

June 27, 1933.

R. HERRMANN

1,915,931

SHAKER SIEVE MADE OF WIRE GAUZE AND USED FOR VIBRATORS

Filed April 25, 1932

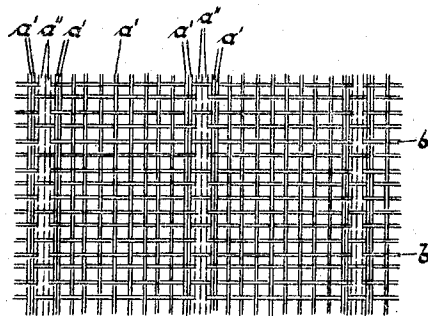


Fig. 1.

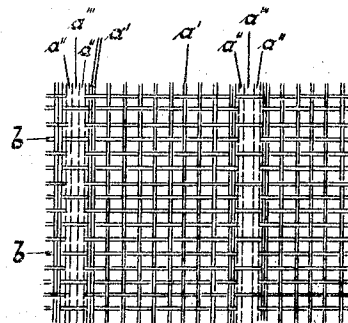


Fig. 3.

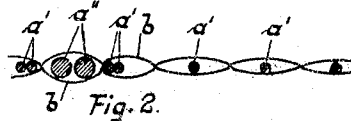


Fig. 2.

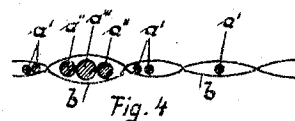


Fig. 4.

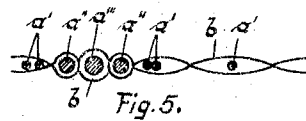


Fig. 5.

Inventor:-
Rudolf Herrmann
by attorney
Herrmann & Schward

UNITED STATES PATENT OFFICE

RUDOLF HERRMANN, OF DRESDEN, GERMANY

SHAKER SIEVE MADE OF WIRE GAUZE AND USED FOR VIBRATORS

Application filed April 25, 1932, Serial No. 607,392, and in Germany October 25, 1930.

The invention refers to shaker sieves made of wire gauze and used for vibrators, the wire gauze having the warp wires as well as the weft wires made of soft steel material and having at certain distances inserted or shot in single strong spring steel wires.

If the weft wires made of high quality spring steel are inserted at greater distances from each other, said wires must, in order to have sufficient firmness against pull and tear within the wire gauze, be made comparatively strong. However in this case a smooth continuous manufacture is not possible because, if the wire gauze is made by machines, the weaving process will have to be interrupted at short intervals, and this for the purpose of inserting the strong spring steel wires, so that hereby the weaving process will be greatly prolonged and the costs for manufacturing the gauze be correspondingly increased.

If, on the other hand, the warp wires made of high quality steel material are only arranged at greater distances, then also comparatively strong ones must be used. Thus there is the disadvantage that the inserted weft wires pass over the protruding strong spring steel-warp wires and thus will not only greatly stick out above the wire gauze surface, but also will correspondingly give way to the strong steel wires of high quality but of a very small capacity to change their shape. The strong spring steel warp wires will thus cause a very great undulation of the weft wires. The greatly protruding portions of the weft wires are consequently particularly exposed to wear and tear. Additionally, the weak warp wires made of soft steel material and lying next to the thick spring steel warp wires will furthermore be pressed away too far from said thick warp wires, whereby within the wire gauze next to the thick spring steel warp wires rows of sieve-holes will be formed which in consequence of their greater amplitude will allow larger particles of the goods to be sifted to pass through and thus create an absolutely uneven sifting.

In order to avoid these disadvantages, according to the present invention two or more high quality spring steel warp wires of mod-

erate size are arranged side by side at selected intervals and are simultaneously looped together by the weft wires; thus the possibility is given to produce the wire gauze in a smooth continuous manufacture, which greatly simplifies the latter and keeps the costs low.

