No. 611,965. Patented Oct. 4, 1898.

O. HOWL.

BRICK DRYING TRUCK.

(Application filed Dec. 11, 1897.)

(No Model.) 4 Sheets—Sheet I.

Fig. 1.

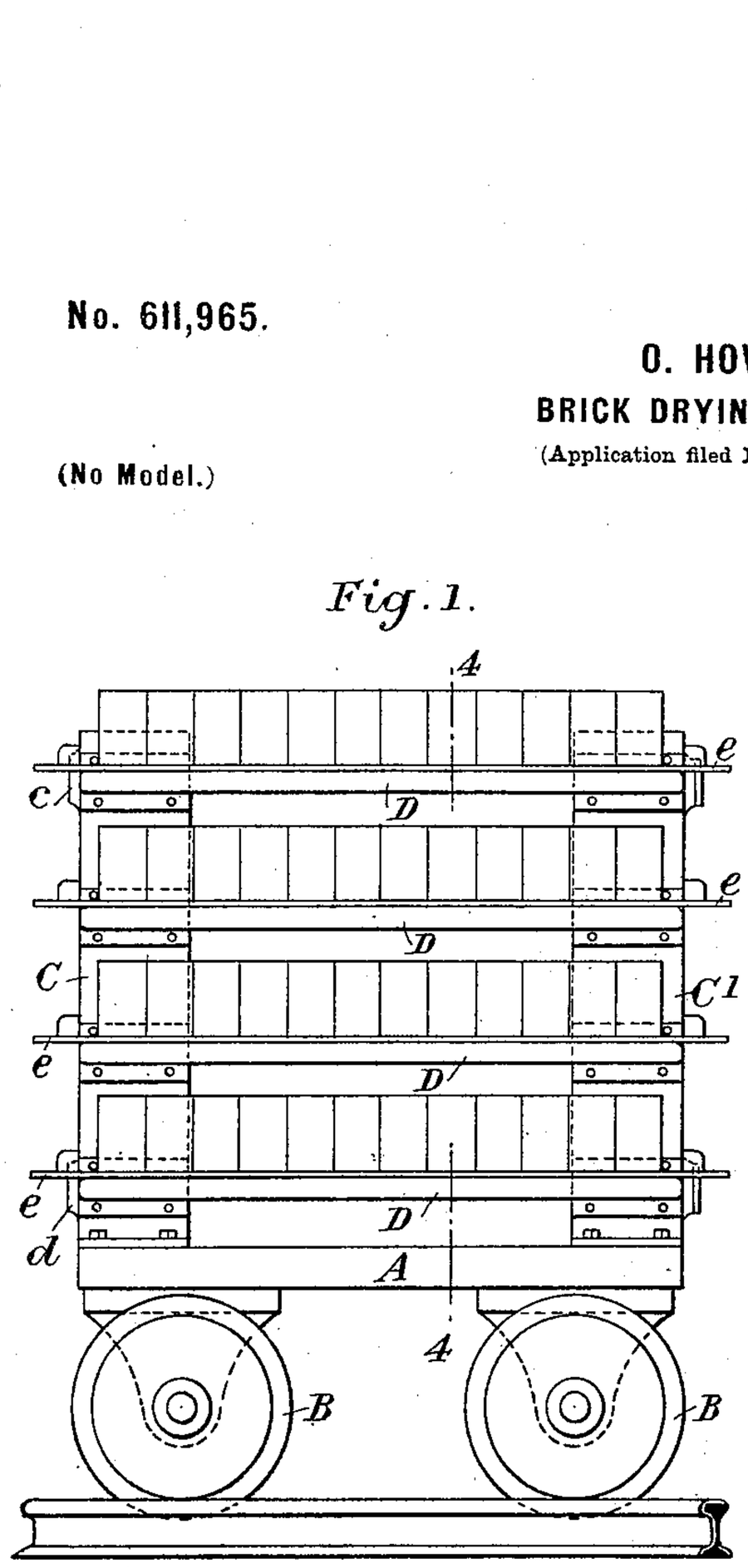

Fig. 2.

