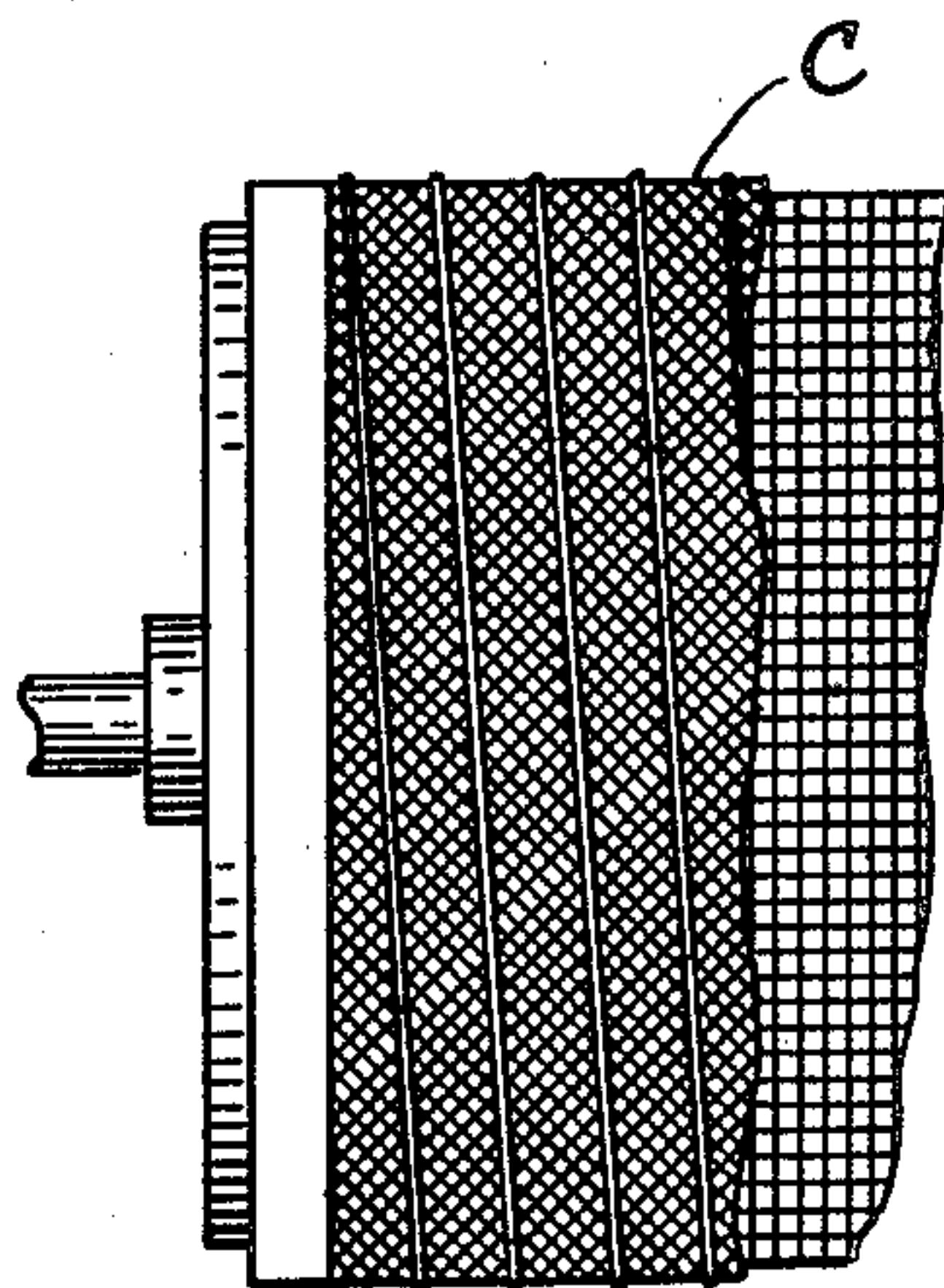
