letters Patent No. 231,089, dated August 10, 1880.

Application filed May 10, 1880. (No model.)

To all whom it may concern:

Be it known that I, TREAT T. PROSSER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cylinder-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to rolling-cylinder freight-cars of the character described in several United States Patents granted to me on the 17th day of February, 1880; and it relates more particularly to such a car provided with cast wheels formed with a dome-shaped web of less diameter than the flanged tire, and with a vertical annular bolting-ring connecting the dome-shaped web and the tire—wheels such as described in an application for a patent filed by me of even date with the application for this patent.

The invention consists in combining a cylindrical shell made of boiler-iron in whole or in part with longitudinal cast plates or frames which serve to stiffen the shell and are provided with suitable gateways through which the car may be loaded and unloaded.

It further consists of certain means for securely connecting the cylindrical shell and its wheels together.

It further consists in the application of sliding gates to control the openings in the said cast frames.

In the annexed drawings, Figure 1 is a plan view of my improved rolling-cylinder freight-car. Fig. 2 is an axial section thereof in a plane indicated by the broken line *xx* of Fig. 1. Fig. 3 is a cross-section thereof. Figs. 4 to 6 illustrate a modification in the construction of the cylinder-shell, sliding gates, and cast frames.

The same letters of reference are used in all the figures in the designation of identical parts.

As shown in the first three figures, the main part of the cylindrical shell of the car is composed of two segments, *A A*, of boiler-iron,

constructed with numerous fine perforations to provide for a circulation of air through the grain in the car, air being admitted through the hollow journals of the car and distributed by a centrally-arranged perforated pipe, in manner substantially as described in United States Patent No. 224,724. The boiler-iron segments, which may be made of single plates if deemed expedient, are combined with two cast frames, *B B*, to complete the cylindrical shell of the car. These cast frames, running the whole length of the cylindrical shell and possessing great rigidity, serve to stiffen the cylindrical shell so as to prevent undue vibration and buckling of the boiler-iron segments. Furthermore, these cast frames admit of forming openings in the shell, for loading and unloading purposes, without unduly weakening the cylindrical shell, as such openings can be and are made in these cast frames. The boiler-iron segments may be riveted or bolted to these cast frames, which are to that end provided with suitable flanges. In order to preserve the symmetry of the exterior contour of the cylindrical shell the cast frames may be made segmental in cross-section, as shown. Stiffening-strips *a* are applied to the ends of the boiler-iron segments.

The wheels *C C* are fitted upon the ends of the shell, which projects into the flanged tires and abuts with its ends against the bolting-rings *C'* of the wheels. The shell and wheels are firmly secured together by means of a series of tie-rods, *D D*, which extend through the whole length of the cylindrical shell and through holes in the bolting-rings of the wheels, and are tightened up by nuts or other suitable means on the exterior of the bolting-rings of the wheels. If deemed expedient the tie-rods may be constructed with heads at one end. These tie-rods are arranged to lie close against the cylindrical shell, which arrangement accomplishes two desirable objects: First, the rods give support to the shell against inward pressure, and, secondly, they serve the purpose of ribs to prevent the shifting of the grain and its attrition on the cylindrical shell, acting, as regards this, like the radial ribs on the interior surface of the dome-shaped webs of the wheels.

Each cast frame *B* is constructed with a

large opening, B', through which the loading and unloading of the car is effected. This opening is controlled by a pair of sliding gates, E E, fitted to move in covered ways or guides in the ends of the frame.

The under side of the gate has a lug formed on it provided with a screw-threaded eye to receive a screw, F, which extends inward through the end of the frame in which it is swiveled, so that it may freely turn without moving endwise. The outer end of the screw passes through a hole in the bolting-ring of the wheel and is provided with a square head, so that a key or winch may be applied to it to turn it. In order to prevent the grain from clogging the screw I construct the frame with a tight pocket, d, at each end, in which the screws and the screw-threaded lugs on the gates play. The gates slide in the same planes, so that their adjacent ends will touch in closing the opening in the frame.

The screws of the gates are swiveled in the frames by means of a collar on the screw, fitting a recess in the end of the frame and abutting with its outer shoulder against the bolting-ring of the wheel.

As shown in Figs. 4 to 6, the sliding gates are fitted in open guideways in the frame. The pockets in which the screws and screw-threaded lugs on the gates play are left open at their inner ends, and the collars on the screws for operating the gates are confined in the ends of the frame, so as not to require the assistance of the bolting-rings of the wheels for preventing their longitudinal movement. The cylindrical portion of the car between the wheels is a complete shell of boiler-iron, and the cast frames are bolted on the inside of it, suitable holes being cut in the boiler-iron shell to expose the openings in the cast frames when the gates are open. It will be seen that the boiler-iron shell, passing over the ends of the cast frames, will form a cover for the sliding gates.

It will be readily seen that this modification

of the invention does not essentially differ from the form of the invention first described.

The invention may be embodied in other forms differing in details of construction from the forms described. For instance, the frames B B may be made of stout wrought-iron without departing from the spirit of my invention.

I do not claim herein a cast car-wheel composed of a flanged tire and a dome-shaped web, nor a cast car-wheel composed of a flanged tire, a dome-shaped web of less diameter, and a vertical annular bolting-ring between the flanged tire and the dome-shaped web, as such car-wheels are claimed in other applications for patents filed by me of even date with the application for this patent.

What I do claim as new herein is—

1. The cylindrical shell composed of boiler-iron, combined with longitudinal cast plates or frames containing openings for loading and unloading purposes, substantially as before set forth.

2. The combination, substantially as before set forth, of the cylindrical shell, the wheels fitted on the ends thereof, and the tie-rods for securing the wheels and shell together.

3. The combination, substantially as before set forth, of the cylindrical shell, the wheels fitted on the ends thereof, and the tie-rods arranged close against the shell to act as ribs therefor as well as instrumentalities for securing the wheels and shell together.

4. The combination, substantially as before set forth, of the cylindrical shell constructed with cast plates or frames having openings, a pair of sliding gates for each cast frame, and the gate operating screws passing from the ends of the cast frame through holes in the wheels.

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

TREAT T. PROSSER.

Witnesses:

H. B. PROSSER,

H. W. ANDERSON.