No. 658,407. Patented Sept. 25, 1900.

M. M. SUPPES.

CASTING PLANT.

(Application filed Sept. 5, 1899.)

(No Model.) 2 Sheets—Sheet 1.

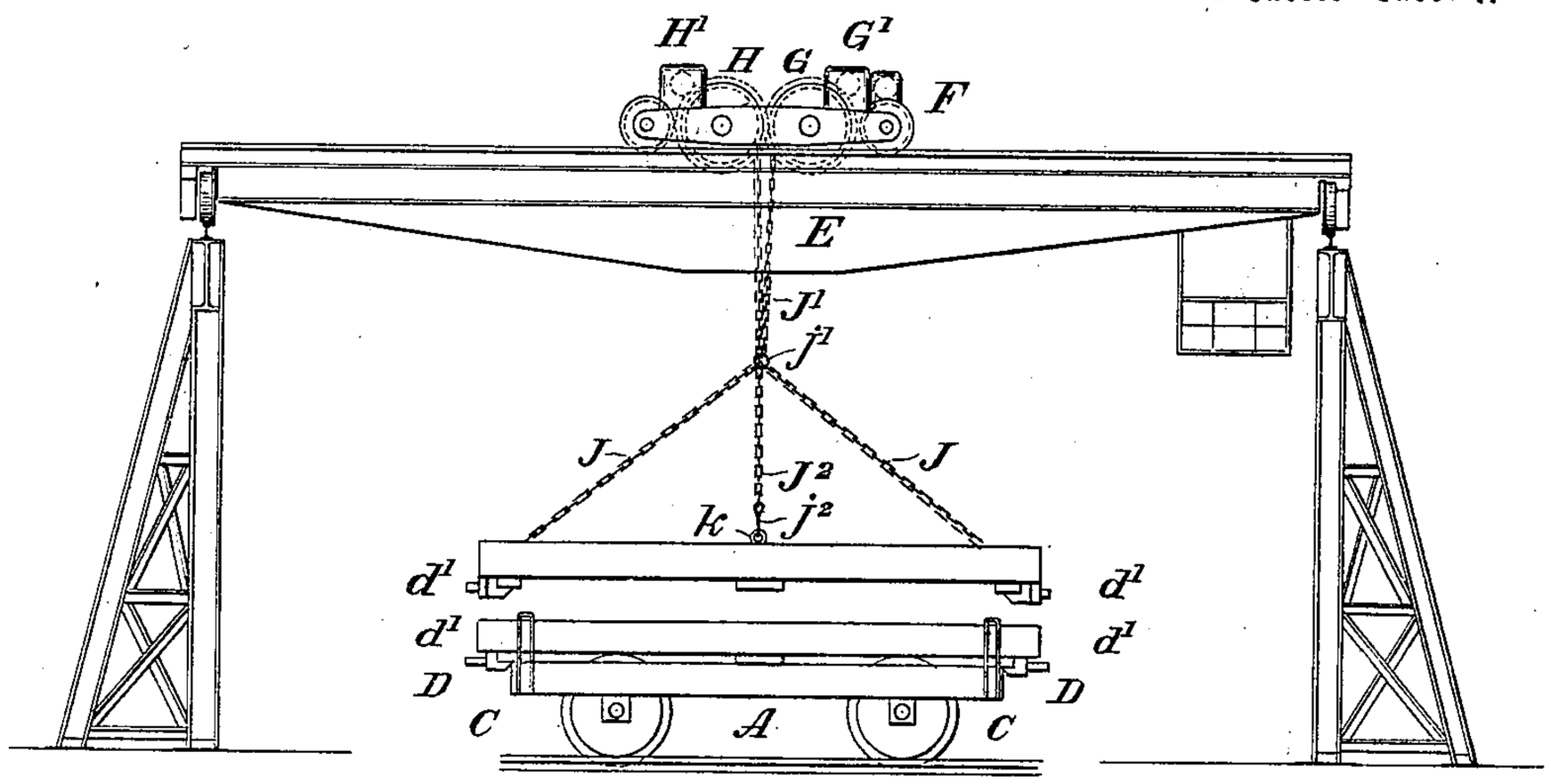


Fig. 1.

