No. 724,438. PATENTED APR. 7, 1903.

H. C. CLAY.

STEAM AND GOVERNOR CONNECTION FOR TWIN ENGINES.

APPLICATION FILED OCT. 12, 1901.

NO MODEL.

Fig. 1

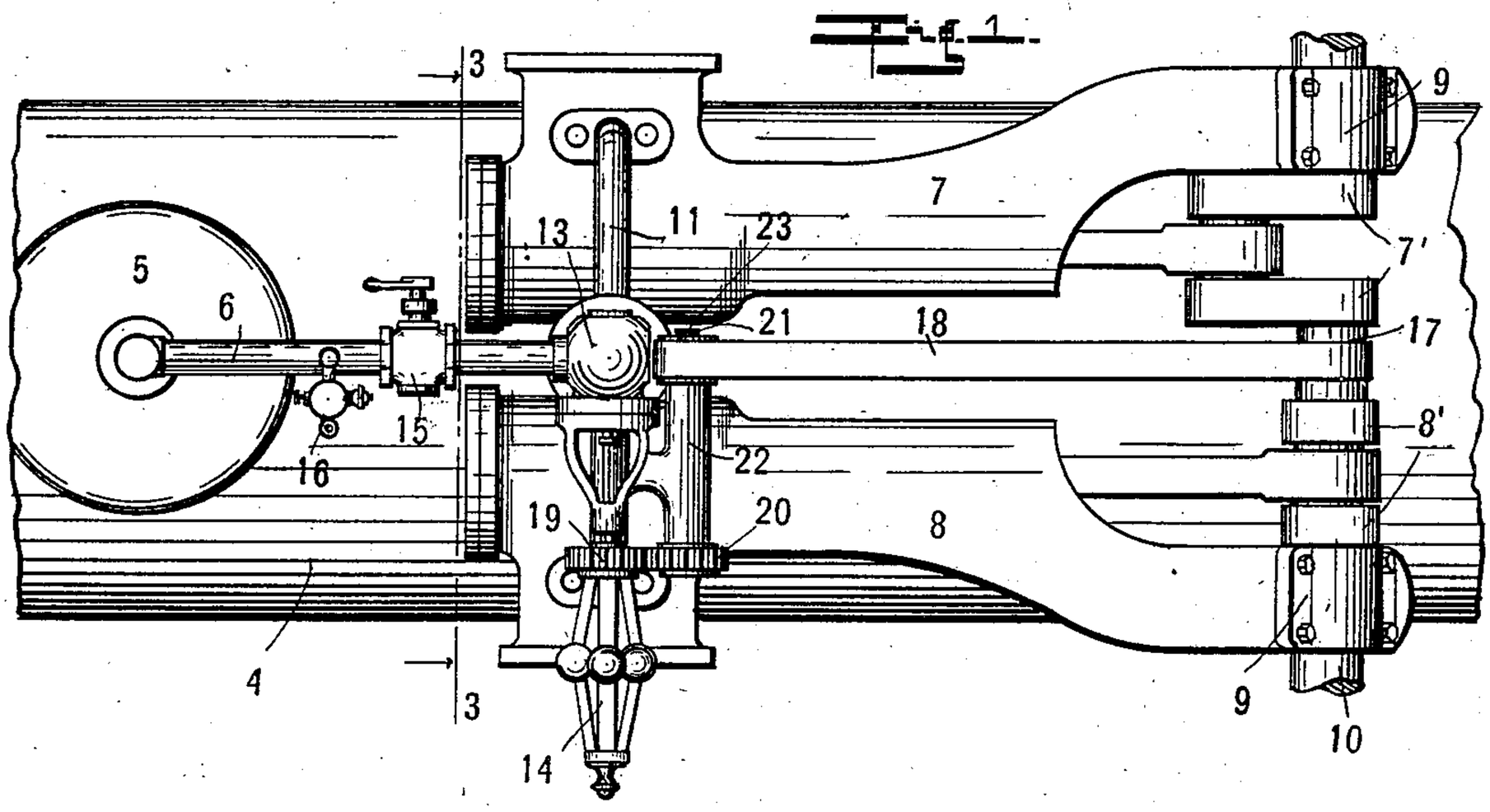