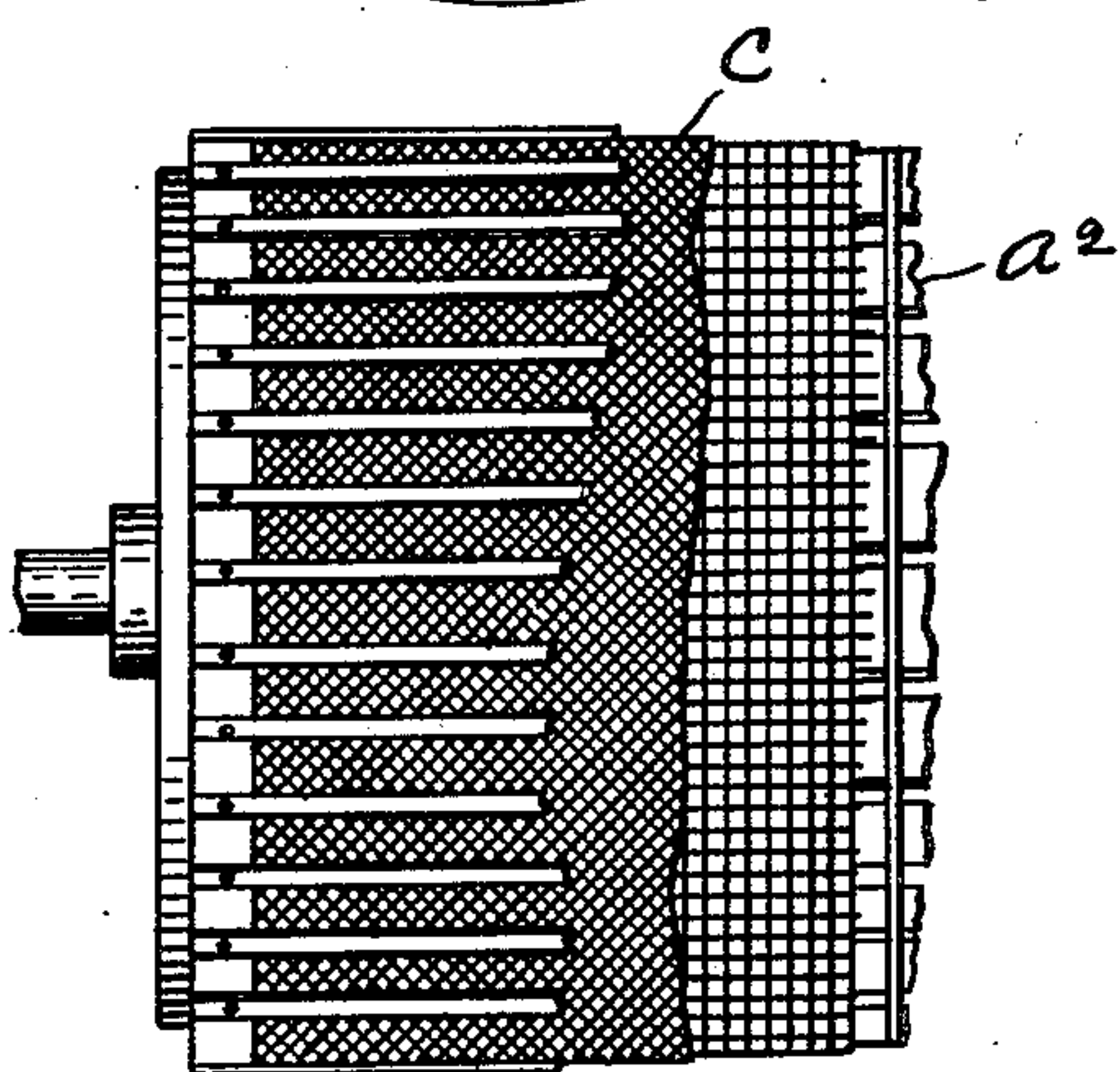
