

A. MACKEY.
 Sugar Mold Carriage.

No. 45,255.

Patented Nov. 29, 1864.

Fig. 1

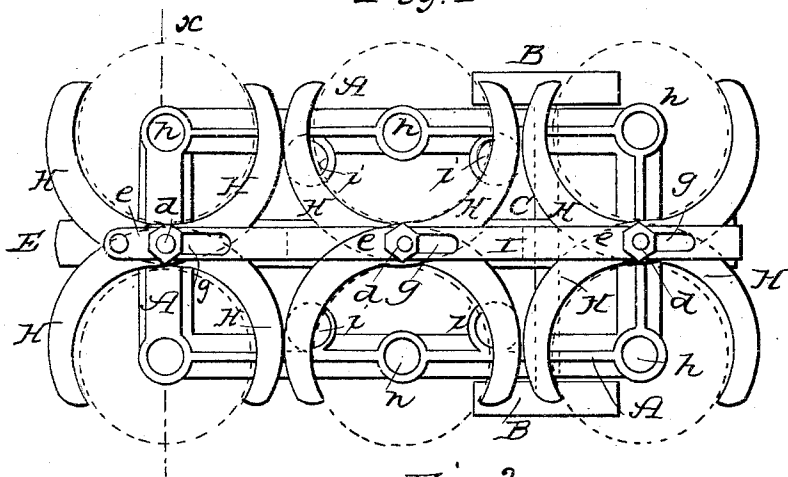


Fig. 2

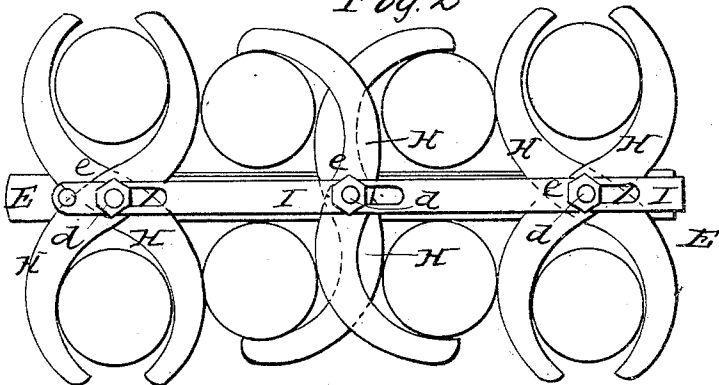


Fig. 3

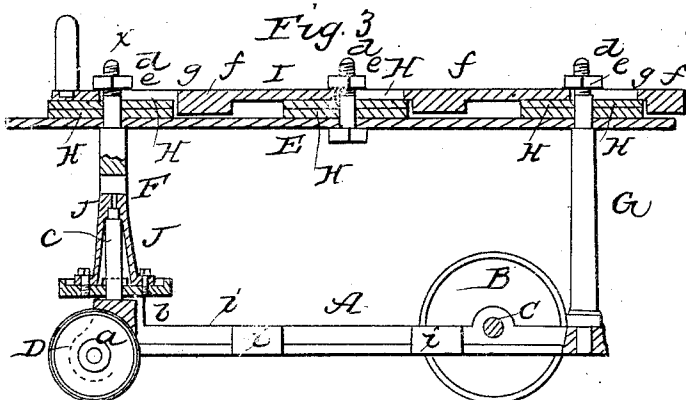
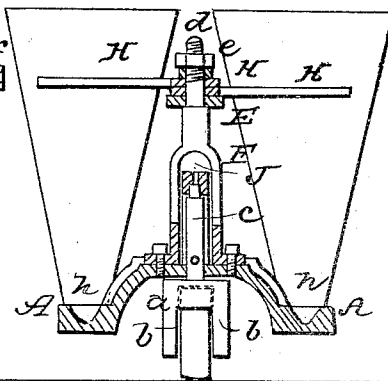


Fig. 4



WITNESSES

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IMPROVEMENT IN SUGAR-MOLD CARRIAGES.

Specification forming part of Letters Patent No. 45,255, dated November 29, 1864.

To all whom it may concern:

Be it known that I, ALEXANDER MACKAY, of the city, county, and State of New York, have invented certain new and useful Improvements in Sugar-Mold Carriages; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan of a carriage constructed according to my invention, showing its parts adjusted for containing six large-sized molds. Fig. 2 is a plan of the upper part of the carriage, showing the parts adjusted for light small-sized molds. Fig. 3 is a central longitudinal vertical section of the same. Fig. 4 is a transverse vertical section of the same in the plane indicated by the line *x x*, in Figs. 1 and 2.

Similar letters of reference indicate corresponding parts in the several figures.

The first part of this invention relates to making portions of a sugar-mold carriage adjustable for the reception of molds of different sizes; and it consists in a novel construction of the adjustable portions of the carriage, whereby it is enabled to receive molds of different sizes at the same time, and whereby it is made capable of receiving a greater number of small molds than of large ones, thereby obviating the waste of room, a matter of serious consequence in a sugar-refinery, which has heretofore attended the use of the smaller molds in a carriage which has been adjustable for different sizes, such carriages having been made to contain only a certain number of molds, whether large or small.