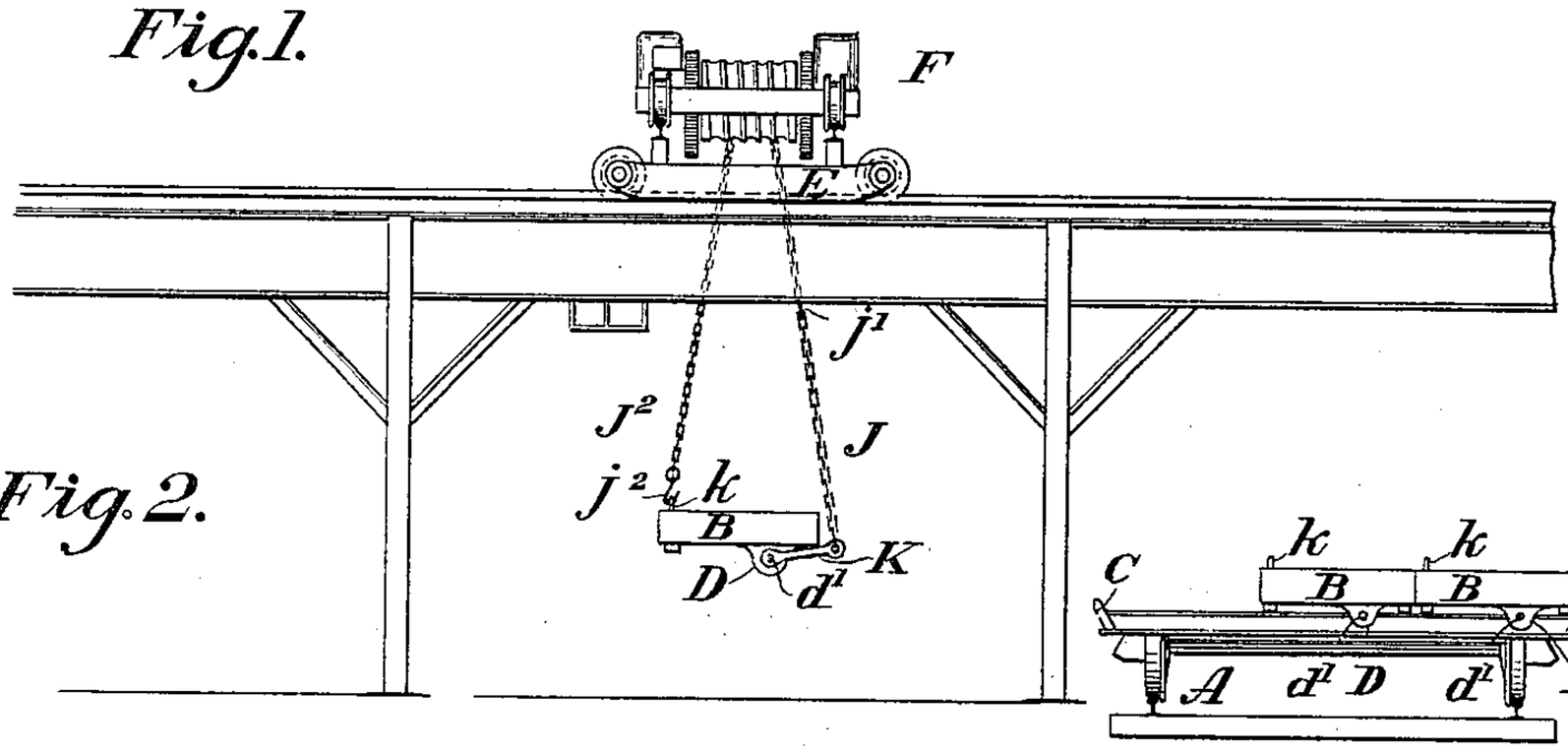


Fig. 2.

