

No. 740,405.

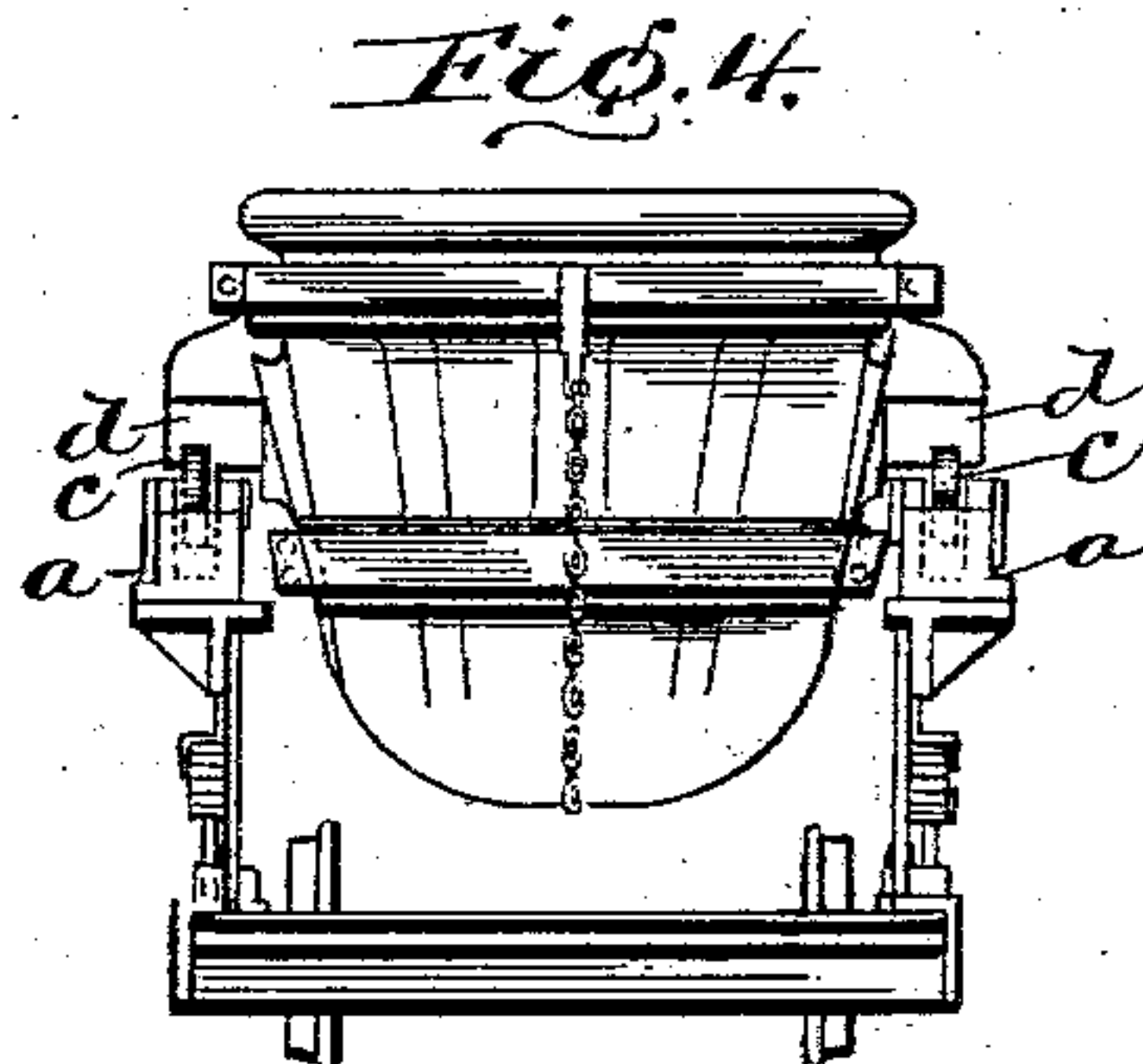
