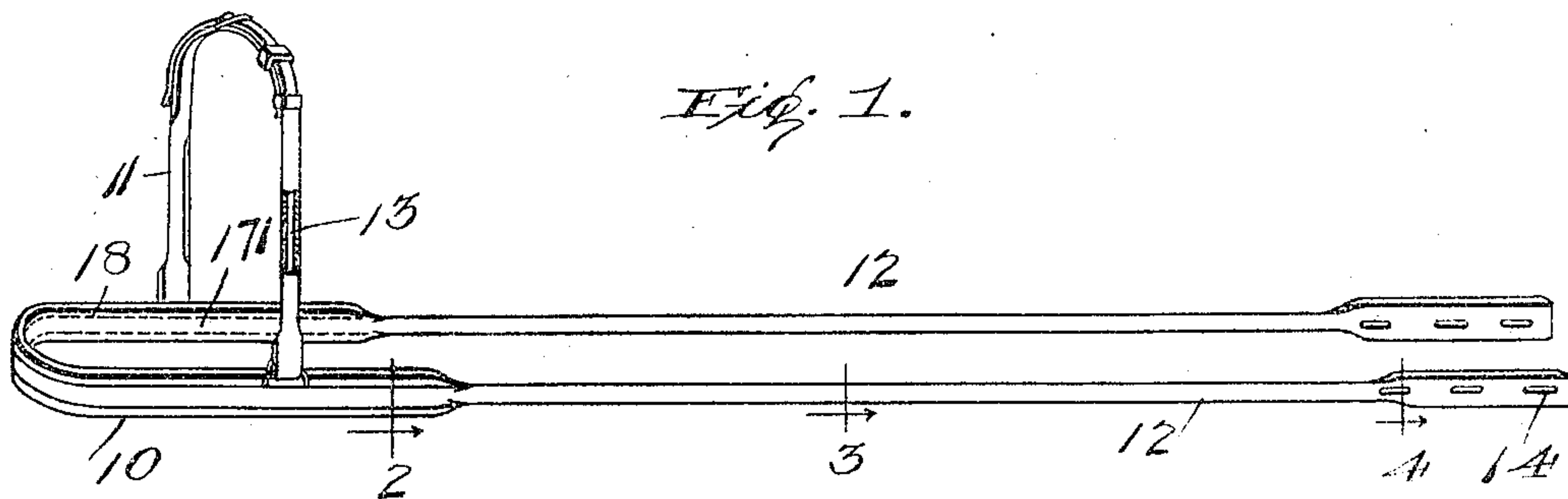


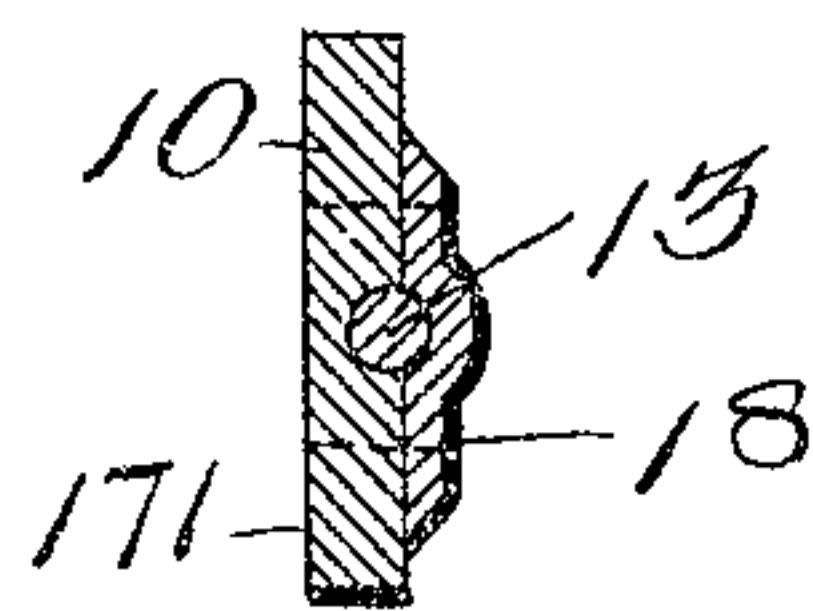
No. 794,453.