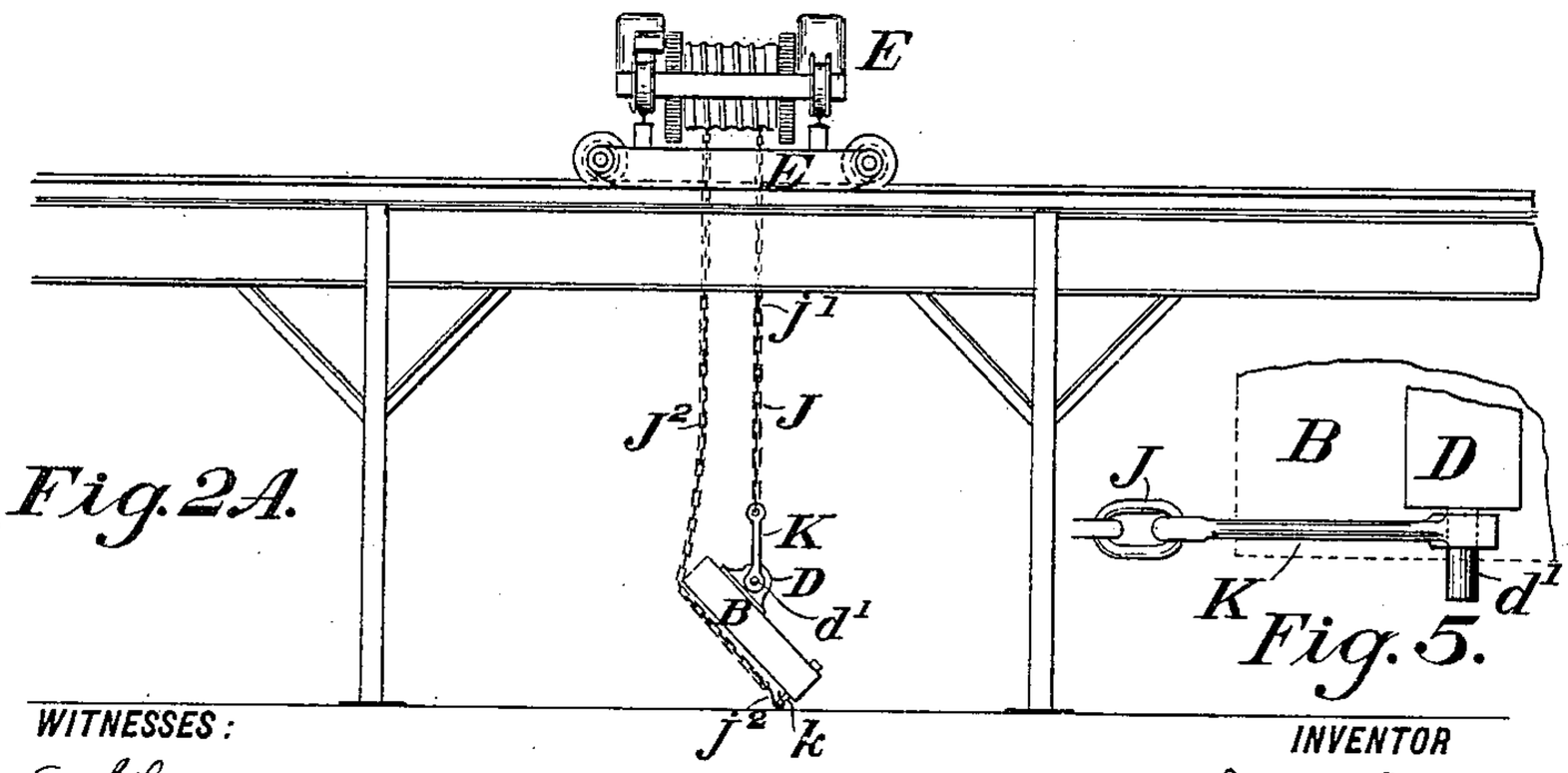


Fig. 2A.

Fig. 5.

WITNESSES:

M. E. Sharpe.

A. M. Moses.

INVENTOR

M. M. Suppes,

BY

Geo. H. Parmelee,

his ATTORNEY.

No. 658,407. Patented Sept. 25, 1900.

M. M. SUPPES.

CASTING PLANT.

(Application filed Sept. 5, 1899.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 4.