Fig. 2

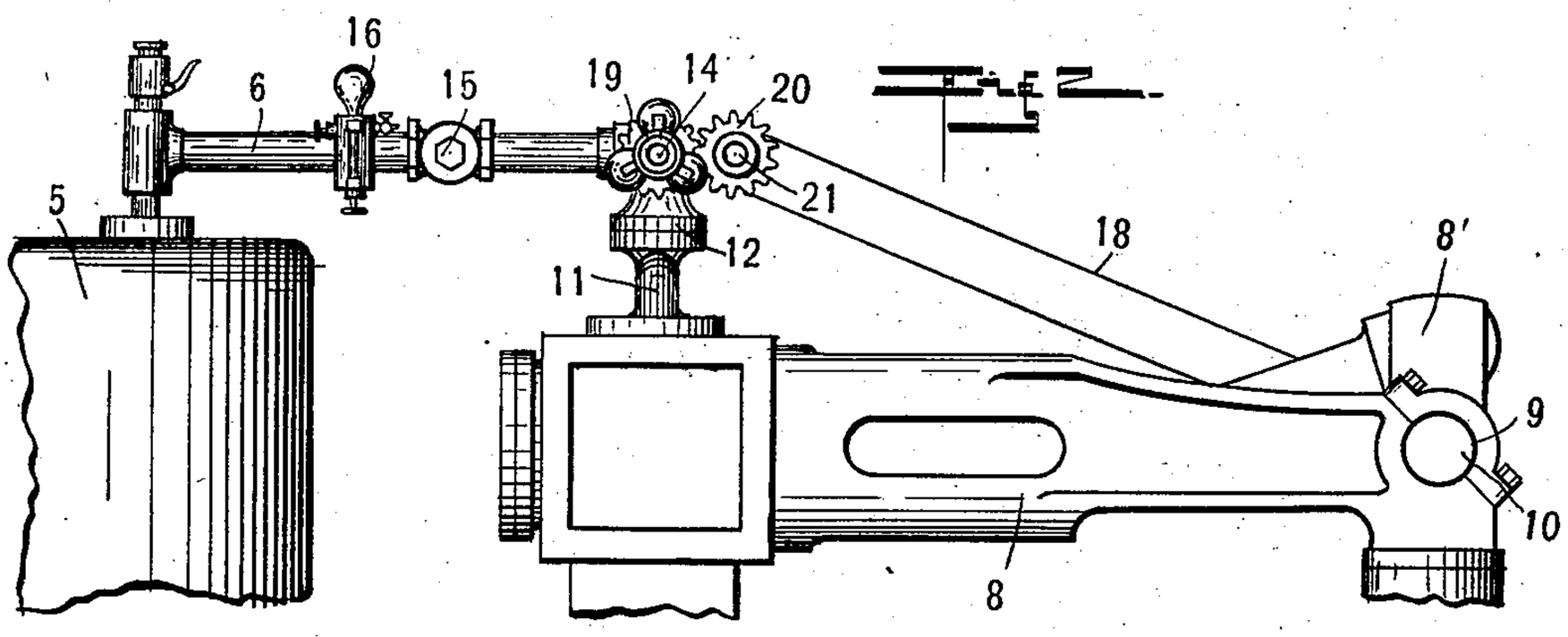
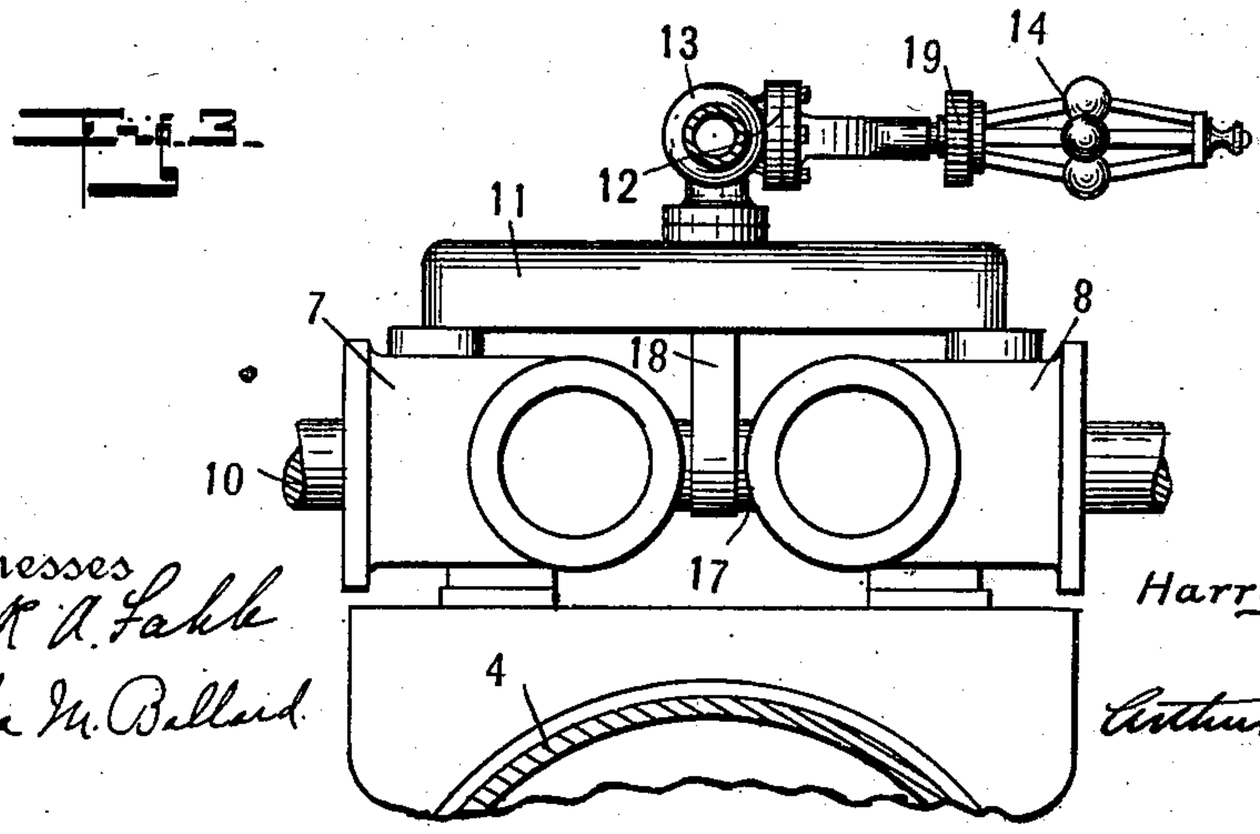


