

LAND VEHICLES WHEELS & AXLES

No. 810,860.

PATENTED JAN. 23, 1906.

C. HEART.

WHEEL FELLY.

APPLICATION FILED SEPT. 8, 1905.

Fig. 1.

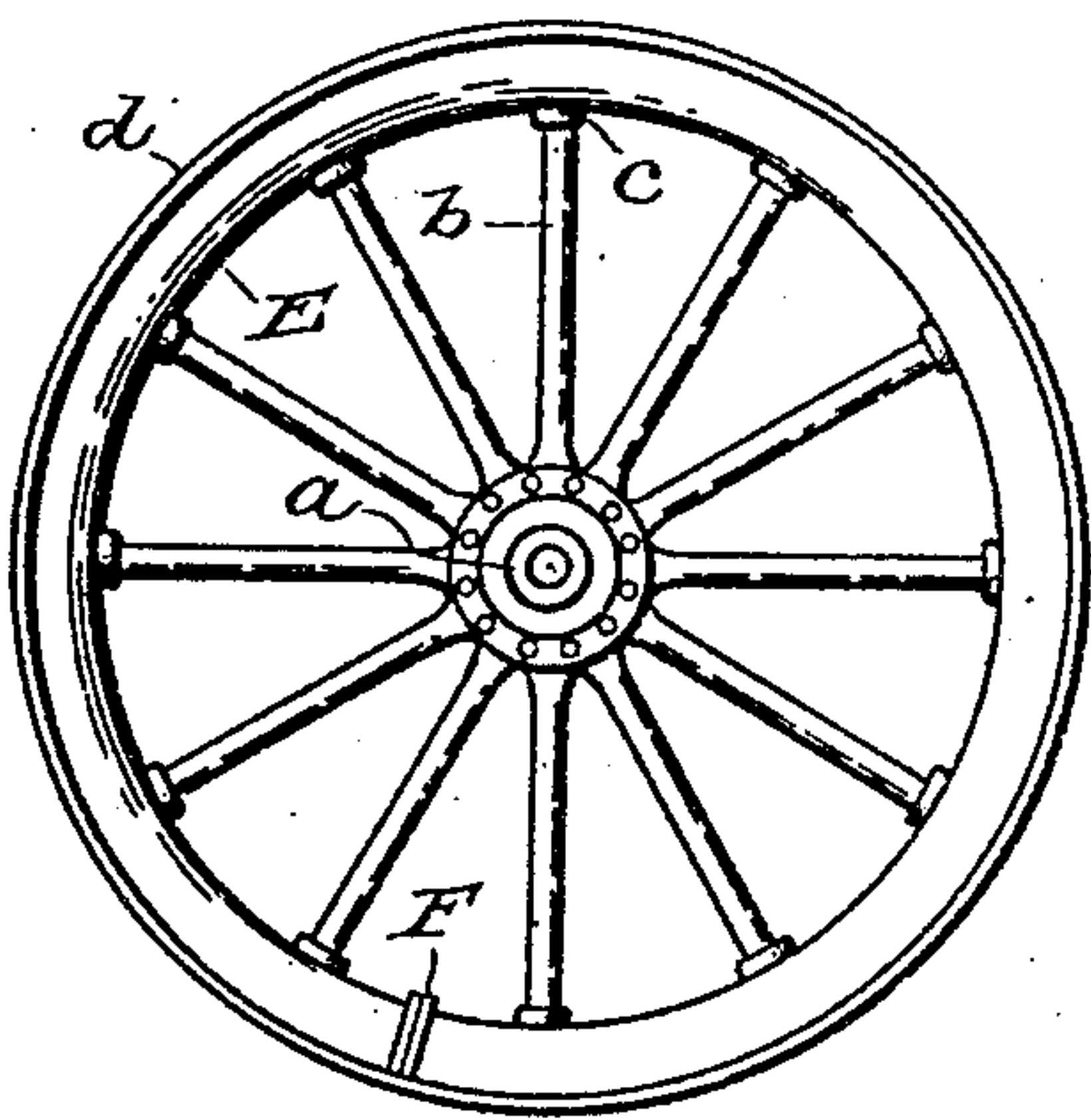


Fig. 2.

