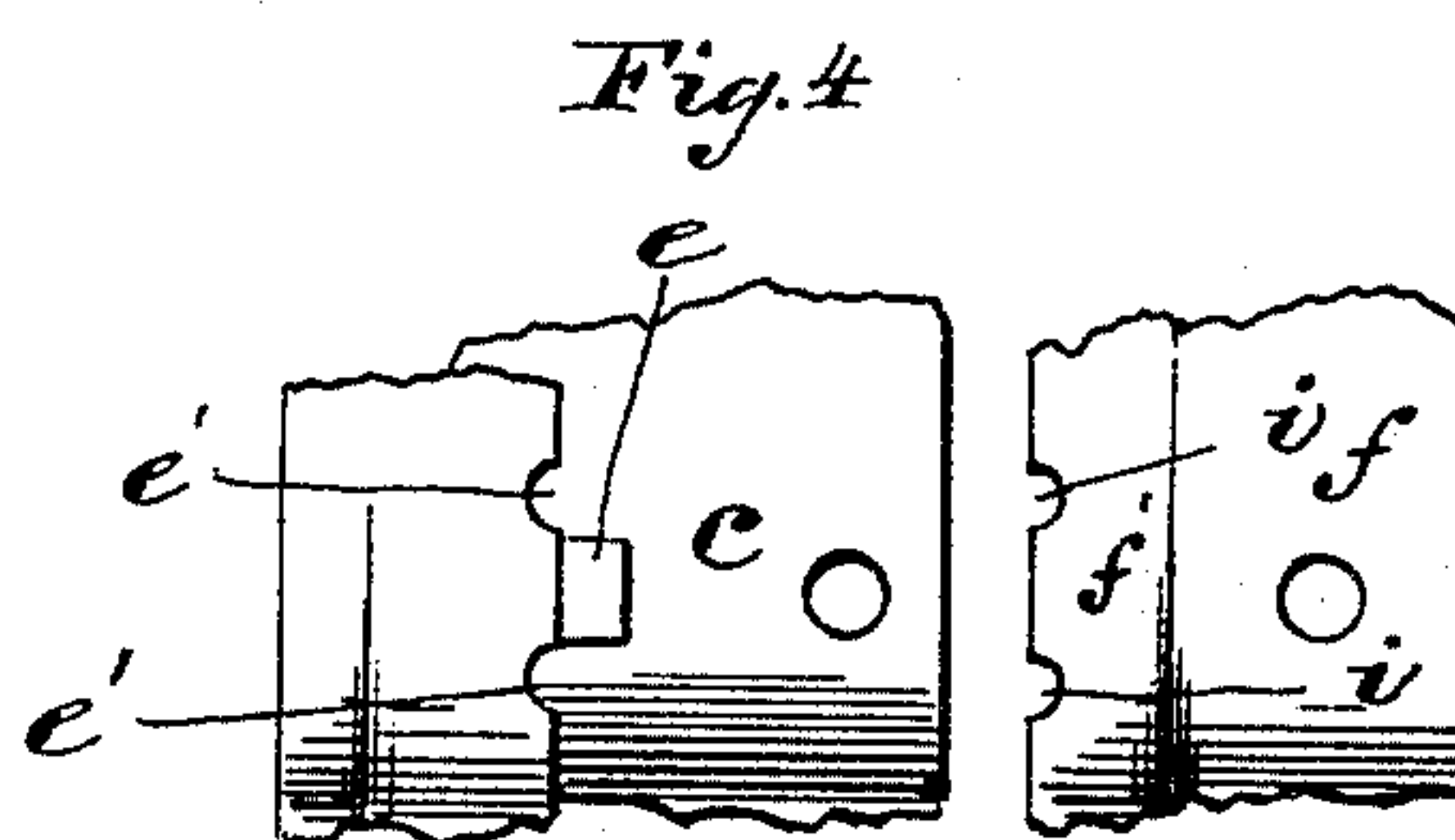
