C. KURTZ-HÄHNLE.

PAPER SIEVE CYLINDER.

APPLICATION FILED JAN. 23, 1913.

1,131,066. Patented Mar. 9, 1915.

Fig. 1.

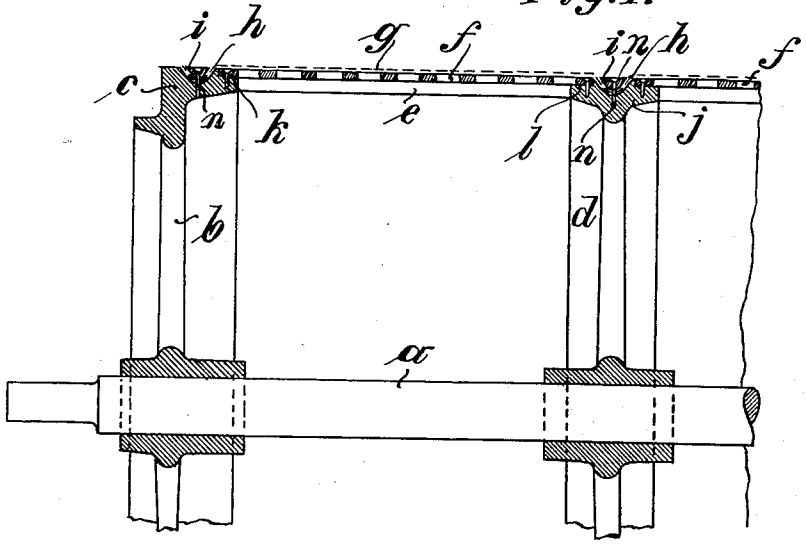
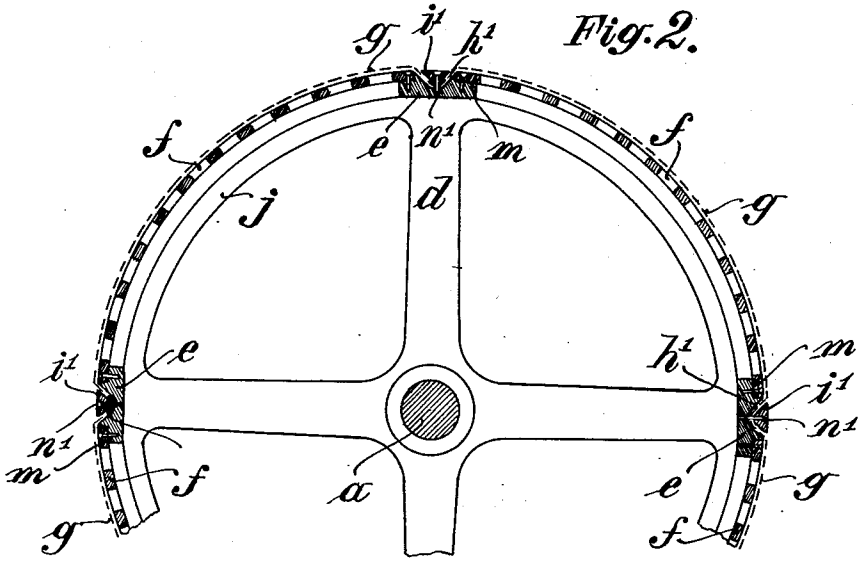


Fig. 2.



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PAPER-SIEVE CYLINDER.

1,131,066. Specification of Letters Patent. Patented Mar. 9, 1915.

Application filed January 23, 1913. Serial No. 743,711.

To all whom it may concern:

Be it known that I, CARL KURTZ-HÄHNLE, a subject of the King of Wurttemberg, residing at Reutlingen, in the Kingdom of Wurttemberg, Empire of Germany, have invented a new and useful Paper-Sieve Cylinder, of which the following is a specification.

There are known paper sieve cylinders consisting of a cylindrical frame, exchangeable segments thereon fastened serving as sieve supporters, and a single sieve put around and fastened on the segments. This construction renders it possible to exchange any broken or damaged segment for a new one, so that the remaining parts of the sieve cylinder can be further used. When the sieve is broken or damaged, however, the whole paper sieve cylinder requires to be first taken out of the trough for exchanging the entire sieve for a new one, which means a great trouble, labor and annoyance, since after stopping the paper-making-machine the parts of the same inclosing the sieve-cylinder will require to be taken to pieces.

My invention relates to improvements in such paper sieve cylinders, whereby it is rendered possible to repair the sieve in a simple, easy and cheap manner.

The chief feature consists in the division of the sieve into as many pieces, as there are segments on the paper sieve cylinder.

