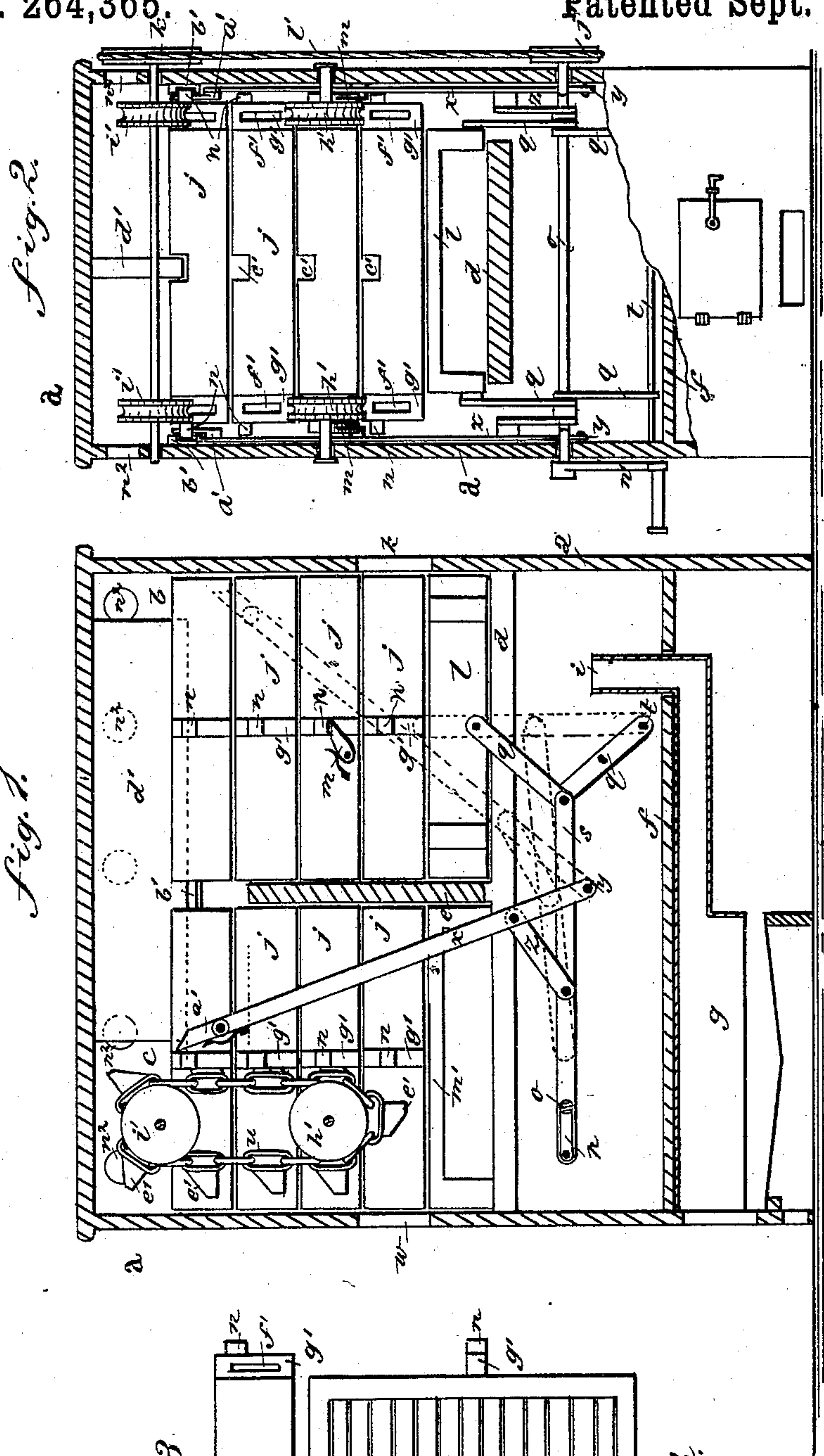


(No Model.)

J. H. STREET.
FRUIT DRIER.

No. 264,365.

Patented Sept. 12, 1882.



WITNESSES :

C. Sedgwick

INVENTOR:

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES H. STREET, OF SAN FRANCISCO, CALIFORNIA.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 264,365, dated September 12, 1882.

Application filed June 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. STREET, of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Fruit-Drier, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of fruit-driers in which the trays are carried by suitable mechanism from the place of entry up through one section of the drying-chamber, and transferred thence to and down a separate section to the place of delivery; and the invention consists in the peculiar construction and arrangement of devices by which the trays are thus operated, as hereinafter more fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of my improved fruit-drier. Fig. 2 is a transverse sectional elevation of the same. Fig. 3 is a side elevation of one of the trays, and Fig. 4 is a plan view of a tray.