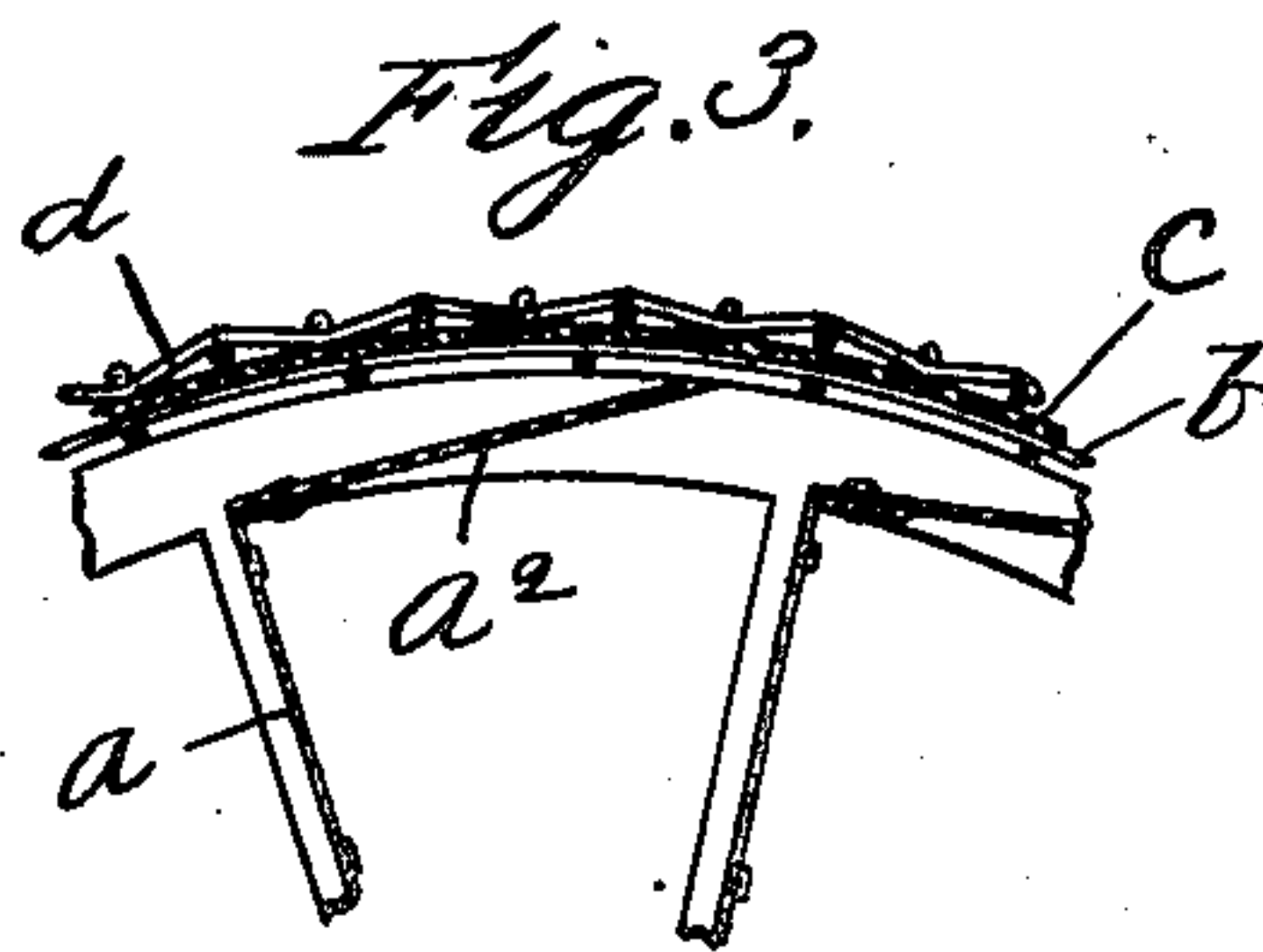