PATENTED JULY 11, 1905.

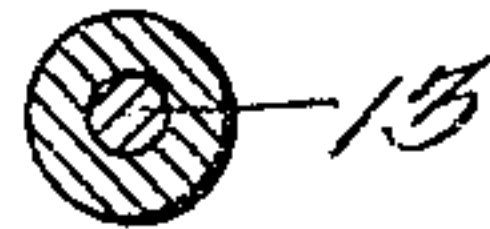
W. DANN.  
WIRE RIBBED HARNESS.  
APPLICATION FILED MAR. 28, 1904.



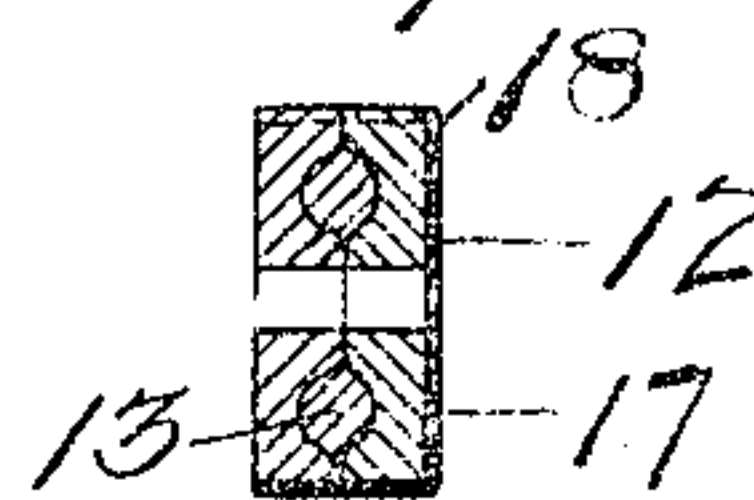
*Fig. 2.*



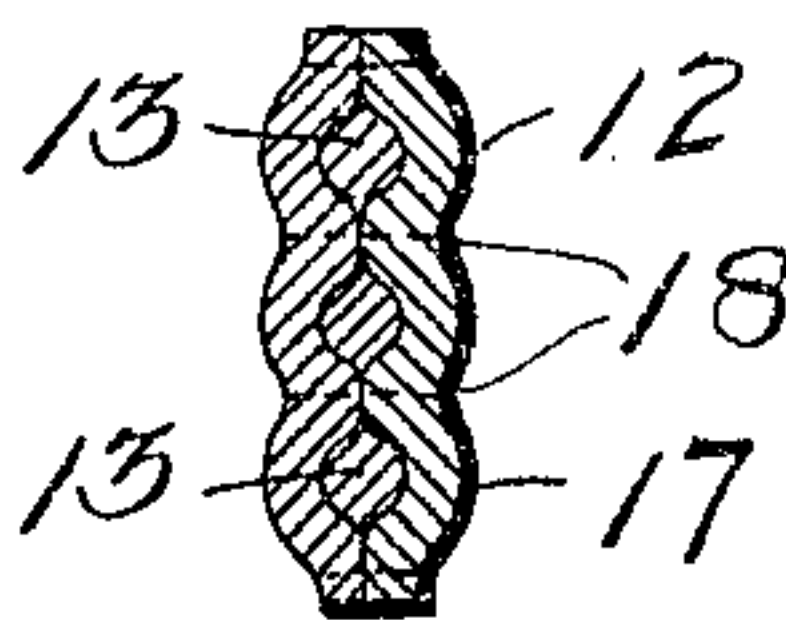
*Fig. 3.*



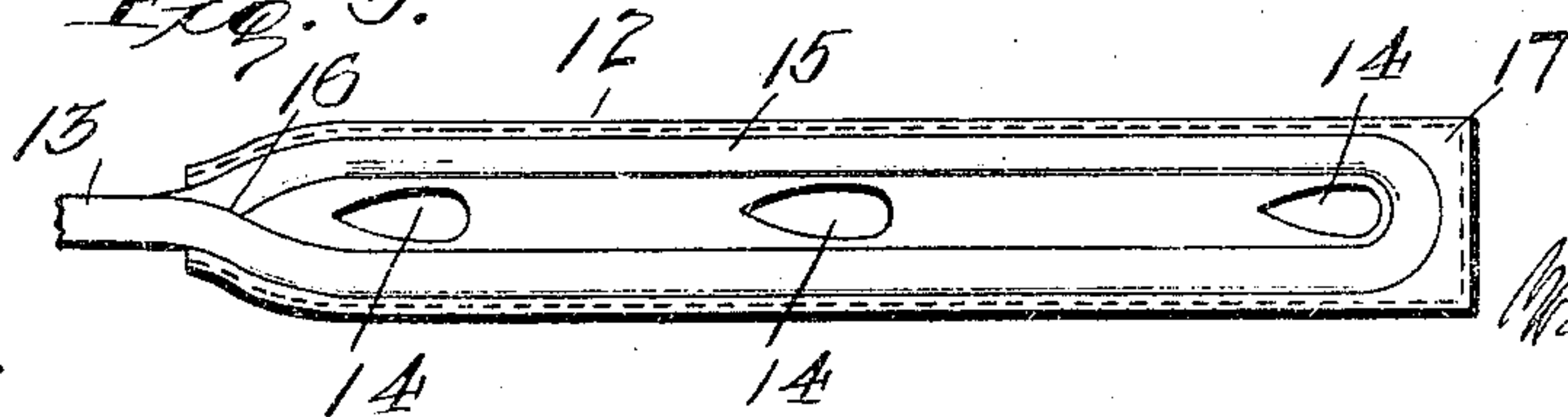
*Fig. 4.*



*Fig. 6.*



*Fig. 5.*



Inventor

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Witnesses

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## UNITED STATES PATENT OFFICE.

WALLACE DANN, OF NORWALK, CONNECTICUT.

## WIRE-RIBBED HARNESS.

SPECIFICATION forming part of Letters Patent No. 794,453, dated July 11, 1905.

Application filed March 28, 1904. Serial No. 200,318.

To all whom it may concern:

Be it known that I, WALLACE DANN, a citizen of the United States, residing at Norwalk, county of Fairfield, State of Connecticut, have invented a new and useful Wire-Ribbed Harness, of which the following is a specification.

This invention relates to harnesses for horses, and has for its object the production of a harness that is particularly adapted for connecting a horse with a light vehicle, although my invention is not specifically limited to such use.

Whether the vehicle to be drawn is light or heavy it is desirable that harness shall be as light as possible in both weight and appearance so far as is consistent with obtaining the requisite strength.

In carrying out my invention I combine with the leather of the harness a wire rib or core, which will furnish the necessary strength for all purposes that may be desired, although the harness as a whole will be lighter in both weight and appearance than a harness made entirely of leather with an equal amount of strength. I am thus enabled to use much less leather stock, to use a much less expensive grade of stock, as the stock is not entirely depended upon to give strength to the harness, but merely as a covering for the rib or core, which comprises the real strength of the harness, and, furthermore, to greatly reduce the amount of stitching required in making high-grade harness.

