

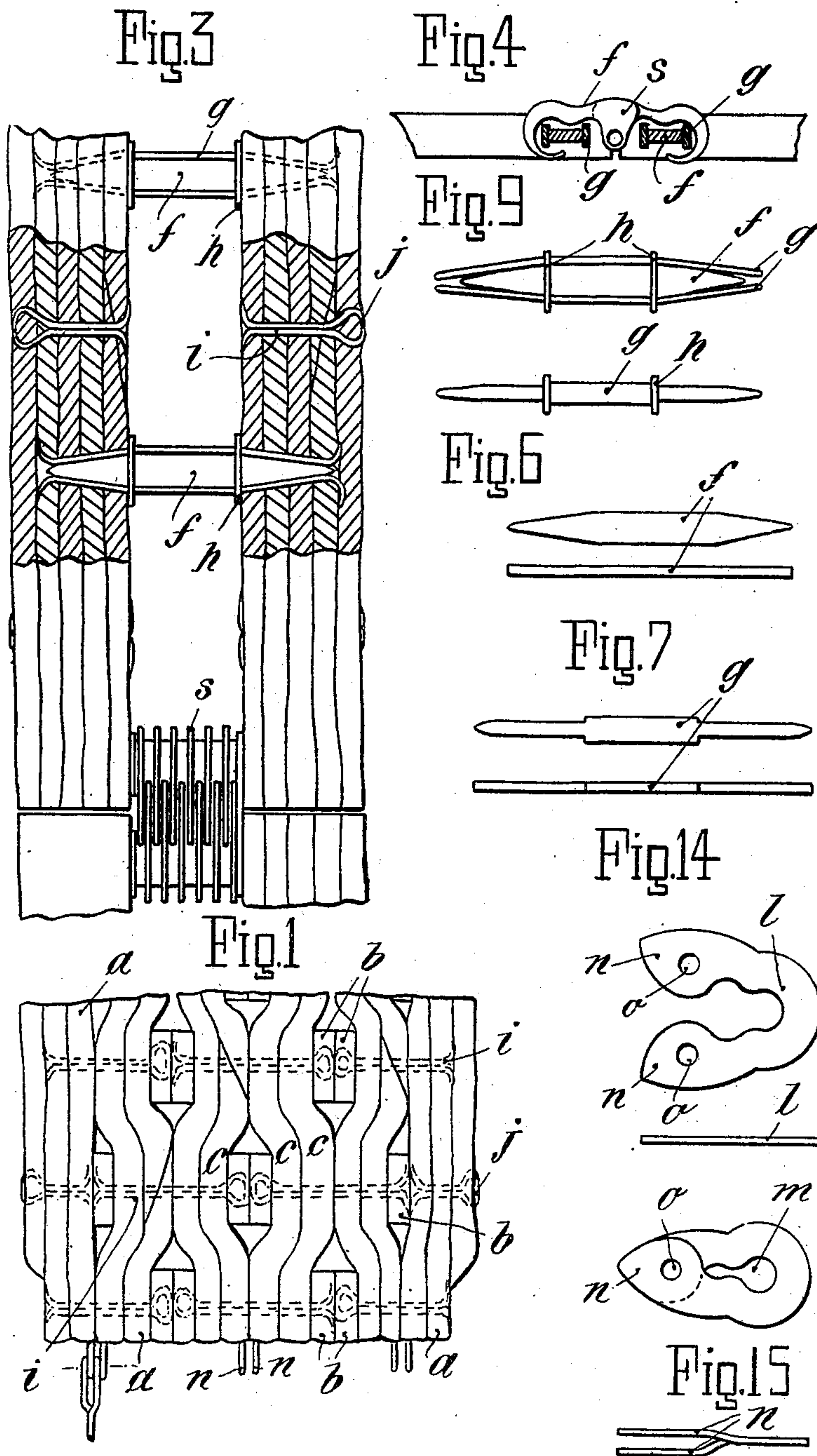
No. 886,525.

PATENTED MAY 5, 1908.

G. MAGALDI.
BELT FOR POWER TRANSMISSION.

APPLICATION FILED JULY 2, 1906.

