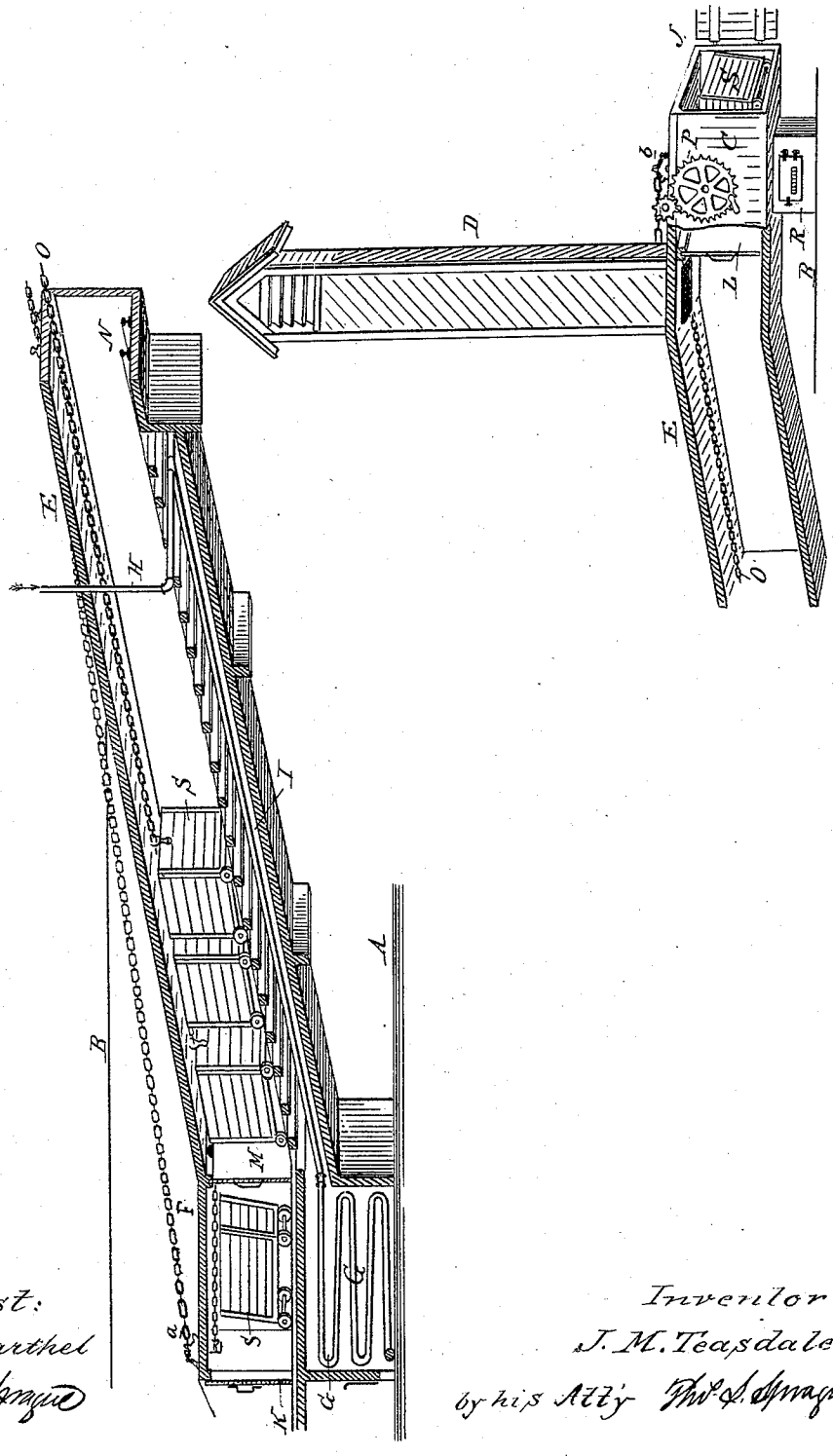
(No Model.)

J. M. TEASDALE.

FRUIT DRIER.

No. 279,844. Patented June 19, 1883.



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UNITED STATES PATENT OFFICE.

JAMES M. TEASDALE, OF HOWELL, MICHIGAN.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 279,844, dated June 19, 1883.

Application filed January 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. TEASDALE, of Howell, in the county of Livingston and State of Michigan, have invented new and useful Improvements in Fruit-Driers; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification.

The nature of this invention relates to certain new and useful improvements in the construction of devices especially designed for curing or drying fruits and vegetables; and the invention consists in the peculiar construction of an inclined flue provided with bleaching and drying compartments, and in the peculiar construction, arrangement, and combinations of the various parts, all as more fully hereinafter set forth.

