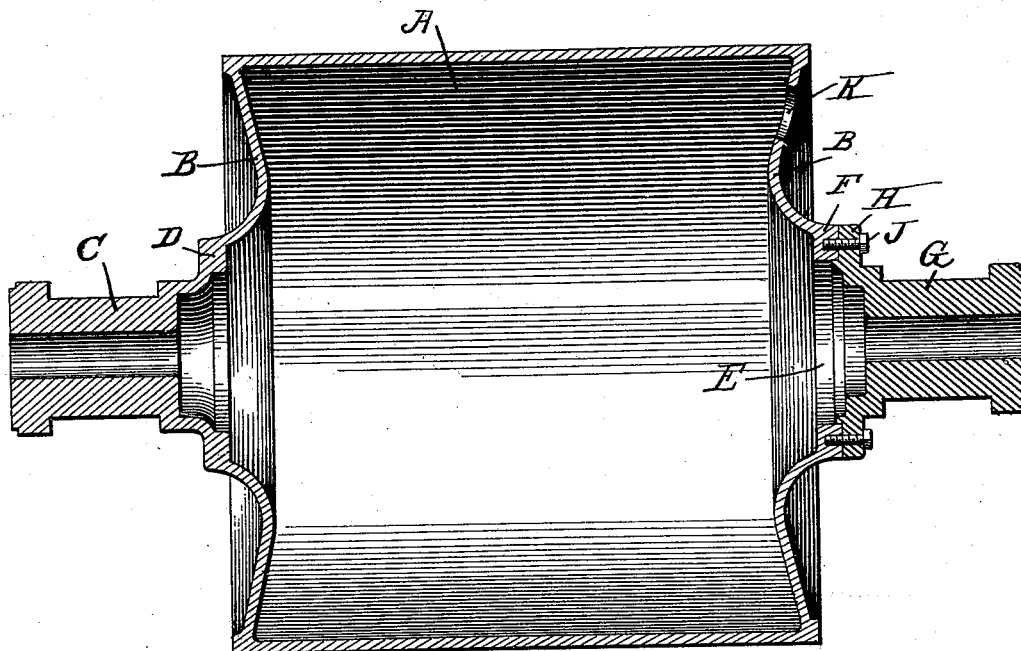


(No Model.)

F. X. BLACK.
PAPER MACHINE DRIER.

No. 523,968.

Patented Aug. 7, 1894.



Witnesses:
L. P. Clauson
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Inventor:
Frank Xavier Black
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UNITED STATES PATENT OFFICE.

FRANK X. BLACK, OF HAMILTON, OHIO, ASSIGNOR TO THE BLACK & CLAWSON COMPANY, OF SAME PLACE.

PAPER-MACHINE DRIER.

SPECIFICATION forming part of Letters Patent No. 523,968, dated August 7, 1894.

Application filed May 21, 1892. Serial No. 433,810. (No model.)

To all whom it may concern:

Be it known that I, FRANK X. BLACK, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Paper-Machine Driers; of which the following is a specification.

This invention pertains to improvements in the construction of the drying-cylinders employed on paper machines, &c., and the improvements relate to means for enhancing the readiness with which the cylinders may be made steam tight: for lessening the danger of the joint-bolts usually employed in securing the heads to the shell of the cylinder: and for enhancing the readiness with which modifications may be made in the drier in case a new neck or journal is required.

My improvements will be readily understood from the following description taken in connection with the accompanying drawing which is a vertical longitudinal section of a drying cylinder illustrating my invention.

Referring to the drawing: A, indicates the cylindrical shell of the drier: B, the two heads of the drier cast integrally with the shell: C, one of the necks or journals of the drier, integrally cast with one of the heads B: D, an annular reinforcement at the juncture of neck or journal C with the drier head with which it is cast, this reinforcement being concentric with the journal and integrally cast with the journal and head: E, a central opening in that head of the drier opposite to one to which the journal C is cast: F, an annular reinforcement forming the margin of the opening E: G, the journal of that end of the drier which is provided with the opening E: H, a flange upon the inner end of this journal seating against the reinforcement F: J, bolts, exemplifying means for securing the flange H firmly to the reinforcement F: and K, the usual hand-hole in one of the drier heads.

The opening E gives access, before the journal G is applied, to the interior of the drier and permits of its inspection and of the convenient adjustment of the scoop, siphon pipe or other interior devices and it also permits

of proper support for the core in casting the drier and it also permits the insertion of boring tools in case the shell of the drier is to be bored as is sometimes the case. There is but one joint to be made steam tight, namely, that where the flange H joins the reinforcement F and the area of this joint is comparatively small. The joint bolts J, if employed in attaching the flange to the reinforcement, are so far down toward the center of the drier that they are not liable to catch the sleeves of attendants as they start the web of paper over the drier.

Should any change be desired in the form of the drier journal G a new journal may be readily applied. If a change should be desired in the journal C, or should that journal become broken, changes or repairs can readily be made by fitting a new journal onto the reinforcement D in the manner as illustrated at the journal G.

I claim as my invention—

1. In a drying cylinder, the combination, substantially as set forth, of a cylindrical shell having integrally cast heads and provided at one head with an integrally cast neck or journal and provided at the other head with a central opening reinforced at its margin, and a neck or journal provided with a flange and secured at said opening to such reinforcement.

2. In a drying cylinder, the combination, substantially as set forth, of a cylindrical shell having both heads cast integrally with it and provided at one head with a neck or journal integrally cast with such head and having a concentric reinforcement integrally formed at the juncture of the neck with the head, and provided at the other head with a central opening margined by a reinforcement, and a neck or journal provided with a flange and secured at said opening to the reinforcement forming the margin thereof.

FRANK X. BLACK.

Witnesses:

J. W. SEE,
JAS. FITTON.