No. 659,771.

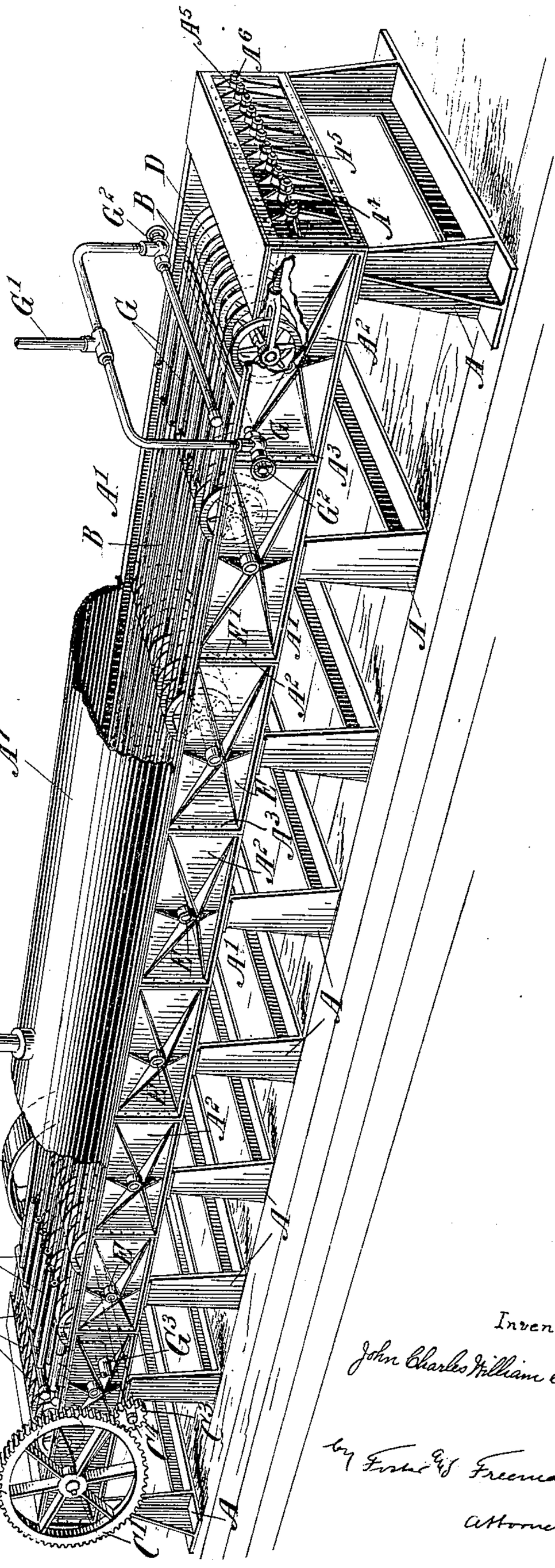
Patented Oct. 16, 1900.

J. C. W. STANLEY.

DRYING CONVEYER.

(Application filed June 11, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JOHN CHARLES WILLIAM STANLEY, OF LONDON, ENGLAND, ASSIGNOR TO THE COTTON SEED OIL SYNDICATE, LIMITED, OF SAME PLACE.

DRYING-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 659,771, dated October 16, 1900.

Application filed June 11, 1900. Serial No. 19,941. (No model.)

To all whom it may concern:

Be it known that I, JOHN CHARLES WILLIAM STANLEY, a subject of the Queen of England, residing at London, England, have invented certain new and useful Improvements in or Relating to Drying-Conveyers, (for which application has been made in Great Britain under No. 6,816, dated April 11, 1900,) of which the following is a specification.

This invention relates to drying-conveyers—that is to say, to devices which convey moist cake, such as cotton-seed cake, through a heated atmosphere in order that the moisture therein contained may be expelled to such an extent that the cakes thus treated are not liable to deteriorate subsequently by the generation of mold or by other form of decay within them.

