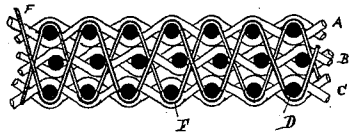
(No Model.)

W. L. TETER.

WOVEN MACHINE BELT.

No. 308,044. Patented Nov. 11, 1884.

Fig. 3



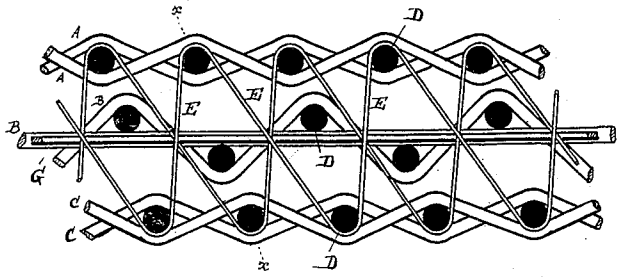
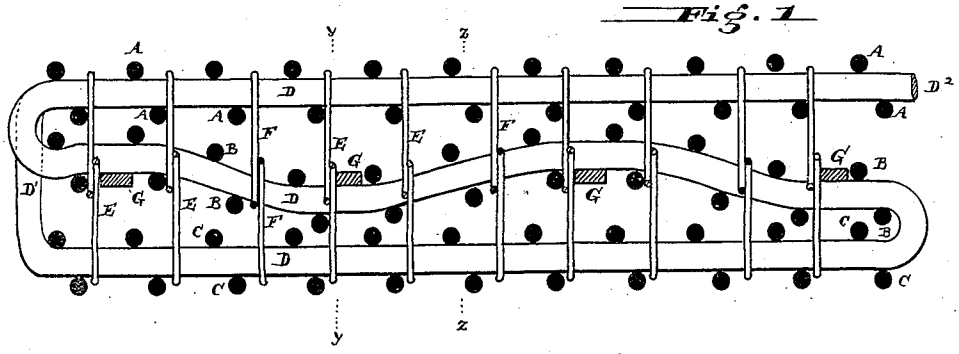


Fig. 2

Fig. 1



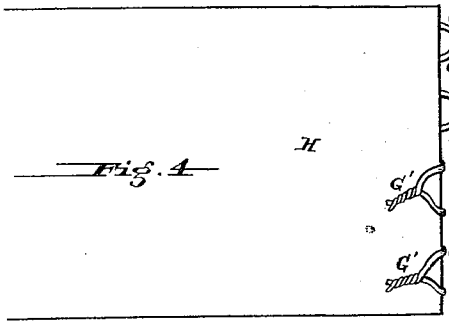


Fig. 4

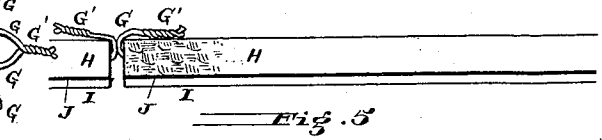


Fig. 5

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N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM L. TETER, OF PHILADELPHIA, PENNSYLVANIA.

WOVEN MACHINE-BELT.

SPECIFICATION forming part of Letters Patent No. 308,044, dated November 11, 1884.

Application filed August 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. TETER, of the city and county of Philadelphia, and State of Pennsylvania, have invented new and useful Improvements in Woven Machine-Belts, of which the following is a specification.

My invention has reference to belts formed of woven fabric; and it consists in certain improvements fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof.

I am fully aware that it has been proposed to bind metallic wires between two layers of woven fabric, and that it has been proposed to rivet or sew leather or rubber facing to woven fabric belts, and therefore do not claim these things, broadly, my invention comprehending certain specific and valuable improvements thereon.

The object of my invention is to form a flat woven belt in which a series of layers are bound together by using a single continuous thread for each of the sets of warp in each layer, and in addition thereto longitudinal binders or binding-warps of metal and cotton.

My object is also to bind in longitudinal strands or strips of metal, they being held in place by the layers of fabric forming the belt being bound over them by the binding-warp, and also by causing the weft-thread to pass alternately above and below said metal strips or strands, as shown.