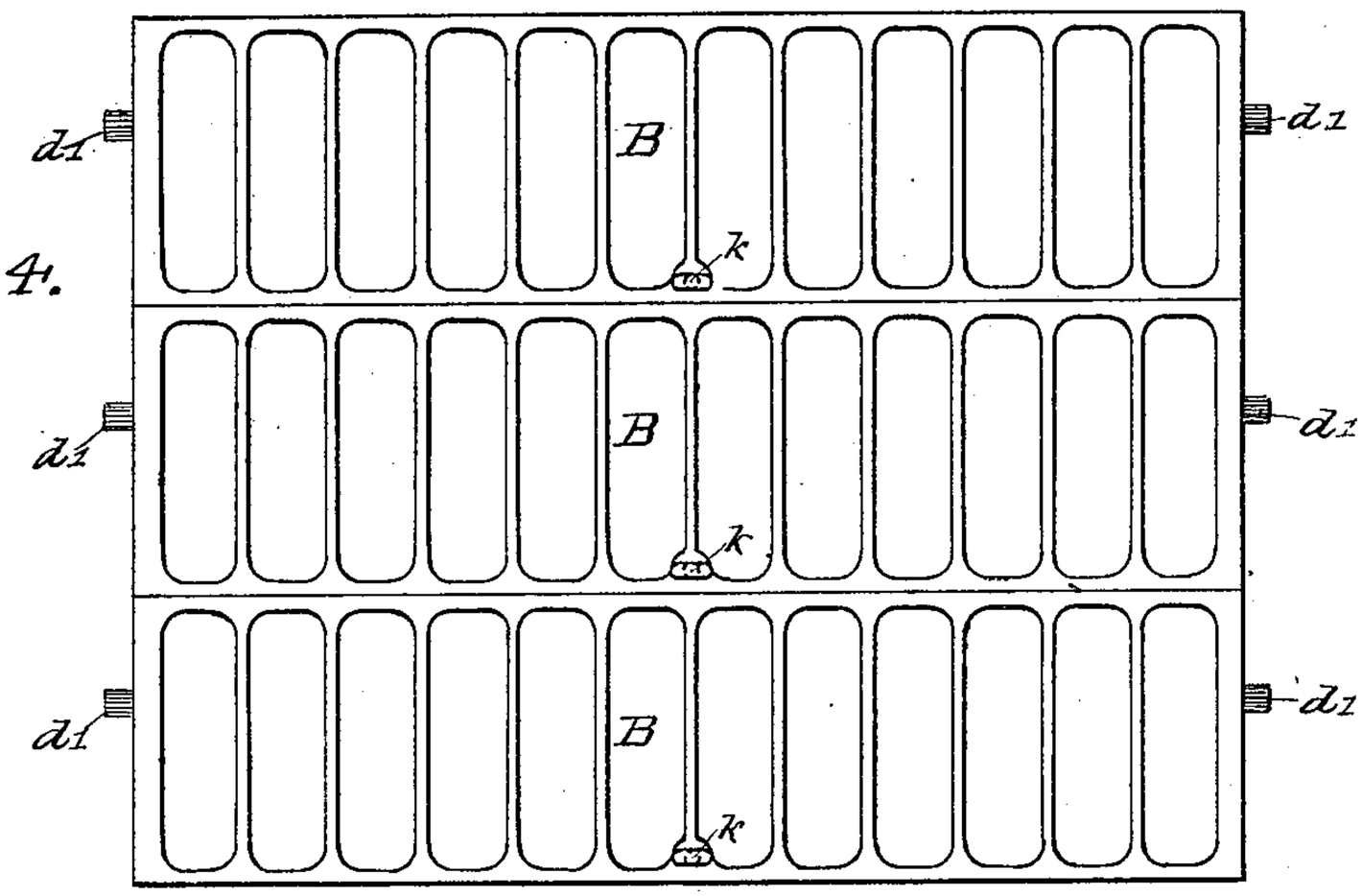
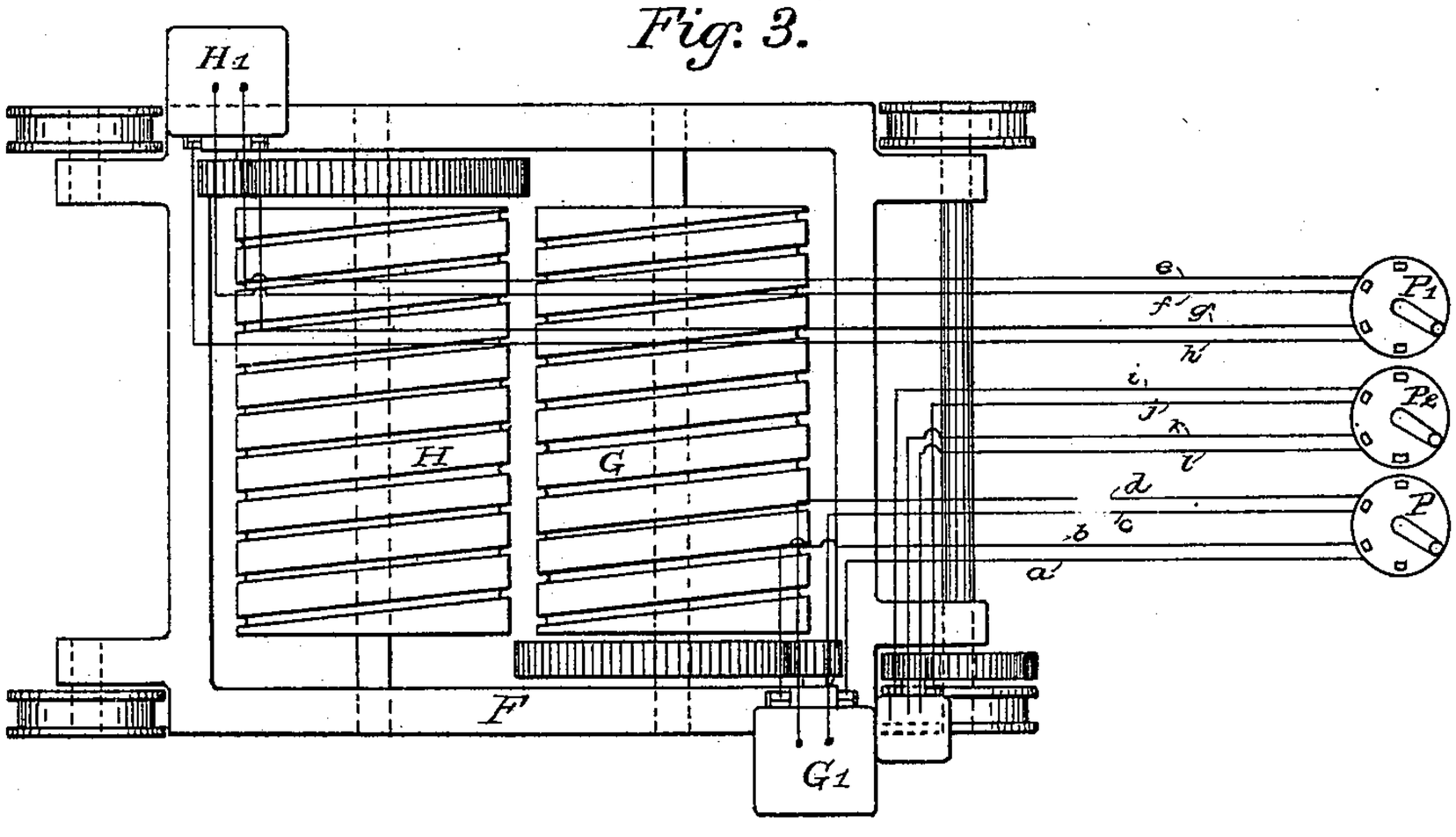


