

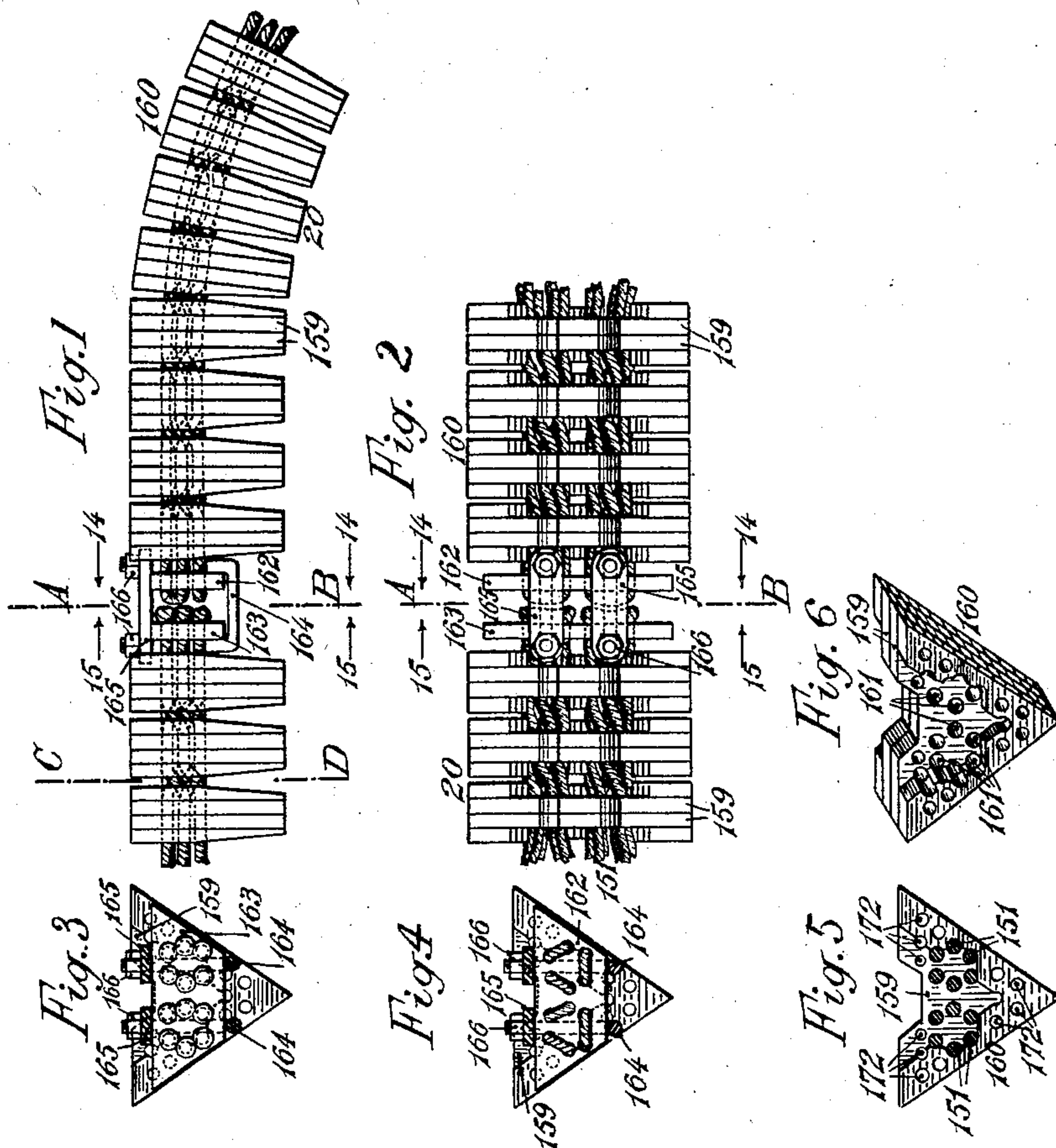
No. 720,340.

PATENTED FEB. 10, 1903.

G. FOUILLARON.
DRIVING BAND.

APPLICATION FILED OCT. 30, 1901.

NO MODEL.



Witnesses:-
Henry Thime
George Bangs

Inventor:-
Gustave Fouillaron
By Attorneys
Pount & Howard

UNITED STATES PATENT OFFICE.

GUSTAVE FOUILLARON, OF CHOLET, FRANCE.

DRIVING-BAND.

SPECIFICATION forming part of Letters Patent No. 720,340, dated February 10, 1903.

Application filed October 30, 1901. Serial No. 80,516. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE FOUILLARON, a citizen of the Republic of France, and a resident of Cholet, Maine-et-Loire, France, have
5 invented a new and useful Improvement in Driving-Bands, of which the following is a specification.

