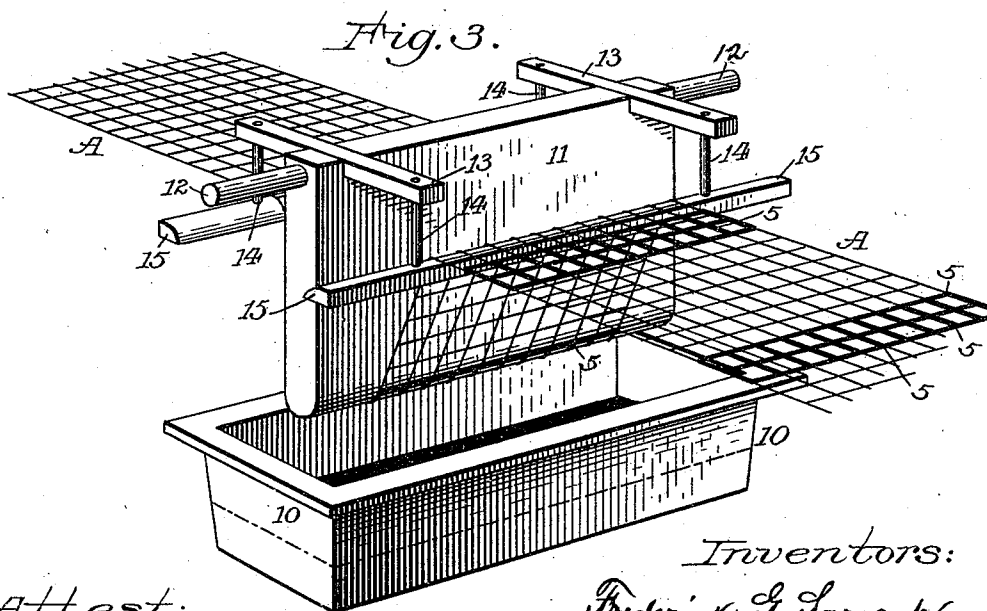
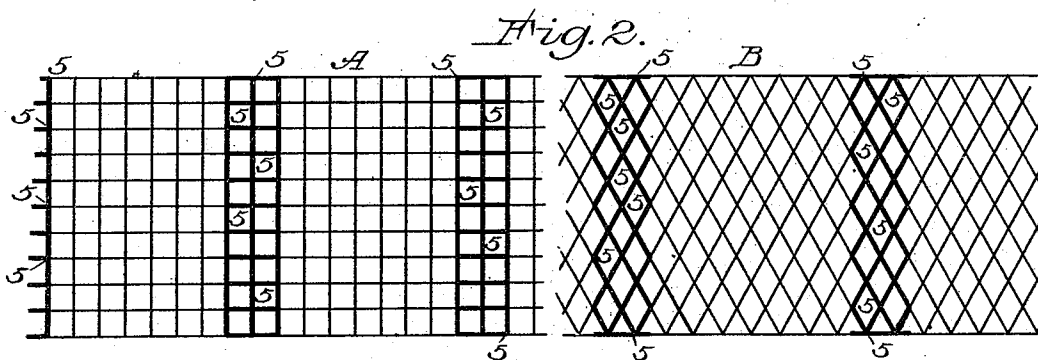
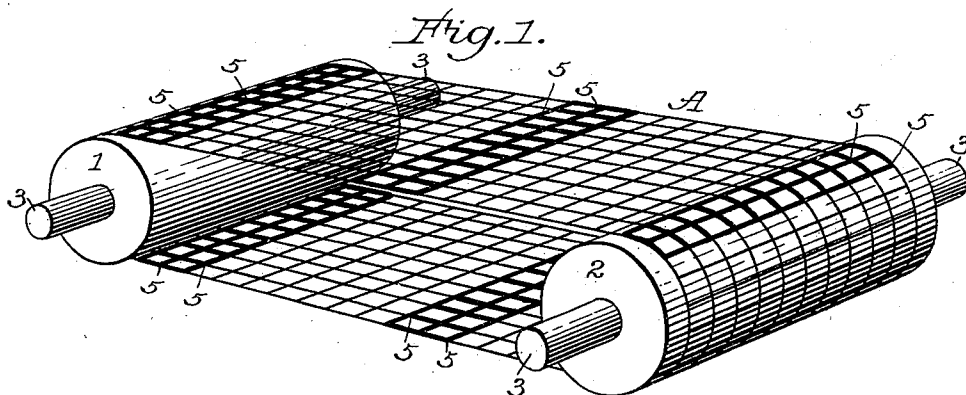


(No Model.)

F. G. & A. C. SARGENT.
WIRE CLOTH APRON.

No. 510,558

Patented Dec. 12, 1893.



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UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT AND ALLAN C. SARGENT, OF GRANITEVILLE,
MASSACHUSETTS.

WIRE-CLOTH APRON.

SPECIFICATION forming part of Letters Patent No. 510,558, dated December 12, 1893.

Application filed September 9, 1892. Serial No. 445,477. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK G. SARGENT and ALLAN C. SARGENT, of Graniteville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Wire-Cloth Aprons, of which the following is a specification.

Our improvement relates to aprons made in the form of screens of wire for the purpose of drying articles on them, and other similar purposes, and it consists in certain new and useful constructions and combinations of the several parts thereof, substantially as herein-after described and claimed.

