(No Model.)

J. F. MAYER.

GAS HOLDER GUIDE WHEEL CARRIAGE.

No. 386,410. Patented July 17, 1888.

Fig. 1.

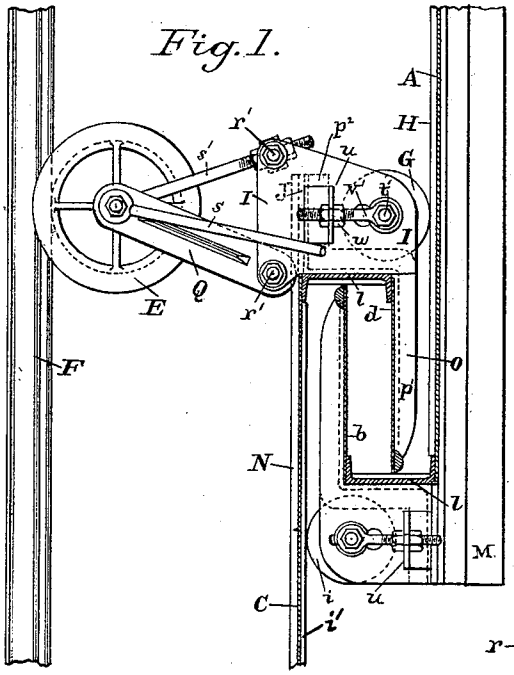


Fig. 3.

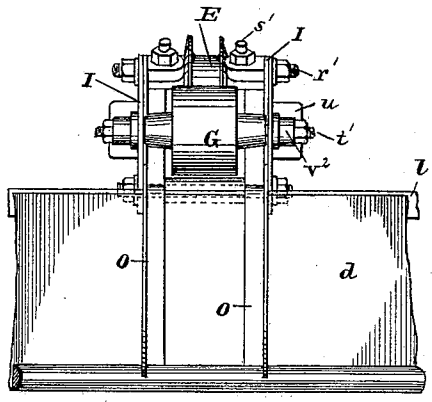


Fig. 2.

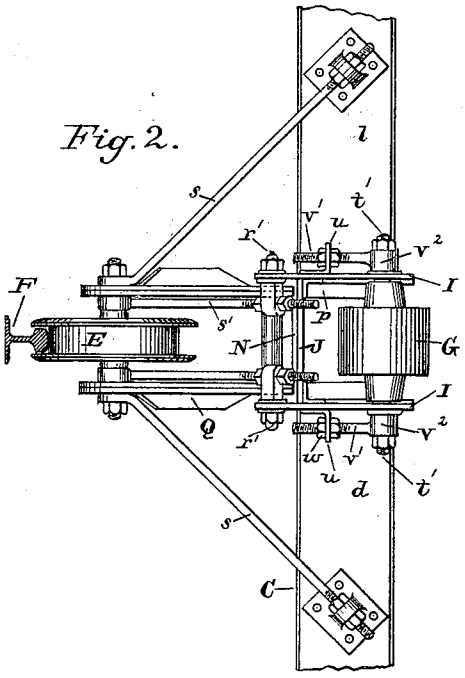
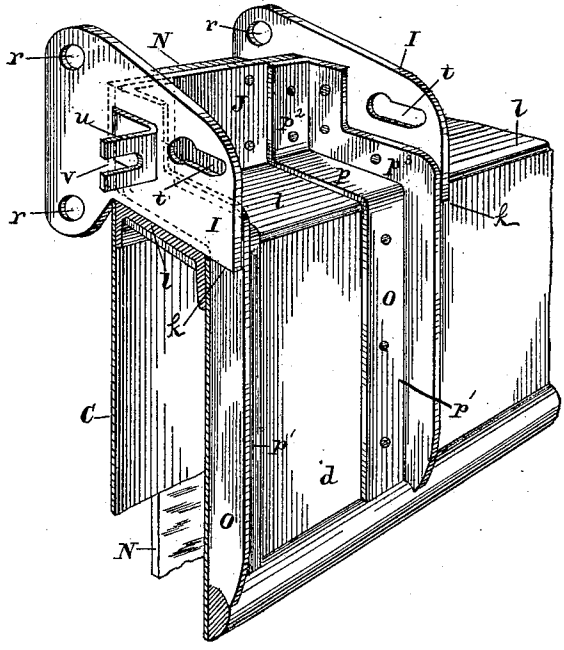


Fig. 4.



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UNITED STATES PATENT OFFICE.

J. FREDERICK MAYER, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO BARTLETT, HAYWARD & CO., OF SAME PLACE.

GAS-HOLDER GUIDE-WHEEL CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 386,410, dated July 17, 1888.

Application filed January 19, 1888. Serial No. 261,257. (No model.)

To all whom it may concern:

Be it known that I, J. FREDERICK MAYER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Gas-Holder Guide-Wheel Carriages, of which the following is a specification.

My invention relates to a carriage for supporting the guide-rollers of gas-holders.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the upright guide-rail, rollers, improved carriage, and a cross-section of the parts comprising the hydraulic seal uniting the inner and outer sections of the gas-holder. Fig. 2 is a top view of the guide-rail, rollers, improved carriage, and outer section of the gas-holder. Fig. 3 shows a portion of an inverted annular cup of the hydraulic seal and the improved carriage supported thereon with the rollers, as seen from the inside of the outer gas-holder section. Fig. 4 is a view of a portion of the inverted annular cup of the hydraulic seal and the improved carriage mounted thereon, and clearly illustrates my invention.