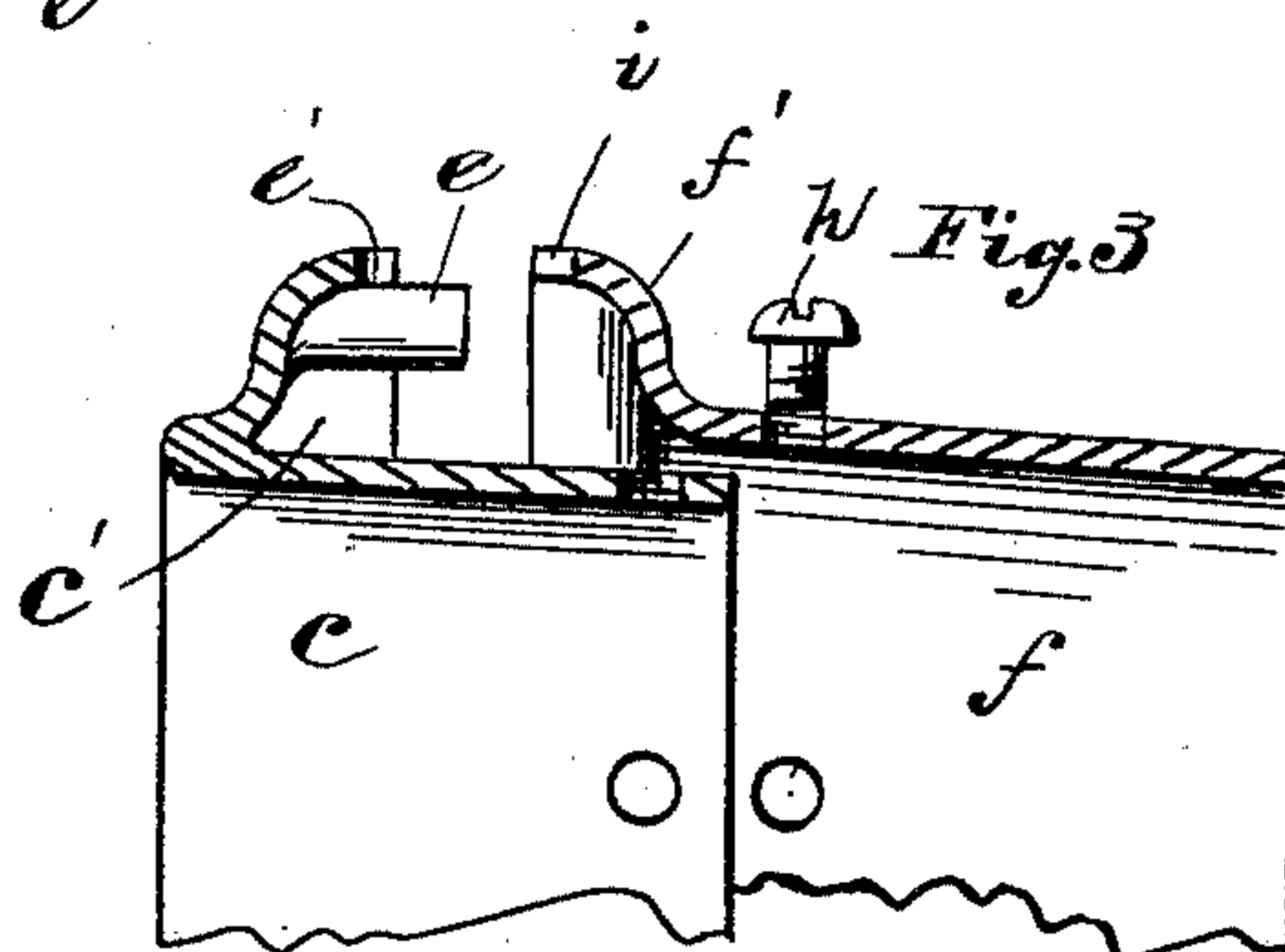
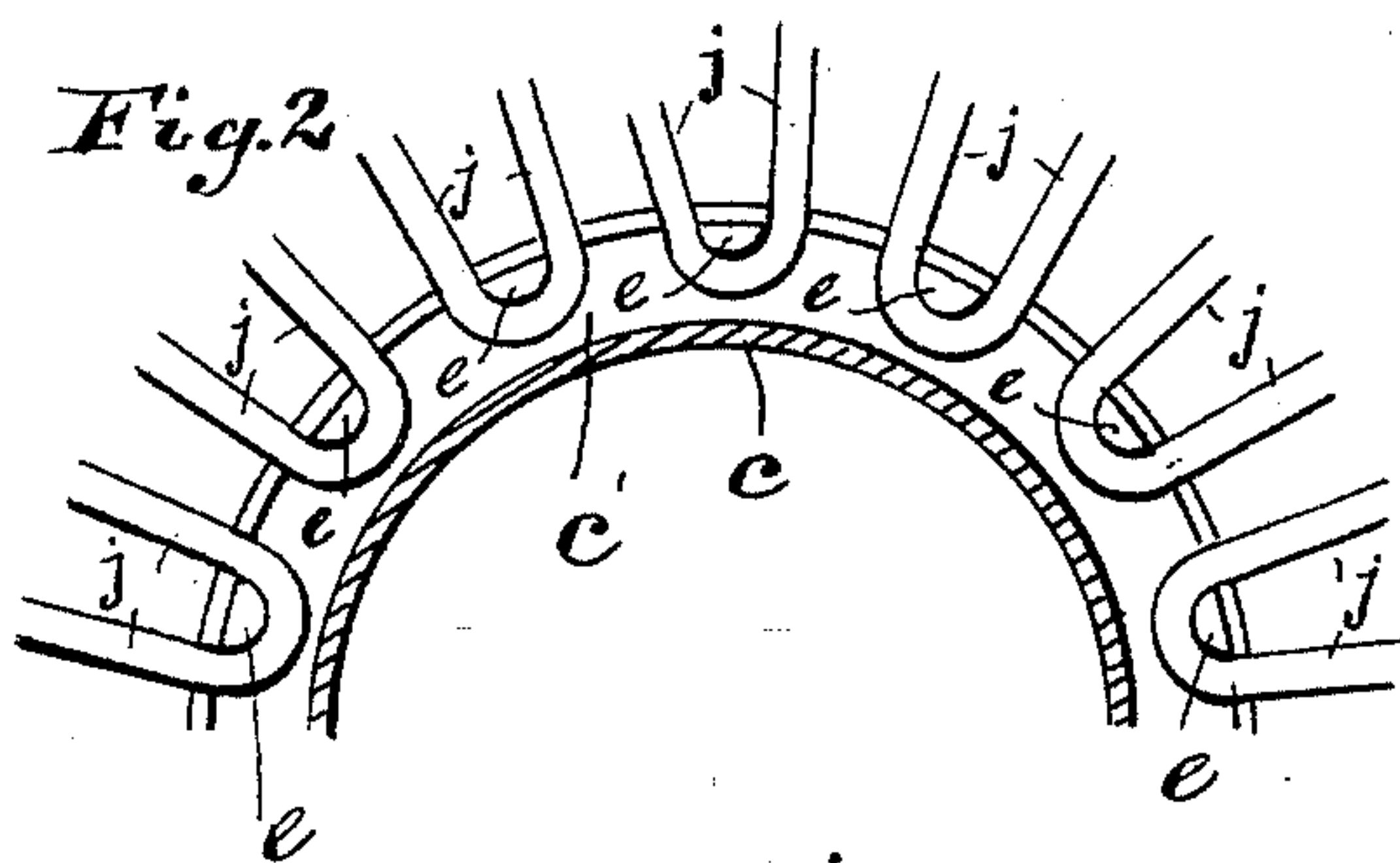