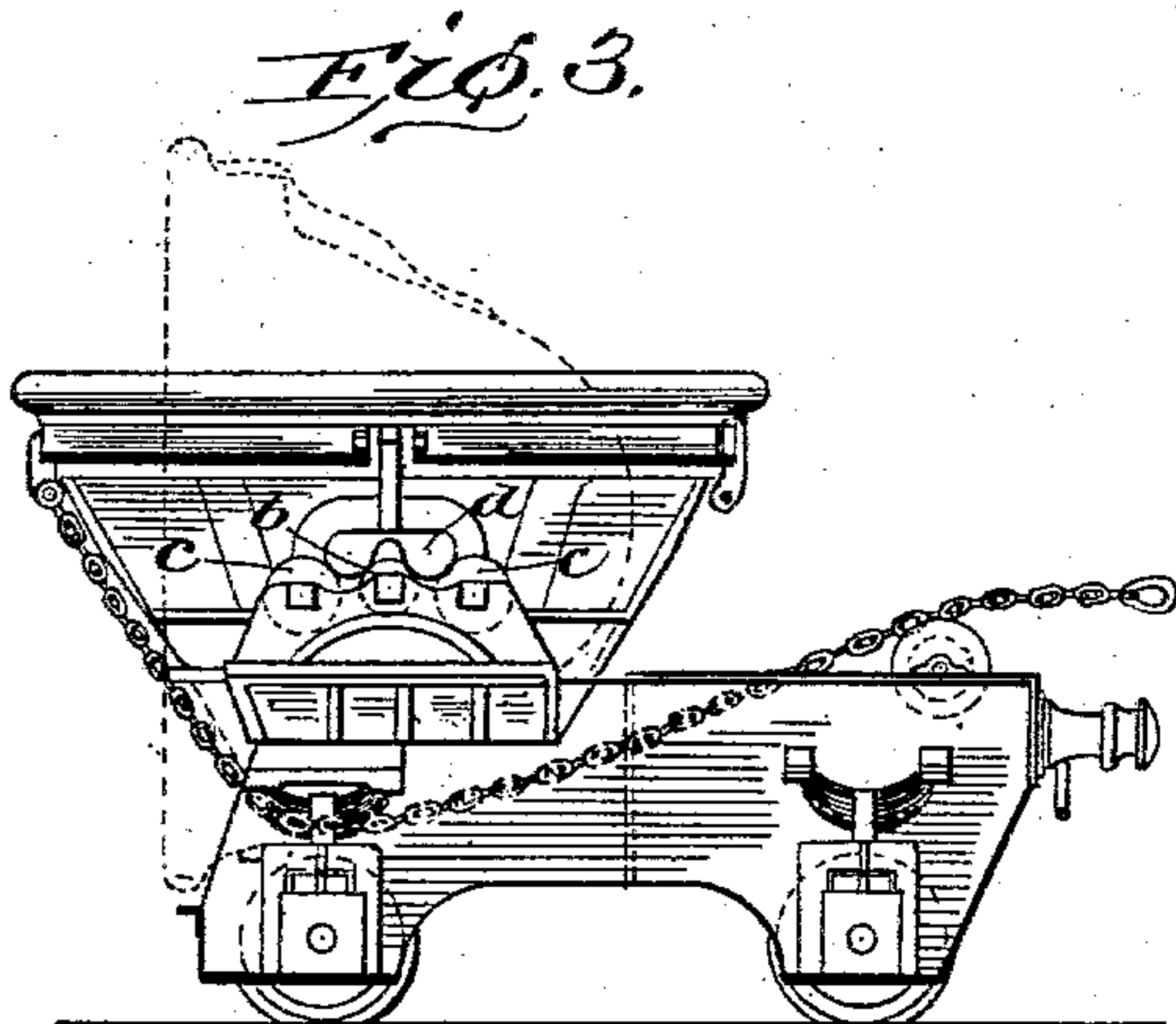
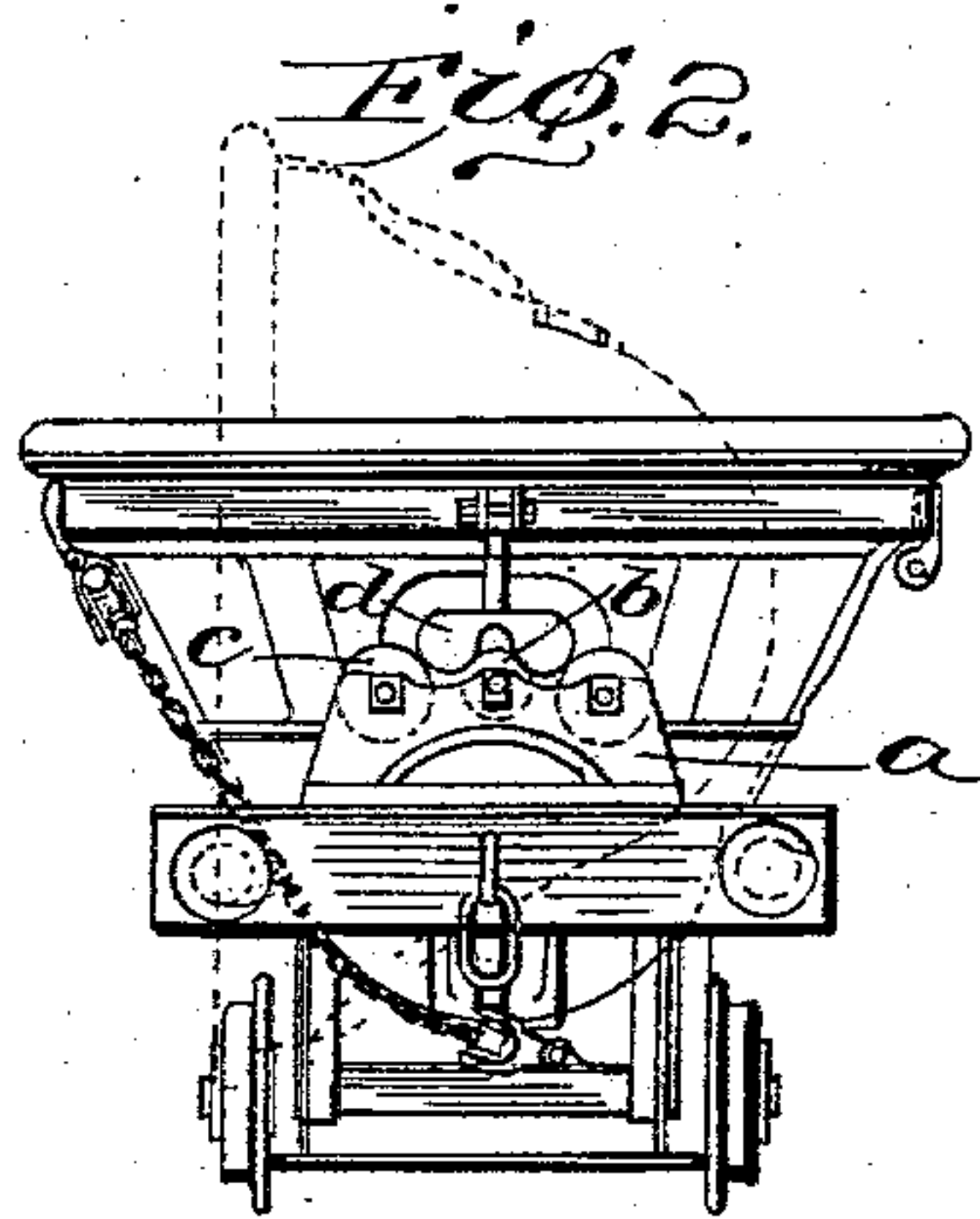