In the accompanying drawing my invention is shown in sectional perspective, and in which A B represent the first and second floors of a suitable building in which my device is to be arranged. Upon the floor B, I construct the horizontal rectangular flue C, from which rises the ventilator or escape pipe D. To one end of this flue C, I secure the upper end of the inclined flue E, which projects down through the floor B, and has its lower end secured to a horizontal flue, F, resting upon the floor A, beneath which is placed a coil of pipe, G, which receives its supply of steam from a pipe, H, annexed within the flue I, beneath the flue E, said pipe H being connected with any suitable boiler from which it receives its supply of steam. The bottom of the flue E, immediately over the flue I, is open, so that the heated air may find easy access to the flue E. The horizontal flues C and E are provided upon their outer ends with suitable doors, J K, and at their inner ends with slide-doors L M, respectively. In the bottom of the flues C, E, and F is arranged a suitable track, N, while at the top thereof, and in the center, is arranged an endless chain, O, which passes over the sprocket-wheels *a b*, one half of such chain being within the flues, while the other half travels upon the top of the same, this chain being operated by means of a geared crank-wheel, P.

Beneath the flue C is arranged a proper furnace, R, in which sulphur is burned for the purpose of bleaching the fruit when it first enters the machine upon trays arranged on the trucks S.

In practice, steam is admitted to the coil G through the pipe H, which heats the air around it and in the flue I, which heated air rises and necessarily heats the air contained in the flue E. When introducing fruit into the device, the doors L M are closed, a truck is placed upon the track within the flues C, and is laden with trays carrying fruit to be operated upon, and the door J is closed. The fruit is then bleached by burning sulphur in the furnace R, which communicates with the flue C. After the fruit has been sufficiently bleached, the slide-door L is opened, motion is communicated to the endless chain, which engages with a proper catch upon the top of the truck, and causes it to advance into the flue E, whereupon the door L is again closed, and another truck with its fruit is introduced into the flue C, and so on until the flue E is filled from end to end with trucks containing fruit. It is evident that after the trucks have been passed into the flue E by the chain and reached the inclined portion of the flue the trucks will descend said flue by their own gravity without any power being applied to the chain, and that instead of requiring power to operate the trucks it will be sometimes necessary to add some restraining power to the chain to prevent the too rapid descent of the trucks down the inclined flue. The fruit entering the device at the point of its coolest temperature, as the trucks advance toward the lower end of the device the heat gradually increases, and by the time the first truck has reached the lower end of the inclined flue it is ready to be removed. To accomplish this the door M is opened, allowing one truck to pass into the flue F, when the door M is closed behind it, the door K is opened, the trays of fruit are removed and the truck is placed upon the top of the flue, where the chain engages with it and conveys it back to its starting-point, this operation being continued and repeated until all the fruit to be operated upon has been dried. It will be observed that the cold or fresh air enters the device at or near the bottom of the flue F, where it comes in contact with the coil G and is heated before it passes to the drying-chambers.

While I have described this device as run-

ning from floor to floor upon an inclined plane, it is evident that the flue may be constructed in a U shape and upon an incline, with the inlet and exit ends upon the same floor. In such case the trucks would enter one arm of the flue, passing up the incline to the bend, and from thence into and down the other arm to the exit; and in this construction the feeding and removing of the fruit from the drier could be done at one end of the device, and this without departing from the spirit of my invention.

What I claim as my invention is—

1. In a fruit-drier, the combination, with the inclined drying-flue E, constructed to allow trucks to travel through it by their own gravity, of a bleaching-chamber, C, and bleaching-furnace R, said chamber being located at one end and forming a continuation of said flue, the heater G, located at the other end and connected therewith by a hot-air passage, and a series of cars and means, substantially as described, for regulating the travel of said cars, as set forth.

2. In a fruit-drier, the combination, with the flue E, in which the fruit is dried, having at opposite ends chambers C F, communicating with said flue, substantially as described, of an endless chain passing through the drying-flue for governing the movement of the trucks, as set forth.

3. A fruit bleacher and drier, and in combination with the flues C, E, and F, provided with suitable doors, as described, the bleaching-furnace R, flue I, and steam-coil G, substantially as specified.

4. A fruit bleacher and drier consisting of the flues C, E, F, and I, steam-coil G, pipe H, track N, endless chain O, and trucks S, when constructed, arranged, and operating substantially as and for the purposes set forth.

JAMES M. TEASDALE.

Witnesses:
H. S. SPRAGUE,
E. SCULLY.