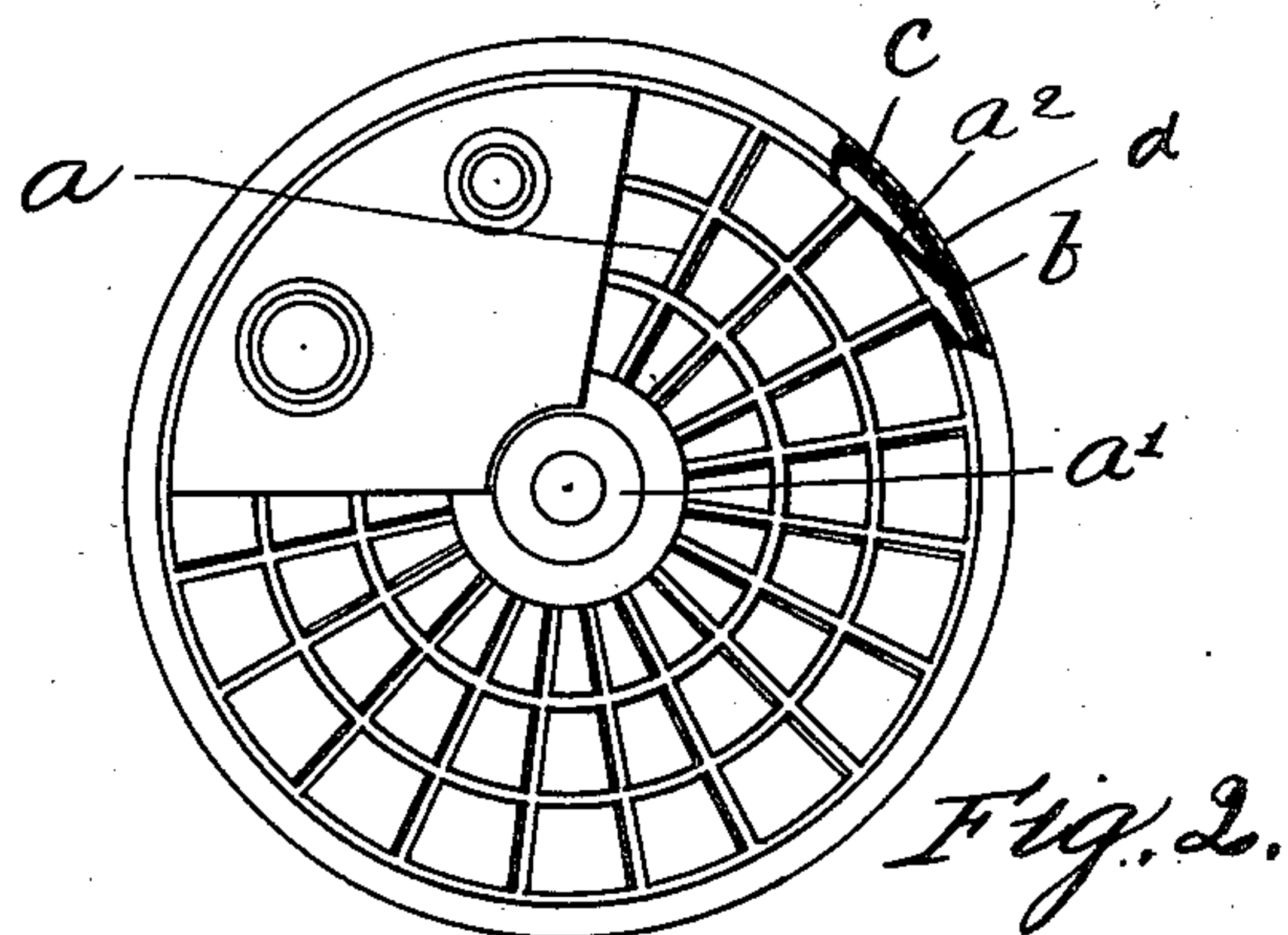
