

No. 715,718.

Patented Dec. 9, 1902.

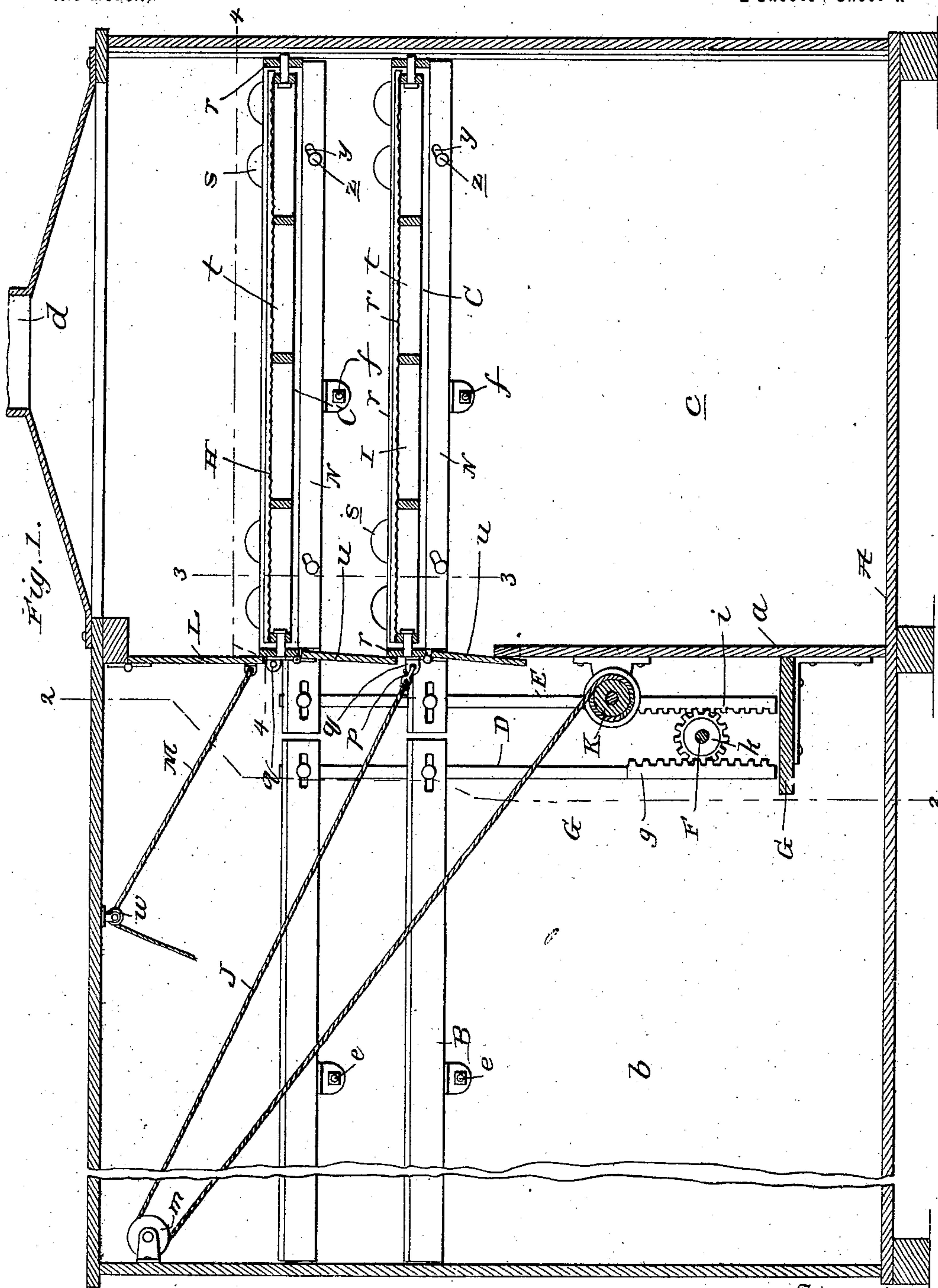
D. WIETING.

APPARATUS FOR HANDLING AND DRYING HOPS.