2 SHEETS—SHEET 1.



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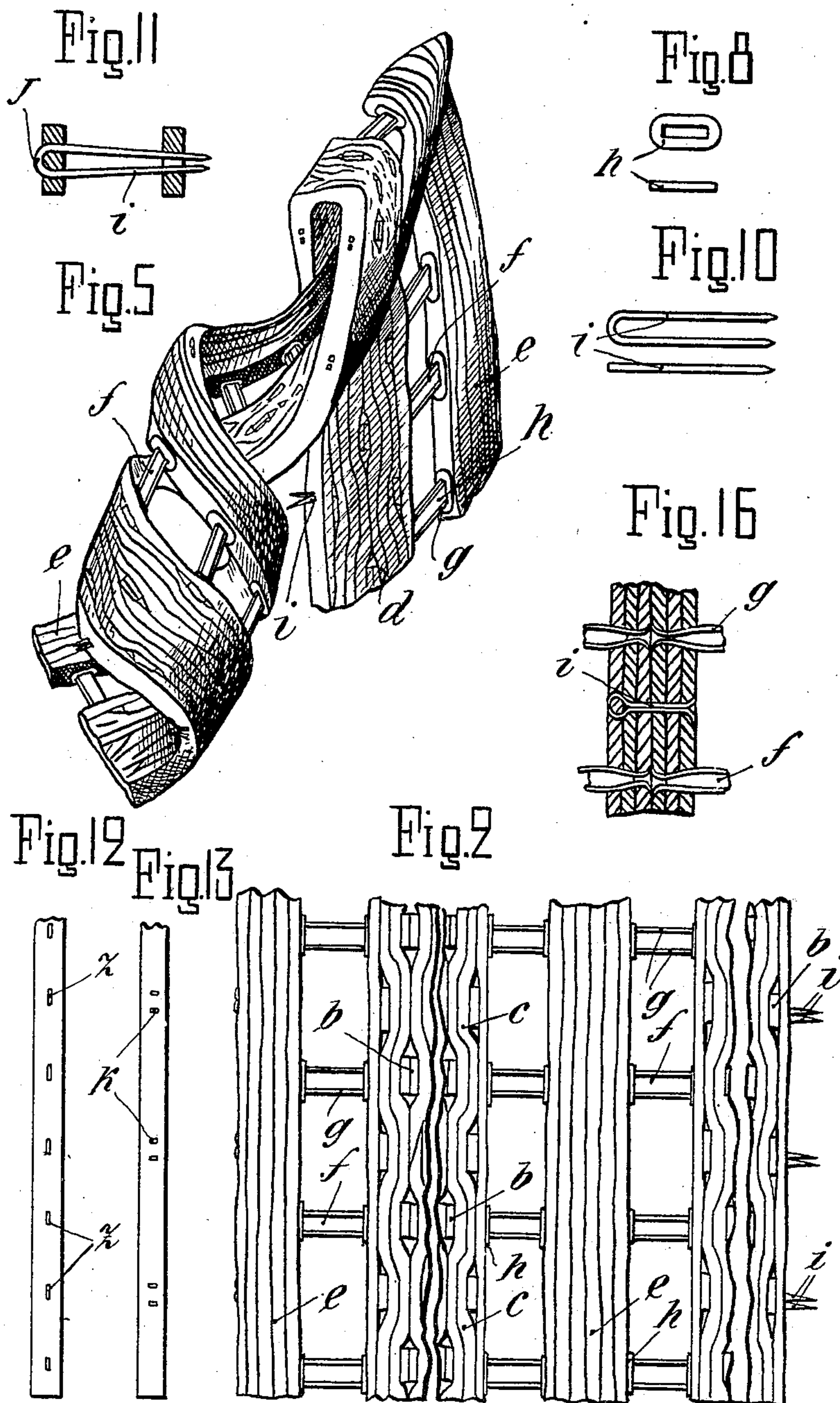
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UNITED STATES PATENT OFFICE.

GIULIO MAGALDI, OF BUCCINO, NEAR SALERNO, ITALY.

BELT FOR POWER TRANSMISSION.

No. 886,525.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed July 2, 1906. Serial No. 324,465.

To all whom it may concern:

Be it known that I, GIULIO MAGALDI, a subject of the King of Italy, residing at Buccino, near Salerno, in the Kingdom of Italy, have invented new and useful Improvements in Belts for Power Transmission and the Like, of which the following is a specification.

The present invention refers to such groups of belts, the single parts of which consist preferably of strips of leather, arranged on edge and held in position by means of metallic holders, the ends of which secure the said strips in such a manner with each other, that the single parts situated between two neighboring metallic holders appear to be bent outward and form very elastic portions of the belt, between which portions rigid parts are situated, which are in connection with the metallic holders.

