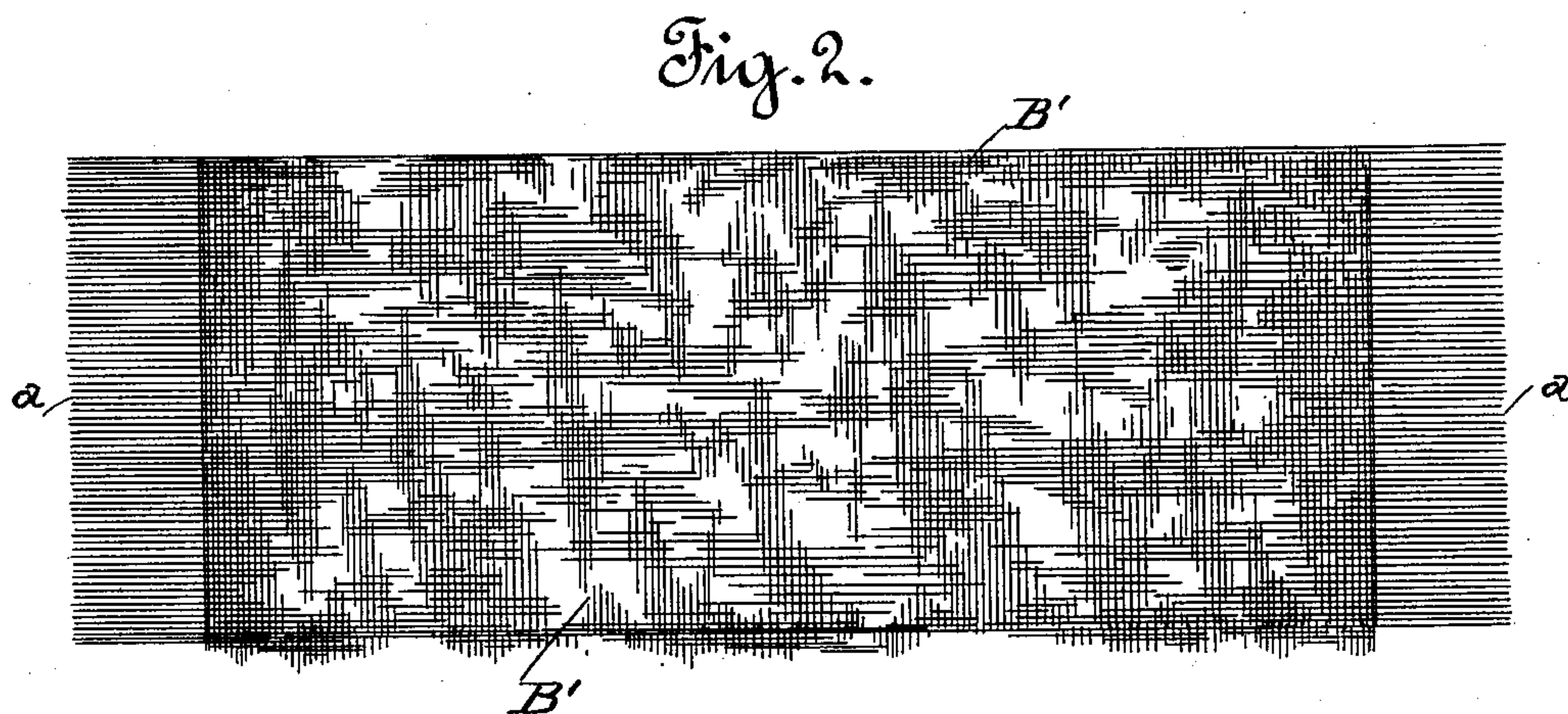