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

HARRY C. CLAY, OF COLUMBUS, INDIANA, ASSIGNOR TO REEVES & COMPANY, OF COLUMBUS, INDIANA, A CORPORATION OF INDIANA.

STEAM AND GOVERNOR CONNECTION FOR TWIN ENGINES.

SPECIFICATION forming part of Letters Patent No. 724,438, dated April 7, 1903.

Application filed October 12, 1901. Serial No. 78,435. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. CLAY, a citizen of the United States, residing at Columbus, in the county of Bartholomew and State of Indiana, have invented a new and useful Steam and Governor Connection for Twin Engines, of which the following is a specification.

My invention relates particularly to a peculiar arrangement of connections between the boiler and the twin engines of a traction-engine, although, of course, not necessarily limited to such use.

In traction-engine construction it is essential that the mechanism be as compactly arranged as possible, especially in the matter of width of the machine. It is therefore customary to place the engine on the top of the horizontal boiler, and if two engines are used they are mounted side by side upon the top of the boiler.

Heretofore considerable difficulty has been experienced in so arranging the steam connections and the throttling-governor that each cylinder will obtain the same quantity of steam, and difficulty has also been experienced in so arranging the oil-cup as to equally distribute the oil to the two cylinders.

The object of my present invention is therefore to so arrange and group the steam connections, the throttling-governor, the oil-cup, and the driving connections between the governor and crank-shaft as to insure an equal distribution of steam and oil to each cylinder and without increasing the width of the machine.

The accompanying drawings illustrate my invention.

Figure 1 is a plan. Fig. 2 is a side elevation, only the steam-dome of the boiler being shown. Fig. 3 is a section on line 3 3 of Fig. 1.

In the drawings, 4 indicates a boiler of any well-known type provided with a steam-dome 5, from the center of which is led a pipe 6. Mounted upon the boiler, one upon each side of the medial line thereof, are two engines 7 and 8, each provided at its rear end with a bearing 9, which bearings support a crank-shaft 10 common to the two engines, and having cranks 7′ and 8′ for the two engines, respectively. Connecting the steam-chests of the two engines 7 and 8 is a bridge-pipe 11, and at the middle of said pipe I provide a governor connection 12, to which the body 13 of a throttling-governor 14 is attached. The pipe 6 leads into body 13 of the governor, and mounted in said pipe between the dome and governor-body is a valve 15. Discharging into pipe 6 is a single oil-cup 16. The throttling-governor may assume any desired position on the body 13, but for obvious reasons it is preferable to place the governor horizontally, as shown in the drawings.

In traction-engines both ends of the crank-shaft are loaded with eccentrics, pulleys, gears, &c., as thickly as they can be placed. In order to drive the governor, therefore, I prepare a space 17 in the crank-shaft between the two cranks for the reception of the governor-belt 18, and in order to connect said belt with the horizontally-arranged governor I provide the governor-head with a spur-gear 19, which meshes with a similar spur-gear 20, carried by a shaft 21, journaled in a bearing 22, parallel with the axis of the governor. Mounted upon the inner end of the shaft 21 is a pulley 23, the said pulley being arranged in alinement with the portion 17 of the crank-shaft for the reception of the belt 18. By arranging the body of the throttling-governor as described the distance between said body and each steam-chest is exactly the same, and each cylinder will obtain exactly the same amount of steam. The single oil-cup 16, arranged as it is between the steam-dome and the governor-body, injects oil into the steam before it reaches the governor-body, and the oil is therefore evenly distributed to both of the cylinders.

I claim as my invention—

1. The combination with a boiler, of a pair of parallel engines arranged one upon each side of the medial line of the boiler, a common crank-shaft for said engines having an axial portion arranged between the cranks thereof, a governor having its driving-pulley arranged in alinement with said axial portion of the crank-shaft, a driving connection between said pulley and the axial portion of the crank-shaft, and steam-passages of equal length leading from said governor-body to

each of the engines, substantially as and for the purpose set forth.

2. The combination with a boiler, of a pair of parallel engines mounted thereon one upon each side of the medial line thereof, a steam-pipe leading from said boiler and extending back upon the medial line thereof, a governor-body connected to said steam-pipe, a bridge-pipe connecting the steam-chests of the two engines and connected to the governor-body at its middle, a crank-shaft common to the two engines and having an axial portion between the cranks thereof, a driving-shaft for the governor arranged in alinement with said axial portion of the crank-shaft, a driving-belt connecting said axial portion and pulley, and an oil-cup discharging into the steam-pipe between the dome and the governor-body, substantially as and for the purpose set forth.

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