No. 814,412. PATENTED MAR. 6, 1906.

E. N. TRUMP.

COKE HANDLING APPARATUS.

APPLICATION FILED MAR. 24, 1902.

2 SHEETS—SHEET 1.

Fig. 1.

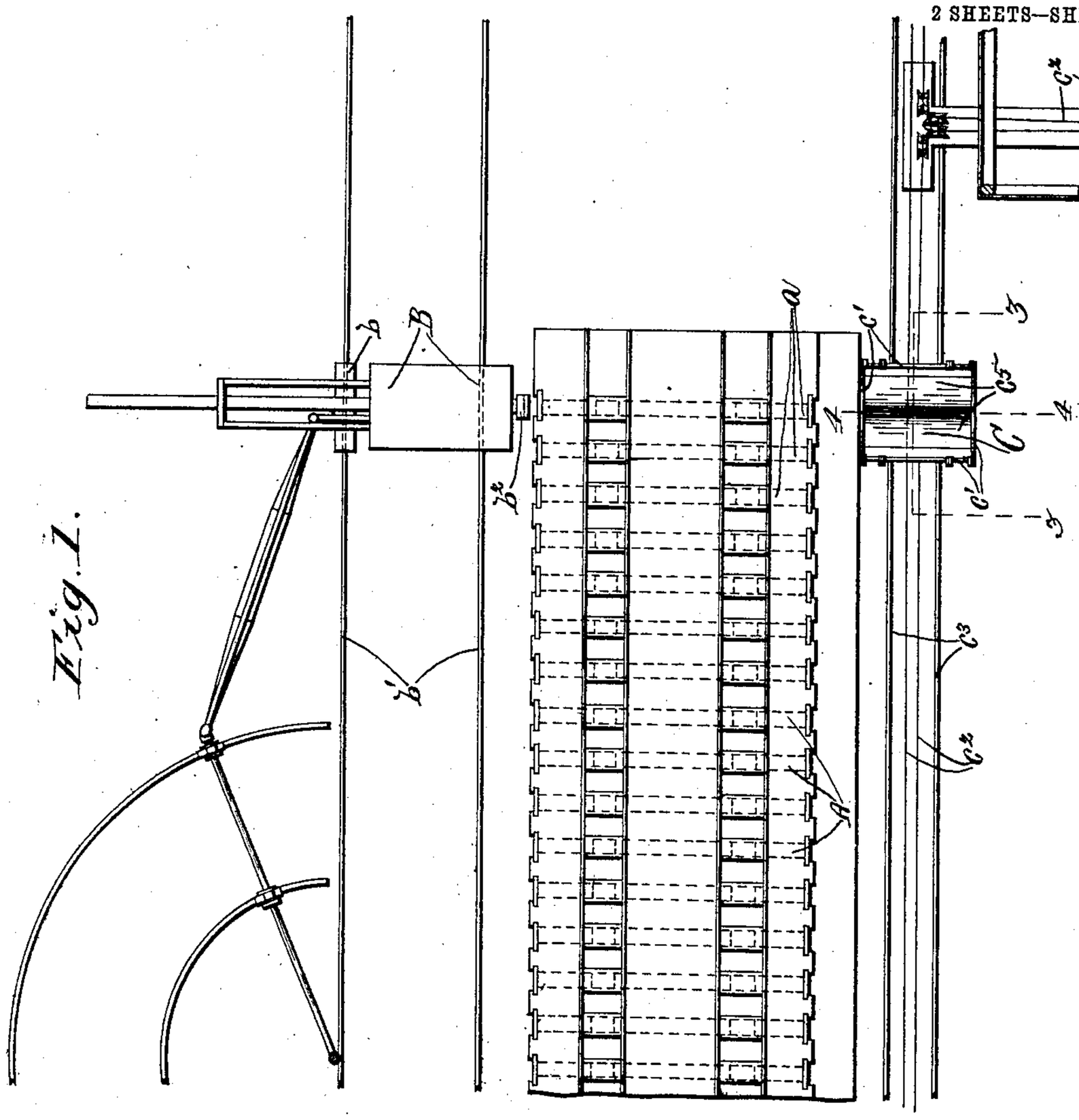
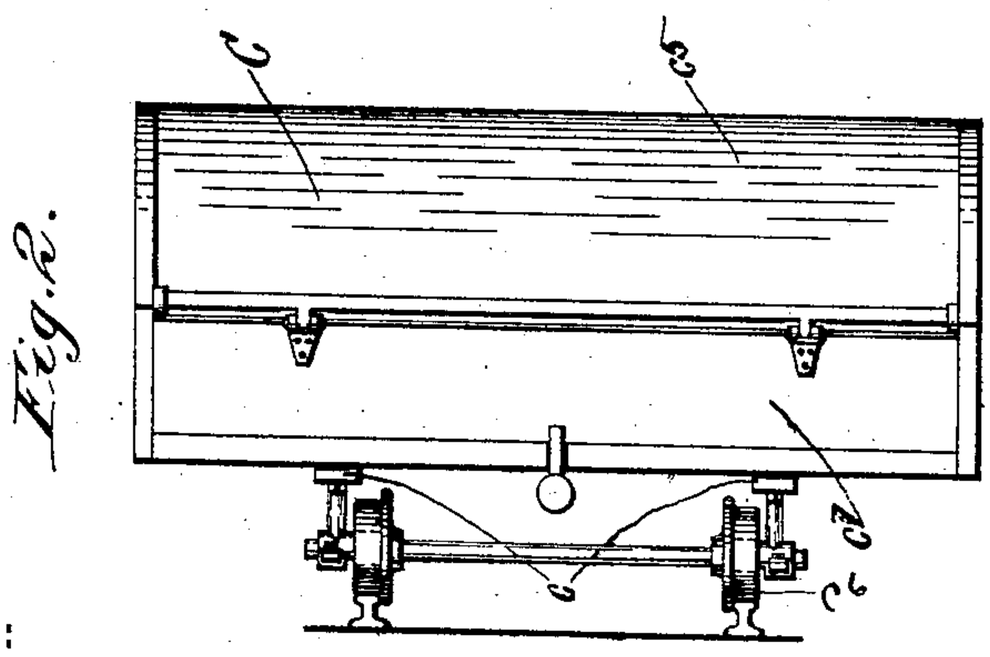