Fig. 3.



WITNESSES:

S. E. Clarkson

Max Henry

INVENTOR

Max M. Suppes

BY

Geo. H. Parmelee

his ATTORNEY.

UNITED STATES PATENT OFFICE.

MAXIMILIAN M. SUPPES, OF ELYRIA, OHIO.

CASTING PLANT.

SPECIFICATION forming part of Letters Patent No. 658,407, dated September 25, 1900.

Application filed September 5, 1899. Serial No. 729,570. (No model.)

To all whom it may concern:

Be it known that I, MAXIMILIAN M. SUPPES, of Elyria, in the county of Lorain and State of Ohio, have invented a new and useful Improvement in Casting Plants, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in pig-casting plants—such, for instance, as the plant described and claimed in my patent of January 31, 1899, No. 618,447.

The object of my invention is to provide means for facilitating the removal of pigs from the molds in which they are cast; and the invention consists in the combination, with a casting-car having a sectional mold whose independent sections may be lifted vertically from the car, of the novel means for lifting the said sections, moving them to the dumping place or pile, and then discharging the pigs from the molds by dumping or inverting the said section, all as hereinafter described and claimed.

The invention also consists in the combination, with a mold provided with means at its ends and also at one side for the connection thereto of hoist or sling chains, of a hoist or sling of the novel character hereinafter described and claimed, by means of which the mold may be lifted, swung to one side, and then dumped to discharge its load of pigs by means of a single operator located at any convenient point.

The invention also consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, Figure 1 is a side elevation of a casting-car and hoist embodying my invention, one of the mold-beds being shown as lifted from the car and carried by the hoist. Fig. 2 is an end view of the same with the lifted mold-bed carried to one side for dumping. Fig. 2^{A} is a similar view showing said bed in dumped position. Fig. 3 is a plan view of the hoist, with the electrical connections and motor-controlling devices shown diagrammatically. Fig. 4 is a plan view of the casting-car, and Fig. 5 is a detail view showing one of the links and the manner in which it is engaged with a mold-bed.