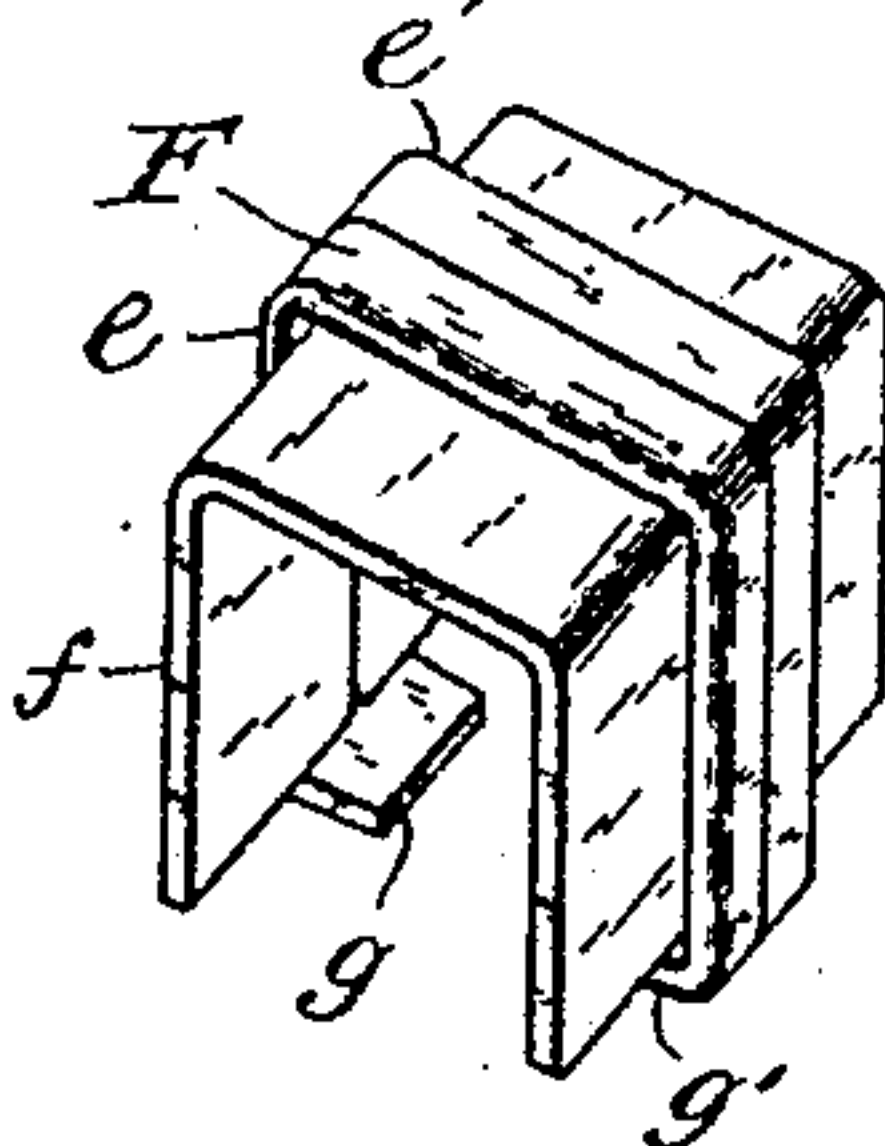


Fig. 3.