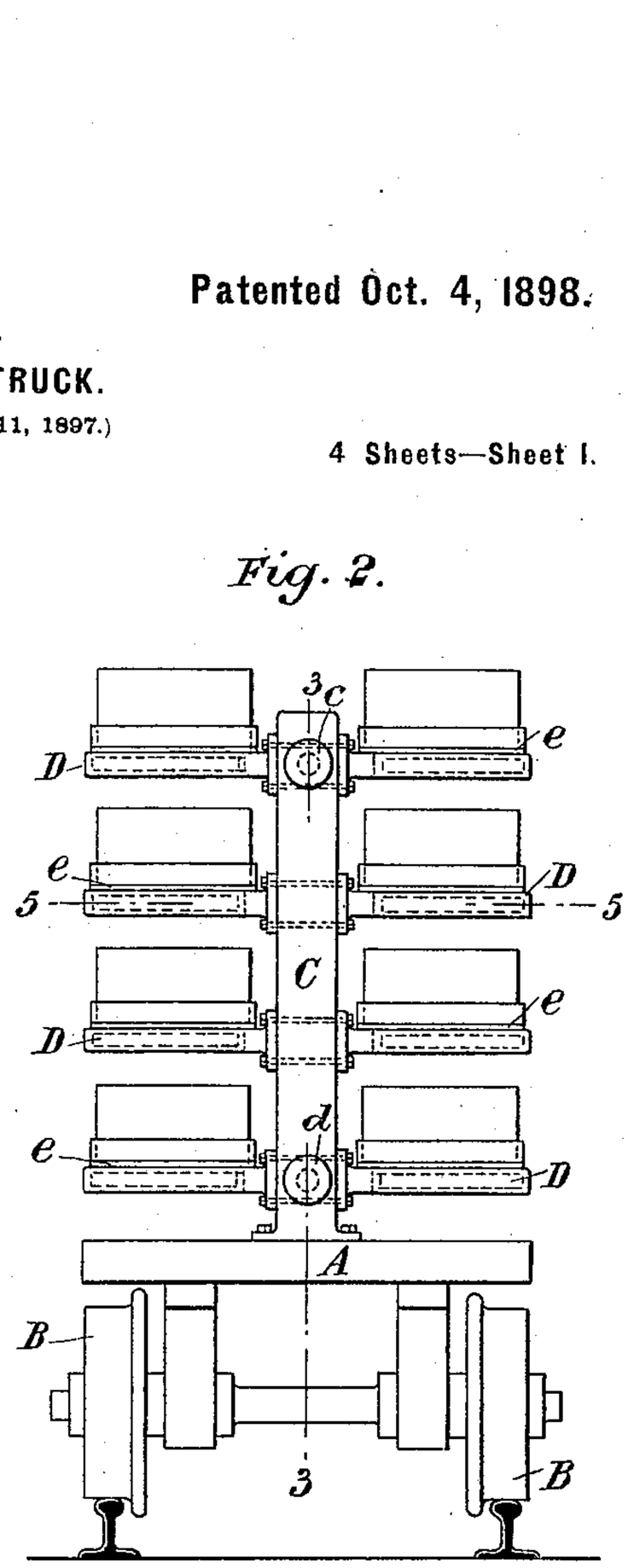

Fig. 7.

Fig. 4.