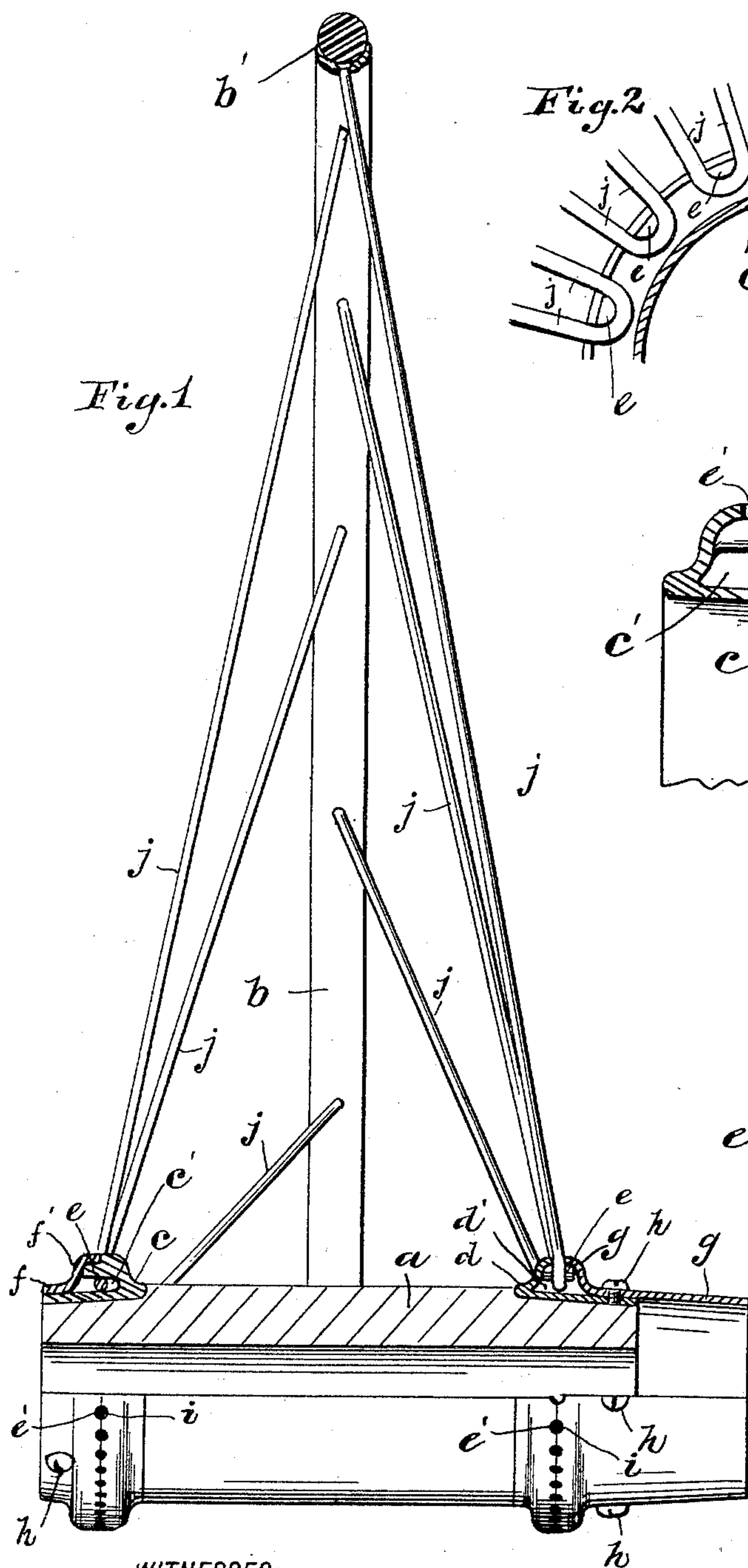


