

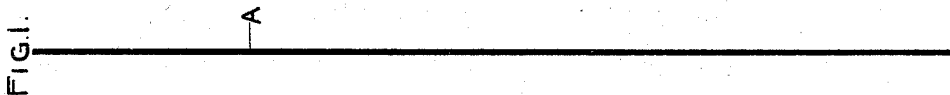
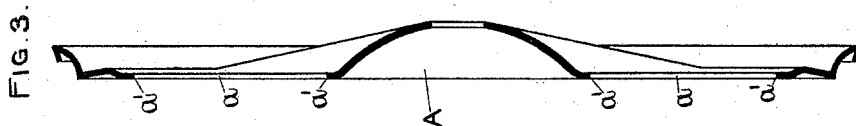
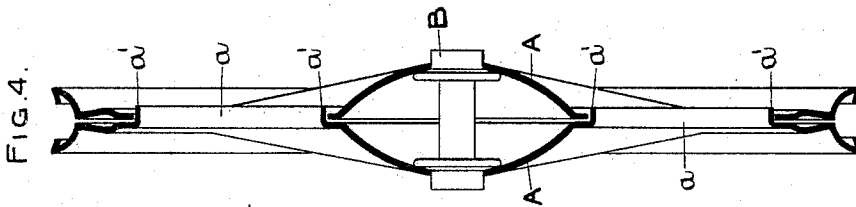
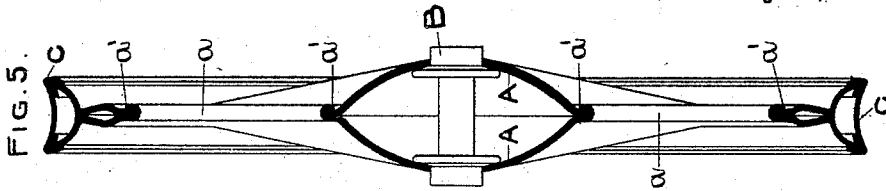
(No Model.)

2 Sheets—Sheet 1.

A. C. HIDE.
VELOCIPED WHEEL.

No. 496,937.

Patented May 9, 1893.



WITNESSES:

Geo. S. Clark.
Willby James.

INVENTOR:

A. C. Hide.

Per. *Robert Phillips.*
Attorney.

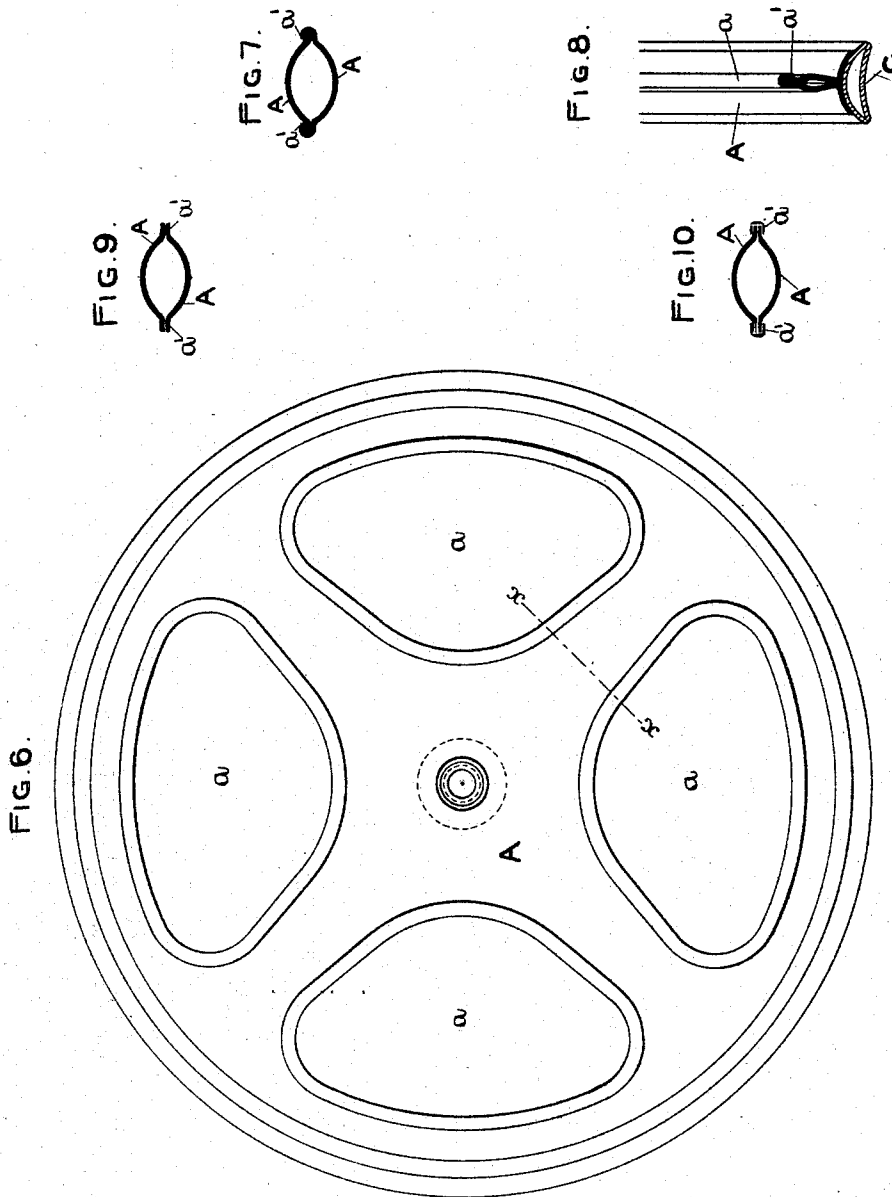
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2 Sheets—Sheet 2.