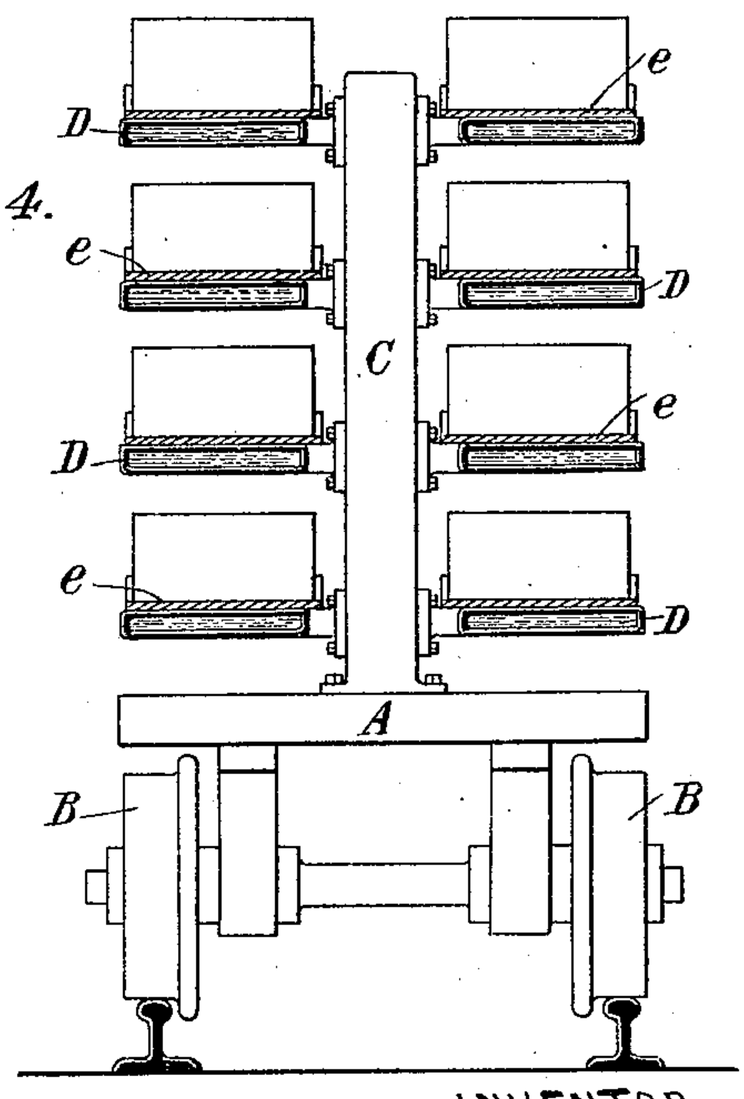

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Fig. 3.