In the drawings, the letter A designates a pig-casting car, which supports upon its frame a mold-bed composed of a number of independent sections B, placed side by side without connection with each other or to the car. They are held against lateral displacement and are also guided back to their seats on the car by suitable guides C at the corner portions of the car. Each mold-section is provided at each end with a lug or projection D, depending from its bottom portion to one side of the longitudinal axis of the mold. Each of the said lugs has a pin or stud d', which projects longitudinally at the ends of the section.

E designates the frame of an overhead electric crane, which in general may be of the usual character and upon which runs a hoist-carriage F. This carriage is provided with a main drum G, driven by an electric motor G', and also an auxiliary drum H, driven by an independent electric motor H'. These motors are controlled by a single operator in the cage of the crane, the electric connections and controllers being shown diagrammatically in Fig. 3, wherein the letters a, b, c, and d designate the circuit-wires and P the controller for the drum G, and c, f, g, h, and P' the circuit connections and controller for the other drum.

P^{2} indicates the controller for the traverse-motor I, and i, j, k, and l the connecting-wires.

J J designate two chains, which are connected at their upper ends to a ring j', which in turn is connected by a chain or cable J' to the main drum G. Connected to the lower end of each chain is a long bar-link K, having an eye which is adapted to fit over one end of one of the pins or studs d on the mold-sections. J^{2} is a third chain which extends up and around the auxiliary drum H. At the lower end of the chain is a hook j^{2}, which is designed to engage an eyebolt k on the mold-section. Each section is provided with

one of these eyebolts centrally between its ends upon the opposite side of the center from the pins or studs *d*.

In operation the cars are run along tracks from the place of casting to a point underneath the overhead crane. The two chains J J are then connected with the two studs or pins *d* of one of the mold-sections by means of the link K, and the chain J^2 is engaged with the eyebolt *k* by means of its hook j^2. Both motors are then operated to actuate the two drums and lift the mold-section from the car. The car is then moved to carry the mold to the pig-pile or other dumping-place. The auxiliary drum H is then operated to slack the chain J^2. The mold-section then drops and turns on the pins *d* in the links K into the position shown in dotted lines in Fig. 2 and "dumps" the pigs. The mold is then righted by actuating the drum H, is moved back over the car, and is replaced thereon by the operation of both drums. The operation is repeated with another mold-section, and so on until the car is unloaded.

It is obvious that the invention is not limited in practice to the use of an overhead electric crane, since any other form of crane having independent main and auxiliary hoists may be employed; nor do I wish to be limited in other respects to the details which I have herein shown and described, as these may be varied without departing from the spirit and scope of my invention as pointed out in the appended claims.

Having thus described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a pig-casting plant, the combination with a casting-car having a plurality of removable mold-beds supported thereon, each of said mold-beds having means at both ends and at one side for the connection thereto of hoist-chains, of a hoist having two drums, means for operating said drums both conjointly and independently, two chains connected to one drum for connection with the ends of any one of the mold-beds, and a single chain connected to the other drum and designed for connection with the side of a mold-bed.

2. The combination with a casting-car having thereon a number of independent, removable mold-beds, having pins or studs at their end portions at one side of their longitudinal centers, and also an eyebolt at their central portions upon the opposite side of the longitudinal axis of the mold from the said pins or studs, hoist-chains having means for engaging the said pins or studs, a hoist-chain having means for engaging the said eyebolt, of means for actuating the said chains altogether, or the last-named chain independently of the others.

3. The combination with a mold having pins or studs at its end portions at one side of its longitudinal center, and an eyebolt at its central portion upon the opposite side from said pins or studs, of a hoist having two chains provided with links at their lower ends for pivoted engagement with the said pins or studs, a third chain having means for engaging the said eyebolt, and means whereby the last-named chain may be operated either conjointly with, or independently of, the first-named chains.

4. In a casting plant, the combination of a casting-car, having a plurality of mold-beds loosely supported thereon, a crane, a hoist carried by said crane and having three chains, means whereby two of said chains may be connected to any one of the mold-beds at one side of its longitudinal axis, and the third chain to the same at the opposite side of such axis, and means whereby the last-named chain may be operated to raise or lower the mold-bed either conjointly with or independently of the first-named chains.

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

MAXIMILIAN M. SUPPES.

Witnesses:
L. I. CORTHILL,
DELMOND W. LAWRENCE.