

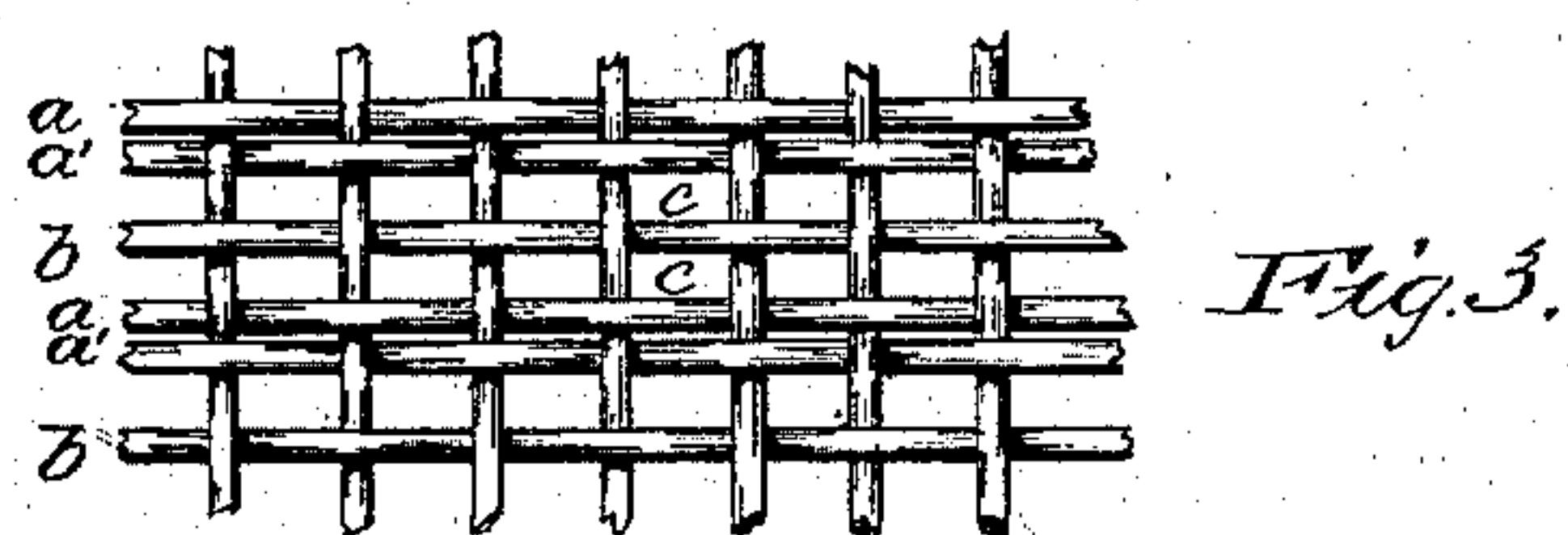
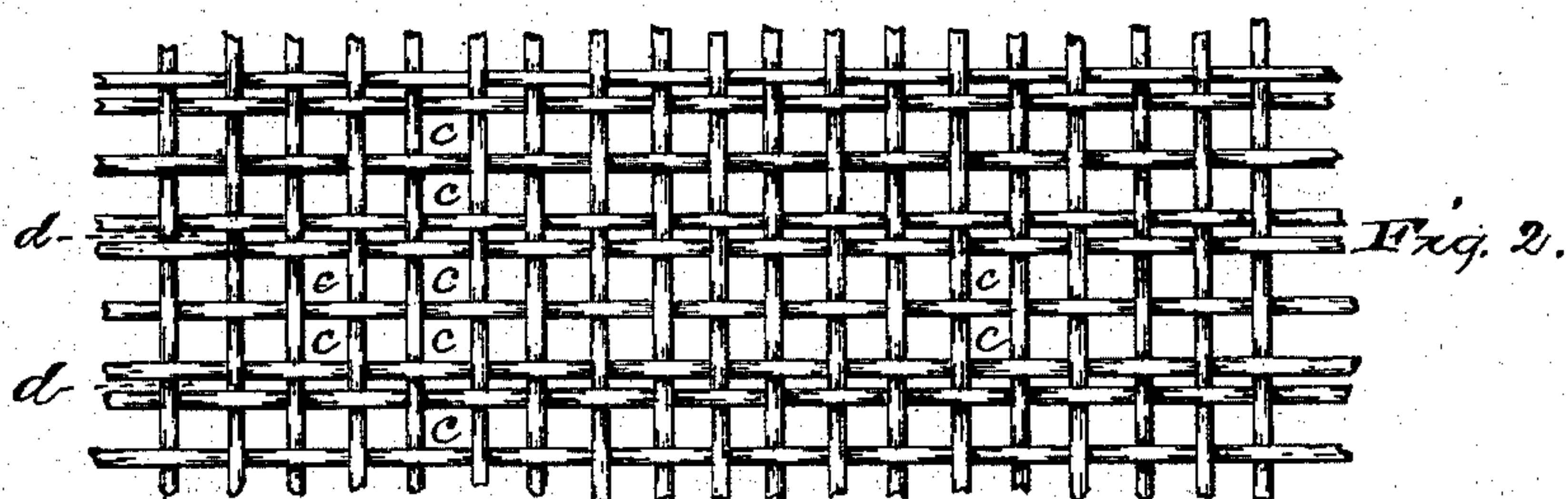
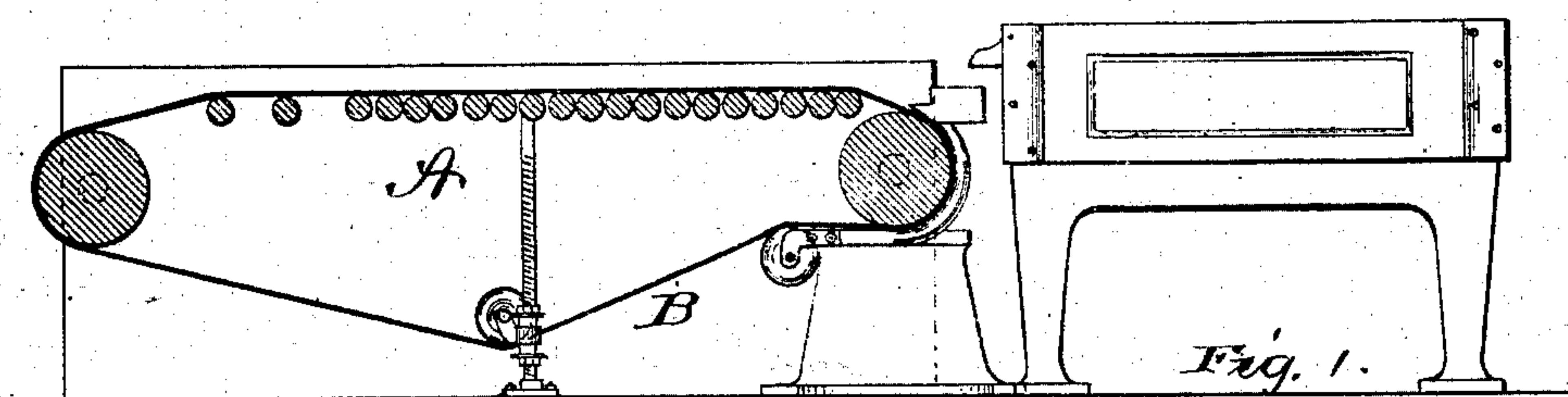
(No Model.)

