

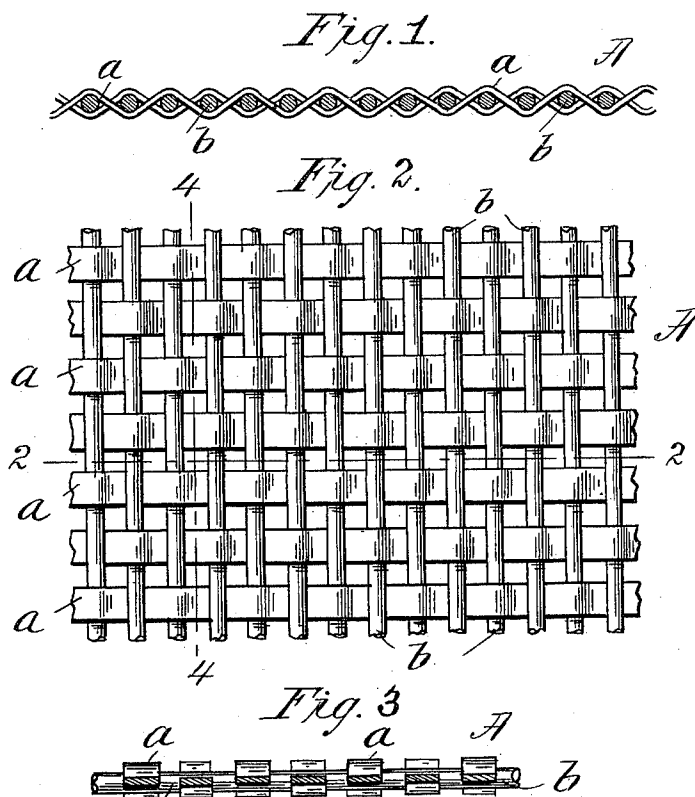
(No Model.)

J. C. BELL.

MAKING WIRE FOR PAPER MAKING MACHINES.

No. 600,352.

Patented Mar. 8, 1898.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MAKING-WIRE FOR PAPER-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 600,352, dated March 8, 1898.

Application filed June 18, 1897. Serial No. 641,398. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. BELL, a subject of the Queen of Great Britain, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Making-Wires for Paper-Making Machines, of which the following is a specification.

This invention relates to paper-makers' wire fabric such as is extensively used in Fourdrinier paper-machines. Heretofore the wire-cloth from which the making-wire has been made has comprised warps and filling of fine brass wire, both round, the filling being shot and disposed in straight lines, while the warps are knuckled—that is, having the usual decussative arrangement.

In the use of paper for printing half-tone cuts and illustrations it is found that the marks or indentations in the paper imparted thereto by the prominent "knuckles" of the warp-wires render it impossible to acquire perfection in the printing, and these defects in the paper are appreciable under other circumstances than where the paper is used for half-tone printing.

The object of the present invention is to provide a making-wire wherein the knuckles of the warp-wires are less sharp and prominent, to the end that a more nearly perfect paper may be produced.

The invention consists in a making-wire having the warps composed of flat wires, the same being woven with a filling of cross-wires, the outer surfaces or most prominent portions of the cloth being constituted by the flat faces or sides of the warp-wires.

The invention is fully and completely illustrated in the accompanying drawings, in which—

Figures 1, 2, and 3 are respectively a longitudinal sectional view, a plan view, and a cross-sectional view, enlarged, of the improved making-wire, line 2 2 indicating the section on which Fig. 1 is taken and line 4 4 indicating the section on which Fig. 3 is taken.

In the drawings, A represents a portion of the making-wire, in which *a a* are the warp-wires, and *b b* the filling wires or weft. The warp-wires *a a* have their upper and lower

sides flat, as shown more especially in Fig. 3, while the wires which constitute the filling are preferably round, although they may be of any cross-sectional shape.

In practice for the production of a making-wire such as may be advantageously utilized in a paper-machine the filling may be composed of brass wire of about eight one-thousandths of an inch diameter, while the warp-wires are composed of brass wires twelve one-thousandths of an inch wide and four one-thousandths of an inch thick.

In preparing the warp-wires for the wire-cloth loom I take brass wire of the dimension noted for the filling and roll or draw it down from eight one-thousandths of an inch diameter to half the thickness, correspondingly increasing its width, and inasmuch as the rolling or drawing operation hardens or tempers the wire, rendering it harsh and refractory, I anneal it before using it in weaving.

A flat-surfaced making-wire cloth is produced by weaving of suitable mesh, the warps being spaced so as to leave the usual or suitable intermediate openings, and while all sufficient capabilities are found in the improved fabric as they have heretofore existed for efficient use in paper-machines the further important advantage of a cloth devoid of deep or high and comparatively sharp surface knuckles is acquired, and it is manifest that the web of paper made upon a wire such as here described will be of greatly-improved and more uniform surface and the better adapted for utilization for many purposes than paper fabricated upon a making-wire as has been heretofore universally used, in which the warp-wires comprised in round wires created by their decussions sharp and comparatively deep surface knuckles.

While it is impossible to wholly eradicate the marks of the wire fabric from the paper, by the use of the flat wires, as here shown, the marks are reduced very materially.

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

1. A paper-maker's making-wire comprising warp-wires and filling-wires woven together, the warps being composed of flat wires

whereby the outer or most prominent surface portions of the cloth are constituted by the flat faces or sides of the warp-wires.

2. A paper-maker's making-wire having
5 the warps composed of flat annealed brass wires, the same being woven with a filling of cross-wires, the outer and most prominent portions of the cloth being constituted by the flat faces of the warp-wires.

10 3. A paper-maker's making-wire having one set of its wires made with flat sides, and

of a width greater than its thickness together with interwoven crossing wires, the flat wires forming a flat-surfaced face for the fabric.

In testimony that I claim the foregoing as
my invention I have signed my name, in pres- 15
ence of two witnesses, this 19th day of May,
1897.

JOHN C. BELL.

Witnesses:

WM. S. BELLOWS,
M. A. CAMPBELL.