(No Model.)

A. W. GRANT.
VEHICLE WHEEL.

No. 497,784.

Patented May 23, 1893.



WITNESSES:

Frank Watt
Geo. W. Engert.

INVENTOR

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BY

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ATTORNEYS

UNITED STATES PATENT OFFICE.

ARTHUR W. GRANT, OF SPRINGFIELD, OHIO, ASSIGNOR OF TWO-THIRDS TO
BALDWIN MCGREW AND J. W. STAFFORD, OF SAME PLACE.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 497,784, dated May 23, 1893.

Application filed January 11, 1893. Serial No. 457,988. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. GRANT, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Vehicle-Wheels, of which the following is a specification.

My invention relates to improvements in vehicle wheels.

10 The object of my invention is to provide a suspension wheel especially adapted for use on carriages and similar vehicles.

A further object of my invention is to provide a wheel of this character which may be readily and easily repaired.

15 I attain these objects by the constructions shown in the accompanying drawings, in which—

20 Figure 1 is an elevation view, partly in section, of a wheel embodying my invention, some of the spokes and other parts being removed and broken away to better illustrate the invention. Fig. 2 is a partial sectional view of the same, showing the arrangement of the spokes therein. Fig. 3 is an enlarged view in detail, showing the method of placing the retaining bands in position. Fig. 4 is a partial plan view of Fig. 3.