A. C. HIDE.
VELOCIPED WHEEL.

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INVENTOR:

A. C. Hide.

Per. *Robt. C. Phillips*
Attorney.

UNITED STATES PATENT OFFICE.

ARTHUR COMINGS HIDE, OF LONDON, ENGLAND.

VELOCIPED-WHEEL.

SPECIFICATION forming part of Letters Patent No. 496,937, dated May 9, 1893.

Application filed October 25, 1892. Serial No. 449,960. (No model.) Patented in England January 11, 1892, No. 545.

To all whom it may concern:

Be it known that I, ARTHUR COMINGS HIDE, a subject of the Queen of Great Britain, residing at Battersea, London, in the county of Surrey, England, have invented a new and useful Improvement in Wheels for Velocipedes and other Light Vehicles, (for which I have obtained a patent in Great Britain, No. 545, bearing date of January 11, 1892,) of which the following is a specification.

My invention relates to a further improvement in the construction of wheels made out of disks of sheet metal, and it has for its objects, increased rigidity and lightness without materially increasing the air resistance.

My present invention is applicable to all types of wheels in which disks of sheet metal are used as substitutes for spokes, though it is particularly adapted to be used in combination with the improved construction of wheel set forth in my prior patent No. 478,191.

My present invention consists in stamping three or more pieces out of each disk of metal, and in so blocking or pressing in the edges of the holes so made, that when the disks are placed together to form the wheel, the said edges meet and are fixed together by folding or sweating or by both in combination. The solid parts of the disks therefore form large tubular spokes, the wheel thereby having greatly increased strength and rigidity with less weight and offering resistance to the air not materially greater than that of a solid disk wheel.

In order that my invention may be fully understood I will more particularly describe it making reference to the accompanying drawings, in which—

Figure 1 is a view in sectional elevation of the disk of metal ready to be operated upon to form one side of the wheel. Fig. 2 is a view in sectional elevation of the said disk stamped, blocked or pressed to the desired shape to form one side of the wheel but not having the pieces cut out of it. Fig. 3 is a view in sectional elevation showing the shaped disk having holes cut in it. Fig. 4 is a view showing the first operation of fixing two of the said disks together to form the wheel, and Fig. 5 is a view in sectional elevation showing the completed wheel. Fig. 6 is a view in side elevation of the complete wheel. Fig. 7 is a

view in transverse section on line *x, x*, Fig. 6. Fig. 8 is a broken view in transverse section showing a modification in the construction of the rim of the wheel, and Figs. 9 and 10 are views in section showing other methods of fixing the two disks together round the edges of the holes.

Throughout the several views similar parts are marked with like letters of reference.

In constructing my improved wheel I take two disks of sheet metal *A, A*, each of which is stamped, pressed or blocked into the shape shown by Fig. 2 of the accompanying drawings. I then cut or stamp out of each disk three or more pieces leaving holes *a, a*, &c. The holes *a, a*, &c., in one of the disks are of a smaller size than those in the other for a purpose that will presently be obvious. I then take the two disks *A, A*, and having placed the hub *B* of the wheel between them, I bend or press in the edges *a', a'*, &c., of the holes *a, a*, in the disk having the smaller holes as shown by Fig. 4 of the accompanying drawings, and by another operation turn the said edges over the edges of the holes in the other disk as shown by Fig. 5 of the accompanying drawings to hold the two disks together. The joints so made are then preferably sweated as also is the joint of the two disks at the periphery of the wheel. The rim *C* may be made out of the disks *A*, but it is preferably made in the manner set forth in my prior patent No. 478,191.

Instead of folding the edges of the holes of one disk over those of the other disk to hold the said disks together, the edges may be simply brought together and sweated or brazed as shown by Fig. 9, or as a modification the edges may be clamped together by a piece of metal of a channel section spun round the edges of the holes as shown by Fig. 10. By this construction I obtain a wheel which has many advantages over those constructed according to the known methods.

I am aware that prior to my invention wheels have been constructed with disks of metal as substitutes for spokes. I therefore do not claim such, broadly; but

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

1. In a wheel, the combination with a hub of two dished plates inclosing the hub, the

metal of each plate being pierced with three or more holes, and the two said plates being secured together at the edges of the said holes, as set forth.

- 5 2. In a wheel, the combination with a hub and rim, of two plates each having three or more holes and each dished by blocking, stamping, or pressing to form one side of the wheel and adapted to connect the hub thereof
10 to the rim, the two said plates being secured together round the edges of the said holes, as set forth.

3. In a wheel having two dished plates of sheet metal as substitutes for spokes, piercing each plate with three or more holes and block- 15 ing, pressing or stamping the plates round these holes so that when the two said plates are fixed together at the edges of the said holes, the plates form three or more large hollow spokes, as set forth.

ARTHUR COMINGS HIDE.

Witnesses:

W. J. NORWOOD,
THOMAS LAKE.