G. BAILEY.

APPARATUS FOR DRYING YARN OR THE LIKE.

APPLICATION FILED JAN. 31, 1917.

1,383,510.

Patented July 5, 1921.

2 SHEETS—SHEET 1.

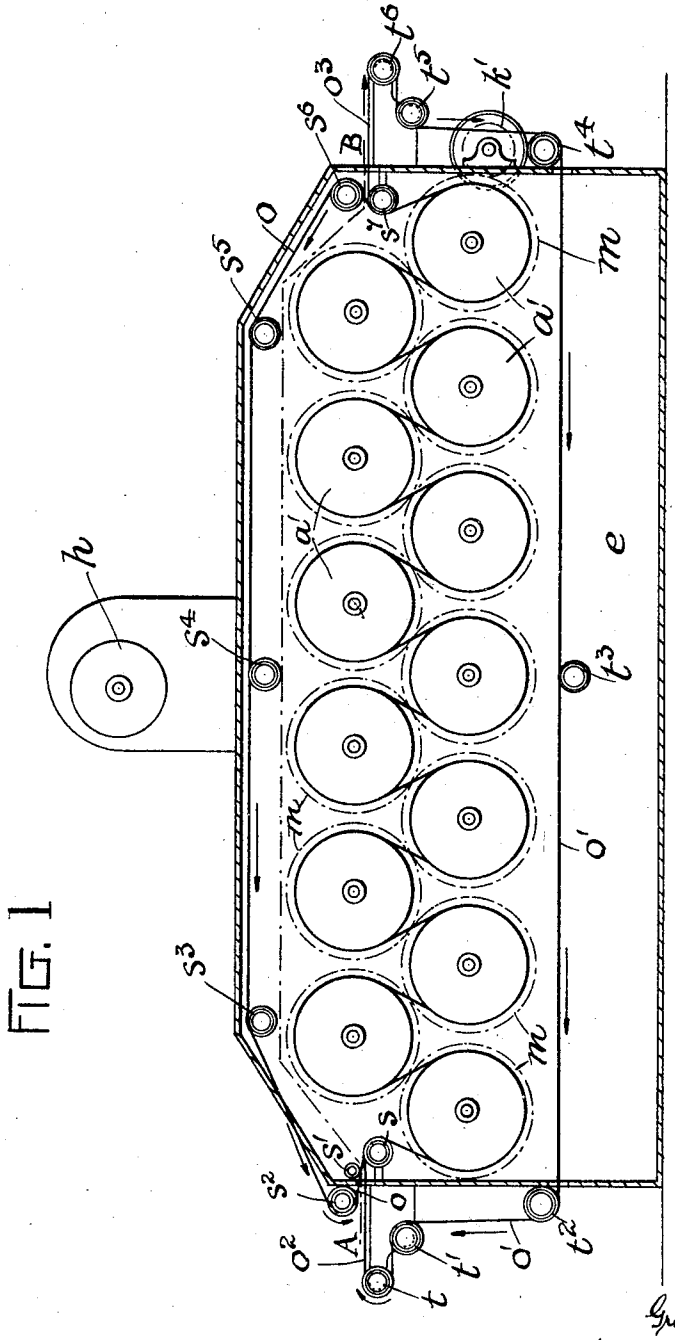


FIG. 1

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Greenwood Bailey
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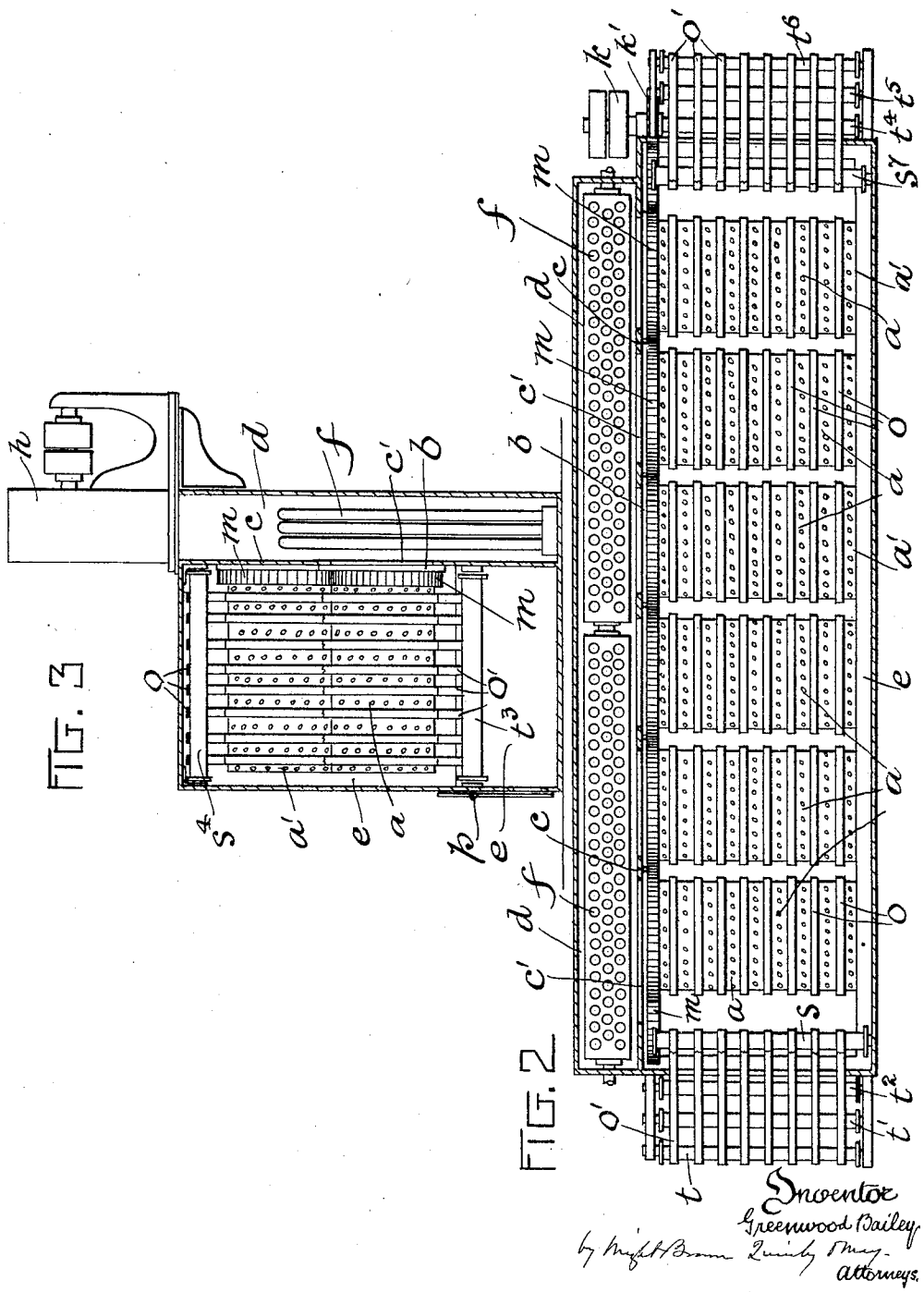


FIG. 3

FIG. 2

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UNITED STATES PATENT OFFICE.

GREENWOOD BAILEY, OF BRADFORD, ENGLAND, ASSIGNOR TO HERBERT FOSTER ANDERTON, OF BRADFORD, ENGLAND.

APPARATUS FOR DRYING YARN OR THE LIKE.

1,383,510. Specification of Letters Patent. Patented July 5, 1921.

Application filed January 31, 1917. Serial No. 145,661.

To all whom it may concern:

Be it known that I, GREENWOOD BAILEY, a subject of the King of Great Britain, and resident of 38 Aireville road, Frizinghall, Bradford, in the county of York, England, have invented a certain new and useful Improvement in Apparatus for Drying Yarn or the like, of which the following description, having reference to the accompanying sheets of drawings, is a specification.

My invention relates to apparatus for drying hanks or skeins of yarns or the like, and consists in so constructing and arranging the operating parts of said mechanism that the hanks or skeins of yarn may be fed to the machine or apparatus, passed entirely through said machine and delivered at the opposite end thereof thus preventing entanglement of any threads of said hanks of yarn by reason of keeping said threads held together and without the possibility of one being moved independently of the other throughout the whole process.

In order that my said invention may be readily understood, I have hereunto appended sheets of drawings illustrative thereof, to which, by figures and letters, reference is made in the following description.

Figure 1 is a part sectional side elevation of apparatus constructed in accordance with my said invention.

Fig. 2 is a sectional plan thereof taken on line A—B of Fig. 1.

Fig. 3 is a sectional end elevation of said apparatus.