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

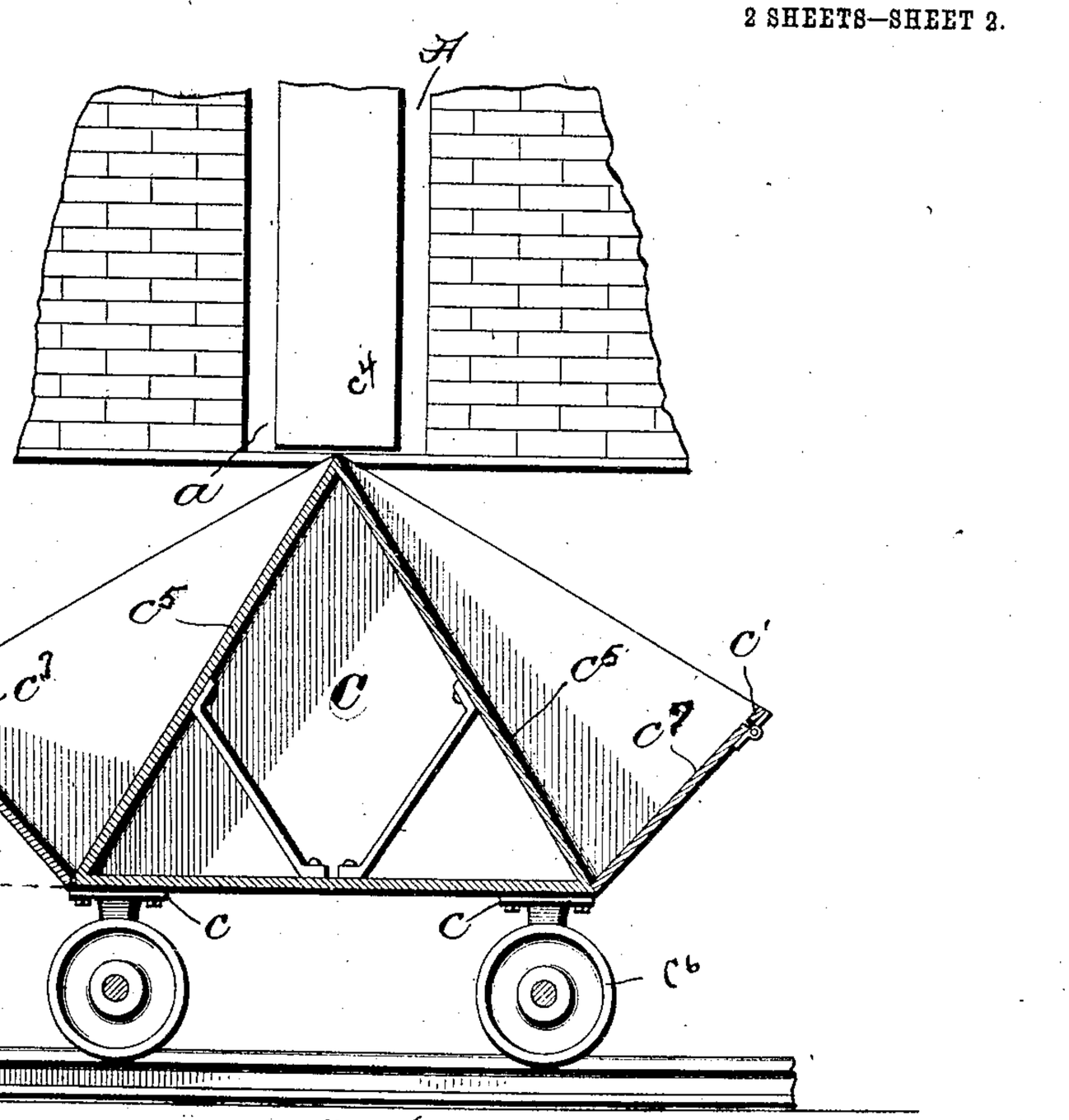
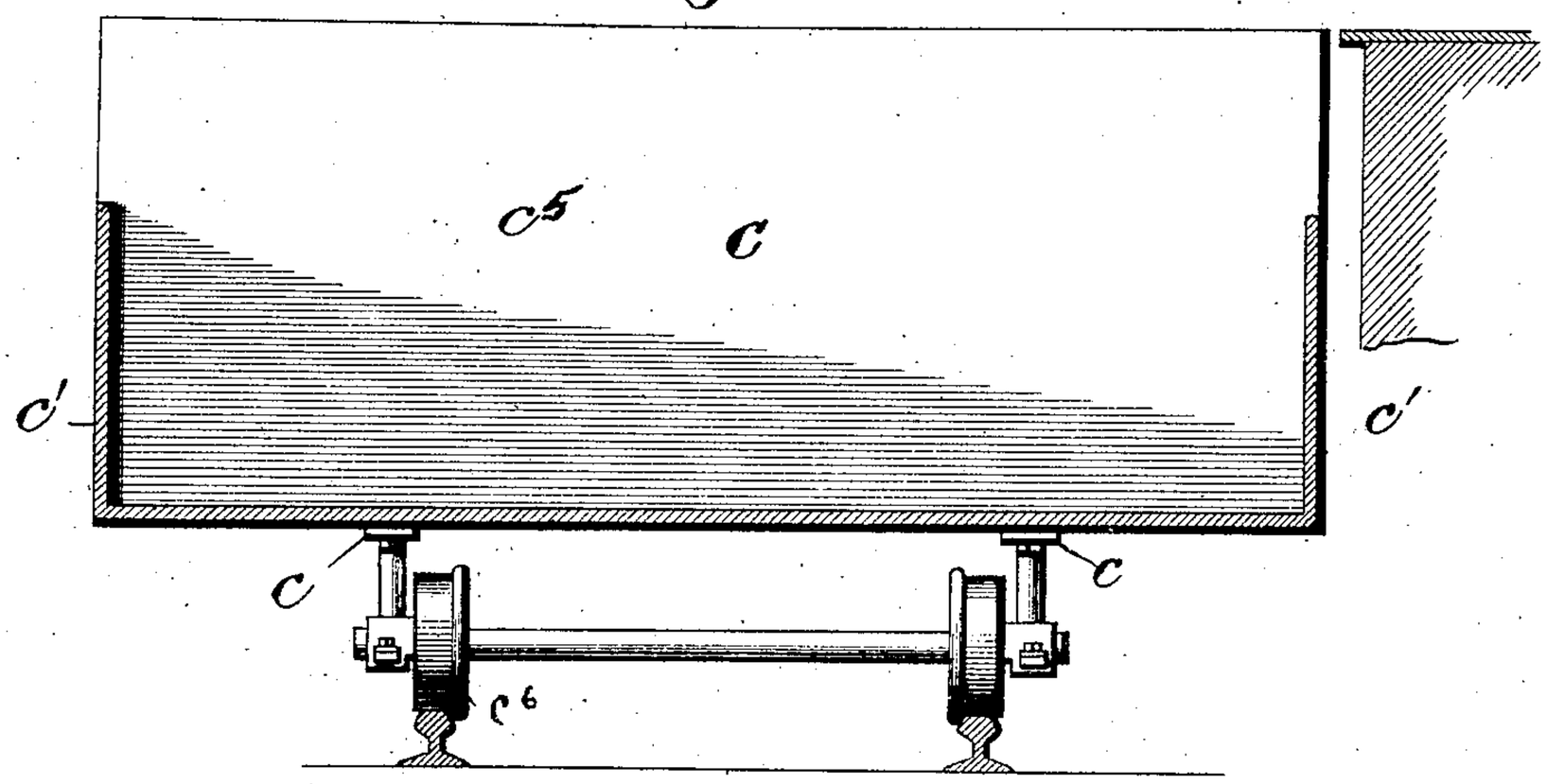


