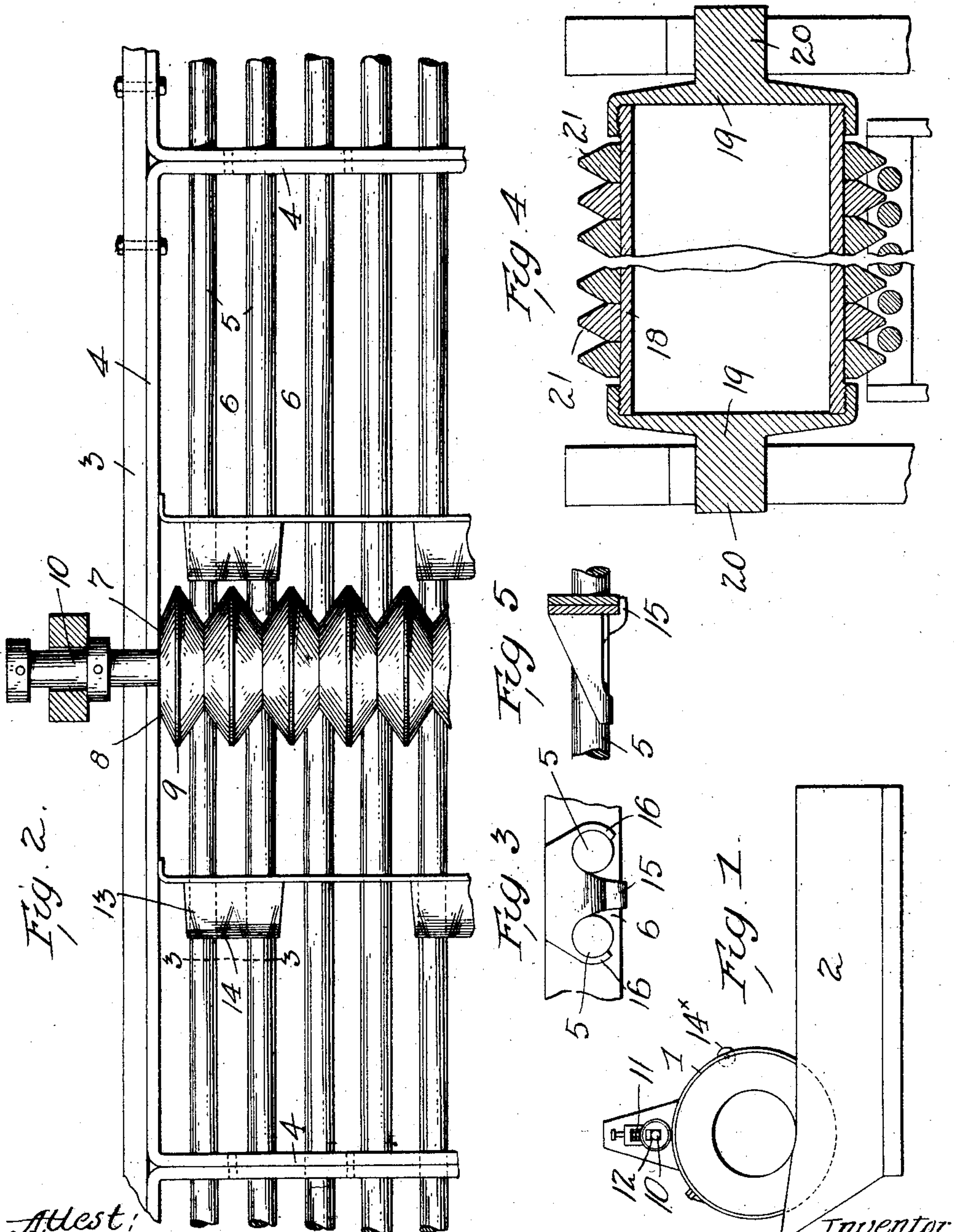


E. S. BENNETT.  
 AUTOMATIC SCREEN CLEANER.  
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906,995.

Patented Dec. 15, 1908.



Attest:  
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# UNITED STATES PATENT OFFICE.

ERASTUS S. BENNETT, OF NEW YORK, N. Y.

## AUTOMATIC SCREEN-CLEANER.

No. 906,995.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed February 27, 1906. Serial No. 303,262.