The case *a* may be of any approved construction, with the drying-chamber separated into two sections, *b* *c*, above the horizontal heat-distributing partition *d*, by the vertical partition *e*, which terminates sufficiently below the top of the case to allow of the transfer of the trays from *b* to *c*. Below partition *d* is another one, *f*, under which the furnace *g* is placed, and from which the heated air is to be discharged by pipe *i* under the center, or thereabout, of the section *b*, into which the trays *j*, containing the fruit to be dried, are shoved through opening *k* over the lifting-follower *l* and under the trays previously introduced, which are suspended above by pawls *m*, which the lugs *n* of the sides of the trays pass when lifted by the follower by pushing them back on their pivots, and which fall back under the lugs and hold the last tray lifted, which holds the others above.

The lifting-follower *l* is worked by the hand-crank *n'*, shaft *o*, and cranks *p*, to which it is connected by toggle-bars *q* and connecting-rod *s*, one of said toggle-bars being pivoted to the rod *t* and the other to the tray, and a pair be-

ing used to each side of the tray. By the same crank-shaft, *o*, and hand-crank the trays are shifted over at the top of the case past partition *e* into section *c*, to be lowered by the endless chains *u* to the place of delivery *w*, the said crank-shaft being made to act upon them by means of rods *x*, provided with pivoted tips pivoted to the sides of the case at *y*, and connected to rods *s* by links *z*, whereby they are made to swing forward and backward, as indicated by the representation of the said rods *x*, provided with pivoted tips, in dotted lines at the right hand and full lines at the left hand of Fig. 1. These rods or pawls swing close along inside of the case, and have pivoted tips *a'*, which turn down to allow them to swing back past the lugs *n* of the tray, but hold up against said lugs in the other direction, and thereby enable the pawls to push the trays along.

The lugs *n* of the trays move along guideways *b'* on the sides of the case, and the trays are also guided by the notches *c'* in the tops of the trays and the guide-rail *d'*, attached to the top of the case and projecting down into the notches.

The endless chains *u* for lowering the trays to the place of delivery have points *e'*, which engage with slots *f'* in the lugs *g'*, attached to the sides of the trays, and said chains work on grooved pulleys *h'* and *i'*, which are turned by crank-shaft *o*, pulleys *j'* and *k'*, and endless belt *l'*.

The ways *b'*, along which the lugs *n* of the trays slide to the chains *u*, terminate at the point where the trays are delivered onto the points of the chains, so as not to interfere with the lowering of the trays, and the length of the chains is such that they release the trays upon cleats *m'*, level with the discharge-openings *w*, suitably for the removal of the trays by hand from the drier.

The hot air charged with the moisture expelled from the fruit by the heat escapes from the top of the drier-case through the passages *n²*, located at intervals along the sides of the case, so that the air, rising up in section *b* and being saturated to a greater extent, will escape over said section, while the air in section *c*, to which the partly-dried fruit is transferred,

is drier, and therefore more effective for completing the drying process begun in section *b*.

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

1. The combination, with the lifting-follower *l*, of rods *x*, provided with pivoted tips, said rods being connected with and operated by rods *s* and crank-shaft *o*, substantially as described.

2. The combination, with a drier-case having sections *b* and *c*, separated by partition *e*, of the lifting-follower *l* and rods *x*, provided with pivoted tips, substantially as described.

3. The combination, with a drier-case having sections *b* and *c*, separated by the partition *e*, of the lifting-follower *l*, transferring-rods *x*, provided with pivoted tips, and the lowering-chains *u*, substantially as described.

4. The combination, with a drier-case having two sections, *b* and *c*, of transferring-rods *x*, provided with pivoted tips for shifting the trays from one section to another, substantially as described.

5. The combination, in a fruit-drier having two sections, *b* and *c*, of transferring-rods *x*, provided with pivoted tips, and lowering-chains *u*, substantially as described.

6. The combination, in a fruit-drier having two sections, *b* and *c*, with inlet *k* and outlet *w*, located at or near the lower portion of said sections, of tray-lifter *l*, transferring-rods *x*, provided with pivoted tips, and lowering-chains *u*, substantially as described.

7. The combination, with trays *j*, having lugs *n*, of rods *x*, having pivoted tips *a'*, substantially as described.

8. The combination, with trays *j*, having slotted lugs *g'*, of endless chains *u*, having points *e'*, substantially as described.

9. The combination, with the trays *j*, slotted at *e'*, and devices for shifting the trays, of the guide-rail *d'*, substantially as shown and described.

JAMES H. STREET.

Witnesses:

JAMES GREGSON,
FRED. G. NAGLE.