The second part of the invention consists in a novel mode of combining the caster or guide wheel with the front part of the carriage, whereby greater strength is obtained.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the lower frame or plate, of cast or wrought iron, which forms the bottom of the carriage. B B are the hind wheels, turning on a fixed axle, C, and D is the caster or guide wheel, having its axle *a* arranged in a fork, *b*, which is secured to or made in the same piece with an upright spindle, *c*.

E is a straight horizontal bar of wrought-

iron arranged lengthwise of the carriage over the center of the bottom frame, A, and supported upon the said frame by two standards, F G, of suitable height. This central bar forms the support for three pairs of S-shaped wrought-iron bars, H H, which are pivoted together by pivots *d* at the middle of their length in such manner that each pair resembles a double pair of calipers, as shown in Figs. 1 and 2. The pivots *d* of the two end pairs are to be formed of the upper ends of the standards F G, or secured in the said standards, but the pivot of the other pair is supported and secured in the bar E, and the several bars H H are confined in place by means of a bar, I, of wrought-iron, arranged above them over the bar E, the said bar being made to clamp the said bars H H by means of nuts *e*, screwed on to the pivots *d*. The bar I is made with three projections, *f*, on its under side, so arranged that one may come into contact with each pair of bars H H, when the several pairs are all arranged to cross each other in a corresponding manner, as shown in Fig. 1, and so stop the several pairs in corresponding positions, as shown in Fig. 1, so that the several pairs of arms presented on both sides of the central bars, E and I, may have the same width of opening, and in order to enable the arms to be so stopped in various positions, the bar I is slotted, as shown at *g*, where each pivot *d* passes through it, so that it may move lengthwise when the nuts *e e* are slackened. The slackening of the nuts also permits the adjustment of the bars H H upon the pivots, and the tightening up of the said nuts secures the said bars and the bar I.

The bottom frame, A, is made with ten conical or cup-like recesses or seats, *h i*, for the reception of the tips of the molds. Six of these seats *h* are arranged in pairs on opposite sides of the frame at equal distances from a line passing through the center thereof, and exactly opposite to the axes of the pivots *d d*, for the purpose of supporting six molds while they are held upright by the caliper-like arms with all of the said arms crossing each other in the same manner shown in Fig. 1, in which, as well as in Fig. 2, the sections of the molds at or near the planes where the said arms embrace them are indicated by red circles. The other four seats, *i*, are so arranged that while the two pairs of

bars H H at the ends of the carriage cross each other in the same direction, as shown in Fig. 1, and are closed up sufficiently to hold between them four of the smallest-sized molds, as shown in Fig. 2, the said recesses will support four other molds of the same size, which are held upright between the two pairs of bars H H last mentioned, and the middle pair, in the manner shown in Fig. 2, the carriage then containing eight molds in all, instead of only six as it does with the bars H H arranged as shown in Fig. 1. The molds commonly used in these carriages are of three different sizes, and with the bars H H in the position shown in Fig. 1, the carriage is capable of containing six molds of the largest or of the medium size, or six of different sizes. There is no waste of room in the carriage when six of the largest or eight of the smallest molds are contained in it, and the waste when six of the medium size are placed in it is not so very considerable. The small molds are used much oftener than the large ones, and not only is the saving of room very great, but the saving in the number of carriages heretofore required—viz., one in every four.

One advantage resulting from the use of the separate bars H H for the adjustable portions of the carriage for holding up molds of different sizes consists in the facility afforded for making such parts of wrought-iron. The adjustable plates heretofore used for the same purpose have been of such form that they could not be forged, and have therefore been made of cast-iron and very liable to break by knocking the molds against them or suddenly setting down the molds upon them. The lower part of the spindle *c* of the caster or guide wheel which supports the front end of the carriage is fitted to a bearing in the frame

A, and the upper part to a bearing in a wrought-iron standard, J, of inverted-V form, which is bolted to the said frame, and the lower part of the front standard, F, which supports the front end of the bar E is made of arch form, as shown in Fig. 4, to receive the said standard J under or within it. The weight of the front part of the carriage which comes on the top of the spindle *c* is suspended by the standard J, which being of wrought-iron is better calculated to bear the strain than the hollow post heretofore employed, and which being made of cast-iron has been very liable to break at the base where it has been bolted to the frame A.

I do not claim the construction of the upper portion of the carriage in such manner as to be adjustable for the reception of molds of different sizes when such construction only provides for the carriage containing as many small molds as large ones, and does not provide for its containing molds of different sizes at the same time; but

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

1. The construction of the adjustable upper portion of the carriage of a system of separate pivoted bars, H H, arranged to operate substantially as and for the purpose herein specified.

2. The standard J, applied in combination with the upright spindle of the caster or guide wheel, and with the bottom frame, A, and standard F, substantially as and for the purpose herein specified.

ALEXR. MACKEY.

Witnesses:

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