Another feature consists in so constructing the cylinder that any of the sieve parts can be exchanged for a new one separately, so that it is unnecessary to take the whole sieve-cylinder out of the trough for repairs. Obviously the object of the old construction is quite different from that of the new paper sieve cylinder according to my invention. With the former a saving in segments is effected, while with the latter a saving in sieve material is effected without regard to economy in the utilization of the surface of the cylinder.

I will now proceed to describe my invention with reference to the accompanying drawing, in which—

Figure 1 is a vertical longitudinal section through a part of a paper sieve cylinder in a mode of construction, and Fig. 2 is a vertical cross section through the same.

Similar letters of reference refer to similar parts in both views.

The cylindrical frame of the paper sieve cylinder shown is assumed to consist of two end wheels *b* (of which only one is shown) and any number of intermediate wheels *d* fastened on a known shaft *a* and four longitudinal beams *e* for connecting together the rims *c* of the end wheels *b* and the rims *j* of the intermediate wheels *d*. The manner of connecting the bars *e* with the rims *c* and *j* is immaterial to my invention. They may be cast in one with the several wheels *b d*, as shown, or they may be made separate and be connected with the rims *c j* in any known manner. The inner edge of each end rim *c* has on the outside a recess *k* and both edges of each intermediate rim *j* have on the outside similar recesses *l*, while both edges of the longitudinal beams *e* have on the outside recesses *m*. Into these recesses *k l m* segments *f* serving as sieve supporters are fitted. The construction of these segments *f* is immaterial to my invention. They may be bent perforated plates of sheet metal, as shown, or they may be of any other known construction. For example they may be grates consisting of longitudinal straight bars and circularly bent wires connected together in any known manner, or they may be wire nets with wide meshes, or they may be coarse sieves consisting of wire-work with wide openings.

The wire covering the surface of the paper sieve cylinder is according to my invention divided into as many parts *g*, as there are segments *f* on the cylinder. They are to cover the corresponding segments *f* and are to be fastened in any known manner. For example the rims *c j* are each shown to have a rounded groove *h* and the several beams *e* are each shown to have a central groove h^1 of similar cross section. The edges of each wire part *g* are made to engage into the grooves *h* h^1 and to extend in general say to nearly the middle of each groove *h* or h^1 and for the end rims *c* to the outer edge of the groove *h*, as shown. Segmental bars *i* of moon-shaped cross section fitting the wire *g* in the annular grooves *h* are pressed on the wire by means of screws *n* and in a similar manner straight bars i^1 fitting the wire *g* in the longitudinal grooves h^1 between the segmental bars *i* are pressed on the wire edges by means of screws n^1.

It is evident, that for the construction shown it will be necessary for the exchange of any wire part *g* to remove the respective segmental bar *i* for the end rim *c* and to loosen the screws *n* in the opposite segmen-

tal bar h and the screws n^1 in the two corresponding longitudinal bars i^1 i^1, before the edges of the broken or damaged wire part g can be withdrawn and this wire part be taken off. Afterward the edges of the new wire part g can be inserted between the bars i i^1 and the walls of the grooves h h^1 and in the groove h of the end rim c and then secured by reinserting the segmental bar i for the end rim c and by screwing home all the screws n n^1. The manner, in which any segment f between two intermediate rims j may be exchanged for a new one, is obvious from the above explanation.

Where so preferred, the longitudinal beams e may be placed spirally, in which case the several wheels b d . . . will have to be displaced to one another. If so desired, the annular intermediate rims j may be replaced by spirally disposed connections extending from one end rim c to the other one and supported by radial arms disposed in spiral lines on the shaft a.

The paper sieve cylinder described can be varied in many respects without departing from the spirit of my invention.

I claim:

1. A paper sieve cylinder, comprising a plurality of wheel members, a rim for each member provided with a circumferential groove and a plurality of transverse grooves, connecting bars between the said rims, each having a longitudinal groove therein alined with two of said transverse rim grooves, a plurality of sieve supporting sections carried by the rims and bars, and a plurality of sieve sections resting upon the supporting sections, and means for removably securing each sieve section to said rims and connecting bars, said means comprising segmental and straight bars for fitting within said grooves and over the edges of the sieve sections whereby the outer surface of said sieve is substantially unobstructed.

2. A paper sieve cylinder comprising a plurality of wheel members, a rim for each member provided with a circumferential groove and a plurality of transverse grooves, connecting bars between the said rims, each having a longitudinal groove therein alined with two of said transverse rim grooves, a plurality of sieve sections, a hoop fastening device fitting each circumferential groove and a rod fastening device fitting each connecting bar groove whereby said sieve sections are removably secured to said wheel members.

CARL KURTZ-HÄHNLE.

Witnesses:
MAX GESSLER,
FRITZ KOCH.