No. 690,777. Patented Jan. 7, 1902.

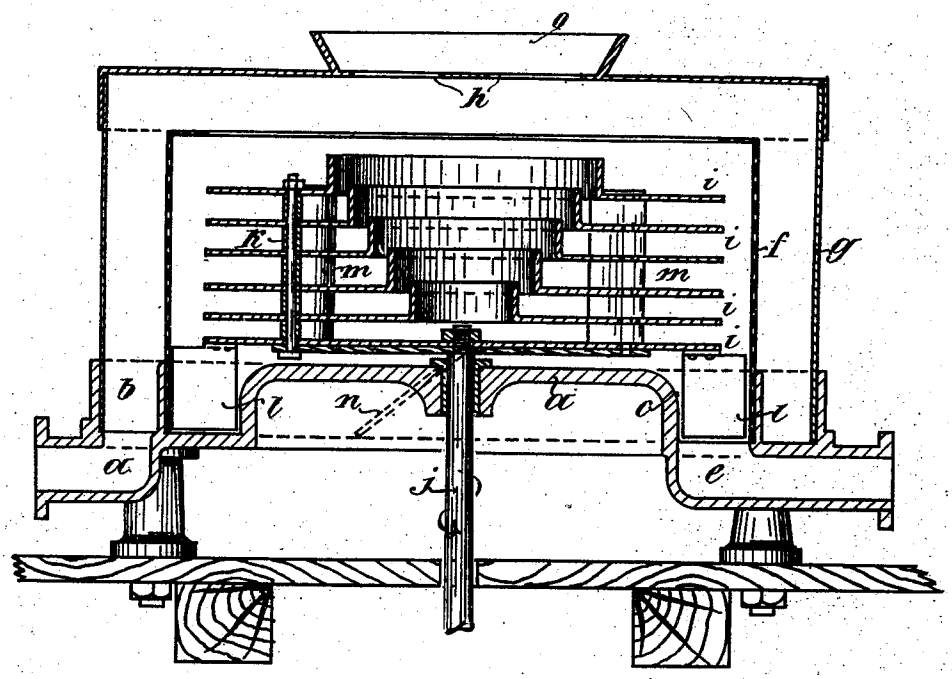
H. SCHILLER.

CENTRIFUGAL SIZING APPARATUS FOR SIZING WOOD PULP OR SIMILAR MATERIALS FOR THE MANUFACTURE OF PAPER.

(Application filed Aug. 3, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig: 1



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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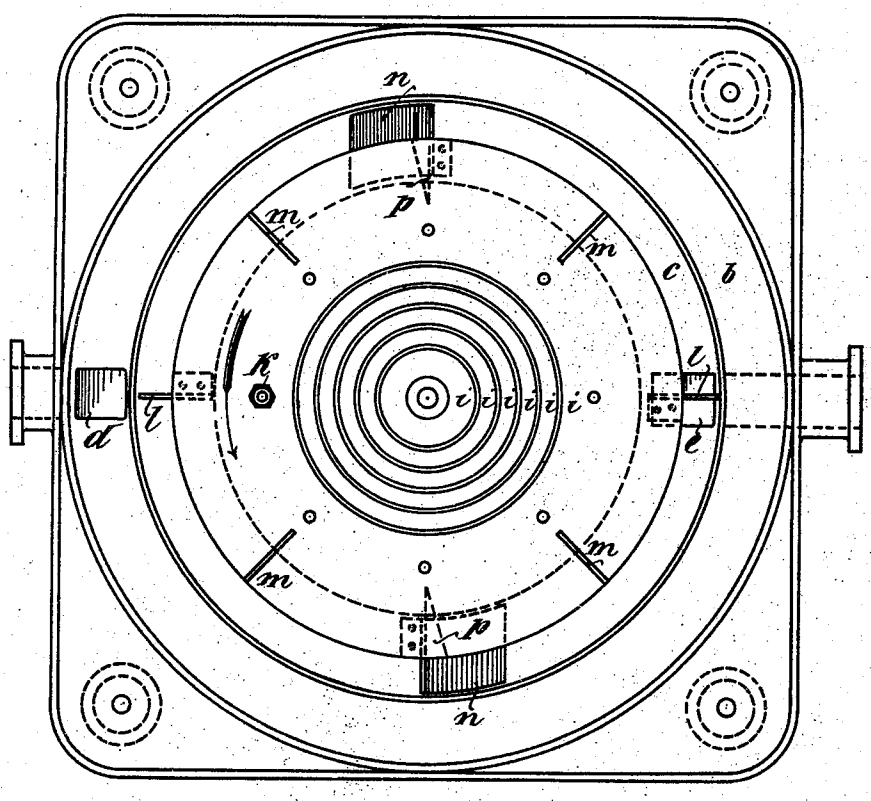
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(No Model.) 2 Sheets—Sheet 2.