In drying-conveyers according to this invention the cakes are supported upon a series of wires or equivalents which are contained within a heated casing and are caused to travel slowly from one end of the casing to the other. Each wire is preferably carried upon grooved pulleys and is provided with a separate adjustment, whereby any slack may be taken up without interferring with the other wires.

The accompanying drawing is a perspective view showing one construction of drying-conveyer according to this invention, portions being broken away or removed for the sake of clearness.

Supported upon standards A is a long trough-like casing A′, built up of cast sections A^2, bolted together through their flanges, as at A^3. Within the casing is a series of endless wires B, carried by grooved pulleys C and D at opposite ends of the casing. The pulleys C are driving-pulleys and are keyed to a shaft C′, which is caused to revolve very slowly by means of a large spur-wheel C^2, attached to it, this spur-wheel being driven from a spur-pinion C^3, carried upon a shaft C^4, to which power is supplied through a pulley C^5. The pulleys D are loose and form straining-pulleys for the wires B, each pulley D being carried in a fork D′, provided with a threaded stem D^2, which projects through a boss A^5 in an end plate A^4 of the casing. The tightness of either of the wires B may be regulated by means of a nut A^6, which engages with the threaded stem D^2.

At several points in the length of the casing A′ shafts E are provided, carrying loose grooved pulleys E′, which serve as guides for the wires B and prevent them from sagging. These loose pulleys are preferably spaced upon the shaft by collars or other convenient devices.

In close proximity to the top and bottom sides of the upper layer of wires B are circulating pipes G for steam or other convenient heating medium. The steam enters as at G′, is controlled by cocks G^2, and after traversing the pipes G makes its exit by a pipe G^3, preferably through a steam-trap.

The upper portion of the casing A′ is formed of sheet metal and takes the form of a dome A^7, so that the moisture expelled from the cakes may rise into it. A pipe communicates with the top of the dome, as at A^8, and, if desired, an exhausting-fan or similar means may be employed to draw the steam and vapor out of the dome and induce a slow circulation of the heated contents of the chamber.

The cakes are placed upon the upper layer of wires B and are carried slowly from one end of the drier to the other, passing between the pipes G. The heat of the pipes and the speed at which the wires travel are so regulated that the cakes are sufficiently dried during their passage through the apparatus.

The wires B are preferably made of stranded copper or similar metal, which will retain the heat well. The employment of wires is advantageous, inasmuch as there are few points of contact between them and the cakes, and such contact as exists is of very small area. It is, however, obvious that chains or very narrow metal bands might be used and would be practically equivalent to wires. Such equivalents are intended to be included in the term "wires" in this specification.

To the apparatus the usual drains, steam-traps, inspection-openings, gages, and other fittings may be applied, as is customary.

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

1. In a drying-conveyer, the combination of an inclosing casing, a shaft journaled in one end of the casing, means to rotate the

shaft slowly, a series of pulleys secured to said shaft to turn with it, a corresponding series of independently-movable pulleys at the other end of the casing, a series of forks in which the independently-movable pulleys are respectively journaled, each fork having a threaded stem slidably supported in the casing, an adjustable nut on each threaded stem, endless wires carried by and between the two series of pulleys, and spaced series of heating-pipes between which the upper layers of the wires and the material to be dried travel, substantially as set forth.

2. In a drying-conveyer the combination of a casing, a shaft journaled at one end of the casing, means for causing the shaft to revolve slowly, a series of grooved pulleys keyed to the shaft, a second series of grooved pulleys at the other end of the casing, a separate adjusting device for each of the pulleys in the second series, endless wires carried between the pulleys at opposite ends of the casing, guide-pulleys at intervals along the length of the casing serving to support the wires, steam-pipes in close proximity to the top and bottom sides of the upper layer of wires, a hood forming the top of the casing and covering the pipes and the wires and a pipe leading from the hood through which the moisture expelled from the material being dried escapes, substantially as set forth.

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

JOHN CHARLES WILLIAM STANLEY.

Witnesses:
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W. M. HARRIS.