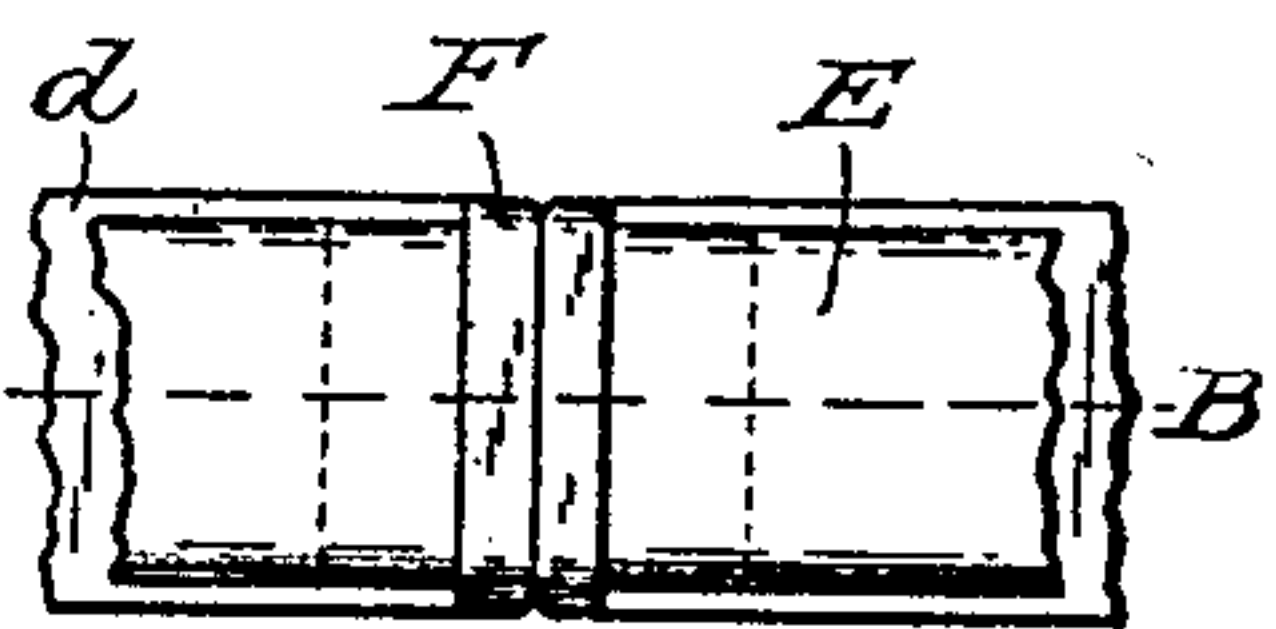


Fig. 4.