Fig. 2



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HEINRICH SCHILLER, OF WEISSENFELS, GERMANY.

CENTRIFUGAL SIZING APPARATUS FOR SIZING WOOD-PULP OR SIMILAR MATERIALS FOR THE MANUFACTURE OF PAPER.

SPECIFICATION forming part of Letters Patent No. 690,777, dated January 7, 1902.

Application filed August 3, 1901. Serial No. 70,797. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH SCHILLER, master worker, a subject of the German Emperor, residing at No. 22 Markwerbenerstrasse, Weissenfels-on-the-Saale, in the Empire of Germany, have invented new and useful Improvements in Centrifugal Sizing Apparatus for Sizing Wood-Pulp or Similar Materials for the Manufacture of Paper, of which the following is a clear and exact description.

My invention relates to a centrifugal sizing apparatus for wood-pulp and the like for the manufacture of paper according to which a rotary system of horizontal disks is arranged within a vertical sieve-casing, against which the said horizontal disks when rotating throw the wood-pulp to be sized.

The present invention has for its object to increase the action or effect of the rotating centrifugal disks. For this purpose vertical or upright plates are arranged radially between the horizontal disks at certain distances apart from each other, and the bottom disk also carries radial plates on the periphery of its lower side, which are placed in an inclined position in order that the material dropping into the annular channel below the horizontal disks may again be thrown against the sieve. These additional inclined plates and also the usual scraping-plates fitted to the lower side of the bottom horizontal disk may be dispensed with in connection with those modified constructions of the apparatus according to which the unsifted material is washed out of the annular channel to other sizing apparatus.

In the accompanying drawings the centrifugal sizing apparatus is shown by way of example.

Figure 1 is a vertical section through the middle of the apparatus, and Fig. 2 a plan of the same without casing and sieve.

The centrifugal sizing apparatus consists of the cast-iron frame-plate *a*, with the annular channels *b* and *c*, provided with openings *d* and *e* and sockets for the discharge of the material. The upright annular casing-sieve *f* is arranged between both channels, while the casing *g* carries above a feeding-hopper *o*, to which the material is fed from above, so as to pass between slots *h* into the horizontal disks *i*, which form the system of centrifugal bodies rotating with the shaft *j*. Stay-bolts *k* unite the separate disks at suitable distances apart from each other. When the disks are rotating, the material spread upon the disks in a flat layer is thrown against the surface of the sieve, and the sifted material drops into the annular channel *b*, while the material which does not pass through the sieve drops in the annular channel *c*. Now in order to increase the centrifugal action of the disks *i* the radial upright plates *m* are secured between the disks *i*. Moreover, the bottom disk *i* carries on its lower side, in addition to the usual vertical scraping-plates *l*, moving within the annular channel *c*, the inclined plates *n*, which consequently utilize the space below the last or bottom disk *i* for the centrifugal action, in that they again throw the unsifted material against the sieve. The material drops upon the plates *n* partly within the space between the periphery of the disks *i* and the sieve and partly through slots *p*, Fig. 2, (dotted lines,) which are cut out of the bottom disk *i* and if necessary also out of the next one above the latter in front of the plates *n*.

As will be seen, the plates *m* extend in a radial direction inwardly from the periphery of the disks but a portion of the distance between the vertical flanges and the periphery, being the horizontal portion of the disks. In other words, they are located at a point in juxtaposition to the outer edges of the disks. There are therefore formed what might be termed "compartments" at the outer edges of the disks, while the portion of the disk within these plates is continuous or unbroken. The space between the disks is therefore in two portions, one continuous and the other broken. The advantage of this lies in the fact that the pulp is not confined in any compartment and restricted space excepting at about the point where it is subject to the greater centrifugal action. This prevents a choking of some portions where the feed is not regular, a result which would be obtainable were the blades extended entirely to the center of the disk or to the collars. By form-

ing the unrestricted space the pulp will readily distribute itself, and thus compensate for any irregular feed which might be presented.

What I claim is—

1. In a centrifugal sizing apparatus for wood-pulp and similar materials, the combination of a rotary system of horizontal disks provided within an upright sieve-casing, with upright plates *m* arranged radially between the said horizontal disks at a point in juxtaposition to the outer edges of the disks, and forming "compartments" solely adjacent to said outer edges, substantially as described.

2. In a centrifugal sizing apparatus for wood-pulp and similar materials, the combination of a system of horizontal disks provided within an upright sieve-casing, with upright plates *m* arranged radially and between the said horizontal disks and inclined plates *n* arranged radially to the lower side of the bottom horizontal disk, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

HEINRICH SCHILLER.

Witnesses:

HENRY HASPER,

WILLIAM MAYNER.