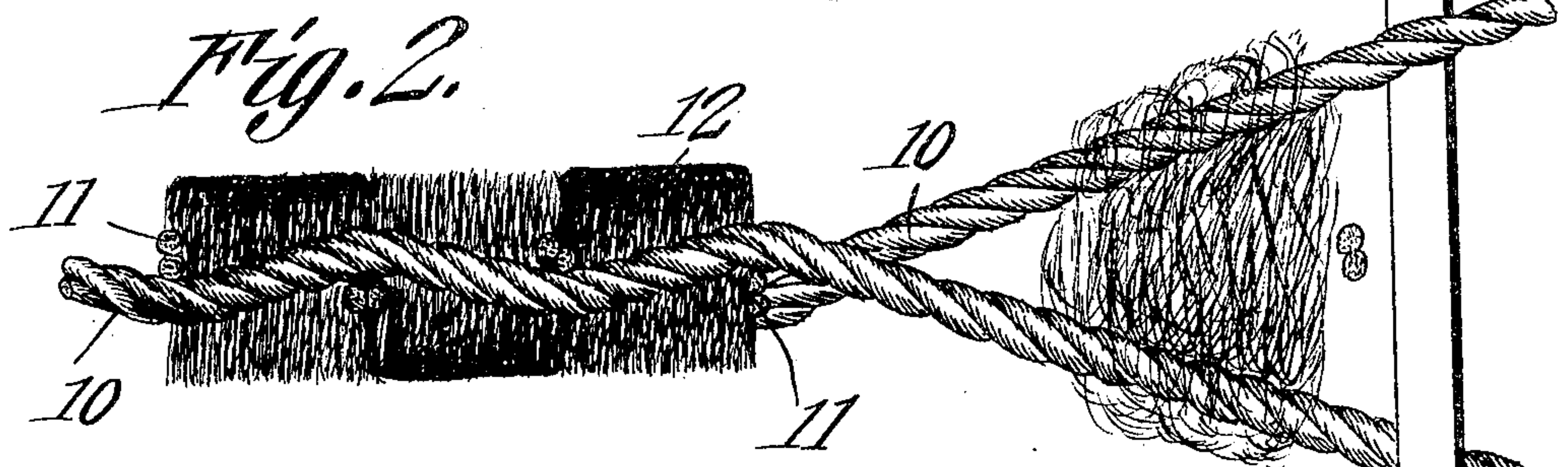
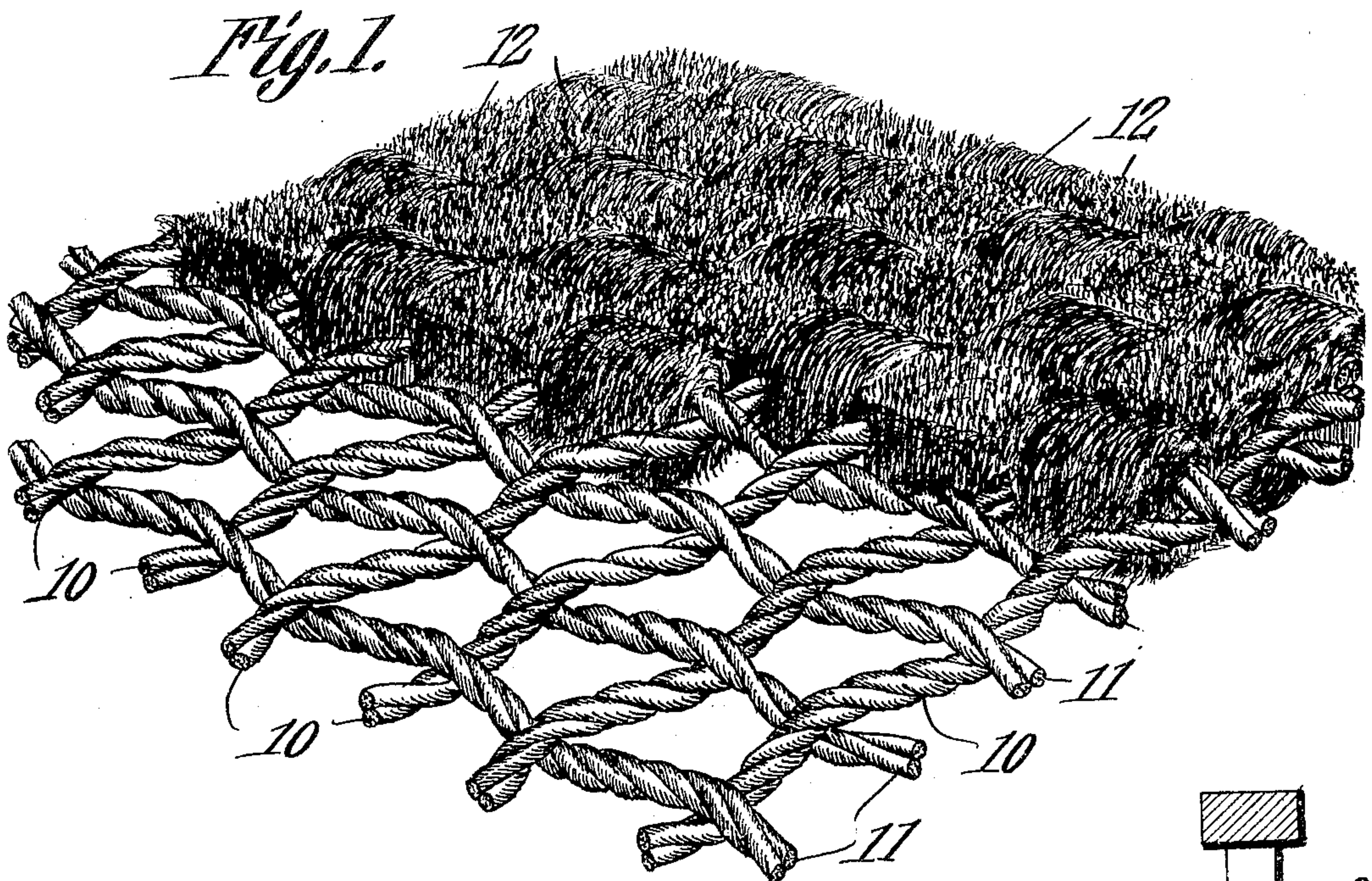