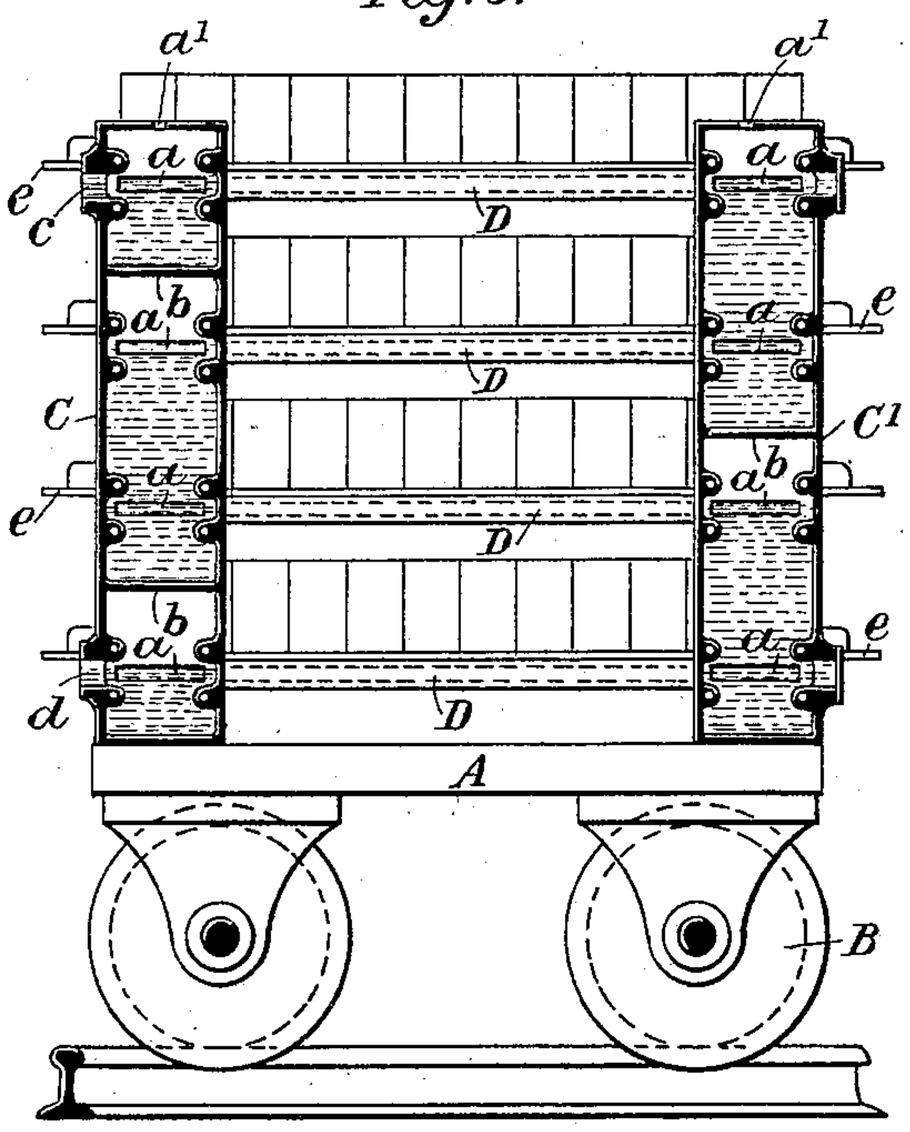
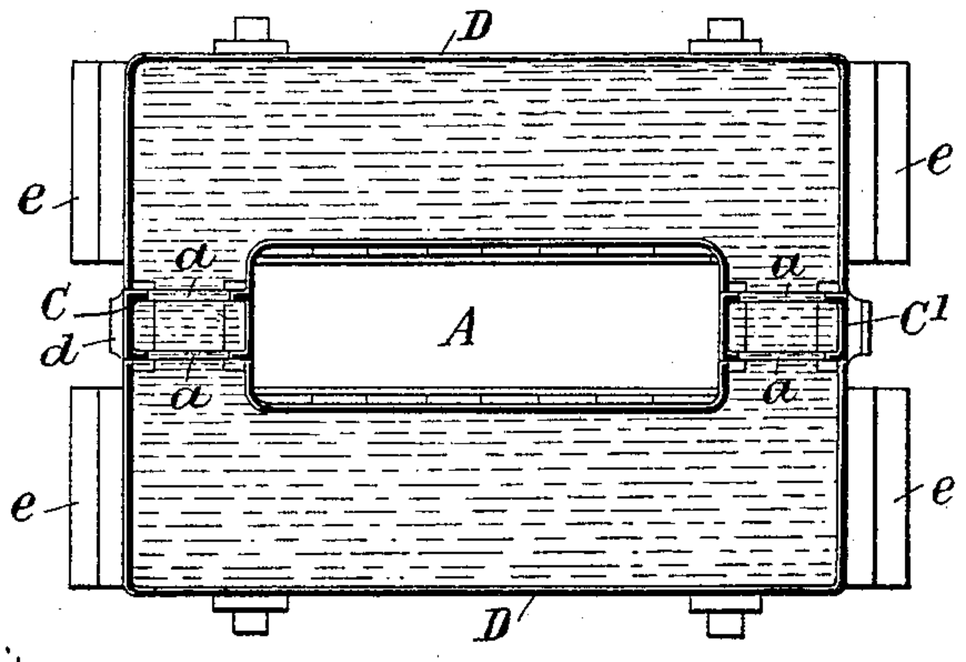