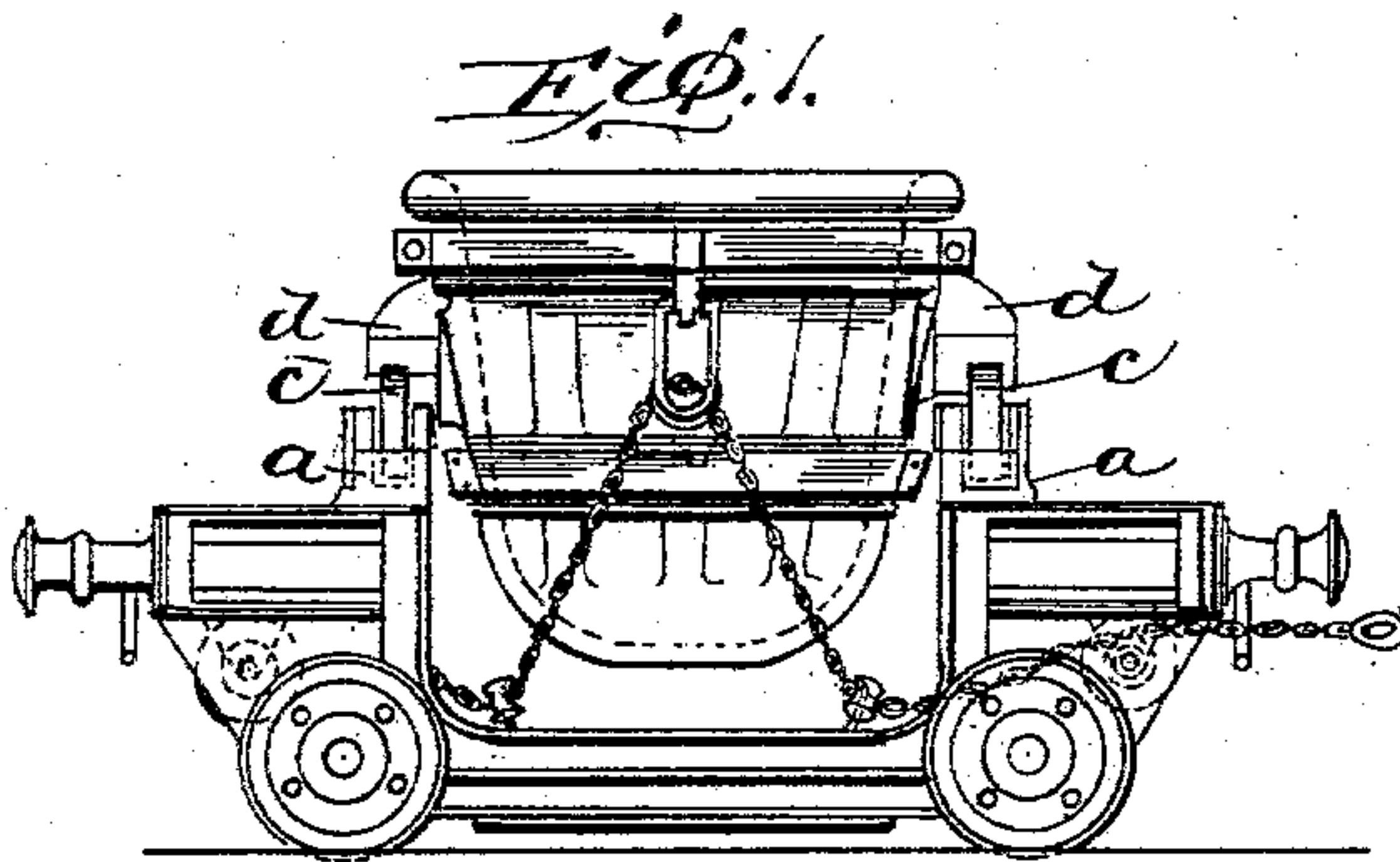
PATENTED OCT. 6, 1903.