E. W. CRUIKSHANK.
MAT.
APPLICATION FILED DEC. 17, 1908.

933,889.

Patented Sept. 14, 1909.



Witnesses

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UNITED STATES PATENT OFFICE.

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MAT.

933,889.

Specification of Letters Patent. Patented Sept. 14, 1909.

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To all whom it may concern:

Be it known that I, ERNEST W. CRUIKSHANK, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented a new and useful Mat, of which the following is a specification.

This invention relates to textile fabrics and particularly to the construction of mats.

In the manufacture of ordinary door mats from cocoa fabric, coir and similar material, it is usual to weave the coir over pile wires in much the same manner as chenille is woven and then to cut the material on the wire for the purpose of making tufts. After the mat is woven the surface is trimmed off and the short fibers formed as a result of this trimming operation have hitherto been considered as waste material and have never been used to advantage.

The principal object of the present invention is to utilize this waste material or any other material in the form of short fibers for the purpose of manufacturing mats.

A further object of the invention is to form a textile fabric having a loose disconnected filler.

A still further object of the invention is to provide a fabric having a filler weft formed of loose disconnected bunches of fabric.

With these and other objects in view, as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, as will be more fully hereinafter described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of construction may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of a mat constructed in accordance with the invention, a portion of the filler being removed in order to show the interlacing warp and weft threads. Fig. 2 is a longitudinal sectional view of the shed open and illustrating the manner in which the loose anomalous filler is introduced into the shed. Fig. 3 is a detail sectional view of the complete mat.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In practically all woven or knitted fabrics it has hitherto been considered necessary to arrange the filler or other strands in the form of yarn more or less loosely twisted in order that the same may be properly placed in the shed during the process of weaving, but in carrying out the present invention the filler is made of short, disconnected fibers which otherwise would be waste material and introducing the same in the shed in an anomalous condition, that is to say, the fibers are thrown either by hand or by suitable mechanism into the open shed and then beat up with a binder weft, the warp threads being arranged sufficiently close together in order to co-act with the binder wefts to hold all of the short fibers in place and to form tufts which will extend from each side of the fabric and form a more or less rough surface which is adapted for use as matting. The warp threads may be formed of coir, jute or any other suitable material and are arranged at such distance from each other as to firmly hold the filler in proper position. The weft threads are interwoven in the usual manner with the warps as shown in Fig. 1.

In weaving the mat the filler is introduced into the shed in the manner shown in Fig. 2, the mass of short, loose fibers being simply thrown into the shed either by hand or by any suitable mechanism, the fibers being preferably formed of the waste material resulting from the manufacture of ordinary coir mats, although it will be understood that the invention contemplates the employment of short, loose fibers of any material. After the introduction of the loose filler a binder shot is made and then the lay is operated for the purpose of beating up the binder weft, carrying the loose filler into proper position and then when the shed changes and the positions of the warps are reversed the strain on the mass of fibers will result in the formation of a series of tufts, that is to say, the fibers which are caught and held by the descending warps will be carried down and doubled into approximately U-shape so that their median lines will be at the bottom of the mat while their ends will be exposed at the upper surface thereof and on the ascending warps the reverse effect will be accomplished so that throughout the entire mat the tufts may be said to alternate. This tufting arrangement, however, is in most cases a matter of acci-

dent and cannot be always depended upon
for the reason that no effort is made to ar-
range the short fibers in such position as to
insure the formation of these tufts, the in-
5 tent being merely to place the filler in an
anomalous disconnected condition into the
shed and to hold the same properly together
by the warps and binder wefts.

10 In carrying out the invention it is pre-
ferred to saturate the warp threads with
some adhesive material so that the filler may
be more firmly held although this has not
been found absolutely necessary in practic-
ing the invention on a commercial scale.

15 The finished mat is fully equal in appear-
ance to the more expensive cocoa fiber mat
made in the ordinary manner and after be-
ing in use for a short time, especially after
some exposure to damp atmosphere, the mass
20 of fibers will be compacted or compressed to
such an extent as to prevent loosening or
displacement of the fibers under ordinary
wear. In some cases, however, the entire
mat after being woven may be subjected to a

bath of some adhesive material and then 25
compressed in any suitable manner as by
passing the same through pressure rollers.

Having thus described the invention, what
is claimed is:—

1. A mat comprising warp and weft 30
threads, and a series of tufts confined be-
tween the threads and facing alternately in
opposite directions and composed of a het-
erogeneous mass of short vegetable fibers.

2. A mat comprising warp and weft 35
threads, and a series of tufts confined be-
tween the threads, composed of a hetero-
geneous mass of short fibers and doubled
upon themselves around and by the warp
threads. 40

In testimony that I claim the foregoing
as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

ERNEST W. CRUIKSHANK.

Witnesses:

WILMER H. RANDEL,

LYDIA B. SMITH.