

(No Model.)

2 Sheets—Sheet 1.

C. S. MORSE.
CHARGING WAGON.

No. 476,547.

Patented June 7, 1892.

Fig. 1.

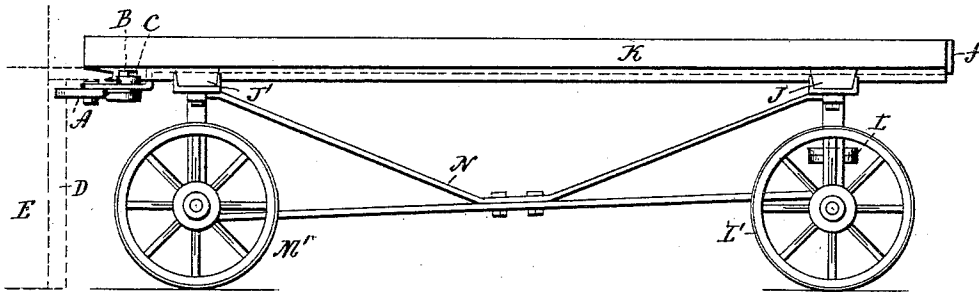


Fig. 2.

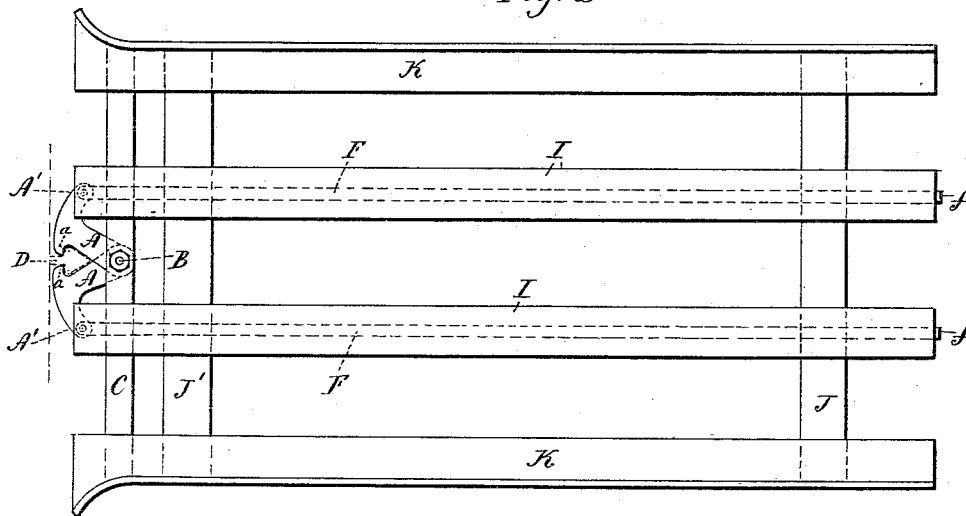
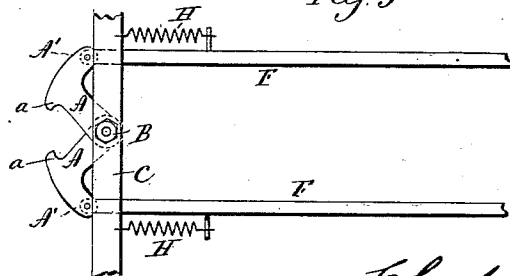


Fig. 3.



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Lillian D. Kellogg

Charles S. Morse
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By atty
Earle Seymour

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Fig. 4

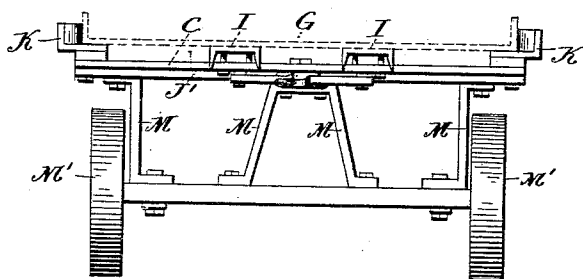
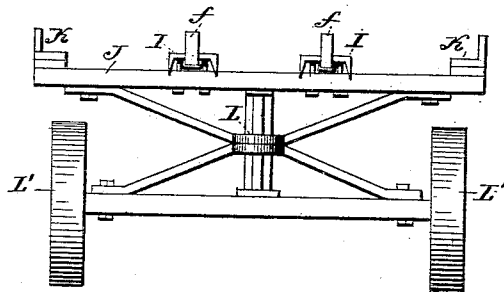


Fig. 5



Witnesses,
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UNITED STATES PATENT OFFICE.

CHARLES S. MORSE, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
BENEDICT & BURNHAM MANUFACTURING COMPANY, OF SAME PLACE.

CHARGING-WAGON.

SPECIFICATION forming part of Letters Patent No. 476,547, dated June 7, 1892.

Application filed January 4, 1892. Serial No. 416,962. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. MORSE, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Charging-Wagons; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of a charging-wagon constructed in accordance with my invention and shown as backed up to the front of an annealing-furnace which is indicated by broken lines; Fig. 2, a plan view of the wagon, showing its pivotal jaws in engagement with the beveled coupling-head which projects from the front wall of the furnace; Fig. 3, a detached plan view of the jaws, their operating rods and springs, and the cross-piece to which they are pivoted; Fig. 4, a view of the wagon in rear elevation; Fig. 5, a view thereof in front elevation.

