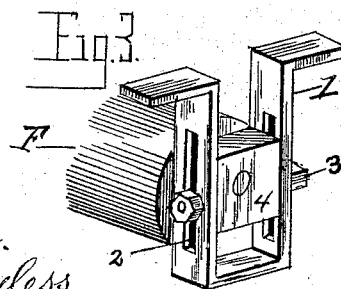
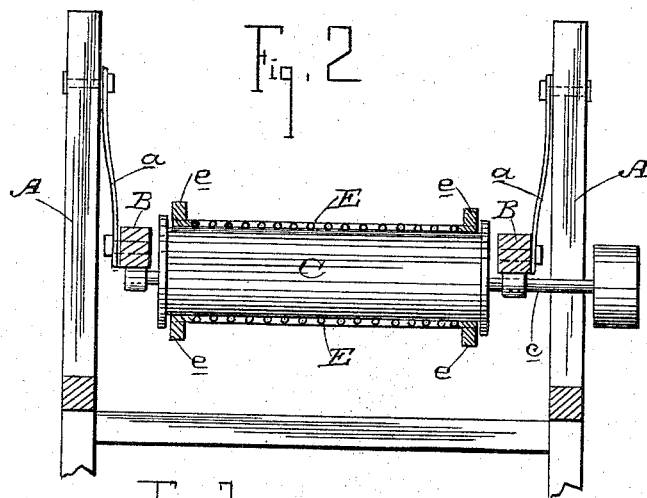
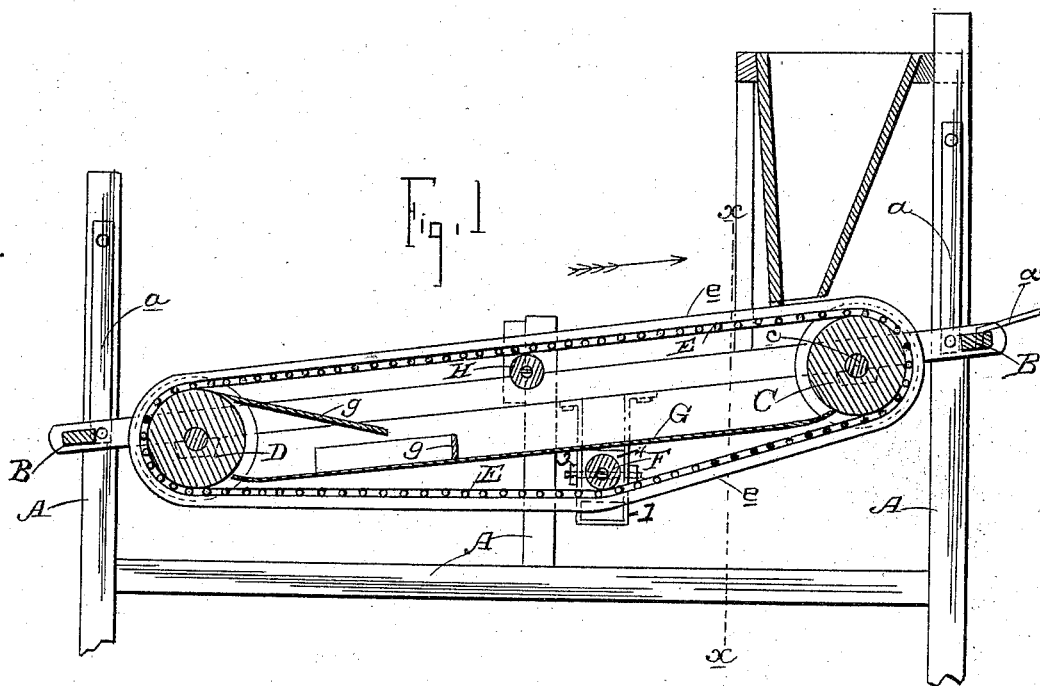


(No Model.)

A. FERREVA.  
SELF CLEANING SCREEN.

No. 493,886.

Patented Mar. 21, 1893.



Witnesses,  
J. A. Bayless

Inventor,  
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attys

# UNITED STATES PATENT OFFICE.

ANTONY FERREVA, OF NELSON, CALIFORNIA.

## SELF-CLEANING SCREEN.

SPECIFICATION forming part of Letters Patent No. 493,886, dated March 21, 1893.

Application filed August 26, 1892. Serial No. 444,207. (No model.)

