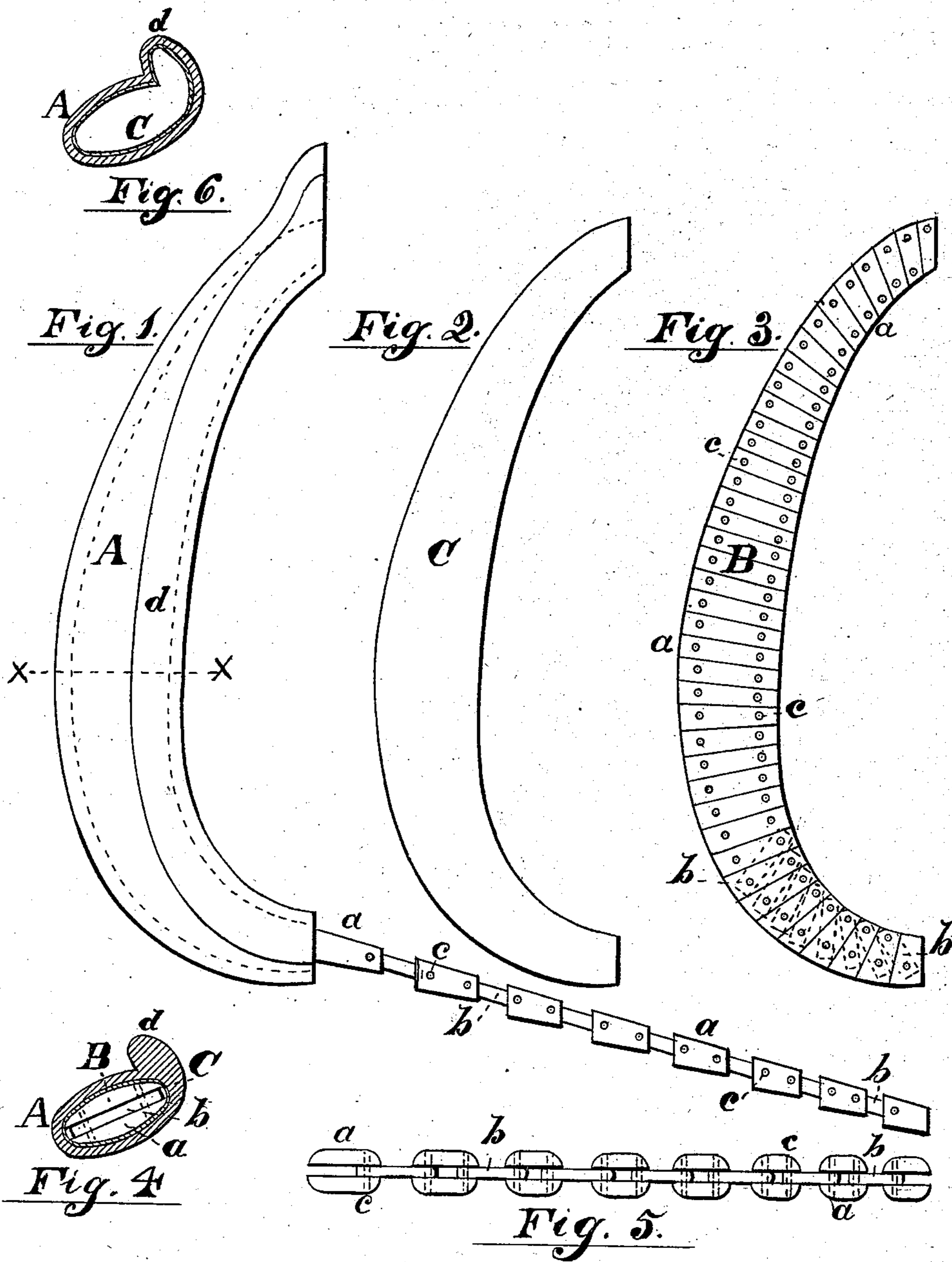


(No Model.)

H. VAN WAGONER.  
HORSE COLLAR.

No. 381,191.

Patented Apr. 17, 1888.



WITNESSES:

INVENTOR:

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# UNITED STATES PATENT OFFICE.

HORACE VAN WAGONER, OF NEWARK, NEW JERSEY.

## HORSE-COLLAR.

SPECIFICATION forming part of Letters Patent No. 381,191, dated April 17, 1883.