Furthermore the advantage is obtained that the deflection of the weft wires during the weaving procedure is smaller than on using single strong and thick spring steel warp wires. Also by the insertion of double warp wires of soft material next to the double spring steel wires the pushing aside of said warp wires of soft material is reduced to a minimum. At the same time the thickness of the spring steel warp wires can be determined so that the strength against pull of both these wires taken together at least corresponds to that of the thick spring steel warp wire, otherwise required, in order to thus obtain at least the same firmness of the wire gauze, notwithstanding the use of individually weaker wires.

In case an increased firmness of the wire gauze is to be obtained, there can be further inserted between the two spring steel warp wires a third equally strong or even stronger spring steel warp wire, which may either lie loosely between the weaker spring steel warp wires or be separately woven into the weft wires.

According to the present invention the advantage is obtained that on the one hand the weft wires at the points where they are crossed by the stronger warp wires will protrude as little as possible and will be thus less exposed to wear and tear, and that on the other hand the manufacture of a wire gauze for shaker sieves with evenly great meshes will be ensured.

In the annexed drawing the invention is shown by way of different examples.

Fig. 1 shows in a plan view and Fig. 2 in cross-section on an enlarged scale a construction of wire gauze, in which, instead of a thick strong spring steel warp wire, two weaker spring steel warp wires a'' are arranged.

On both sides of these two spring steel warp wires a'' there are arranged two warp wires a' made of soft pliant material which are inter-

woven together as a single warp wire, as will be seen from the cross-section shown in Fig. 2. Thus the advantage is obtained, that by this pairlike wire-arrangement and the thus obtained strengthening of the warp wires the latter will shift towards the strengthened spring steel warp wires in such a manner, that an undue enlargement of the meshes will not take place and the evenness of the meshes will be ensured.

Fig. 3 shows a construction of wire gauze in which between the two weak spring steel warp wires a'' there is further inserted a third wire a''' , which will either, as shown in Fig. 4 on an enlarged scale, be interwoven or interlooped with the wires a'' as a single warp wire by the weft wires b , or, as is seen by Fig. 5 on an enlarged scale, the three spring steel warp wires a'' , a''' , a'' will be each singly interwoven or interlooped by the weft.

Without departing from the scope of the invention the above described different constructions can also be used in connection with any desired woven fabric of any required metal.

What I claim is:

1. A shaker sieve made of wire gauze for use as a vibrator comprising, warp and weft wires of soft steel material and warp wires of high quality spring steel at selected intervals, said latter named warp wires consisting of a plurality of wires of moderate size woven together by the weft wires as a single warp wire.

2. A shaker sieve made of wire gauze for

use as a vibrator comprising, warp and weft wires of soft steel material and warp wires of high quality spring steel at selected intervals, said latter named warp wires consisting of a plurality of wires of moderate size woven together by the weft wires as a single warp wire, the warp wires adjacent the said spring steel warp wires being formed of a plurality of soft steel wires woven together by the weft wires as a single warp wire.

3. A shaker sieve made of wire gauze for use as a vibrator comprising, warp and weft wires of soft steel material and warp wires of high quality spring steel at selected intervals, said latter named warp wires consisting of a pair of wires of moderate size and a similar wire of larger size located therebetween woven together by the weft wires as a single warp wire.

4. A shaker sieve made of wire gauze for use as a vibrator comprising, warp and weft wires of soft steel material and warp wires of high quality spring steel at selected intervals, said latter named warp wires consisting of a pair of wires of moderate size and a similar wire of larger size located therebetween woven together by the weft wires as a single warp wire, the warp wires adjacent the said spring steel warp wires being formed of a plurality of soft steel wires woven together by the weft wires as a single warp wire.

In testimony, that I claim the foregoing as my invention, I have signed my name this 14th day of April 1932.

RUDOLF HERRMANN.

40 105

45 110

50 115

55 120

60 125

65 130