In accordance with my invention I make use of a series of hollow rollers or cylinders a having perforated peripheries the ends a^1 preferably being solid or blank while the opposite ends thereto are open. These rollers a are supported at one end only in bearings b in well known manner. The said bearings b are mounted upon the wall or framework c, this wall c being provided with a number of openings c^1 corresponding to that of the rollers a said openings being of approximately the same size as said rollers or cylinders a, thus any air which might be under pressure in the chamber d adjoining the chamber e in which the cylinders or hollow rollers a rotate will be forced through the openings c^1 into the interior of said cylinders a to pass out of the perforations in their peripheries.

In the chamber d are placed appropriate heaters f while over said chamber d is mounted a fan or air propeller h which latter forces air from the atmosphere into the chamber d and through the openings c^1 into the interior of the cylinders a. The cylinders a are rotated in any appropriate manner such as by the driving pulley k through the gear wheel k^1 which meshes with the wheel m on the end cylinder a and each cylinder is provided with a similar gear m the gears on the lower rollers meshing with the gears in the upper series as shown by Fig. 1.

Taking around or under the series of drums a are two series o, o^1 of endless tapes, network or bands, the upper series o passing over the guiding rollers s, s^1, s^2, s^3, s^4, s^5, s^6 and s^7, around the hollow series of drums a back to said guide roller s, while the lower series passes from said guide roller s over the guide rollers t, t^1, t^2, t^3, t^4, t^5, t^6 around the guide rollers s^8 and around said series of drums a back to said guide roller s. The guide rollers s^2, t, t^1, t^2, t^4, t^5, t^6 are mounted ouside of the casing or chamber e as shown by Fig. 1, appropriate bearings being employed for these rollers and also for the other guide rollers mounted within said chamber. From the foregoing it will be seen that hanks of yarn placed on the series of tapes o^1 at the part o^2 will be conducted to the guide roller s where they will be pressed upon their opposite sides by the series of tapes o and o^1 and carried firmly between them around the series of hollow rollers a until they pass over the guide roller s^7 where the tapes again diverge and the hanks of yarn are deposited by the series o^1 at the part o^3 where they may be removed by the attendant. The hanks of yarn are placed crosswise or at right angles to the series of tapes o, o^1 and by being carried by said two series of tapes o, o^1 in the manner described, said hanks are kept so that no parts of their threads become displaced relatively to each other and no entanglement of one with the other is possible, while

by the guiding rollers at the exit from the machine being placed in the manner described, said hanks may be deposited into a receptacle placed beneath the guide roller t^6.

Instead of the hanks of yarn being manually fed to the apparatus as above described we may arrange the latter in connection with or in suitable proximity to a scouring or like machine in order that said hanks may be automatically fed from the latter to our improved apparatus, while other guiding or carrying devices may be arranged in connection with the delivery roller t^6 whereby said hanks of yarn may be carried to any appropriate position or to any other machine should said hanks of yarn require any further treatment.

I preferably arrange a series of doors in the framework of the chamber e in order that access may be had to the interior thereof, while sliding doors or valves p are employed in said framework in order to allow the heated air to pass through the chamber e to the atmosphere.

Such being the nature and object of my said invention what I claim is:—

In apparatus for drying hanks of yarn, a chamber, cylinders mounted in said chamber, supports for one end of each of said cylinders, means for rotating said cylinders, guide rolls mounted in said chamber, guide rolls mounted outside said chamber at the feeding end, guide rolls mounted outside said chamber at the discharge end, endless tapes passing over said cylinders and guide rolls, slots in the walls of said chamber to allow ingress and egress of said tapes, a heating chamber adjoining said chamber, a heating device in said heating chamber, slots in the walls of said chambers opposite to said cylinders, and means for circulating air through said chambers.

GREENWOOD BAILEY.

Correction in Letters Patent No. 1,383,510.

It is hereby certified that Letters Patent No. 1,383,510, granted July 5, 1921, upon the application of Greenwood Bailey, of Bradford, England, for an improvement in "Apparatus for Drying Yarn or the like," were erroneously issued to Herbert Foster Anderton, as assignee of the entire interest in said invention, whereas said Letters Patent should have been issued to the inventor, said *Bailey*, and *Herbert Foster Anderton*, said Anderton being assignee of *one-half* interest only in said invention, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23d day of August, A. D., 1921.

[SEAL.] KARL FENNING,

Acting Commissioner of Patents.

Cl. 34—12.