To this end my invention consists in the construction of the harness substantially as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective of a neck-strap, breast-strap, and traces embodying my novel invention. Fig. 2 is a section, on an enlarged scale, on the line indicated by 2 in Fig. 1. Fig. 3 is a similar section on the line indicated by 3 in Fig. 1. Fig. 4 is a similar section on the line indicated by 4 in Fig. 1. Fig. 5 is a detail elevation, on an enlarged scale, with the outer ply or plies of stock removed, showing the loop in the strengthening-rib. Fig. 6 is a section, on an enlarged scale, of a trace for

heavy trucking-harnesses in which a plurality of strengthening-ribs is used.

In the embodiment of my invention represented in Figs. 1 to 5, inclusive, the breast-strap is indicated at 10, the neck-strap at 11, and the traces at 12. The wire rib or core may be made of copper, brass, or mild-steel wire and of any preferred shape in cross-section. It is desirable, of course, that the metal of which the wire rib or core is composed shall be sufficiently ductile to meet the usual requirements of a harness both as to appearance when in use and convenience of storage when not in use.

The principal leather portion of my improved harness comprises a single continuous strip extending from the end of one trace to the end of the other trace and is bent or wrapped around the portions of the wire rib or core which form the principal parts of the traces, as clearly represented in Figs. 1 and 3. These portions of the harness, therefore, appear as round in cross-section, and since they form the most noticeable portions of a harness when in use their extreme lightness of appearance is considered a material advantage. To provide means for connecting the traces with the whiffletree, the ends of the strip of leather are formed with openings 14. As indicated in Fig. 5, the wire core or rib is preferably formed as an elongated loop, as at 15, having the extreme ends of the strip of wire connected, as at 16, to the main portion of the wire by welding or other suitable means. The continuous strip of leather at these ends of the traces are not wrapped around the wire, but are left flat and are reinforced by a flat piece of leather, (indicated at 17 in Fig. 4.)

To present a flat surface of leather to bear against the breast of the horse, the portion of the continuous strip of leather intermediate the trace portions is not wrapped around the wire core, but is left flat and is stitched along its edges to a relatively wide strip of leather, (indicated at 171,) the part of the wire that is intermediate of the trace portions being inclosed between said relatively wide strip of leather and the breast portion of the continu-



ous strip of leather. This inner ply of leather 171 takes all the pressure across the breast of the horse due to the strain upon the traces and, as shown in Fig. 2, is of a width and thickness 5 which would prevent any tendency of the wire to cut into the horse.

While I prefer a form of harness in which but a single continuous strip of wire is employed, a plurality of such strips may be used, 10 as indicated in Fig. 6.

While I refer to and claim the rib or core as being a "continuous" length of wire and to one of the pieces of leather as being "continuous" from end to end, it is to be understood 15 that by this term I do not mean to limit myself to a piece of wire or a strip of leather that was originally continuous before the completion of the harness. For instance, the piece of leather which extends from the 20 rear end of one trace along the breast portion and to the rear end of the other trace might be made of a plurality of strips suitably connected together end to end, or if an originally continuous strip of leather 25 were accidentally cut it might be repaired by sewing or stitching and still fall within the contemplated scope of the term "continuous." The same may be said of the wire rib or core—that is, a broken length of wire might be

mended by brazing or otherwise and practically form a continuous piece. 30

Having thus described my invention, what I claim is—

1. A harness having its trace portions and breast-strap portion formed of a continuous 35 strip of leather, a continuous length of wire extending from the end of one trace to the end of the other trace and inclosed by the trace portions of leather, and a relatively wide flat strip of leather at the breast portion, the part of the wire intermediate the 40 trace portions being inclosed between said relatively wide strip of leather and the breast portion of the continuous strip of leather.

2. A harness part consisting of a plurality 45 of plies of leather at the breast and rear ends of the traces, and a continuous strengthening-wire, one of the plies of leather being continuous from the end of one trace to the end of the other trace and having the intermediate 50 portions of its length bent around and inclosing trace portions of the wire.

In testimony whereof I affix my signature in presence of two witnesses.

WALLACE DANN.

Witnesses:

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S. W. ATHERTON.