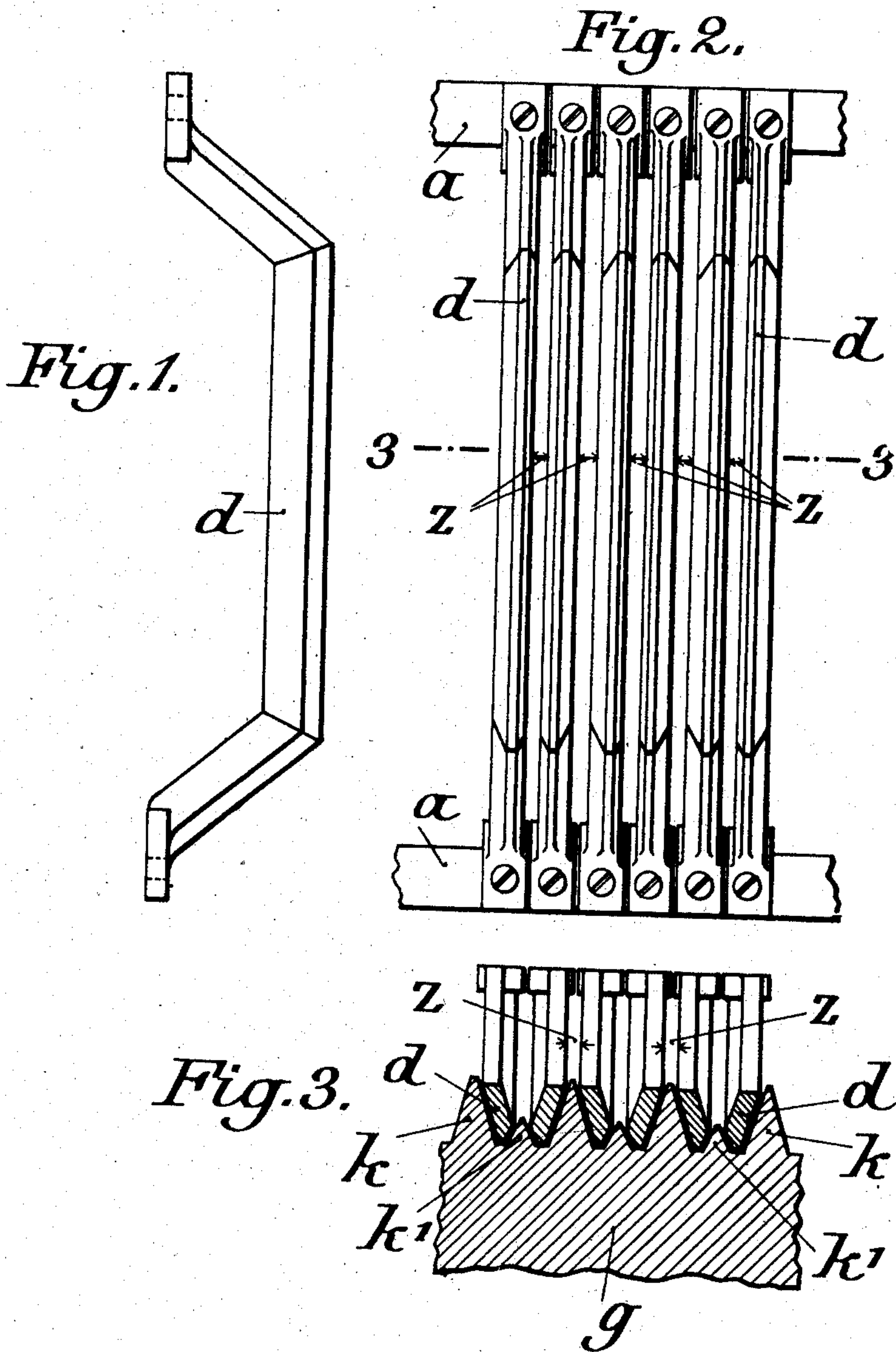


No. 864,507.

PATENTED AUG. 27, 1907.

F. BRUNOTTE.
CONVEYER GRATING.
APPLICATION FILED AUG. 13, 1906.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRIEDRICH BRUNOTTE, OF HAMBURG, GERMANY.

CONVEYER-GRATING.

No. 864,507.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRIEDRICH BRUNOTTE, engineer, a subject of the German Emperor, residing at Hamburg, 10 Hammerweg, Germany, have invented certain new and useful Improvements in Conveyer-Gratings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to a conveyer grating for the removal of material floating upon or suspended in sewage and other waste waters and is an improvement upon the invention forming the subject of United States Letters Patent No. 819720. The construction of grating
15 described in the specification of this patent has been found to have disadvantages by reason of the fact that owing to the bars of the gratings being of rectangular cross section with narrow spaces between them the teeth of the cleaning or scraping comb have of necessity
20 to be made thin. Such a comb is not only difficult to manufacture but in use is very liable to have its teeth broken owing to contact with the grating bars. Very careful fitting is also necessary to insure proper engagement of such a construction of comb with the bars.
25 The present invention obviates these disadvantages by constructing the grating bars and disposing them upon the frame so that the sides of any two adjacent bars are inclined towards each other and form a trough preferably of V cross section leading to the clearance space.
30 The cross section of each bar is preferably trapezoidal or approximates to such shape and allows a clear passage to and from the clearance space on the opposite sides of the grating.