Fig. 5.



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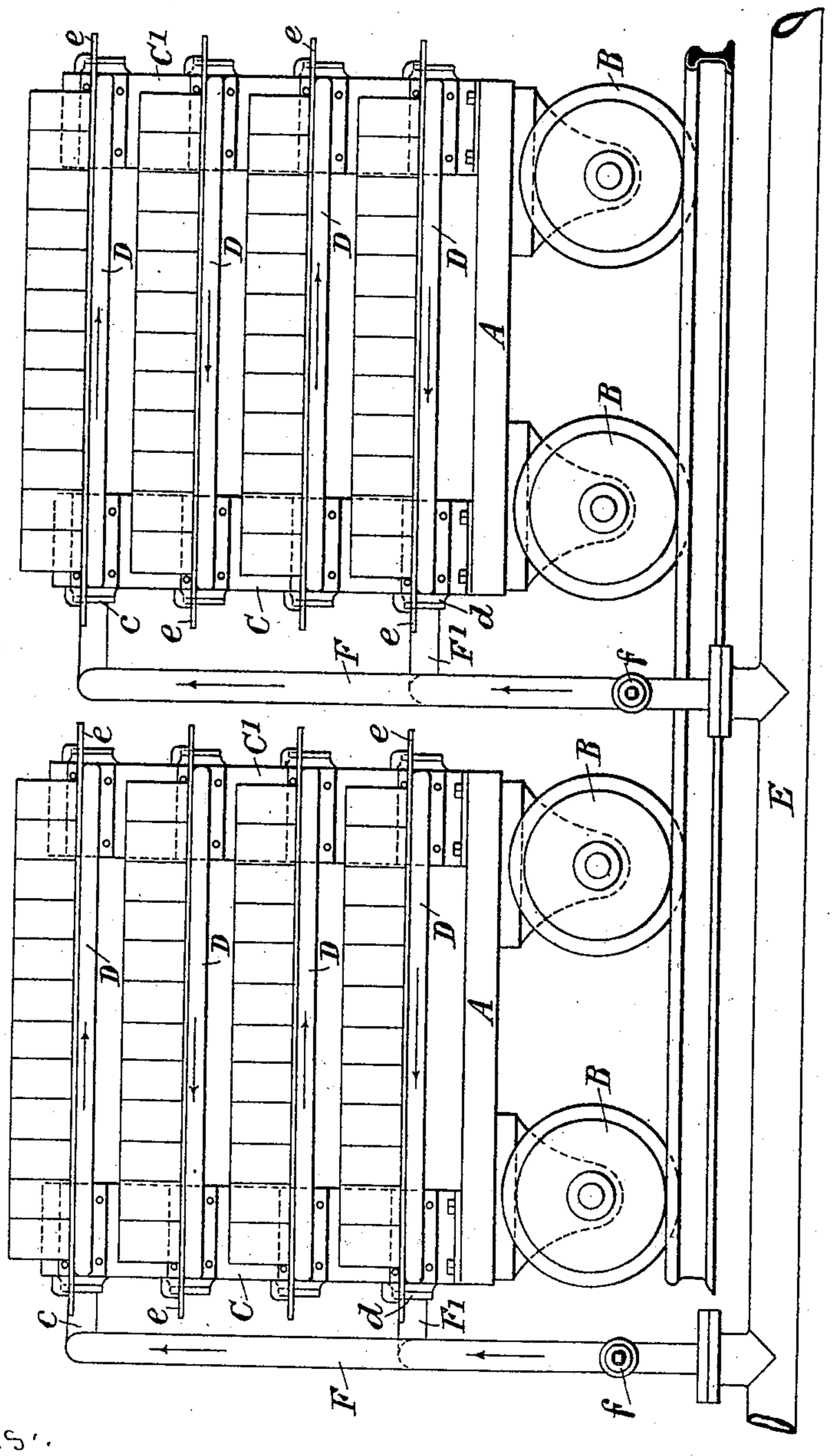
(No Model.) 4 Sheets—Sheet 3.

Fig. 6.



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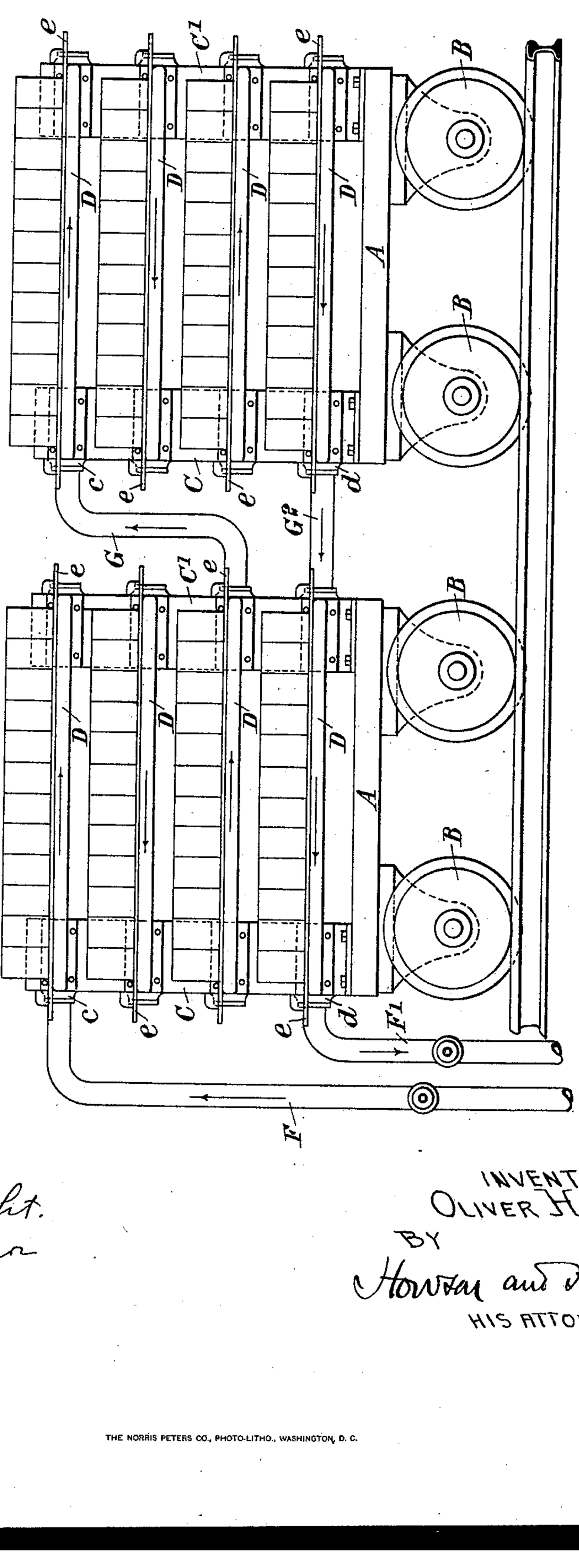
(No Model.) 4 Sheets—Sheet 4.

