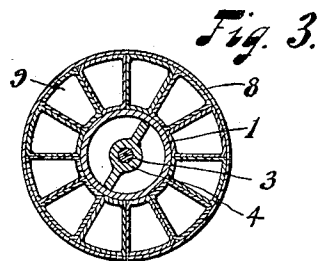
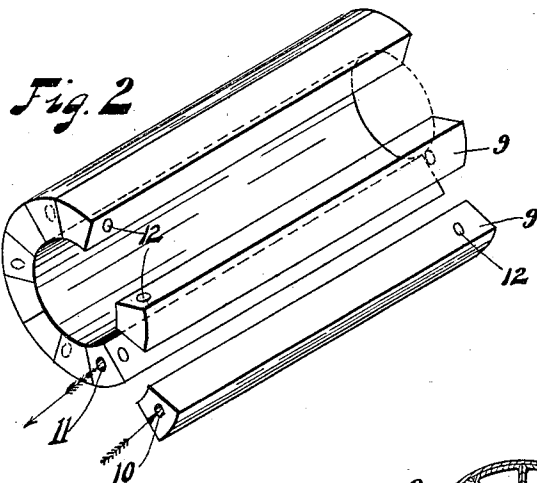
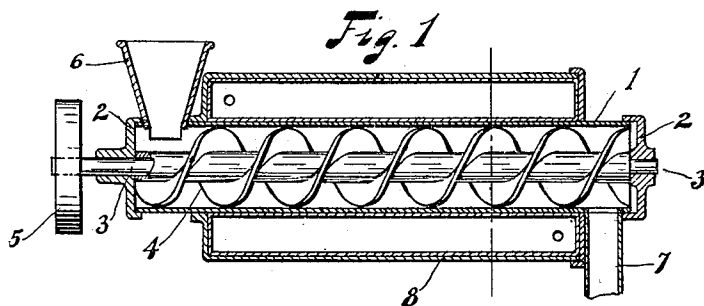


No. 825,905.

PATENTED JULY 17, 1906.

J. L. HELLYER.
DRYING MACHINE.
APPLICATION FILED MAY 1, 1906.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

JOSEPH L. HELLYER, OF ICONIUM, IOWA, ASSIGNOR OF ONE-HALF TO
JOHN C. COOK, OF RUSSELL, IOWA.

DRYING-MACHINE.

No. 825,905.

Specification of Letters Patent.

Patented July 17, 1906.

Original application filed December 4, 1905, Serial No. 290,073. Divided and this application filed May 1, 1906. Serial No. 314,710.

To all whom it may concern:

Be it known that I, JOSEPH L. HELLYER, a citizen of the United States, residing at Iconium, in the county of Appanoose and State of Iowa, have invented certain new and useful Improvements in Drying-Machines, of which the following is a specification.

My invention relates to drying-machines designed for use in connection with ore separating and concentrating machines for drying or desiccating ores received from the crusher preparatory to separating and concentrating.

The invention is especially designed for use in connection with that type or class of ore separating and concentrating machines as is disclosed in my application for Letters Patent filed December 4, 1905, Serial No. 290,073, of which this application is a divisional part.

The primary object of the invention is to produce a generally improved machine of this class which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

With these ends in view the invention consists in the novel construction, arrangement, and combination of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring now to the accompanying drawings, forming a part of this specification, Figure 1 is a longitudinal sectional view of an improved drying-machine constructed in accordance with my invention; Fig. 2, a perspective view of the several cells of the drier-drum shown in relative position; Fig. 3, a cross-sectional view taken from line 3 3 of Fig. 1.

It will be observed upon referring to the accompanying drawings that the machine consists of a cylindrical main body portion 1, mounted horizontally in any suitable and convenient manner, and is provided at its ends with removable bearing-heads 2, carrying a shaft 3, provided with a revoluble screw conveyor 4. The conveyor-shaft 3 is provided at its end with a driving-pulley 5, adapted to be driven by a belting communicating with any suitable and convenient source of power. The cylindrical main body portion 1 is provided at one end with a re-

ceiving-hopper 6 and at the other with a discharge-pipe 7.

A jacket 8 surrounds the cylindrical main body portion 1 and contains a series of cells 9, mounted and interposed between the walls of the jacket 8 and the cylindrical main body portion 1. The cells 9 are removably mounted between said walls, and one of the cells is provided with an opening 10, adapted to be secured to a receiving or intake steam-pipe, and a cell adjacent thereto is provided with a similar opening 11, adapted to be secured to a suitable discharge-pipe. (See Fig. 2.) In order to provide for a proper circulation of the steam through and about the cells 9, the contiguous side walls thereof are provided near their ends with openings 12, whereby to maintain a uniform heat about the ore as conveyed by the conveyer through and along the walls of the cylinder to the discharge end of the drier. It is believed that the arrangement of the series of cells presents a larger heating and drying surface about the cylindrical main body portion 1 and provides for a more rapid circulation of steam and heat about the same than any other machine of the same class.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

Having thus described my invention, without having attempted to set forth all the forms in which it may be made or all the modes of its use, I declare that what I claim as my invention, and desire to secure by Letters Patent, is—

1. A drying-machine, comprising a cylindrical main body portion, a revoluble screw conveyer mounted therein, a hopper formed at one end of the main body portion, a jacket mounted about said cylindrical main body portion, a series of steam-cells mounted and interposed between said jacket and said cylindrical main body portion, and openings formed in contiguous side walls of said cells.

2. A drying-machine, comprising a main body portion provided with a screw conveyer, a jacket mounted about said main body portion, and cells mounted within said jacket.

3. A drying-machine, comprising a main body portion, removable bearing-heads mounted on the ends of said main body por-

tion and carrying a shaft, a screw conveyer mounted on said shaft, and a jacket provided with cells or compartments surrounding said main body portion.

5 4. In a drying-machine, the combination with a cylindrical main body portion provided with a screw conveyer; of a jacket mounted about said main body portion, and a series of cells or compartments mounted
10 and interposed between said jacket and said main body portion.

5 5. In a drying-machine, a jacket surrounding the main body portion thereof and provided with a series of longitudinally-extending cells or compartments provided with open-
15 ings in the contiguous walls adjacent to the ends thereof.

6. In a drying-machine, the combination with a main body portion provided with a
20 jacket containing a series of cells or compartments; of removable bearing-heads secured to the ends of said main body portion and carrying a conveyer-shaft, a screw conveyer

mounted on said shaft, a receiving-hopper formed at one end of said main body portion, 25 and a discharge-pipe formed at the other end thereof.

7. A drying-machine, comprising a cylindrical main body portion, removable bearing-heads secured to the ends thereof and
30 carrying a conveyer-shaft, a screw conveyer mounted on said shaft, a receiving-hopper and a discharge-pipe formed at the ends of said main body portion, a jacket mounted about
35 said main body portion, a series of cells or compartments mounted in said jacket, and openings formed in the contiguous side walls of said cells or compartments.

In testimony whereof I have signed my name to this specification in the presence of
40 two subscribing witnesses.

JOSEPH L. HELLYER.

Witnesses:

R. P. McCLAIN,
F. T. HELLYER.