J. H. DEWHURST.

CARRIAGE FOR LADLES USED FOR CARRYING AND TIPPING BLAST
FURNACE SLAG.

APPLICATION FILED OCT. 6, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN HENRY DEWHURST, OF SHEFFIELD, ENGLAND.

CARRIAGE FOR LADLES USED FOR CARRYING AND TIPPING BLAST-FURNACE SLAG.

SPECIFICATION forming part of Letters Patent No. 740,405, dated October 6, 1903.

Application filed October 6, 1902. Serial No. 126,250. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY DEWHURST, a subject of the King of Great Britain and Ireland, and a resident of 68 Attercliffe road, in the city of Sheffield, in the county of York, England, have invented certain new and useful Improvements in Carriages for Ladles Used for Carrying and Tipping Blast-Furnace Slag, (for which I have filed an application for a patent in Great Britain, No. 18,384, bearing date August 21, 1902,) of which the following is a specification.

My invention relates to carriages for ladles used for carrying and tipping blast-furnace slag, and more particularly to the bearings for the trunnions of the ladle.

The object of my invention is to provide pedestal-bearings which will reduce the friction and wear and tear of the ladle-trunnions and their bearings, thereby reducing the power required to tip the ladle and lessen the strain upon the ladle and tipping-chain.

The nature of my invention will be better understood on reference to the accompanying sheet of drawings, in which—

Figure 1 is a side elevation of one of my improved ladles and carriages for tipping side-wise to the rails, Fig. 2 being an end elevation of the same. Fig. 3 is a side elevation of one of my improved ladles arranged for tipping endwise to the rails, Fig. 4 being an end elevation of the same.

The same letters refer to similar parts throughout the several views.

I carry out my invention in the following manner, which I will first describe as applied to a ladle-carriage for a ladle which is provided with double or twin trunnions. On such a carriage I fix two hollow bearing-brackets *a a*, one for each side of the ladle, and in each bracket I place three revolving disks or rollers, (hereinafter called "rollers,") with their spindles resting in bearings on each side of the hollow bracket. The center

roller *b* I make less in diameter than the two outer or end rollers *c c*. When the ladle is fixed in position on the carriage, its twin trunnions *d* rest upon the center rollers *b*, and the ladle is prevented from moving out of position by the larger outer or end rollers *c c*. When the ladle is tipped, the front trunnions of the ladle bear upon two of the outer or end rollers *c* and upon two of the center rollers *b* only, thus considerably reducing the friction when tipping.

In applying my invention to carriages for ladles provided with single trunnions instead of employing three roller-bearings on each side of the ladle I employ only two rollers of uniform size on each side of the ladle, and I so adjust the center of gravity of the ladle as to cause it to retain a vertical position when not being tipped.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination, in a carriage for ladles having double or twin trunnions, a pedestal-bearing for said twin trunnions comprising a hollow bearing-bracket, one for each side of the ladle, three rotary disks arranged in each bracket with their spindles resting in bearings in each side of the hollow bracket, the center roller being made of less diameter than the two outer rollers, substantially as described.

2. In combination, in carriages for ladles, a pedestal-bearing on each side of the ladle for the trunnions thereof, each pedestal comprising a hollow bracket and a plurality of rollers in the said hollow brackets having their spindles resting in bearings in each side of the said hollow bracket, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHN HENRY DEWHURST.

Witnesses:

REGINALD H. RADFORD,
W. H. BAIRSTO.