My object is, further, to prevent the wires, strips, or strands from creeping or working out of the completed belt, and to prevent this I bind said metal strips or strands between the layers of fabric by the metal binding-warps, which are arranged on each side of said strips or strands and pass through all of the layers of fabric which make up the belt, and also twist the ends of the adjacent wires, strips, or strands together, so as to prevent the ends being drawn into the belt.

It is also my object to increase the frictional contact of the belt upon pulleys by covering the working-face with a thin layer of paper or leather, which may be cemented to the fabric.

In the drawings, Figure 1 is a cross-section of my improved belt on line *x x* of Fig. 2. Fig. 2 is a longitudinal section of same on line *y y* of Fig. 1. Fig. 3 is a similar view on line *z z*. Fig. 4 is a plan view of one end of the belt, showing how the ends of the metal strips or strands are twisted together; and Fig. 5 is a side elevation of my improved belt, showing the two ends of the same brought end to end ready for lacing.

A A, B B, and C C are respectively the three sets of warp which make up three layers of fabric. Into these warps is woven the filling or weft-thread D, it passing through the shed formed by the warp A first, then that formed by warp B, then that formed by warp C, and finally back to that formed by warp A again, and so on. The end D^2 of the weft-thread D is in the fabric and the end D in the shuttle. This weft-thread will to a certain extent bind the three layers together, but only at the two edges. To bind said layers together throughout their entire surface I employ the cotton binding-warp F and the metal binding-warp E, which take in all three passes of the weft-thread as if it constituted a single pass, and through the agency of said thread said binding-warps E F bind the warps A, B, and C together. These binding-warps may be all of cotton or all of metal, or part of each, as desired.

G are the longitudinal re-enforcing or strengthening wires, strands, or strips, and are simply bound in between the layers of fabric and are in no sense warp. When an odd number of layers of fabric are used, then it is desirable that the weft-thread D be passed alternately above and below the parallel strips or strands G, as shown in Fig. 1, when passing once across the belt, and in each time the said weft-thread D passes through the shed formed by warp B it will be on opposite sides of the strips or strands G, as shown in Fig. 2. This will hold the said strips or strands G more firmly in place, and will also keep them in the middle of the belt as an entirety, as shown.

When using part metal and part cotton binding warp E F, it is desirable that the metal warp E be arranged upon each side of the strengthening strips or strands G, as indicated in Fig. 1, as this will aid in preventing the said strips or strands creeping out of the belt in use. The ends of these wires or strips G are exposed, and the adjacent ends twisted together, as shown at G′, Figs. 4 and 5, and

when the two ends of the belt H are brought together for lacing, these twisted ends G′ are bent back upon the outside, as shown in Fig. 5. This will effectually prevent the creeping of the strands or strips of metal G.

A woven belt has not as much frictional contact as a rubber or leather belt, and to improve its power of transmission I cement (J) or otherwise secure a thin layer of paper or leather or their equivalent, I, upon the working-face of the belt. This increases its power over leather or rubber belts, for a woven belt of this class will not stretch, and when faced with paper or leather it has a stronger frictional contact and is far more durable.

While I have shown three layers of woven fabric bound together to form the belt, it is to be understood that two or more layers may be used.

I am aware of the patent to Long, August 31, 1880, and claim nothing therein shown or described.

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

1. A belt formed of woven fabric having longitudinal strengthening metallic strips, strands, or wires, the ends of said strips or strands being exposed and twisted together to prevent said strips or strands creeping or working out of said belt when in use, substantially as and for the purpose specified.

2. As an article of manufacture, a belt formed of woven fabric having its body strengthened longitudinally by metal strips, strands, or wires, and metallic binding-warp, its working-face covered by firmly connecting thereto a thin strip of a smooth material—as paper or leather—to increase the frictional contact, substantially as and for the purpose specified.

3. In a belt, the combination of the sets of warps A B C, a single continuous weft-thread, D, common to all of said warps, strips or strands of metal G, and binding-warp E F, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

WILLIAM L. TETER.

Witnesses:

R. M. HUNTER,

WILLIAM C. MAYNE.