The letter A designates the inner and upper section of a telescopic gas-holder, and has at its bottom the annular hydraulic cup *b*. The outer and lower section, C, has at its top the inverted annular cup *d*, and these cups comprise the well-known hydraulic seal. The inner section carries at its lower part, below the cup, a roller, *i*, which bears against the friction-plate *i'* on the inner surface of the outer section, C, of gas-holder. The outer section carries a roller, E, which bears against an upright guide-rail, F, attached to the column of guide-frame, (not shown,) and a roller, G, which bears against a friction-plate, H, extending vertically on the outer surface of inner section, A, of the gas-holder. All these parts are well known; and my invention consists of the improved carriages for supporting the guide-rollers E G, the construction of the parts by which the carriage is attached to the gas-holder, and the formation of a hook at the top and bottom of the sections by the vertical legs and guide-plates of the different sections of a gas-holder when they are cupped, thus transmitting directly the weight of a lower section to an upper section by the legs and guide-plates only, and not by the arch or plates *l*, forming the top or bottom of the cups.

The improved carriages comprise two wrought-metal plates, I, with their broad sides placed in an upright position and parallel with each other, secured to the gas-holder at the annular cups comprising the hydraulic seal, which unite the different sections of a gas-holder. The two wrought-iron metal plates I are united by a connecting-plate, J, having its broad side placed in an upright position and extending at right angles between the said two plates. This connecting-plate J, so far as concerns one feature of the invention, may be secured to the two bracket-plates I in any suitable manner. The two bracket-plates I thus connected are attached to the annular cups of the different sections by means of two angle-plates, *o*. These are bent to fit the shape of the cups, having the horizontal wing *p* in contact with the top *l* of the arch, or the plate forming the top of the cup, but not fastened thereto, and having the adjoining vertical wing p^3 in contact with the bracket-plates I.

The carriages are attached to the outer gas-holder sections, C, by means of a vertical re-enforcing plate, N, for outer section, and to the extension of guide-plates or vertical legs M for intermediate or inner sections, A. The said plate N is in contact with the connecting-plate J and is securely fastened thereto. All of the plates are to be bolted, riveted, or otherwise secured to the parts named.

The combination, with the annular cups, of the two bracket-plates I, vertical re-enforcing-plates N, extension of vertical legs M, and the described angle-plates O, produces one of an annular series, hooks of great strength which are not attached to the top plate or plates, *l*, forming the top or bottom of said cups.

Each bracket-plate I is provided with two holes, *r*. The arms Q, supporting the guide-roller E, are secured to the two bracket-plates I by bolts *r'*, passed through the said holes *r*. The brace-rods *s* and *s'*, which give rigidity to the holder Q, are of the usual construction.

Each bracket plate has at its inner end a horizontal slot, *t*, and on the outer broad side a laterally-projecting stay-arm, *u*, having a slot, *v*. The roller G is mounted on a shaft, *t'*, which occupies the horizontal slots *t* in the two brackets. The position of the roller, it will be seen, may be adjusted by moving the shaft *t'* in the horizontal slots *t*, and thus the roller G may be set so as to bear properly against the friction-plate H. This adjustment of the roller G is effected by means of two screw-threaded rods, *v'*, each having at one end an eye, v^2, in which the roller-shaft *t* turns. One of these rods *v'* is at each end of the roller-shaft, and each one rests in the slot *v* of one of the lateral stay-arms *u*. The rods each have two nuts, *w*, one at each side of the stay-arm. It will be seen that with the roller-shaft resting in the horizontal slot *t* the nuts *w* on the screw-threaded rods *v'* will enable the position of the roller G to be adjusted to or from the friction-plate H.

The description heretofore given of the inverted annular cup *d* and the application thereto of the bracket-plates I by means of the two angle-plates O and the adjustment of the roller G are applicable, also, to the annular hydraulic cup *b* and the roller *i*, and Fig. 1 of the drawings illustrates the same construction applied to said hydraulic cup and to the bracket for the support of the roller *i*.

When the cups of a telescopic gas-holder are thus strengthened, the apparatus is vastly more durable.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A telescopic gas-holder having, in combination with the annular cups comprising the hydraulic seal, consisting of the top plate, *l*, and tank-section N', two plates, I, placed with their broad sides in an upright position, and having one edge in contact with the top plate, *l*, a plate, J, connecting the said two plates, a vertically-re-enforcing plate secured to the side of the gas-holder section, and having its end secured to the said connecting-plate J, and two angle-plates, O, having a horizontal portion, *p*, in contact with the top plate, *l*, of the cup, and one end, *p'*, extended at a right angle with said top plate, lip *d* of the cup, to which said top plate is secured, and the other end, p^2, also extended at a right angle, but in an opposite direction, and secured to the said connecting-plate, as set forth.

2. A telescopic gas-holder having, in combination with the annular cups comprising the hydraulic seal, two plates, I, placed with their broad sides in an upright position and secured to the said cup, and each having a horizontal slot, *t*, and provided on the outer side with a laterally-projecting arm, *u*, a roller, G, mounted on a shaft, *t'*, which rests in the said horizontal slots, two screw-threaded rods, *v'*, each having an eye attached to an end of the roller-shaft, and each rod provided with nuts and resting in the slotted arm, as set forth.

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

J. FREDERICK MAYER.

Witnesses:
JNO. T. MADDOX,
JOHN E. MORRIS.