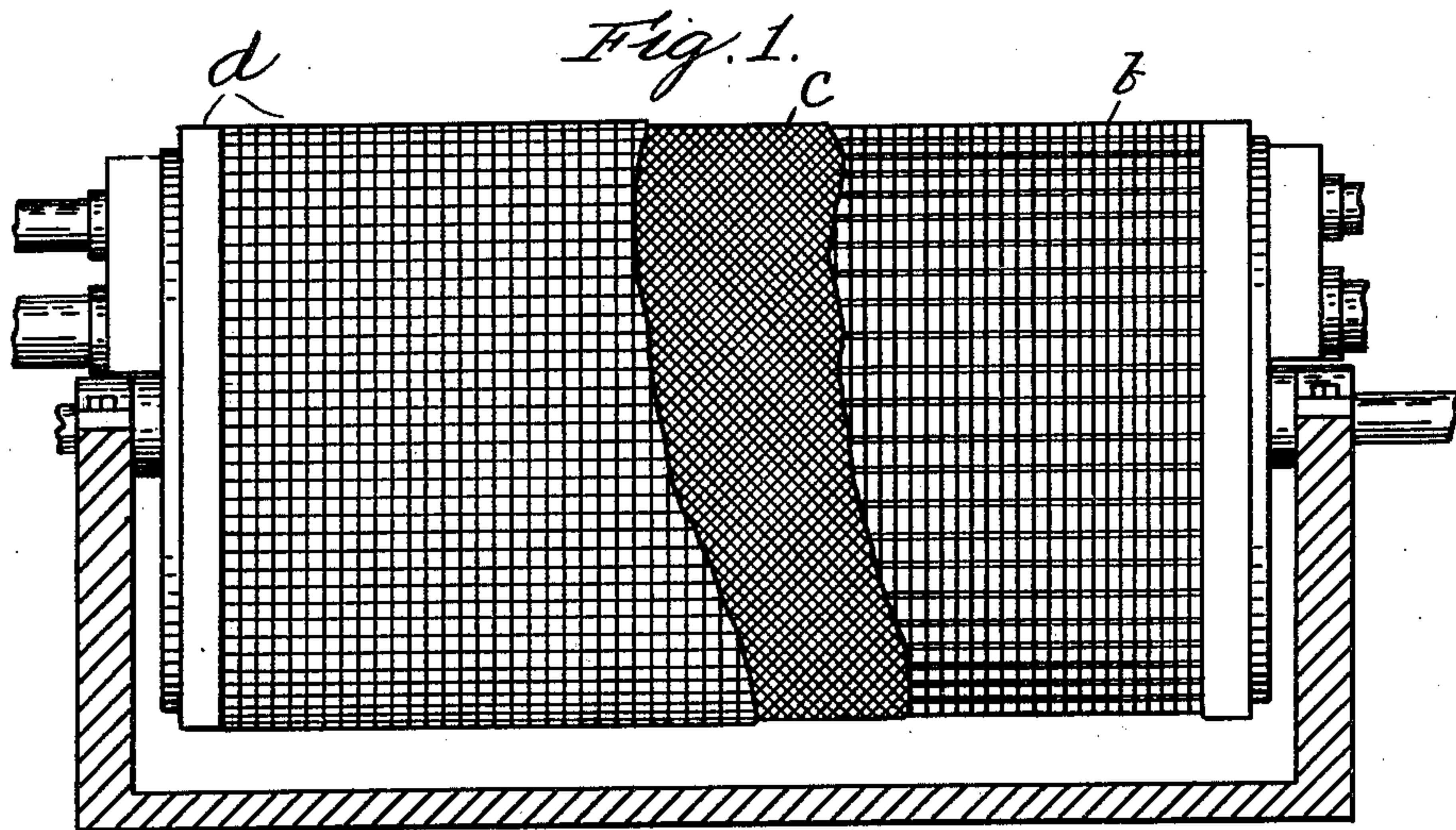