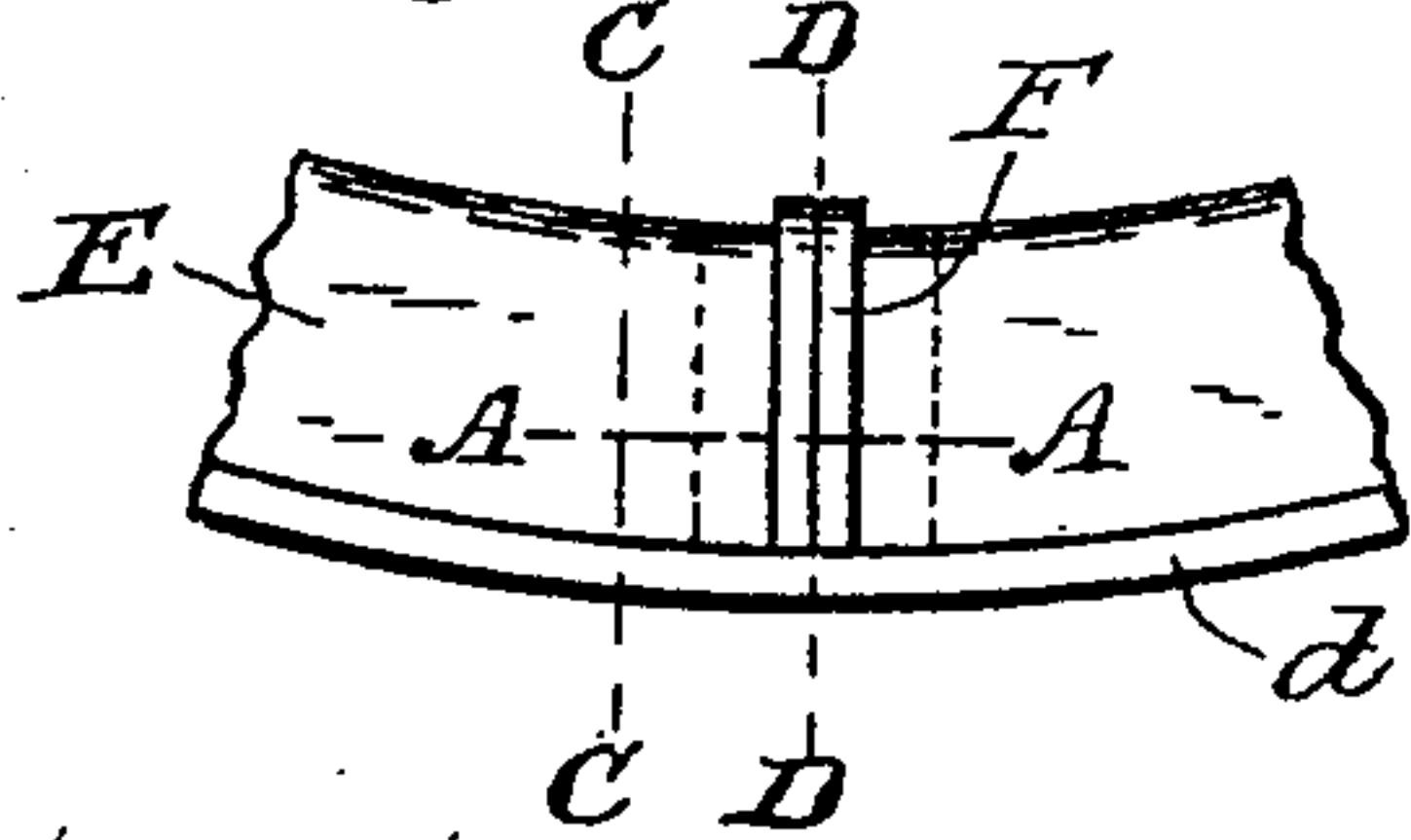


Fig. 5.

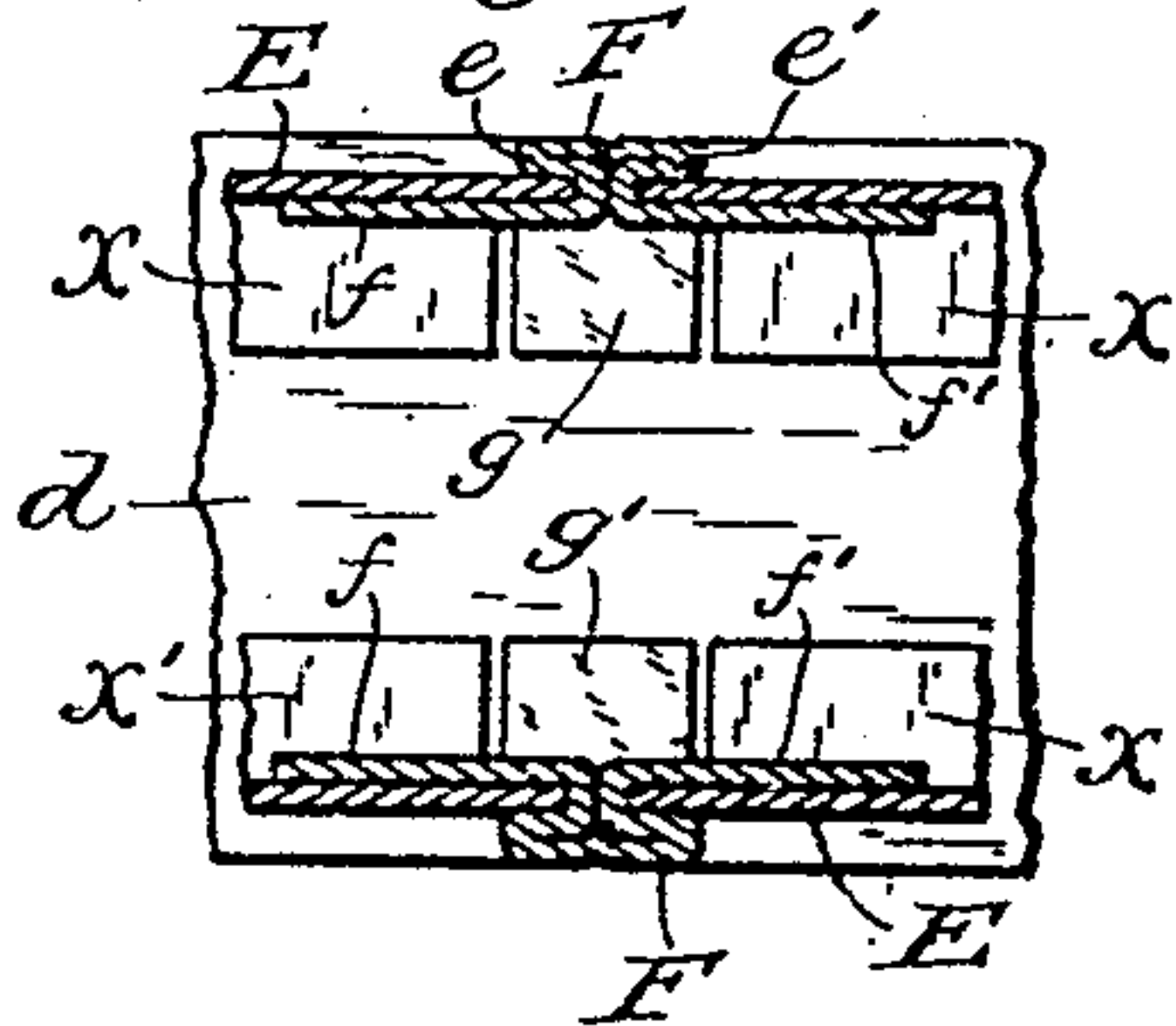


Fig. 6.