Fig. 8.



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UNITED STATES PATENT OFFICE.

OLIVER HOWL, OF TIPTON, ENGLAND.

BRICK-DRYING TRUCK.

SPECIFICATION forming part of Letters Patent No. 611,965, dated October 4, 1898.

Application filed December 11, 1897. Serial No. 661,494. (No model.)

To all whom it may concern:

Be it known that I, OLIVER HOWL, engineer, a subject of the Queen of Great Britain and Ireland, residing at Prince's End, Tipton, in the county of Stafford, England, have invented certain Improvements in Carriages for Conveying and Drying Bricks and other Plastic Articles, of which the following is a specification.

My invention has for its object to dry bricks or other plastic articles removed from molding-machines or molding-sheds for conveyance to kilns or other place of manufacture without the necessity of removing the said bricks or articles from the carriages onto heated stoves or other drying-surfaces, thereby preventing distortion and damage of the said bricks or other articles while in the soft state or unburned and reducing the cost of the delivering and drying processes.

Figure 1 of the accompanying drawings represents in side elevation and Fig. 2 in end elevation a carriage constructed according to my invention for drying and conveying bricks or other plastic articles. Fig. 3 is a longitudinal vertical section taken along the line 3 3, Fig. 2. Fig. 4 is a transverse vertical section along the line 4 4, Fig. 1, and Fig. 5 is a horizontal section along the line 5 5, Fig. 2. Figs. 6 and 7 show, in views at right angles to each other, one of the carriages connected to pipes communicating with a boiler or other source of heat-supply; and Fig. 8 shows in side elevation two carriages connected together by communicating pipes or passages, whereby the heating agent can be caused to traverse several carriages from one pipe or passage in communication with the source of supply.

A carriage constructed according to my invention comprises a platform or base A, mounted on wheels B, which may have plain rims or peripheries to run on roads or, as shown in the drawings, flanges like ordinary railway-carriage wheels to run on rails. On the opposite ends of the base A are fixed two hollow vertical columns C C′. The said columns are connected together by hollow shelves or chambers D at suitable distances apart, one above another, to accommodate between them the articles to be dried. The hollow shelves or chambers D communicate by lateral passages *a* with the interior of the vertical columns C C′, and in the said vertical columns are horizontal partitions *b*, by which the heating agent, admitted to the interior of the column C, as hereinafter described, is caused to travel in a circuitous direction through the superposed hollow shelves or chambers. In the arrangement illustrated by Figs. 1 to 7 the inlet-passage for the heating agent is shown at *c* and the outlet *d* is shown at the lower part of the said column; but the said inlet and outlet passages may be arranged at any other suitable parts of the apparatus.

I will describe the use of the carriage for drying and conveying green bricks, it being understood that it may be similarly employed for drying and conveying other articles. The carriage is arranged in position in close proximity to the brick making or molding machine or shed, so that the bricks as they are formed or molded can be readily placed in position on the carriage. The said bricks as they leave the brick making or molding machine may be placed or slid directly onto the hollow shelves or chambers D, or they may be arranged on sheet-iron or other suitable pallets *e*, as shown in the drawings, and the pallets so charged with the bricks be placed on the hollow shelves or chambers D. The carriage when charged with bricks is moved into position for connecting it with a steam or water pipe in connection with a boiler or other source of heat. The connection of the carriage with the source of heat may be effected in any convenient manner—for example, as shown in Figs. 6 and 7.