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDWARD N. TRUMP, OF SYRACUSE, NEW YORK.

COKE-HANDLING APPARATUS.

No. 814,412. Specification of Letters Patent. Patented March 6, 1906.

Application filed March 24, 1902. Serial No. 99,795.

To all whom it may concern:

Be it known that I, EDWARD N. TRUMP, of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Coke-Handling Apparatus, of which the following is a specification.

My invention has for its object the production of an apparatus for handling coke or other materials, which with a minimum working of the coke or other materials discharges the same upon a receiving means and subsequently effects the discharge thereof from said means.

Figure 1 is a top plan of a preferable embodiment of my apparatus. Fig. 2 is an elevation of the detached receiving means of my invention. Fig. 3 is an enlarged sectional view taken on line 3 3, Fig. 1. Fig. 4 is a similar view taken on line 4 4, Fig. 1.

The illustrated preferable embodiment of my apparatus comprises a plurality of coke-ovens A, a device B for discharging the coke in elongated masses from the ovens, and receiving means C.

The ovens A, which may be of any desirable form, size, and construction, are here shown as formed with substantially horizontal coke-producing chambers *a*, arranged side by side, and as provided with the usual front, rear, and upper openings leading from the chambers *a* and with suitable closures for said openings.

As generally constructed the device B consists of a carriage *b*, movable along a guide *b'* arranged at the rear of the ovens A, and a plunger b^2, supported by the carriage *b* and reciprocally movable in the coke-producing chambers *a* for discharging the coke therefrom in elongated masses and in a substantially horizontal plane. Said plunger b^2 is suitably connected with an engine or other motor (not illustrated) for moving the same endwise in the coke-producing chambers *a*.

The receiving means C is located in front of the chambers *a* and preferably forms the platform of a car consisting of said platform, a frame *c*, and a retaining-wall *c'* and movable by any desirable means c^2 lengthwise of rails c^3 or any other suitable guideway. The top face of the platform C is here shown as formed with lengthwise surfaces c^4 c^5, arranged substantially crosswise of the guideway c^3 and parallel with the line of movement of the mass of coke being discharged and with the axes of the supporting-wheels for the car provided with said platform. The surface c^4 is comparatively narrow, being usually of less width than the mass of coke, and is here illustrated as consisting of a ridge at the upper edges of the surfaces c^5 and as arranged substantially at the center of the platform C in a substantially horizontal plane coincident with the lower face of the mass of coke and with the bottoms of the front or exit openings of the chambers *a*, and the surfaces e^5 extend downwardly from the surface c^4 at each side thereof and parallel therewith and are formed of greater width than the mass of coke. It will thus be apparent that the part c^4 forms a temporary supporting surface or ridge and that the parts c^5 form final receiving-surfaces for the coke.

The frame *c* is of any desirable form, size, and construction and is provided with suitable supporting-wheels c^6. The retaining-wall *c'* is also of any desirable form, size, and construction, being here shown as having parts thereof arranged at the sides and lower edges of the surfaces c^5. The portions of the retaining-wall *c'* adjacent to the lower edges of the surfaces c^5 are provided with suitable outlet-openings and closures c^7 therefor.

In the use of my apparatus the receiving means C is moved by the means c^2 along the front of the ovens A in a plane disposed at substantially right angles with the surfaces c^4 c^5 of said means C until the surface c^4 is alined with the intermediate portion of the predetermined chamber *a*. The closures are withdrawn from the front and rear openings of the chamber *a* and the plunger b^2 is moved endwise in said chamber and forces the coke therefrom in an elongated mass, which moves along the surface c^4 and projects beyond opposite sides of said surface c^4 above the upper portions of the surfaces c^5. As the mass of coke advances along the surface c^4 it automatically splits longitudinally and falls in opposite directions and in layers of substantially uniform thickness upon the surfaces c^5. When the coke is discharged upon the platform C, it is quenched in any suitable manner, as by water, is conveyed upon said platform to the place of use, and is discharged therefrom by opening the closures c^7.