In the drawings,—Figure 1 is a plan view of a part of the belt constructed in accordance with this invention; Fig. 2 represents a similar view of modified form; Fig. 3 is a similar view partly in section of another modification, showing the connecting means between the several groups of leather strips; Fig. 4 is a side elevation with parts in section showing the belt joint; Fig. 5 shows a modified form of the belt illustrating the great flexibility thereof; Figs. 6 to 13 are details of the fastening means for the belt; Figs. 14 and 15 show details of a modified form of the connecting means for the belt joint. Fig. 16 is a detail sectional view.

One of the purposes of the present invention is to increase the elasticity. For this purpose the belts can be either entirely or partly made of strips, arranged in the manner shown in Fig. 1. Here the middle strips —a— have an undulating movement, which is produced by the pieces —b— being introduced between two neighboring strips, which must inclose said pieces and are thus bent at —c—.

A belt made according to the present invention may consist of a single strip, formed according to Fig. 1, or of several such strips connected in the manner described below, empty spaces being left between the single strips across the breadth of the belt.

In many instances it will be advisable to employ an arrangement of medium elasticity. For such purposes in the direction of the pull on the belt or in any other suitable manner the parts consisting of undulated strips —c— (Fig. 2) are made to alternate with strips

consisting of smooth strips —e— (Fig. 2), empty spaces being left or not between the various strips. So a mixed arrangement as shown in Fig. 2 is obtained. It is well understood that the number and alternations of the undulated parts and the smooth parts is entirely voluntary, which is indicated in Fig. 2 by the projecting ends of the connecting pieces on the right hand of the figure in order to show that the belt may be completed by adding further parts. The value of this arrangement for belts consists in allowing for the production of a belt by the combination of a number of independent parts, and so a belt can always be at hand for heavy duty, while such belts had hereunto always to be made to order. The present invention also comprises belts made up of straight strips according to Fig. 3, owing to the connecting pieces employed there and further mentioned below.

The chief purpose of the present invention is to avoid the inconveniences of joining the belts by means of round parts. With the flat shape any section of resistance can be obtained without the thickness of the belt being increased or its strength being reduced. Hardened metal parts can be employed as it is not necessary to rivet the parts or compress them as is necessary in the belt-fasteners used at present. The joining of two belts, which may be obtained by means of ordinary clamps —s—, is facilitated (Figs. 3 and 4) if the belt has empty spaces. The connecting pieces can also be bent between the surfaces of the single strips in such a manner, that the edges of the belt can run against projections without the belt or the surface against which the belt might rub, being damaged. Besides the flat connecting pieces have the advantage that at a deformation of the belt, and be it ever so great, (even at an extreme deformation possible by the elasticity of the belt, see Fig. 5) it can never occur that the connecting pieces turn themselves, which is frequently the case with such pieces when made of round section, and thereby cause wear.

The connection between two parallel strips, leaving an empty space between, is obtained by means of hard metallic plates —f— (Fig. 6), which are inclosed between two flexible bars —g— (Fig. 7), the latter being forced together by clamps —h— (Fig. 8), so that these parts form one whole piece, as may be seen in Fig. 9. The points of bars —g— are

bent round, as seen in Fig. 3. The connection between the single parts of each strip or of two neighboring strips without intervening spaces is obtained by means of small clamps —*i*— (Fig. 10), which clamps, as shown in Fig. 11, are forced through the belt—and bent over at the ends (see Figs. 1, 3 and 11).

Fig. 12 shows holes —*z*— provided in the outside strips of strap —*e*— and intended to receive the heads —*j*— of the small clamps —*i*— (Fig. 2) which are passed through, and Fig. 13 shows holes —*k*—, produced by said small clamps —*i*— in the leather of the neighboring strip, the one but last. Fig. 16 shows the use of the combination —*f*—, —*g*— and the small clamps —*i*— for connecting quite straight straps together. The longitudinal joint of full belts is obtained by means of clamps —*l*— (Fig. 14) which can be pressed together (Fig. 15). These clamps will let the parts of the small clamps —*i*— folded together pass through the opening —*m*—, whereas the outward projecting ends —*n*—, —*n*— form an opening to receive the one end of a similar clamp symmetrically attached to the other strip to be joined while the other end of the clamp will rest outside against the second clamp (see Fig. 1). The whole is then connected by a pin passed through hole —*o*—.