30 Like parts are represented by similar letters of reference in the several views.

In the said drawings *a*, represents the hub, and *b*, the felly of the wheel; the felly *b*, being preferably adapted to receive a rubber tire *b'*, though any other construction may be employed if desired. The main or central portion of the hub *a*, is preferably formed of wood, which may be provided with a metallic inner box to run on the wheel spindle, if so desired. At each end of the hub *a*, I employ 40 metallic bands *c*, *d*, each of which is adapted to fit snugly on the end of the wooden portion of the hub, which is preferably turned down and slightly tapered for this purpose; the bands being correspondingly tapered. These bands *c* and *d*, are each provided with annular recesses or pockets *c'*, *d'*, which are extended beyond the periphery of the band proper and are provided with projecting lugs or fingers *e*, at each side of which are semi-circular notches *e'*. The bands *c*, *d*, are each 50 further provided with an auxiliary cap or

cover *f*, *g*, each of which is provided with an upwardly and outwardly extending portion *f'*, *g'*, adapted to join the outer portions of the pockets *c'*, *d'*. These caps, *f*, are, in fact, auxiliary bands, and are preferably adapted to 55 extend over and fit snugly on the outer peripheries of the main bands *c* and *d*, to which they are secured by small screws *h*, which extend through the respective bands or in any other suitable manner. The outer portions *f'*, *g'*, of these auxiliary bands are also provided with semi-circular openings *i*, adapted, when the bands are in place, to stand opposite those openings *e'*, in the other bands, and thus form 65 a circular opening between the respective parts, as shown in Fig. 1. The portions *f'*, *g'*, of these bands also project over the extending ends or lugs *e*, and form an additional support for these lugs, when the bands are in 70 place.

In assembling the wheel, the felly is connected to the hub by spokes *j*, which are preferably formed of wire and bent so that each piece of wire forms two spokes; the inner portion of the spoke being looped around the lugs *e*, so as to project through the openings *e'*, and the outer ends of the spokes being riveted to the wheel in the usual manner.

In assembling the parts of the wheel the 80 main bands are first placed on the respective ends of the hubs, the spokes placed therein, after which the auxiliary bands are placed and fastened into position on the other bands; the spokes being thus completely secured in 85 place. By this construction it will be seen that if it becomes necessary to repair the wheel by removing and replacing a spoke, it is only necessary to remove the auxiliary cap or band, remove a spoke and put in another 90 one, the projecting lug being adapted to retain the spoke in its position when the auxiliary cap is removed, and thus prevent the accidental displacement of the other spokes in the wheel when said cap is removed. The 95 respective auxiliary bands *f* and *g*, form the ordinary metallic heel and point bands on the hub and at the same time serve the function of retaining the spokes in the same manner.

Having thus described my invention, I 100 claim—

1. In a vehicle wheel, a hub formed of a

central portion of wood or similar material, and metallic bands adapted to slip thereon, said bands being each provided with annular recesses and projecting lugs, and auxiliary bands adapted to project over said main bands and overlap the ends of said projecting lugs, said main and auxiliary bands being each provided with openings adapted to stand adjacent to each other and surround the wheel spokes, substantially as specified.

2. A vehicle wheel formed with metallic spokes, which are riveted or otherwise secured at each end to the rim and passed around a projection at the hub, said projections being arranged in annular recesses formed in metallic bands, adapted to project over the respective ends of said hub, and auxiliary bands to project over said main bands and provided with openings adapted to surround said spokes, substantially as specified.

3. The combination, in a vehicle wheel, with the felly and spokes, as described, of the hub formed with the central wooden portion and the metallic bands adapted to fit thereon, the

projecting lugs arranged in the annular recesses around said main bands and adapted to project between semi-circular openings formed in the outer casing of said recess, and an auxiliary band having a similar recess with semi-circular openings formed in its outer periphery, said auxiliary bands being adapted to fit over said main bands and over the projecting ends of said lugs, and thus inclose the loop portions of said spokes, substantially as specified.

4. In a vehicle wheel, a hub provided with a metallic band having peripheral openings and extending lugs adjacent to said openings, and an auxiliary band to fit over said main band and provided with a projecting portion to fit over said lugs, substantially as specified.

In testimony whereof I have hereunto set my hand this 6th day of January, A. D. 1893.

ARTHUR W. GRANT.

Witnesses:

OLIVER H. MILLER,
FRANK WATT.