(Application filed July 5, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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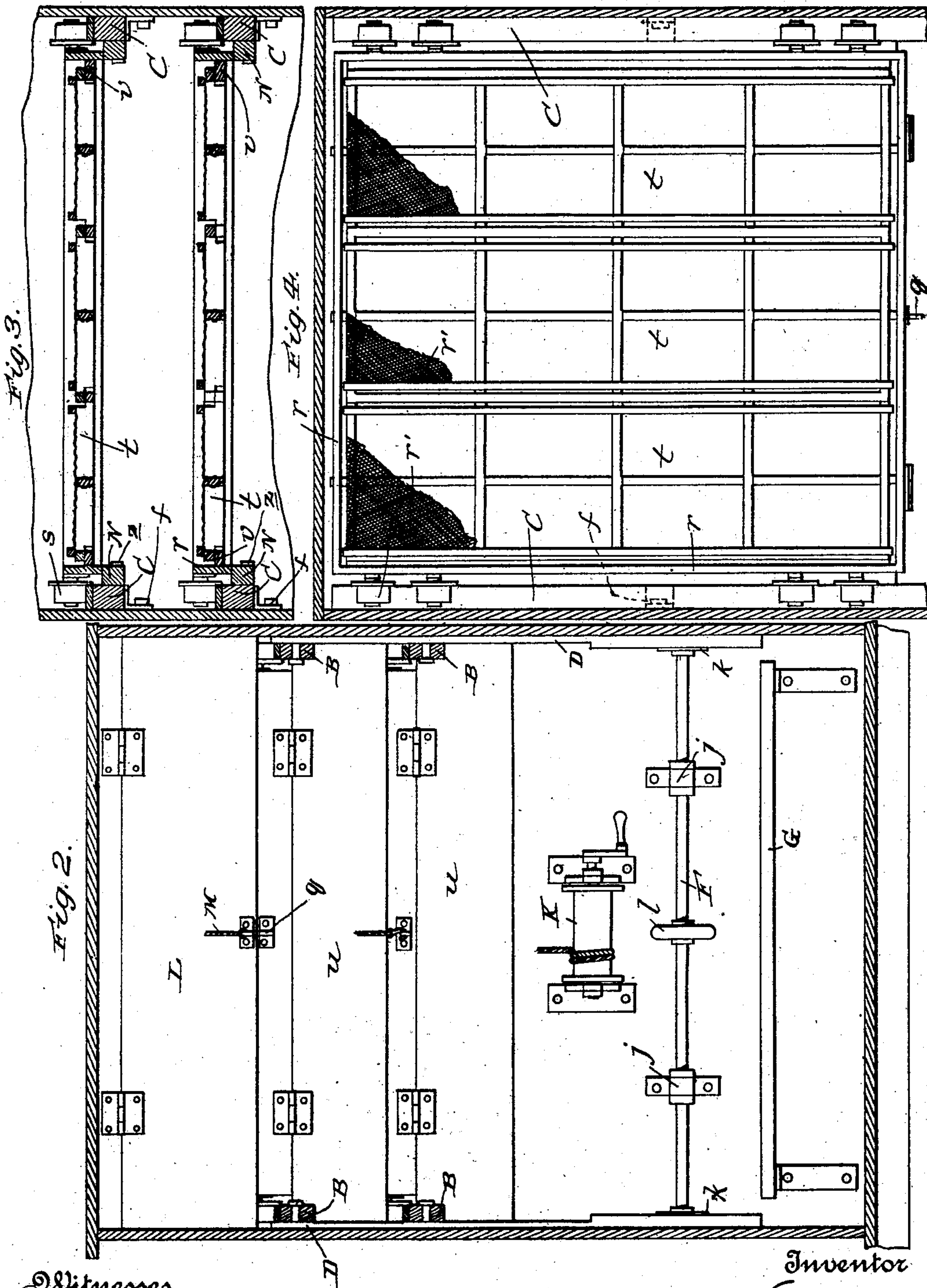
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UNITED STATES PATENT OFFICE.

DIEDRICH WIETING, OF MERIDIAN, OREGON.

APPARATUS FOR HANDLING AND DRYING HOPS.

SPECIFICATION forming part of Letters Patent No. 715,718, dated December 9, 1902.

Application filed July 5, 1902. Serial No. 114,461. (No model.)

To all whom it may concern:

Be it known that I, DIEDRICH WIETING, a citizen of the United States, residing at Meridian, in the county of Marion and State of Oregon, have invented new and useful Improvements in Apparatus for Handling and Drying Hops, of which the following is a specification.

