





## UNITED STATES PATENT OFFICE.

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## REVOLVING STRAINER.

SPECIFICATION forming part of Letters Patent No. 781,348, dated January 31, 1905.

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*To all whom it may concern:*

Be it known that I, GUSTAV HERMANN MEHNER, director, a citizen of the Kingdom of Saxony, and a resident of Dresden, Germany, (whose post-office address is Leipzigerstrasse 9,) have invented certain new and useful Improvements in Revolving Strainers, of which the following is a specification.

The well-known knot catchers and strainers with agitation for cellulose and the like require a very considerable amount of power to drive the cylindrical sieve, their operation produces a great deal of noise, and by the agitation of the sifting-cylinder there is a quantity of foam and bubbles produced which directly hinders a satisfactory sifting, because thereby a sudden pressing of the stuff between the cylindrical sieve and the receptacle-walls takes place repeatedly, and the forcible pressing of the coarser portions of the material is caused through the aperture of the strainer.

The object of the present invention is to remedy these drawbacks and to form a knot catcher and strainer for cellulose, wood and straw pulp, paper mass, asbestos, &c., in which the straining-cylinder performs a revolving motion only, the sifted material can escape at the lowermost point of the cylindrical sifter for the purpose of avoiding any foam or formation of bubbles, and the stirring up and washing out of the coarser residues of the fibers before the running off and cleansing of the strainer is rendered possible by aid of an injection-tube placed at the bottom of the receptacle.

The accompanying drawings illustrate the object of the invention in one constructional form, by way of example, in Figure 1 in partial elevation and partial section, and in Fig. 2 in end elevation.

The trough *b* has the openings *c* at both ends, which openings are projected so far downward that the material can escape from the straining-cylinder *d* at its deepest point into the run-off channel, by means of which any formation of bubbles and foam is prevented. Under special circumstances—for instance, corresponding to the more or less ef-

fective boiling and the fine sifting of the material under treatment—it may appear necessary to keep the level of the liquid in the straining-cylinder at a certain height. It is therefore desirable to provide means for closing the openings *c* in order to keep the material in the cylinder. For this purpose there may be at each cylinder end, at the openings *c*, a frame *f*, in which, according to need, a larger or smaller number of little bars *g* are placed, which form a higher or lower dam, as may be required. Upon the bottom of the trough *b* is arranged an injection-tube *h*, projecting over the entire length thereof, which tube is perforated on the upper side throughout its entire length and is connected to a high-pressure water-supply. The water-jets escaping from the small holes of the tube cause a vigorous reaction, and besides effecting the purification and complete washing out of the strainer they serve to rinse the coarse particles left behind, so that there is no waste of material at all. By reason of this circumstance, as also for the reason that the injected water keeps the slots of the cylindrical strainers always clean, so that the entire surface of the cylinder is able to work, the efficiency of the apparatus is very considerably increased.

The cylindrical sifter is rendered watertight against the end walls of the trough *b* by means of a suitable packing, which fits about the neck-piece *i* *k* of the sifting-cylinder *d* and the trough *b*.

Corresponding to the direction of the filling, which is determined by that of the general construction of the mechanism, the entrance of the stuff to be sifted into the trough *b* is effected either from above or, when local circumstances prevent any considerable difference of level, from a lower point at one side. The internally-applied paddles *s* of any convenient form placed within the sifting-cylinder *b* raise the sifted material according as the height of the escape-opening may be arranged. The letter *w* indicates an opening arranged at the bottom of the stuff-trough with a closing-tube which enables the trough to be entirely emptied when necessary for cleaning.



Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

5 1. In a revolving strainer, the combination with a casing having an opening at both ends, a revoluble strainer-cylinder in said casing, said casing-openings extending to the lowest point of the cylinder, and means for adjusting  
10 the lower level of said openings, substantially as set forth.

2. In a revolving strainer, the combination with a casing and a revoluble strainer-cylinder having an outlet, of longitudinal suction-  
15 paddles fixed on the inner side of the cylinder, and an injection-tube positioned beneath the cylinder between the casing and the cylinder and having openings toward said cylinder.

3. The improved knot-catcher, paper stock  
20 and the like, in which to the lowest point of the sifting-cylinder *b* openings *c* project down

the said openings arranged in the end walls of the stuff-trough, and capable of being more or less raised or lowered by means of adjustable stops *g* and by means of the injection-tube *h* 25 arranged lengthwise beneath the strainer *d*, for the purpose of preventing foam and bubbling on the letting out of the material, whereby in case of need the level of liquid can be raised or lowered in any desirable manner to  
30 accomplish the stirring and efficient purification of the cylindrical strainer as well as the washing out of the coarse pieces of material before the final letting out and discharge of the material in the stuff-trough, substantially  
35 as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

G. HERM. MEHNER.

Witnesses:

PAUL E. SCHILLING,  
PAUL ARRAS.