*To all whom it may concern:*

Be it known that I, ANTONY FERREVA, a citizen of the United States, residing at Nelson, Butte county, State of California, have invented an Improvement in Self-Cleaning Screens; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of self-cleaning screens and it consists in the peculiar and novel combination of endless traveling shaking screen and rollers for supporting the screen and with which it comes in close and direct contact, an adjustable tightening roller and a top supporting roller as I shall hereinafter fully describe.

In my device, by having an endless traveling screen which, during the course of its travel comes in direct and close contact with the surfaces of rollers, the cheat sticking in the meshes of the screen, is forced out by this contact with the rollers, whereby the screen in its travel is enabled at all times to present a perfectly clear and clean operating surface.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a longitudinal vertical section of my screen. Fig. 2 is a transverse vertical section of same on the line  $x-x$  of Fig. 1. Fig. 3 is a detail perspective of means for adjusting the roller F.

I have not herein deemed it necessary to show any particular machine or location for my screen. It is sufficient to show a framework indicated by A from which is supported at an inclination, by means of hangers or spring arms  $a$ , the screen frame B to which any suitable vibratory motion may be imparted. I have here shown this motion as an end shake, effected by means of a connecting rod  $a'$  at the head of the frame, to which suitable power is applied.

In the head of the frame is mounted a roller C, and in the foot of the frame is mounted a roller D. Upon these rollers is mounted and carried an endless screen E. This screen may have side flanges  $e$  to keep the material from working over its sides. It will be seen that the body of the screen in passing around the rollers lies in actual, direct and close contact with the surfaces of said rollers. A travel-

ing motion is imparted to the screen in the direction shown by the arrow, that is, toward the upper or head end of frame B. This motion may be given by suitable power transmitting devices connected with the shaft  $c$  of the head roller C. The lower fold of the screen passes under a tightening roller F located under the frame B, said tightening roller being vertically adjustable by suitable end connections. As shown, the roller supporting bracket 1 is provided with slots 2 through which project bolts or screws 3 to clamp the box 4 in which the axis of the roller is journaled, in the desired adjustment.

In the frame, between the two folds of the screen, is a platform G with suitable directing cleats  $g$  for receiving and carrying the cheat off to the discharge. In cases of very long screens I have a roller H intervening between the head and foot rollers C and D. This roller H is not carried by the frame B, but is mounted on the outside frame A, and passes under the upper fold of the screen at about its middle. The screen comes in direct and close contact with this roller H as with the other rollers, but on account of said roller H being mounted on the fixed frame A it has a double movement, namely, a complete rotary movement due to the contact of the traveling screen, and at the same time an oscillating movement due to the end shake of the screen. This roller prevents the screen from sagging and at the same time also has the function of keeping the screen clean as do the other rollers.

The material is fed upon the screen and while the smaller particles, such as the cheat pass through its meshes and are thus disposed of, the larger particles, such as the good wheat, find their way down over the surface of the screen by reason of its shaking movement to its lower end, and are there received in suitable receptacles. Such particles of cheat as stick in the meshes of the screen, thereby tending to clog it, are carried upwardly by the travel of the screen, and coming in contact with the surface of the head roller are forced out of the meshes, and are discharged at the upper end of the device. This forcing out process, by means of contact with the rollers, takes place where the screen

passes over any of the rollers, and thus by the time any given portion of the screen reaches the position for action again, it is thoroughly cleaned and its meshes are open. Thus the  
5 screen is self-cleaning and presents clean portions to the action of the material at all times.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. The combination of a stationary frame, an inclined vibrating or shaking frame carried thereby, a roller at each end of said shaking frame, an endless screen mounted upon said rollers in actual and direct contact therewith,  
15 and a roller mounted upon the stationary frame and extending transversely under and in direct contact with the upper fold of said screen, substantially as herein described.

2. The combination of a stationary frame,

an inclined vibrating or shaking frame carried 20 thereby, a roller at each end of said shaking frame, an endless screen having side flanges and mounted upon said rollers in actual and direct contact therewith, a vertically adjustable roller carried by the shaking frame and 25 extending transversely above the lower fold of the screen whereby the latter may be tightened down closely to its end rollers, and a roller mounted upon the stationary frame and extending transversely under and in direct 30 contact with the upper fold of said screen, substantially as herein described.

In witness whereof I have hereunto set my hand.

ANTONY FERREVA.

Witnesses:

S. H. NOURSE,

J. A. BAYLESS.