My invention relates to improvements in driers, and contemplates the provision of an apparatus which while simple and inexpensive in construction is calculated to materially facilitate the handling and expedite the thorough drying of hops and the like.

The invention will be fully understood from the following description and claims, when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section taken through a building forming part of my improved apparatus. Fig. 2 is a vertical transverse section taken on the broken line 2 2 of Fig. 1. Fig. 3 is a detail transverse section taken in the plane indicated by the broken line 3 3 of Fig. 1, and Fig. 4 is a horizontal section taken in the plane indicated by the broken line 4 4 of Fig. 1.

Similar letters of reference designate corresponding parts in all of the several views of the drawings, referring to which—

A is a building which is divided by a transverse partition *a* into a store-room *b* and a kiln *c* and is provided above the latter with an outlet *d* for vapor, &c.; B B, upper and lower tracks pivotally connected at *e* to the side walls of the store-room *b*; C C, upper and lower tracks pivotally connected at *f* to the side walls of the kiln *c* and adapted when in a horizontal position to aline with the tracks B; D D, bars loosely connected to and depending from the inner ends of the tracks B at opposite sides of the store-room *b* and having racks *g*; E E, bars loosely connected to and depending from the inner ends of the tracks C at opposite sides of the store-room *b* and provided within the store-room *b* with racks *i*; F, a shaft journaled in suitable bearings *j* on the partition *a* and provided at its ends with pinions *k*, arranged between and intermeshed with the racks *g* *i* of the bars D E, and also provided at its middle with a hand-wheel *l*, and G a platform con-

nected to the partition *a* and arranged at the store-room side thereof.

When the shaft F is rotated in one direction, it will be observed that the inner ends of the tracks B will be lowered and the inner ends of the tracks C raised, this to cause the upper tracks B to aline with the lower tracks C, while when said shaft F is rotated in the other direction the inner ends of the tracks B will be raised and the inner ends of the tracks C lowered, this in order to cause the upper tracks C to aline with the lower tracks B.

Two cars H I are employed, and when the same are loaded with hops and placed on the tracks C over the kiln *c*, as shown in Fig. 1, the hops carried by the lower car I will be dried before those carried by the upper car H. When the hops carried by said lower car I are dried, as stated, the inner ends of the tracks B are lowered and the inner ends of the tracks C raised to cause the lower tracks C to aline with the upper tracks B, and the car I is hauled from the lower tracks C in the kiln to the upper tracks B in the store-room. The inner ends of the tracks B are then raised and the inner ends of the tracks C lowered to cause the upper tracks C to aline with the lower tracks B, and the car H is permitted to gravitate or run down from the said upper tracks C to the lower tracks B. With this done the tracks B C are returned to the positions shown in Fig. 1, and the car H, containing the partially-dried hops, is run from the lower tracks B to the lower tracks C. The car I is now discharged of its dried hops, and after being reloaded with fresh hops is run from the upper tracks B to the upper tracks C.

By reason of the cars being manipulated as described in the foregoing, it will be observed that the car containing the fresh hops always occupies the uppermost position in the kiln and the car containing the partially-dried hops the lowermost position. Such arrangement is highly advantageous, since it effectually prevents the vapor from the fresh hops from permeating the partially-dried hops and retarding and preventing the thorough drying of the latter.

In order that either car H or I may be conveniently hauled from the lower tracks C to the upper tracks B when said tracks are

placed in alinement in the manner before described, I provide the cable J, which is passed around a pulley *m* and has a hook *p* at one end designed to be placed in engagement with
 5 eyes *q* on the cars, and a drum or windlass K, to which the said cable J is connected and upon which it is designed to be wound. The said drum or windlass is mounted in suitable bearings on the partition *a* within convenient reach of a person standing on the floor
 10 of the store-room *b*, as shown in Figs. 1 and 2.

The platform G is designed in practice to support an attendant while he is engaged in
 15 shifting the cars from the upper and lower tracks B, in the positions shown in Fig. 1, to the upper and lower tracks C.