It is well understood that the above described devices are only intended to exemplify the invention, and that such devices may be varied without deviating from the principle of the invention. By such variation neither the longitudinal nor the cross-wise flexibility is affected with relation to the distance of the open connecting pieces. Having now described my invention what I claim and desire to secure by Letters Patent of the United States is:

1. A belt of the class described comprising a plurality of longitudinal strips placed on edge and arranged adjacent to each other said strips being arranged in groups and some of said groups bent in an undulate form, said undulate groups being so placed relatively to each other as to form openings between them, fastening means connecting the adjacent parts of said groups and rigid pieces arranged in said openings and being of a thickness to force the strips into a pronounced undulate form capable of increasing the elasticity of the belt.

2. A belt of the class described comprising a plurality of longitudinal strips placed on edge and arranged adjacent to each other, said strips being arranged in groups and some of said groups bent in an undulate form, said undulate groups being so placed one with respect to the other as to form openings between them, rigid pieces in said openings of a thickness to force the strips into a pronounced undulate form capable of increasing

the elasticity of the belt, and fastening means connecting adjacent parts of said groups one with another and also connecting said rigid pieces to said groups, said fastening means fastening transversely through said strips and said rigid pieces.

3. A belt of the class described comprising a plurality of longitudinal strips of suitable material placed on edge and arranged adjacent to each other, some of said strips being bent laterally in reverse directions to form separate openings between them, metallic pieces in said openings, said bent strips being arranged in groups separated by groups of straight strips, both such groups being connected one to another by means of metallic pieces, penetrating into the interior of both groups.

4. A belt of the class described comprising a plurality of longitudinal strips of suitable material placed on edge and arranged adjacent to each other, some of said strips being bent laterally in reverse directions to form separate openings between them, metallic pieces in said openings, said bent strips being arranged in groups separated by groups of straight strips, both groups being connected one to another by means of metallic pieces arranged between said groups, said metallic pieces penetrating into the interior of both groups and fixed thereto.

5. A belt of the class described comprising a plurality of groups of longitudinal strips of suitable material placed on edge, some of said strips being bent laterally in reverse directions to form openings between certain of the strips, rigid pieces in said openings between certain of the strips, said groups being spaced apart, fastening devices securing the strips of the respective groups together, and fastening devices also securing the strips together and spanning the space between the groups, both fastening devices passed transversely through said strips and rigid pieces.

6. A belt of the class described comprising a plurality of groups of longitudinal strips, said groups being spaced apart, and fastening devices securing strips of the several groups together and spanning the space between the groups, each of said fastening devices comprising a flat plate having pointed ends extending through the strips, flexible bars on opposite edges of said plate also extending through the strips, and clamps connecting the plate and bars together and bearing against the innermost strips of the several groups and spacing the groups apart.

7. A belt of the class described comprising a plurality of groups of longitudinal strips, said groups being spaced apart, and fastening devices securing strips of the several groups together and spanning the space between the groups, each of said fastening devices comprising a flat plate having pointed ends extending through the strips, flexible bars on

opposite edges of said plate and extending through the strips, and rigid pieces in the openings between certain of the strips and clamps connecting the plate and bars together and bearing against the innermost strips of the several groups and spacing the groups apart.

8. A belt of the class described comprising a plurality of longitudinal strips of suitable material placed on edge and arranged adjacent to each other, some of said strips being bent laterally in reverse directions to form openings between them, fastening means connecting said strips together, said fastening means being formed of flat bars penetrating said strips and fixed therein, and rigid pieces in said openings, said pieces separating said strips one from another.

9. A belt of the class described comprising a plurality of groups of longitudinal strips, said groups being spaced apart, and fastening devices securing strips of the several

groups together and also spanning the space between the groups, each of said fastening devices comprising a flat metallic piece pointed at its ends, said piece extending through the strips and having its pointed ends bent over.

10. A belt of the class described comprising a plurality of longitudinal strips, rigid pieces between some of said strips and separating one from others, fastening devices extending transversely through said strips and said pieces, U-shaped clamps for connecting the ends of the belt, said clamps engaging certain of said fastening devices, and pins connecting said clamps together.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GIULIO MAGALDI.

Witnesses:

JEAN LELAUNTT,
HANSON C. COXE.