No. 847,352.

PATENTED MAR. 19, 1907.

A. M. MEINCKE.
PULP SCREEN ROLL.
APPLICATION FILED DEC. 7, 1906.



Witnesses:
H. B. Davis.
Cynthia Doyle

Fig. 4.

Fig. 5. Inventor:
Alfred M. Meincke
by Hayes & Hammond
attys.

UNITED STATES PATENT OFFICE.

ALFRED M. MEINCKE, OF WINCHESTER, MASSACHUSETTS.

PULP-SCREEN ROLL.

No. 847,352.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed December 7, 1906. Serial No. 346,740.

To all whom it may concern:

Be it known that I, ALFRED M. MEINCKE, of Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Pulp-Screen Rolls, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 In the art of paper-making a pulp-screen roll is employed having a plurality of separate compartments disposed radially about the axis thereof and adapted to operate in conjunction with means for exhausting the
15 air successively from said compartments or groups of compartments as the roll is revolved to draw the fine particles and fibers which are suspended in the water onto the screen and to remove therefrom a large percentage of the water and also with means for
20 introducing air successively to said compartments as the roll is revolved to assist in discharging or removing from the screen the collected particles and fibers. Ordinarily a suction device and a blowing device are employed for respectively exhausting and introducing
25 air from and to the compartments or groups thereof, and to be effective they must act with considerable force, and as a result many fine particles and small fibers are
30 drawn through the usual wire screen with the water and wasted. Therefore the apparatus is not as economical as desired.

35 This invention has for its object to improve the construction of a pulp-screen roll of this description which is adapted to operate in conjunction with suction and blowing devices or their equivalent, whereby the fine particles and small fibers which are now
40 drawn through the wire screen and wasted will be retained upon the screen and subsequently discharged or removed therefrom with the larger or coarser particles and fibers.

45 My invention consists, essentially, in the employment of a screen for the roll which is made of a textile fabric—as silk, for instance—the meshes thereof being so fine that the fine particles cannot be drawn through it, and a means for supporting said textile fabric on
50 the roll in such manner as to resist inward pressure upon it due to the action of the suction device and also to resist outward pressure upon it due to the action of the blowing device—that is to say, said textile fabric is so
55 supported as to resist the forces of both the suction and blowing devices.

Figure 1 shows a side view of a pulp-screen roll embodying this invention. Fig. 2 is an end view of the same. Fig. 3 is a sectional detail of a portion of the screen embodying
60 my invention. Figs. 4 and 5 are sectional details of modified forms of screens.

The pulp-screen roll has walls *a* extending radially from a hollow shaft *a'* or core nearly to the periphery and terminating in oblique
65 walls *a''* at the periphery, and said walls with the oblique portions extend from end to end of the roll and provide a plurality of separate radially-disposed compartments. Suitable
70 braces are provided for these walls. A roll of this construction is not of my invention. The roll is covered with a screen, and it is in the construction of this screen and the supports therefor that my invention particularly
75 resides. Upon the roll I first place several courses *b* of wire, (see Figs. 2 and 3,) or I may place thereon a layer of woven wire, as shown in Fig. 4, and said courses of wire or
80 said woven wire forms an open-work support for the under side of the screen. The screen *c* is then placed upon the open-work support *b* and attached to the roll at its edges and at
85 other desirable points. The screen *c* is composed of textile fabric, silk being preferably employed. This material is of fine mesh and retains the fine particles as well as the coarser
90 particles which are suspended in the water. Then another open-work support *d* is placed upon the roll on the outside of said screen *c*, and I may employ as such support another
95 layer of woven wire, as shown in Fig. 3, or I may wind upon the roll courses of wire, as shown in Fig. 5, or I may attach to the ends of the roll narrow strips extending length-
100 wise thereof, as shown in Fig. 4, it being understood that I do not desire to limit my invention to the construction of the open-work support which is provided on the inside or on
105 the outside of the screen *c*. The open-work supports do not retard the action of the screen in any essential particular, but serve to support the screen in such manner that it will resist the pressure upon it due to the
110 employment of the suction and blowing devices. In fact, without these open-work supports a screen made of textile fabric will not withstand the pressure upon it of the suction and blowing devices. At one or both
ends of the roll a segmental plate *e* is provided which overlies the ends of a number of the
compartments, to which the exhaust device and the blowing device are connected.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pulp-screen roll having an open-
5 work screen-support extending entirely around it and from end to end of it, a screen of textile fabric arranged on said support and another open-work screen-support arranged on said screen, which entirely incloses it, sub-
10 stantially as described.

2. A pulp-screen roll adapted to operate in conjunction with suction and blowing devices, having a plurality of compartments, and hav-

ing two concentrically-arranged cylindric-
ally-formed screen-supports extending en- 15
tirely around it and from end to end of it, and a screen of textile fabric interposed between said screen-supports, substantially as de-
scribed.

In testimony whereof I have signed my 20
name to this specification in the presence of
two subscribing witnesses.

ALFRED M. MEINCKE.

Witnesses:

B. J. NOYES,
H. B. DAVIS.