The cars H I, in the preferred embodiment of the invention, respectively comprise a rectangular main frame *r*, provided with wheels
 20 *s*, adapted to travel on the tracks B C, open-work frames *t*, arranged side by side and pivotally mounted in the frame *r* and covered with canvas *r'*, Fig. 4, and a door *u*, connected
 25 in a hinged manner to and depending from the outer end of the frame *r*. The meeting edges of the pivoted frames *t* are rabbeted and lapped, and the outer edges of the outer of said frames are also rabbeted and arranged
 30 to lap over projections *v* on the side bars of the main frame *r*, as best shown in Fig. 3. Consequently it will be observed that while the said frames *t* may be readily turned when it is desired to dump them they are not liable
 35 to casually turn.

The door *u* of the car H is adapted, when said car is in the position shown in Fig. 1, to bear against the forward end of the main frame of car I, while the door *u* of said car I
 40 is adapted, when the same is in the position shown in Fig. 1, to bear against the partition *a*. It follows from this that the said doors *u* will prevent the escape of heat from the kiln through the space between the partition *a*
 45 and the forward end of car I and the space between the forward ends of the two cars H I.

L is a door hinged to the roof of the building and adapted when closed to bear against the outer end of the upper car, so as to prevent
 50 the passage of heat and vapor from the upper portion of the kiln to the store-room. M is a cable connected to said door L and passed over a pulley *w* and having for its purpose to enable a person standing on the floor of
 55 the store-room to readily raise the door L, and N N are bars on the inner sides of the tracks C. These bars N have slots *y* and are connected to the tracks C by lag-screws *z*, which extend through said slots. When the bars
 60 N are raised against the car-frames *r* and secured in such position, as shown in Figs. 1 and 3, they are calculated to preclude the passage of heat between the said frames and the tracks, and hence compel all of the heat
 65 to pass up through the cars and the hops thereon. When the lag-screws are loosened and the bars lowered away from the car-

frames, the said bars obviously will not interfere with the shifting of the cars in the manner before described.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order
 75 to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement of parts, as such changes or modifications may
 80 be made in practice as fairly fall within the scope of my claims.

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

1. In an apparatus for drying hops and the
 85 like, the combination of pivotally-mounted tracks arranged end to end, rack-bars connected to the inner portions of said tracks, and a pinion arranged between and intermeshed with the rack-bars.

2. In an apparatus for drying hops and the
 90 like, the combination of a building divided by a partition into a store-room and a kiln, upper and lower tracks B pivotally connected to opposite walls of the store-room, upper and
 95 lower tracks C pivotally connected to opposite walls of the kiln; said tracks B and C having their inner ends disposed above the partition, bars connected to and depending from the inner portions of the tracks B at opposite
 100 sides of the building, and having racks, bars connected to and depending from the inner portions of the tracks C at opposite sides of the building, and a shaft journaled in bearings on the partitions and having pin-
 105 ions at its opposite ends arranged between and intermeshed with the racks of the bars at opposite sides of the building, and also having a hand-wheel.

3. In an apparatus for drying hops and the
 110 like, the combination of a building divided by a partition into a store-room and a kiln, upper and lower tracks B pivotally connected to opposite walls of the store-room, upper and
 115 lower tracks C pivotally connected to opposite walls of the kiln; said tracks B and C having their inner ends disposed above the partition, means connected to the tracks for simultaneously raising the inner portions of
 120 the tracks B and lowering the inner portions of the tracks C, and vice versa, cars arranged to travel from the tracks B to the tracks C and vice versa, and respectively comprising a rectangular main frame, bars adjustably
 125 connected to the tracks C and adapted to be adjustably fixed against the under sides of the side bars of the car-frame, hinged doors connected to and depending from the forward
 130 ends of the main frames of the cars, and a door hinged to and depending from the roof of the building and adapted to close against the forward end of the frame of the upper car.

4. The combination in a hop-drying appa-

ratus of upper and lower tracks B pivotally
connected to opposite walls of a building, up-
per and lower tracks C pivotally connected to
opposite walls of the building, and having their
5 inner ends arranged adjacent to those of the
tracks B, rack-bars connected to and depend-
ing from the inner portions of the tracks B C
at opposite sides of the building, and a shaft
journalled in suitable bearings and having
10 pinions arranged between and intermeshed

with the rack-bars and also having a hand-
wheel.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

DIEDRICH WIETING.

Witnesses:

LINDLEY M. KIRK,

CHAUNCEY M. LOCKWOOD.