Application filed June 21, 1887. Serial No. 241,963. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE VAN WAGONER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Horse Collars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In said drawings, Figure 1 is a one-half section of a horse-collar embodying my improvements, and showing a section of a chain core designed to aid the hollow body in sustaining the pressure to which it may be subjected in compressing the plastic covering thereon, and after which said core is drawn therefrom. Fig. 2 is a view of the hollow body, which is formed of tin or other sheet metal or material, in which the chain or other suitable core is placed for keeping said body in shape while subjected to pressure, as above stated. Fig. 3 is a view of the chain core as it is folded together when placed in said body. Fig. 4 is a cross-section of the collar and core in the line X X of Fig. 1. Fig. 5 is an edge view of a section of the chain core withdrawn from the collar; and Fig. 6 is a section similar to Fig. 4, but showing the tin body extending into the roll of the collar, the chain core not being shown.

Similar letters refer to similar parts throughout the several views.

My invention consists in constructing a collar combining therein a tubular or hollow body, C, composed of tin or other sheet metal or appropriate material, and covering the same with leather-pulp, celluloid, or other suitable materials, as A, Figs. 1 and 4, which is laid on said tubular or hollow body and then subjected to more or less pressure in dies or molds of the required configuration and strength, in order to compress and solidify the same, as will be hereinafter more particularly set forth, and finally pointed out in the clauses of the claim, the object of the invention being to make the collar as light as possible, to obtain greater

strength, a hard and smooth wearing-surface, as well as economy in material and labor in the manufacture of the said collar, and a non-absorbent of perspiration. These qualities are obtained in a horse-collar in the use of certain plastic materials applied to a hollow core—a construction which in most cases requires the employment of great pressure. In order to secure the desired results upon a hollow body made of tin or other sheet metal, I sometimes employ an extensible filling or core-chain, B, adapted to be inserted within the hollow body and to be removed therefrom after the pressure is withdrawn. Said core when placed within the hollow body conforms to the interior outlines or configurations thereof, and thus allows the said hollow body to sustain whatever pressure is necessary, or that to which it may be subjected in covering the same.

In certain cases certain plastic materials may be used which may not require any more pressure than the metal body will sustain without an extensible filling, in which event the core or filling may be dispensed with, in all cases, however, producing a horse collar combining therein a tubular body and a plastic covering that when dry will be hard and have a smooth surface impervious to perspiration and of great strength, as is the desired end.

The invention is carried out by striking out the hollow body C, as indicated in Figs. 2 and 4, in two parts together, as will be understood, after which I make molds or dies to conform to the shape and size of the collar when finished, as indicated in Figs. 1, 4, and 6, and of sufficient strength to withstand the pressure required to compress and solidify the plastic material with which the hollow body is covered. The plastic material should be first rolled out to a uniform thickness of about three-sixteenths of an inch, (more or less,) then wrapped around the hollow body with an extra mass in the mold for forming the roll of the collar d, Fig. 4, and the whole placed in the mold or dies and subjected to the required pressure. Said mold or dies are made in two or more sections, divided lengthwise and capable of sustaining any pressure which may be necessary to compress and solidify the mate-

rial, and when said mold is parted the collar may be readily removed therefrom, as will be understood.

5 The collar is made in two parts—one as A and the other a reverse half of like construction—the two being hinged together at the top in a manner well known to collar-makers. In the construction of said core-chain the center links, *b b*, are simply straight links uniform  
10 in width and thickness throughout, which, together with rivets *c c*, hold together links *a a*, which latter are so shaped as that when folded together they form a core corresponding in shape and dimensions with the hollow interior  
15 of the body of the collar, and which, after they have performed their service within said collar, may be withdrawn therefrom by unfolding from either end of the section of the collar, as represented in Figs. 1 and 5.

20 Instead of using a chain core, as herein shown and described, the hollow body may be filled with water, or with sand or any other granulated materials, to enable it to withstand the required pressure, and which may readily  
25 be removed after the collar is taken from the molds, as will be obvious.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

30 1. A horse-collar such as herein described,

combining therein a hollow sheet-metal body and a coating or covering of celluloid or other analogous material formed thereon, substantially as described, for the purposes set forth.

2. The method herein set forth of making 35 horse-collars—to wit, forming by means of suitable dies a hollow body composed of tin or other appropriate material, then covering the same with a coating of plastic material, and subjecting the same to pressure in suitable molds or dies, substantially as and for the purpose set forth. 40

3. The method herein set forth of making horse-collars—to wit, forming by means of suitable dies a hollow body composed of tin 45 or other appropriate material, filling said body with a removable core to enable it to withstand the required pressure, covering said body with a coating of plastic material, and then subjecting the same to pressure in suitable molds or dies, and subsequently removing the core, as and for the purposes set forth. 50

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of June, 1887.

HORACE VAN WAGONER.

Witnesses:

OLIVER DRAKE,  
CHARLES H. PELL.