This invention relates more especially to driving-bands intended for the changing of
10 speed by extensible pulleys formed by two conical elements having their apexes opposite to each other and capable of being spread apart or brought together, leaving between them a groove in the form of a V of variable
15 diameter. Such a belt should, above all, be very flexible if it be desired to operate without slipping and without loss by friction; otherwise it would not be capable of adapting itself exactly to the V-shaped groove. It
20 should, moreover, be very resistant, for the reason that on such pulleys, their movable parts being submitted to the action of springs, it is always very tense.

In the accompanying drawings, Figures 1
25 and 2 show in side view and in plan part of the band, and Figs. 3 and 4 are sections on the line A B of Figs. 1 and 2 looking in the direction of the arrows 14 and 15. Fig. 5 is a section on the line C D of Fig. 1, and Fig.
30 6 is a perspective view of one of the elements of the band.

The band consists of elementary parts 160 of triangular cross-section, each consisting of several thicknesses of leather side by side and
35 glued together. The thickness of each of said elementary parts decreases toward the apex, which has to bear on the bottom of the gap between the cones—that is to say, the bottom of the groove of the pulley—so that
40 the adjoining elements can incline easily toward each other to take a radial position on the pulleys. The elements are connected by catgut cords 151, which pass through holes 161, pierced for this purpose in the elements. In
45 order to obtain the desired suppleness—that is to say, in order that the catgut cords may bend easily between the elements—the outer layers of leather are notched or recessed to give free passage for the cords, which have
50 only to pass through holes in the inner layers 159. Thus between two adjacent elements

there is a free length of each cord sufficient to allow its flexure with freedom and without too much strain upon it. In the example shown there are twelve cords divided into two
55 groups each of six. Instead of passing each cord through the holes which face each other in the adjacent elements I make them pass through holes which do not face each other, but which occupy the successive angles of a
60 regular hexagon. Thus the six cords are twisted, so as to form a kind of cable-strand, and owing to this twist the elements remain at the original distance apart, as they cannot separate farther nor approach so as to touch each
65 other under the influence of the traction to which they are subjected while the band is at work.

In manufacturing the band I proceed as follows: I take six catgut cords, three for each
70 strand. I fold each in two at the middle and pass the twelve threads thus obtained through the twelve holes of a metal plate 162, preferably of aluminium. Each cord is stopped by its middle or folded part coming against
75 one of the faces of the plate, and I then string on the twelve cords the successive elements 160, taking care to pass the several cords through the holes which suit the desired twist. When a number of elements is strung on
80 sufficient to give the desired length of band, I pass the projecting ends of the cords through the holes of another plate, 163, and stop the projecting ends in any suitable way. For
85 instance, they may be immersed in hot wax, which swells the catgut; or the same result may be attained by winding yarn around the projecting ends, then coating with resin and heating. In order to connect the ends of the
90 band, I employ two stirrups 164, the branches of which I pass behind the two plates 162 163, and I connect the free ends of the branches by yoke-plates 165, through which they pass and are secured by nuts 166.

Although I prefer catgut cords to connect
95 the elements, I may obviously employ cords of other material or wires.

As shown by Fig. 5, besides the holes for passage of the cords the elements have supplementary holes 172, so as to lighten the
100 band.

In order to prevent torsion of the belt upon

itself, the twisting of one of its strands may be made in one direction and that of the other in the opposite direction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A driving-band of triangular section constituted by elementary parts of leather placed side by side and connected by flexible cords passing through holes in them in such manner as to be twisted into strands.

2. A driving-band comprising elements of triangular general form each of many thicknesses of leather placed side by side and united by adhesive material and which pass through holes in said elements in such manner as to be twisted, the exterior thicknesses of leather of said elements being recessed in such manner that the cords only pass through the middle thicknesses and in such manner that the length of the elements decreases toward the apex of the triangle which comes toward the bottoms of the grooves of the pulleys to which the belt is applied.

3. A driving-band comprising a perforated

metallic plate 162, cords doubled in such manner as to form two threads threaded through holes in said plate in such manner that the cords are stopped by said plate at their folded part, perforated elements 160 of triangular form threaded upon said threads in such manner that the latter are twisted into strands, a metallic plate 163 through holes in which pass the free extremities of said threads, means for preventing these passing extremities from repassing through said plate 163, and stirrups 164 passing behind said plates 162, 163 and maintained in place by yoke-plates 165 and nuts 166, all substantially as herein described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 18th day of October, 1901.

GUSTAVE FOUILLARON.

Witnesses:

J. ALLISON BOWEN,
HENRY THIESSE.