A construction of grating according to this invention
35 is illustrated by way of example in the accompanying drawings in which,

Figure 1 is a side elevation of a grating bar constructed in accordance with this invention. Fig. 2 is a plan of a portion of the grating with the improved bars, Fig.
40 3 is a section on the line 3—3 of Fig. 2 the cleaning comb being shown in operative position.

Upon the grating frame *a* are mounted the bars *d* which are bent or curved so as to project upwardly from the frame as in the gratings described in the specification of the previous patent. Each bar however is of
45 approximately trapezoidal cross section as will be seen from Fig. 3 the angle of each trapezoid which is presented to the face of the grating being rounded or cut off. The shape of the bars is such that the sides of any
50 two adjacent bars are inclined towards each other and form a trough leading to the clearance space *z*, these troughs which may be described as being of V shape in cross section are of different depths on either side of any particular bar and the deep and shallow troughs alternate
55 throughout the face of the grating.

The bars which are disposed parallel to each other

have uniform clearance spaces between them all and the shape of the troughs leading to these clearance spaces is such that the cleaning comb *g* can be provided with alternately long teeth *k* and short teeth *k'* which
60 are all sufficiently broad at their bases to enable them to have the necessary strength to make them durable. Even if the clearance spaces between the bars are quite small it is still possible for the teeth of the comb to be of substantial dimensions.

The bars are so formed that they are in effect inclined relatively to the plane of the frame carrying them the inclinations of the bars being alternately towards and away from each other. While the face of the grating thus constructed has alternately relatively deep and
70 shallow troughs the back of the grating presents troughs of uniform size but only between alternate pairs of bars.

Owing to the peculiar section and arrangement of the bars and the fact that the clear passage between them is alternately near to the front and back surfaces of the
75 bars a great advantage is obtained inasmuch as even if narrow clearance spaces are used a comparatively large passage area is obtained, such as would not be possible if bars of wedge shape in cross section were used.

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

1. In a conveyer grating, the combination with a frame, of a plurality of parallel bars having clearing spaces between them, the adjacent edges of said bars being inclined
85 towards each other to form troughs leading to the clearing spaces said troughs being widest at the working face of the grating, and a comb provided with wedge-shaped teeth coöperating with said trough.

2. In a conveyer grating the combination with a frame
90 of a plurality of parallel bars with a uniform clearance between them the cross section of each bar and their disposition on the frame being such that the sides of any two adjacent bars are inclined towards each other and form a
95 trough leading to the clearance space the trough on one side of a bar being of different depth from the trough on the other side of the same bar as set forth.

3. In a conveyer grating the combination with a frame of a plurality of parallel bars with a uniform clearance
100 between them the cross section of each bar and their disposition on the frame being such that the sides of any two adjacent bars are inclined towards each other and form a trough leading to the clearance space the trough
105 on one side of a bar being of different depth from the trough on the other side of the same bar and the different depths alternating throughout the face of the grating as set forth.

4. In a conveyer grating, the combination with a frame, of a plurality of parallel bars of approximately trapezoidal cross section having clearing spaces between them, the
110 adjacent edges of said bars being inclined towards each other to form troughs leading to the clearing spaces said troughs being widest at the working face of the grating, and a comb provided with wedge-shaped teeth coöperating with said troughs.

5. In a conveyer grating the combination with a frame
115 of a plurality of parallel bars with a uniform clearance between them each bar being of approximately trapezoidal cross section and the relative disposition of the bars on

the frame being such that the sides of any two adjacent bars are inclined towards each other and form a trough leading to the clearance space the trough on one side of a bar being of different depth from the trough on the other side of the same bar and the different depths alternating throughout the face of the grating as set forth.

5 6. In a conveyer grating, the combination with a frame, of a plurality of parallel bars of approximately trapezoidal cross section having uniform clearing spaces between them, 10 the adjacent edges of said bars being inclined towards each other to form troughs leading to the clearing spaces said troughs being widest at the working face of the grating, and a comb provided with wedge-shaped teeth co-operating with said troughs.

15 7. In a conveyer grating the combination with a frame of a plurality of parallel bars with a uniform clearance between them each bar being of approximately trapezoidal cross section and inclined relatively to the plane of the frame so that the sides of any two adjacent bars form a 20 trough leading to the clearance space the trough on one side of a bar being of different depth from the trough on

the other side of the same bar and the different depths alternating throughout the face of the grating as set forth.

8. In a conveyer grating the combination with a frame 25 of a plurality of parallel bars with a uniform clearance between them each bar being of approximately trapezoidal cross section and inclined relatively to the plane of the frame so that the sides of any two adjacent bars form a trough leading to the clearance space the trough on one 30 side of a bar being of a different depth to the trough on the other side of the same bar and the different depths alternating throughout the face of the grating the back of the grating presenting troughs only between alternate pairs of bars as set forth.

35 In testimony whereof, I have hereunto set my hand and affixed my seal, in the presence of the two subscribing witnesses.

FRIEDRICH BRUNOTTE. [L. S.]

Witnesses:

OTTO W. HELLMRICH,

IDA CHRIST. HAERMANN.