In the drawings:—Figure 1 shows a wire screen apron passing around rollers, in the position in which it would be used in driers and other machines. Fig. 2 shows a section of this apron in face view with our construction illustrated, and also a modification thereof in the form of an apron with diamond-shaped meshes in face view. Fig. 3 shows the apparatus and illustrates the method of making the apron according to our invention.

A is a wire screen apron having square meshes, which is made endless and passes over the rollers, 1, 2, which are mounted on the axes, 3, 3, in the ordinary manner. These rollers are such as are used in driers and wool washing machines, and others of like character. Heretofore when such aprons were woven out of ordinary wire, or wire which had been previously tinned or galvanized, it has been found that owing to the unequal strain and play of the wires upon each other these aprons are liable to get out of shape, one side becoming longer or shorter than the other, and the wires getting out of place which run crosswise of the apron, so that they would tend to run off of the rollers at one end and bind and wear upon the ends and casing of the machine, and rapidly wear off the tinning or galvanizing in places and wear them out and speedily become either entirely useless or of comparatively little value. On the other hand, when such aprons have been made of wires woven together as illustrated and dipped in the tinning or galvanizing metal afterward the scores where the wires cross become all filled with the metal and cemented or soldered together, and this renders them too stiff

to pass around the rollers of moderate size, which require, on account of their small diameter, that there shall be some play between the wires at the scores in order to allow the apron to pass freely around them.

Our improvement consists in weaving the wire apron up first of wires in the form shown and then in tinning or galvanizing the scores of the apron transversely at considerable intervals, of some of the wires, leaving the intermediate scores without being galvanized after the weaving is done, so that while the apron is held together by this process at intervals sufficiently near to prevent the undue straining of one side more than the other, or the displacement of the wires, it shall yet possess the requisite flexibility and yielding properties in passing around the rollers. In an apron similar to the one lettered "A" this galvanizing or tinning after the weaving is done leaves the wires slightly larger, and in Fig. 2 this slight enlargement has been exaggerated in the transverse wires in order to better illustrate our invention. The scores in the enlarged wires, 5, 5, are the ones which have been tinned or galvanized after the apron was woven, and it will be seen that at intervals they tie the apron together from side to side on three of the adjacent transverse wires. This holds the two sides of the apron at intervals and all the intermediate sides transversely on three wires so that they cannot get misplaced, and an interval of six wires is left between every three that are galvanized or tinned after the weaving, which six wires have the intermediate scores between the edges loose so that they can have some play or movement. We do not intend to limit our invention to exactly this number of tinned or galvanized scores, separated by exactly this number of loose scores, because a considerable variation may be made in these particulars without departing from our invention.

In Fig. 3 is shown the apparatus for performing the process of tinning or galvanizing the apron at intervals. We describe the apparatus we use at some length, because ordinary tinning or galvanizing apparatus will not serve to tin or galvanize the precise scores desired at intervals, without liability of getting the tin or zinc on the wires or scores be-

tween, which would impair the utility of the invention with the given size of roller with which it is to be used. The apparatus shown is one which can be readily modified so as to

5 tin or galvanize a greater or less number of adjacent scores in the wire apron at pleasure. 10 is a trough, having the melted metal filling it to the height of the dotted line. A beam, 11, is provided with handles, 12, 12, at

10 each end on its upper edge and is of sufficient depth to reach to the bottom of the trough when dipped downward therein. On this beam are attached two cross bars, 13, 13, which hold the rods, 14, projecting downward, and

15 two bars, 15, 15, are attached to the rods parallel to beam, 11, at a little distance below the top of the same. The wire screen apron, A, is passed over bar 15 on one side under the rounded lower edge of beam, 11, and up over

20 bar 15 on the other side, presenting two or three lines of scores transversely of the apron on the lower edge of the beam 11. The beam, 11, is then dipped into the galvanizing metal, effectively tinning or galvanizing these scores

25 according to the metal used, when the apron is driven along over bars, 15, and under the beam the proper distance and the beam is again dipped into the metal, and so on until the entire apron is subjected to the process.

30 B (Fig. 2) is a wire screen apron woven with its scores in diamond shape. The scores marked 5 will be soldered or cemented together by the dipping at intervals in the same way as with the apron, A, when subjected to

35 the process in a similar manner. The result in either case is that the apron will not yield

or strain more on one side than the other, and will run perfectly over the rollers with the requisite flexibility to insure its durability in use. If the apron does not have the wiregal- 40
vanized before weaving, it will be found necessary to treat the scores and parts which are to be dipped in the trough, 10, with some acid to remove the rust and scale and insure the adhesion of the molten metal on them. We 45
prefer, however, that the wires forming the apron shall be tinned or galvanized before being woven and then the re-dipping of the apron with the apparatus shown in Fig. 3, will melt the tin or galvanizing metal on the wires 50
and scores which are dipped into the molten metal in the trough and effectively solder or cement them together in a superior manner.

What we claim as new and of our invention is—

1. A flexible woven wire apron having its scores in alternate transverse portions secured by galvanizing or tinning, and in intermediate portions free to move or flex, substantially as described. 55

2. A flexible woven wire apron having its wires protected by galvanizing or tinning throughout its length, and having its scores in alternate transverse portions secured by galvanizing or tinning, and in intermediate 60
portions free to move and flex, substantially as described. 65

FREDERICK G. SARGENT.
ALLAN C. SARGENT.

Witnesses:

JOS. IRISH,
W. A. HARRIS.