My invention relates to an improvement in charging-wagons, the object being to produce a simple, durable, and convenient wagon adapted to be automatically coupled with an annealing-furnace for holding it in place while a tray is being drawn out onto it therefrom and to be automatically disconnected from the furnace by the tray when the same is in place upon it.

With these ends in view my invention consists in a wagon having at its rear end one or more projecting gripping-jaws and a rod extending from each of said jaws to the front of the wagon, where it is upturned for engagement by a tray when the same is drawn to its final position on the wagon.

My invention further consists in a wagon having at its rear end two projecting pivotal gripping-jaws, a rod extending from each of the said jaws to the forward end of the wagon and there upturned for engagement by a tray when the same is drawn to its final position thereupon, and one or more springs connected with the jaws for urging them into their closed positions.

My invention further consists in certain de-

tails of construction and combinations of parts, as will be hereinafter described, and particularly recited in the claims.

As herein shown, the wagon is provided at its rear end with two projecting gripping-jaws A A, pivotally hung upon a bolt B, passing vertically through a beam C, extending transversely across the rear end of the wagon. The inner ends of the respective jaws are provided with inwardly-projecting lugs *a a* for engagement with the oppositely-beveled coupling-head D, which is mounted to project from the front wall of the furnace E at a point below the furnace-door, which is not shown. The outer ends of the said jaws are provided with arms A' A', the same being pivotally connected with the ends of two corresponding parallel operating-rods F F, which extend to the extreme forward end of the wagon, where they are turned up to form arms *f f*, which are engaged by the forward end of the tray G (see Fig. 4) when the same is drawn out to its final position upon the wagon, whereby the said rods are moved forward and the gripping-jaws separated to let go of the coupling-head, and thus automatically disconnect the wagon from the furnace. Two spiral springs H H, respectively connected with the said operating-rods and with the beam C, exert a constant tendency to close the jaws, whereby when the wagon is backed up against the furnace and their lugs *a a* are engaged, respectively, with the oppositely-beveled faces of the coupling-head D the jaws will be separated against the tension of the said springs, which will operate to close them upon the head as soon as they have passed inward beyond the beveled faces thereof. The rods F F, before mentioned, are respectively housed in parallel beams I I, supported at their ends upon the bolsters J J, which also support the angled side pieces K K, the said beams and side pieces virtually forming the bottom of the wagon and the bed upon which the trays are drawn, the rear ends of the side pieces K K being outwardly curved to give the tray right direction in case it does not come out of the furnace in exact alignment with the wagon. The bolster J is connected by a fifth-wheel L with the forward wagon-truck L', while the

bolster J' is connected by suitable braces M M M with the rear wagon-truck M', the two wagon-trucks being connected by a braced frame N; but so far as the particular construction of the frame of the wagon is concerned that may be of any approved form consistent with lightness and strength.

It will be seen that with a wagon constructed in accordance with my invention it may be backed up against the front of the furnace, with which it is automatically coupled by means of gripping-jaws and automatically uncoupled therefrom by the tray at the time the same reaches its final position. Obviously this greatly simplifies the removal of trays from an annealing-furnace.

I may mention that my improvement is well adapted to be used in connection with the improvement disclosed in United States patent granted May 3, 1881, No. 240,965, to G. P. Chapman.

I might construct my device so as to use only one gripping-jaw, and would have it understood that I do not limit myself to the exact construction herein shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention. I am aware, however, that it is old to provide a wagon at its forward end with a movable member standing above the level of its floor in position to be engaged and moved by the forward end of a tray loaded thereupon, the said member being thereby moved in effecting some adjustment of the wagon mechanism.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A charging-wagon having at its rear end one or more projecting gripping-jaws and a rod extending from each of said jaws to the front of the wagon, where it is upturned for engagement by a tray when the same is in its final position upon the wagon, substantially

as described, and whereby the wagon may be coupled with the front wall of a furnace while it is being loaded and automatically uncoupled therefrom by a tray drawn out upon it from the furnace.

2. A charging-wagon having at its rear end two projecting pivotal gripping-jaws, a rod extending from each of said jaws to the forward end of the wagon and there upturned for engagement by a tray when the same is in its final position upon the wagon, and one or more springs connected with the jaws for urging them into their closed position, substantially as described.

3. In a charging-wagon, the combination, with the frame thereof, having two longitudinal beams forming part of its bed, of two pivotal gripping-jaws projecting from the rear end of the wagon, two rods respectively attached to the said jaws and extending forward through the said beams in which they are housed to the front of the wagon, where they are upturned for engagement by the tray when in its final position on the wagon, and one or more springs connected with the jaws for urging them into their closed positions, substantially as described.

4. A charging-wagon having one or more gripping-jaws projecting from its rear end, a rod extending from each of said jaws to the front of the wagon, where it is upturned, one or more springs connected with the jaws for urging them into their closed positions, and angled side pieces outwardly curved at their rear ends to give right direction to the tray as it enters upon the wagon, substantially as described.

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

C. S. MORSE.

Witnesses:

F. S. LEWIS,
E. A. LEWIS.