G. R. CALDWELL.

WIRE CLOTH FOR THE MANUFACTURE OF PAPER, &c.

No. 284,273.

Patented Sept. 4, 1883.



Attest

Chas. F. Hunt
J. F. Campbell

Inventor:

George R. Caldwell,
by Drake & Co. Attys.

UNITED STATES PATENT OFFICE.

GEORGE R. CALDWELL, OF TROY, NEW YORK.

WIRE-CLOTH FOR THE MANUFACTURE OF PAPER, &c.

SPECIFICATION forming part of Letters Patent No. 284,273, dated September 4, 1883.

Application filed July 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. CALDWELL, a citizen of the United States, residing at Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Wire-Cloth for the Manufacture of Paper, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates more especially to that class of wire fabrics adapted to be employed in the construction of an endless apron to be used in the Fourdrinier process of manufacturing paper, the object of the invention being to produce a texture of greater strength without interfering with the passage of water from the paper-pulp lying thereon in the above-mentioned process of paper-making.

A further object is to give a greater material surface to a given portion of fabric, whereby the quality of the paper is improved and a saving of fine "stock" is effected.

The invention consists in the arrangement and combination of parts, substantially as will be hereinafter set forth, and finally embodied in the claims.

Referring to the accompanying drawings, in which similar letters of reference indicate like parts in each of the figures, Figure 1 represents a portion of a paper-machine in side elevation, having an endless wire-cloth apron arranged upon a series of table-rolls, which said apron is adapted to receive the pulp from the ordinary pulp-receptacle in the usual manner. Fig. 2 represents a piece of wire-cloth greatly magnified, illustrating the arrangement of the wires therein. Fig. 3 shows a slightly changed relation of the wires in the fabric.

In carrying out my invention I form an endless belt, B, of wire fabric, and arrange the same on table-rolls A of a paper-machine, the

wires being preferably of brass or of metal capable of withstanding the decomposing effect of the pulp.

Heretofore wire cloth or fabric arranged in the manner above stated had the wires arranged approximately equidistant apart, both in the warp and woof, so that the openings between the wires were approximately square. In my improved construction I arrange the wires as shown, *a a'* being wires arranged close together, with a small opening, *d*, between, forming in one sense a "double wire," as they shall, for convenience, be hereinafter designated. Said double wire alternates with a single wire, *b*, having wider spaces *c* laterally adjacent. Said wires *a a' b* preferably form the warp of the fabric and take the longitudinal strain of the belt.

In manufacturing the fabric each strand of the double wire lies in a separate heddle; but as they approach the reed they come together, and in that manner pass through a single "dent" therein. The warp passes alternately above and under the wires *a a'*, as will be understood upon examination of Figs. 2 and 3. The single wires *b* pass through separate dents individually.

Having thus described my invention, what I claim is—

1. In a wire fabric for paper-making purposes, the double wires *a a'*, alternating with a single wire, *b*, the wider spaces or openings lying on each side of the single wire, as shown.

2. A fabric composed of brass woof and warp strands, the warp-strands *a a'* lying closely adjacent, with the woof-strands passing alternately above and below the same, and the strands *b* lying at a greater distance from either of the strands *a b* than the latter are from one another.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of July, 1883.

GEORGE R. CALDWELL.

Witnesses:

OLIVER DRAKE,
CHARLES H. PELL.