E E′ are pipes communicating with the interior of a boiler, the pipe E, through which the steam or water passes from the boiler, having a branch pipe F, extending to a suitable height for connecting it by means of union-joint, flange, or other suitable coupling with the inlet-passage *c* in the vertical column C of the carriage. The pipe E′ for conducting the steam or water from the carriage back to the boiler has a branch F′, which is connected to the vertical column C at *d* by union-joint, flange, or other suitable coupling.

The branch pipes F and F′ are each provided with a cock *f f′*, the pipes E E′ also having cocks, if desired, for governing the pas-

sage of steam or water to and from the boiler and carriage. When the carriage is charged with bricks, as hereinbefore described, and the connection made between the carriage and pipes F F′, the cocks *f f′* in the pipes F F′ (and also the cocks in the pipes E E′, if they be used) are opened, whereupon the steam or water will enter the column C by the passage *c* and traverse in a circuitous direction, as indicated by arrows in Fig. 6, through the hollow shelves or chambers D and out through the outlet at *d* into the pipe F′ and thence back to the boiler by the pipe E′, and so maintain a circulation of the hot water or steam through the hollow shelves D as long as necessary to effect the drying of the bricks placed on the hollow shelves or chambers D.

In the columns C C′ are vent-holes *a′* for the escape of air from the interior thereof.

Two or more carriages may be separately connected in the manner hereinbefore described to the pipes E E′ at suitable distances apart, and the steam or hot water may be caused to circulate simultaneously through all the connected carriages or through any one or more of them, as desired. When the bricks are sufficiently dried, the circulation of the steam or hot water through the carriage can be discontinued or cut off by closing the cocks *f f′* in the branches F F′, and the carriage can then be disconnected and moved to the kiln or other place of manufacture, the bricks being then removed from the carriage and placed in the kiln to be burned or otherwise treated, and as no previous handling of the bricks is necessary to put them onto heated stoves or drying-surfaces and loading them up again the liability of damage to or distortion of the said bricks is obviated and a great saving in time and labor is effected.

Instead of connecting a number of carriages separately to the pipes E and E′, as hereinbefore described, several carriages may be connected together, as shown, for instance, in Fig. 8, and one carriage only be connected to the pipes E E′. The steam or hot water entering the vertical column C of the carriage which is connected to the pipes E E′ traverses the hollow shelves or chambers D thereof; but instead of passing from the said carriage into the pipe E′, as described with reference to Fig. 6, it passes from the column C′ by the connecting pipe or passage G into the column C of the adjacent connected carriage, and after traversing through the hollow shelves or chambers D of this carriage it may be conducted to and caused to traverse in a similar manner the heating-passages in another carriage or other carriages. From the last carriage of the series the steam or hot water passes through the lower hollow shelves or chambers D of the several connected carriages to the return-pipes F′ and E′, leading to the boiler, the lower ends of the adjacent vertical columns C C′ of the several carriages being connected together by pipes G^2, as shown. Although I have shown partitions *b* to cause the heating agent to circulate in a circuitous course through the hollow shelves or chambers D, the whole of the said partitions *b* except that shown at the lower part of the vertical columns C may be dispensed with, so that the heating agent will be free to enter and pass through all of the hollow chambers at the same time, and other details of construction may be varied without departing from my invention. For instance, instead of forming the hollow shelves as shown in the drawings each shelf may be formed by a coil of pipe or of a series of pipes communicating at opposed ends with the columns C C′, so that the heating agent can circulate through the said pipes or coils, or each shelf may be made separate and constitute a hollow pallet on which the bricks are placed, the said hollow pallets when charged with bricks being placed on suitable brackets or supports on the carriage and connected by suitable connections to the vertical columns C C′, so as to cause the heating medium to enter the said hollow pallets.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A carriage for conveying bricks or other articles, and consisting of a platform on wheels, upright hollow columns C C′ and hollow chambers or passages connecting said hollow columns to form shelves for the articles, as and for the purpose described.

2. A carriage for conveying bricks or other articles, and consisting of a platform on wheels, hollow upright columns C C′ and hollow shelves D provided with lateral passages communicating with the interiors of the said columns, as and for the purpose described.

3. A carriage for conveying bricks or other articles, and consisting of a platform on wheels, hollow upright columns C, C′, hollow shelves D, D, on opposite sides of the said columns and communicating therewith and partitions *b* in the said columns, as and for the purpose described.

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

OLIVER HOWL.

Witnesses:
ALBERT NEWEY,
THOS. DAVIS.