My apparatus will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be obvious to those skilled in the

art that more or less change may be made in the construction and arrangement of the component parts thereof without departing from the spirit of my invention.

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

1. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, means extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and means arranged at one side of the last-mentioned means for receiving the coke therefrom, substantially as and for the purpose described.

2. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, means extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and means arranged at each side of the last-mentioned means for receiving the coke therefrom, substantially as and for the purpose specified.

3. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, means extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and means arranged in a lower plane than the last-mentioned means and at the side thereof for receiving the coke therefrom, substantially as and for the purpose set forth.

4. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, and a platform located in front of the coke-oven having a surface extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and a second surface extending downwardly from the former surface at one side thereof for receiving the coke therefrom, substantially as and for the purpose described.

5. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, and a platform located in front of the coke-oven having a surface extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and surfaces extending downwardly from opposite sides of the former surface for receiving the coke therefrom, substantially as and for the purpose specified.

6. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, means extending substantially parallel with the line of movement of the mass of coke in a plane substantially coincident with the lower face of said mass and forming a temporary support therefor, and means arranged at one side of the last-mentioned means for receiving the coke therefrom, substantially as and for the purpose set forth.

7. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, means extending substantially parallel with the line of movement of the mass of coke in a plane substantially horizontal and coincident with the lower face of said mass and forming a temporary support therefor, and means arranged at each side of the last-mentioned means for receiving the coke therefrom, substantially as and for the purpose described.

8. In a coke-handling apparatus and in combination, a coke-oven having an exit-opening, means for forcing the coke in a mass from the exit-opening, and a platform having a surface extending substantially parallel with the line of movement of the mass of coke and coincident with the bottom of said exit-opening and forming a temporary support for the mass of coke, and surfaces extending downwardly from opposite sides of the former surface and disposed substantially parallel therewith for receiving the coke therefrom, substantially as and for the purpose specified.

9. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, and a platform located in front of the coke-oven having a substantially central surface extending substantially parallel with the line of movement of the mass of coke in a plane substantially coincident with the intermediate portion of the lower face of said mass and forming a temporary support therefor, and surfaces extending downwardly from opposite sides of the former surface for receiving the coke therefrom, substantially as and for the purpose set forth.

10. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, means of less width than the mass of coke extending substantially parallel with the line of movement of said mass and forming a temporary support therefor, and means arranged at one side of the last-mentioned means for receiving the coke therefrom, substantially as and for the purpose described.

11. In a coke-handling apparatus and in combination, a coke-oven, means for forcing the coke in a mass from the oven, and a platform located in front of the coke-oven having a surface extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and surfaces formed of greater width than the mass of coke and extending downwardly from opposite sides of the former surface for receiving the coke therefrom, substantially as and for the purpose specified.

12. In a coke-handling apparatus and in

combination, a coke-oven, means for forcing the coke in a mass from the oven, a platform located in front of the coke-oven having a surface extending substantially parallel with the line of movement of the mass of coke and forming a temporary support therefor, and a second surface extending downwardly from the former surface at one side thereof for receiving the coke therefrom, and means for moving the platform in a plane disposed at substantially right angles with said surfaces, substantially as and for the purpose set forth.

13. In a coke-handling apparatus and in combination, coke-ovens provided with a plurality of chambers arranged side by side, means for successively discharging the coke in an elongated mass from each of the chambers, a platform located in front of the coke-ovens and having a substantially central surface extending in parallelism with the lines of movement of the masses of coke and substantially coincident with the planes of the bottoms of the chambers, said platform having surfaces extending downwardly from opposite sides of its substantially central surface and arranged parallel therewith for receiving the coke therefrom, and means for shifting said platform to successively aline the substantially central surface thereof with the intermediate portions of the bottoms of said chambers, substantially as and for the purpose described.

14. In a coke-handling apparatus, the combination with a coke-oven, means for discharging the coke in an elongated mass from the oven, and a guideway arranged in advance of the exit end of the oven; of a shiftable platform movable along said guideway and having a temporary supporting-surface extending substantially crosswise of the guideway, and a final receiving-surface extending downwardly from said temporary supporting-surface, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 14th day of March, 1902.

EDWARD N. TRUMP.

Witnesses:
H. C. EHLE,
ED. F. HUGHES.