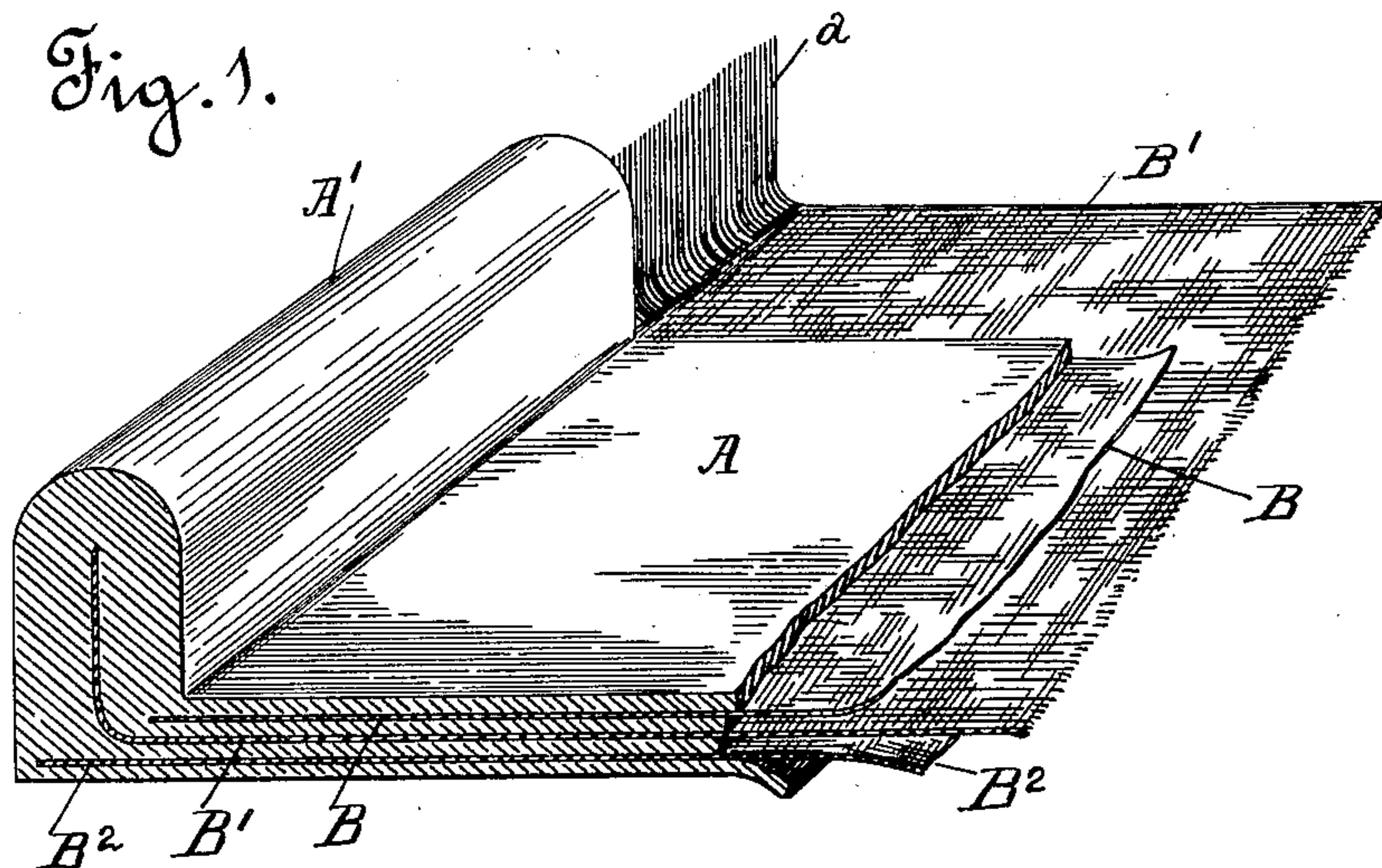