*To all whom it may concern:*

Be it known that I, ERASTUS S. BENNETT, a citizen of the United States, residing at New York city, New York, have invented certain new and useful Improvements in Automatic Screen-Cleaners, of which the following is a specification.

My invention relates to improvements in mining machinery, though it is not limited in its application to this particular art.

It concerns more particularly improvements in separators for use in connection with amalgamating tanks, such for instance as is disclosed in Letters Patent of the United States, granted to me Mar. 13, 1894, No. 516624. In said patent I disclose an amalgamating tank having at or near one end a rotary separator of cylindrical form for separating the material from the stones, boulders, etc. In a separator of this character, which is constructed in the form of a grating having bars or wires extending circumferentially and held by grate frames, the spaces between the bars in the operation of the machine become clogged with small stones, pebbles, and the like which become wedged in place between the said wires or grating bars, and it is the object of my invention to provide means for automatically keeping the meshes or spaces of the grate free from such obstructions as would tend to interfere with the proper operation of the separator.

The invention consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawing,—Figure 1 is a side view of the separator with the improvement arranged in proper relation thereto. Fig. 2 is a plan view of a portion of a separator with my improvement in place. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is a detailed view of one form of clearer device constituting my improvement. Fig. 5 is a detail view of one of the lifting blocks for the clearer device.

In these drawings, 1 indicates a rotary separator of any suitable general construction which is located at one end of an amalgamating tank indicated in the outline at 2, the said separator being designed to remove large stones and other material and prevent the same from reaching the amalgamating tank. As shown in Fig. 2, this rotary separator is made up of heads, one of which is

indicated at 3 carrying grate frames 4, which in turn carry the grate bars or wires 5 arranged parallel with each other and at a distance apart suitable to provide the proper mesh or space for the passage of the material of the desired size, these spaces being indicated at 6. In the operation of the machine these spaces between the wires or grate bars become clogged with material of various sorts, and in order to constantly clear these spaces, I provide a clearer device consisting of a roller 7 having ribs or flanges 8 presenting edges 9, which enter the spaces between the wires or grate bars and clear out any obstructions, such as stone which may become wedged therein. The roller shaft 10 is journaled at 11 in any suitable part of the frame work and it may have a slight yielding action vertically in the said frame for which purpose its bearings may be yieldingly held by springs, such as shown at 11 in Fig. 1, the said springs bearing upon the sliding blocks or bearing 12 of the roller.

In order to allow the roller or clearer device to pass the cross bars 4 of the frame without damage thereto, I provide lifting blocks 13 having inclined surfaces 14 on their outer sides up which the rollers may pass, and thus be carried over the cross bars without coming in contact therewith. These lifting blocks are supported directly on the wires or grate bars each block straddling two of the wires and having a finger or portion 15 reaching down between the two wires on which the block is supported and extending under the lower edge of the cross bar, as indicated in Fig. 5. The lifting block is further secured in place by its sides 16 reaching down the outer sides of the grate bars and inwardly to conform to the curved surface thereof. The surfaces of the lifting blocks upon which the roller moves to be lifted thereby is flared as shown in Fig. 2 to render the action more certain.

I show in Fig. 4 a detailed view of one of the clearer rollers, this consisting of a cylindrical body portion 18 having the heads 19 screwed thereon and provided with a journal 20. The cylinder 18 carries a series of rings 21, the surfaces of which are beveled to enter between the grate bars, as above described.

I do not wish to limit myself to the particular form of clearer, as other means may be used besides a roller and different forms of rollers may be employed.

The lifting blocks may be in the form of

rollers, such for instance as indicated at 14<sup>x</sup>, and over these the clearers may pass to be lifted thereby.

I claim as my invention:

- 5 1. In combination with a rotary separator, comprising grate bars or wires and the cross bars, a lifter consisting of a block having portions engaging the wires or bars and a portion extending beneath the cross bar, substantially as described.
- 10 2. In combination a rotary separator comprising wires extending peripherally and cir-

cumferentially of the same, a clearer device and means for raising the said clearer device consisting of inclines each held on a pair of 15 the wires by having its sides extending down and bent inwardly against the said wires, substantially as described.

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

ERASTUS S. BENNETT.

Witnesses:

M. L. JUSTIN,  
CLINTON D. GANSE.