J. & R. McMurray.

Paper Mach.

No. 21,768. Patented Oct. 12, 1858.

Fig: 1.

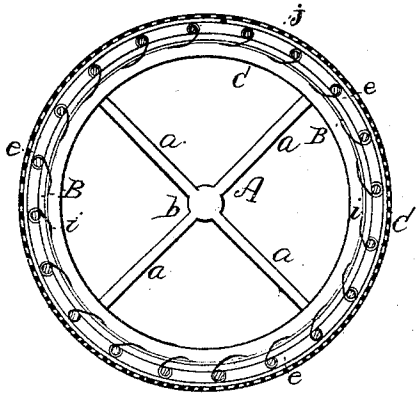
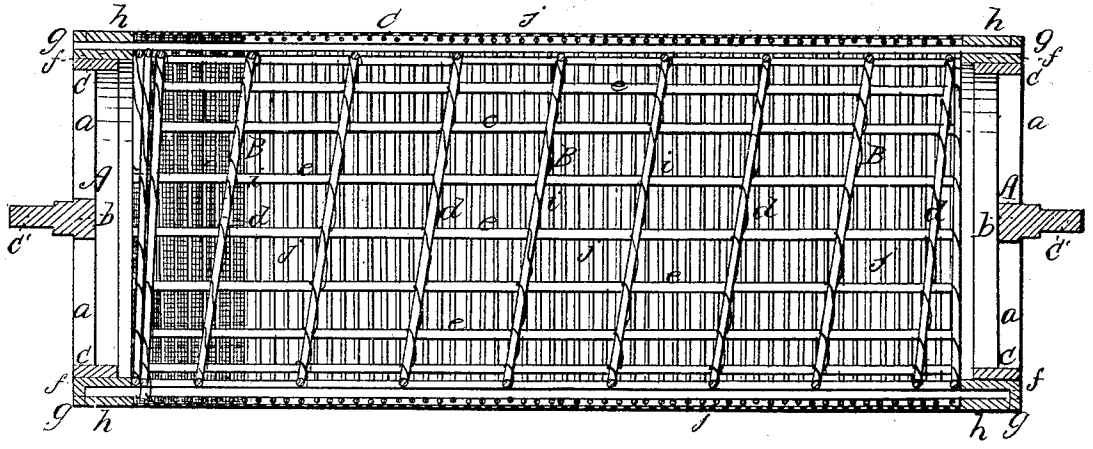


Fig: 2.



UNITED STATES PATENT OFFICE.

JOHN McMURRAY AND ROBERT McMURRAY, OF NEW YORK, N. Y.

CONSTRUCTING FRAMES FOR WIRE-CLOTH PAPER-MAKING CYLINDERS.

Specification of Letters Patent No. 21,768, dated October 12, 1858.

To all whom it may concern:

Be it known that we, J. McMURRAY and R. McMURRAY, of the city, county, and State of New York, have invented a new and useful Improvement in the Construction of Wire-Cloth-Cylinder Frames; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a transverse section of our invention. Fig. 2, is a longitudinal central section of ditto.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a very rigid frame, one that will retain its form so as to insure a perfectly cylindrical wire cloth surface.

The invention is designed to be used in paper machines and in other cases where wire cloth cylinders are employed and where it is necessary to have the wire cloth retained in a perfectly cylindrical form in order to perform perfectly the desired work.

To enable those skilled in the art to fully understand and construct our invention we will proceed to describe it.

A, A, represent what may be termed cylinder heads, constructed of arms *a*, radiating from a hub *b*, and having a rim *c*, at their outer ends. The hubs *b*, have journals *c'* attached, one to each. The heads may be of cast metal, the several parts being cast in one piece.

B, represents a wire or rod which is bent or curved in spiral form and extends the whole length of the cylinder frame, the wire being so bent or curved to form convolutions *d*, of equal diameter. To the outer surface of the wire or rod B, there are secured at equal distances apart longitudinal and parallel rods *e*, the ends of which are secured in metal bands *f*, which encompass the rims *c*, of the heads A, A, the bands *f*, being riveted or otherwise secured to the rims *c*. The bands *f*, may each have a ledge or flanch *g*, at their outer edge, through which ledges or flanches the ends of the rods *e*, pass, and the exposed portions of the rods may be encompassed by bands *h*, as shown clearly in Fig. 2. The longitudinal rods *e*, are secured to the wire or rod B, by a small wire *i*, and if the rods B, *e*, are of iron they may, when secured together, be galvanized with zinc so as to prevent oxidation and also to form a solder. The rods *e*, have a wire *j*, wound spirally around them so as to convert the polygonal form of the frame, given it by the rods *e*, into a perfect cylindrical form, the wire *j*, extending the whole length of the cylinder and forming the bed on which the wire cloth C, is placed.

From the above description it will be seen that no central shaft is employed, the journals *c'* being attached to and forming parts of the hubs *b*, of the heads A, A. The usual frames have a shaft on which heads are placed having longitudinal bars attached to their peripheries. The difficulty attending this mode of construction is, that the shaft is liable to bend or be deflected so as to render the whole frame untrue, besides the frame thus constructed is not compact it is liable to become strained and the wire cloth soon departs from a true cylindrical form. By our improvement this difficulty is avoided. The central shaft being dispensed with, a light frame is obtained and also a perfectly rigid one, that will retain the wire cloth C, in perfect cylindrical form.

We are aware that a wire *j*, has been wound spirally around longitudinal bars in order to form a cylindrical surface or bed to a frame to receive the wire cloth, and we do not claim separately said wire, but having thus described our invention

What we claim as new and desire to secure by Letters Patent, is,

The spiral wire or rod B, and longitudinal rods *e*, connected to suitable heads A, provided with journals *c'*, in connection with the spiral wire *j*, the whole being arranged substantially as and for the purpose set forth.

JOHN McMURRAY.
ROBERT McMURRAY.

Witnesses:
J. W. COOMBS,
M. HUGHES.