(No Model.)

W. F. BOWERS.
CONCENTRATING BELT.

No. 599,926.

Patented Mar. 1. 1898.



Witnesses.

The Monteverde

Elmer Wickes.

Inventor.
William F. Bowers
by Nacker
his atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. BOWERS, OF SAN FRANCISCO, CALIFORNIA.

CONCENTRATING-BELT.

SPECIFICATION forming part of Letters Patent No. 599,926, dated March 1, 1898.

Application filed July 22, 1897. Serial No. 645,516. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BOWERS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Concentrating-Belts; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to certain new and useful improvements in concentrating-belts for use in connection with that class or style of concentrating-machines used for recovering precious ore by what is known as "wet" concentration; and the invention is more especially an improvement in that particular class of flexible concentrating-belts fully set forth and described in an application filed by me on the 16th day of December, 1896, Serial No. 615,875, for Letters Patent of the United States upon an ore-concentrating belt, to which reference is hereby made.

In my former application, Serial No. 615,875, there is run into the rubber side flanges during the manufacture of the concentrating-belt an independent piece or strip of textile fabric or duck cut on the bias. The running of such a piece of textile fabric or duck, inasmuch as it is distinct or separate from the other layers of textile fabric, requires considerable time and the exercise of care that the piece cut on the bias be properly united to the belt and side flange.

The object of my present invention is to simplify the construction and reduce the cost of manufacturing such belts without destroying or removing the elasticity of the rubber side flange.

Referring to the drawings forming a part of this application, Figure 1 is a perspective view showing a portion of a concentrating-belt partly broken away, and Fig. 2 is a broken top plan view of one of the layers of textile fabric or duck used in the manufacture of the belt.

In the drawings the belt is shown as being composed of layers A of rubber and layers B, B', and B² of canvas, duck, or other textile fabric. These layers of canvas, duck, or other textile fabric are cut straight, so that the warp-threads run parallel with or lengthwise of the layers of rubber. At each side of the

belt is formed, by means of a suitable mold, the upwardly-extending side flanges A', which side flanges are preferably made of rubber of purer quality than the main body or portion of the belt, although this is an immaterial feature. One of the layers of textile fabric, in the present instance layer B', is made somewhat wider than the belt proper, and the warp-threads thereof at each edge are removed in any suitable manner, so as to leave the woof-threads projecting. These projecting threads form what I shall term "binding" or "tie" threads, which are during the manufacture of the belt run upward or extended into the rubber side flange of the belt. This binding or tie thread takes the place of the piece or strip of textile material cut on the bias set forth in my former application, Serial No. 615,875, filed on the 16th day of December, 1896.

While I prefer simply to remove the warp-threads from one of the layers of textile fabric, so as to expose the woof-threads for a given distance and to extend or run the projecting woof-threads into the rubber side flanges of the belt, I do not limit myself thereto, for I am well aware that a series of strips or binding-pieces may be run from the belt proper and extended vertically into the side flanges. Consequently by the expression "binding or tie threads" I wish to be understood as meaning the woof-threads of the textile material or separate and independent pieces inserted into the body of the belt and extended vertically into the rubber side flanges of the said belt. By the use of these reinforcing binding or tie threads or strips the side flanges of the belt are materially strengthened, so as to make it nearly impossible for the said flanges to break away from the body of the belt, and inasmuch as the reinforcing binding or tie threads or strips inserted vertically within the side flanges are independent of each other and not united one to the other they allow of the rubber side flanges stretching longitudinally as carried over the end rolls of the concentrating-machine.

It will be observed that while I preserve the elasticity of the rubber side flanges I do not incorporate therein textile material cut on the bias, as in my aforesaid application, Serial

No. 615,875, filed December 16, 1896. The binding or tie threads or strips, while not interfering with the elasticity of the side flanges, serve to prevent the same from breaking away
5 from the body of the belt proper.

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

1. As a new article of manufacture a belt
10 having its body portion provided with elastic side flanges reinforced by a series of independent flexible binding or tie threads or strips run from the body of the belt into the side flanges vertically.

15 2. A belt composed of rubber and textile material having elastic side flanges reinforced by extending the woof-threads of the textile material of the body portion of the belt into the rubber side flanges.

20 3. A belt having its body portion composed

of layers of rubber and textile material having its warp-threads removed at its edges so as to leave the woof-threads exposed, rubber side flanges united to the body portion of the belt, the side flanges being reinforced and
25 strengthened by extending the projecting woof-threads into the side flanges.

4. A belt having its body portion composed of rubber and textile material provided with rubber side flanges strengthened and reinforced by extending the woof-threads of the
30 textile material of the body portion upwardly into the side flanges.

In testimony whereof I affix my signature, in presence of two witnesses, this 8th day of
35 July, 1897.

WILLIAM F. BOWERS.

Witnesses:

LINCOLN SONNTAG,
WM. J. HOWATT.