This invention relates to quickly detachable screens and the like.

The prime object of the invention is to design a quickly detachable screen for use in screening sand, coal, gravel, and other fragmentary materials which can be very quickly and easily removed, to the end that the screening surface of the machine on which it is operating may not become clogged, thereby diminishing the screening capacity and otherwise curtailing the output.

Another object of the invention is to design a rigid and durable frame on which the screen is stretched, which can be readily secured in proper position.

The above and other objects will appear as the specification progresses, reference being had to the accompanying drawings in which like reference numerals indicate like parts throughout the several views thereof.

In the drawings:

Fig. 1 is a side elevation of a gravel screening machine showing our improved quickly detachable screen in place thereon.

Fig. 2 is an enlarged longitudinal cross sectional view of the screens proper, and showing in dotted lines the detachable screen being raised.

Fig. 3 is a top plan view thereof, and

Fig. 4 is a transverse cross sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is an enlarged fragmentary top plan view of a section of the lower end of the frame.

When screening gravel and like materials which are located out of doors and exposed to the elements, it will be obvious that the materials will vary in accordance with weather conditions, as an example, in screening gravel during a rain and when considerable foreign matter is mixed therewith, the screens will clog due to the wetness and caking of the material, also in the spring and fall of the year the material will freeze in the night and thaw in the daytime, causing the screens to clog and curtailing the capacity of the machine, and we have therefore perfected a very simple and convenient screen and frame which can when clogged be removed, and another substituted therefor in but one minute's time, consequently the screening output of the machine can at all times be kept to its maximum capacity and efficiency, with but a minimum of adjustment and labor.

Referring now particularly to the drawings in which we have shown the preferred embodiment of our invention, the numeral 1 indicates the frame of the screening machine which is supported on the ground engaging wheels 2. Screens 3 and 4 are superimposed one above the other as shown.

The screen 3 is of a coarse large mesh and is secured to the frame 5 as shown. Particular attention is directed to the position of this screen in the frame 5, the screen proper being flush with the upper surface or edge of the frame for the purpose of supporting the lighter finer mesh screen which lies thereon and preventing its sagging which would cause the material to collect in the hollows and limit the capacity.

Our improved quickly detachable screen 6 is placed on this coarse screen, and comprises a frame 7 braced apart by the rods 8, and these rods are welded to the upper edge of the frame so as not to obstruct the screening surface. The upper ends of the side frame members are bent to form hooks 9 which hook over the upper end of the frame 5, the lower end is secured in position by means of pivoted clamps 10 which clamp over the opposite end of the frame, these are preferably spring tensioned as shown in Fig. 3, a spring 11 being anchored to the frame 7 adjacent the clamp, the free end of the spring engaging the clamp 10, these clamps can be swung back so that the lower end of the frame can be raised, the frame pushed upwardly and then raised clear as clearly shown in dotted lines in Figure 2, after the screen is removed a clean screen can be placed in position, the removal and replacement requiring but one minute's time.

From the foregoing description it will be obvious that we have perfected a very simple and convenient quickly detachable screen, which can be easily and quickly removed and replaced.

What we claim is:

1. A quickly detachable screen comprising a frame having a screen therein, the upper end of said frame being bent to form
hooks, and a pair of pivoted spring tensioned clamps secured to the lower end thereof.

2. A quickly detachable screen comprising a frame having a screen therein, the upper ends of the side members of said frame being bent to form hooks, transversely disposed braces connecting the side members and clamps on the lower end of the frame for securing the frame to a support.

3. The combination with a screening device, of a quickly detachable screen comprising a frame, having a screen secured therein, hooks on the upper end of the frame, and a pair of spring tensioned clamps on the lower end thereof.

In testimony whereof, we affix our signatures.

LEWIS E. SOLDAN.
GEORGE W. BEHNKE.