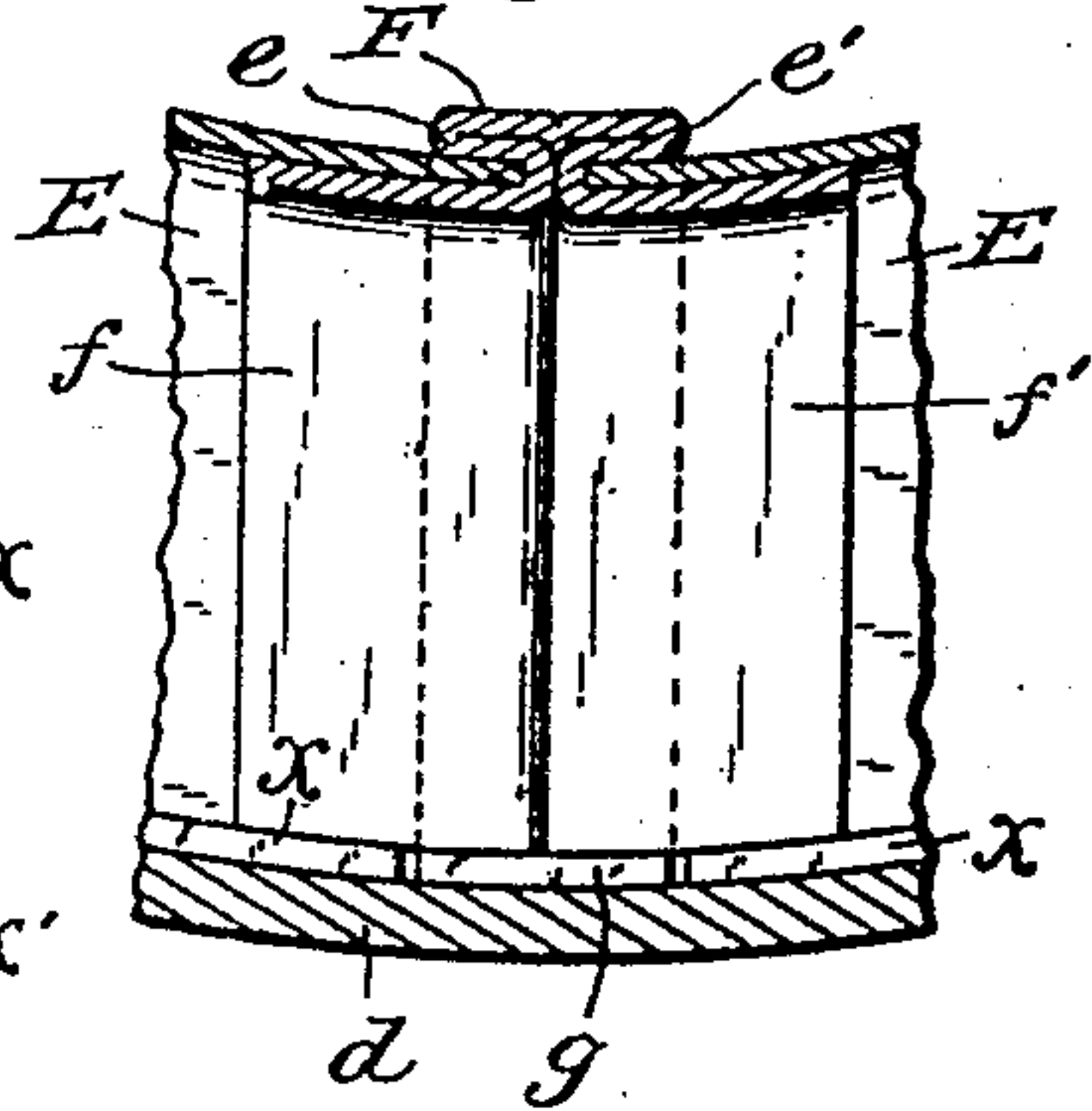


Fig. 7.

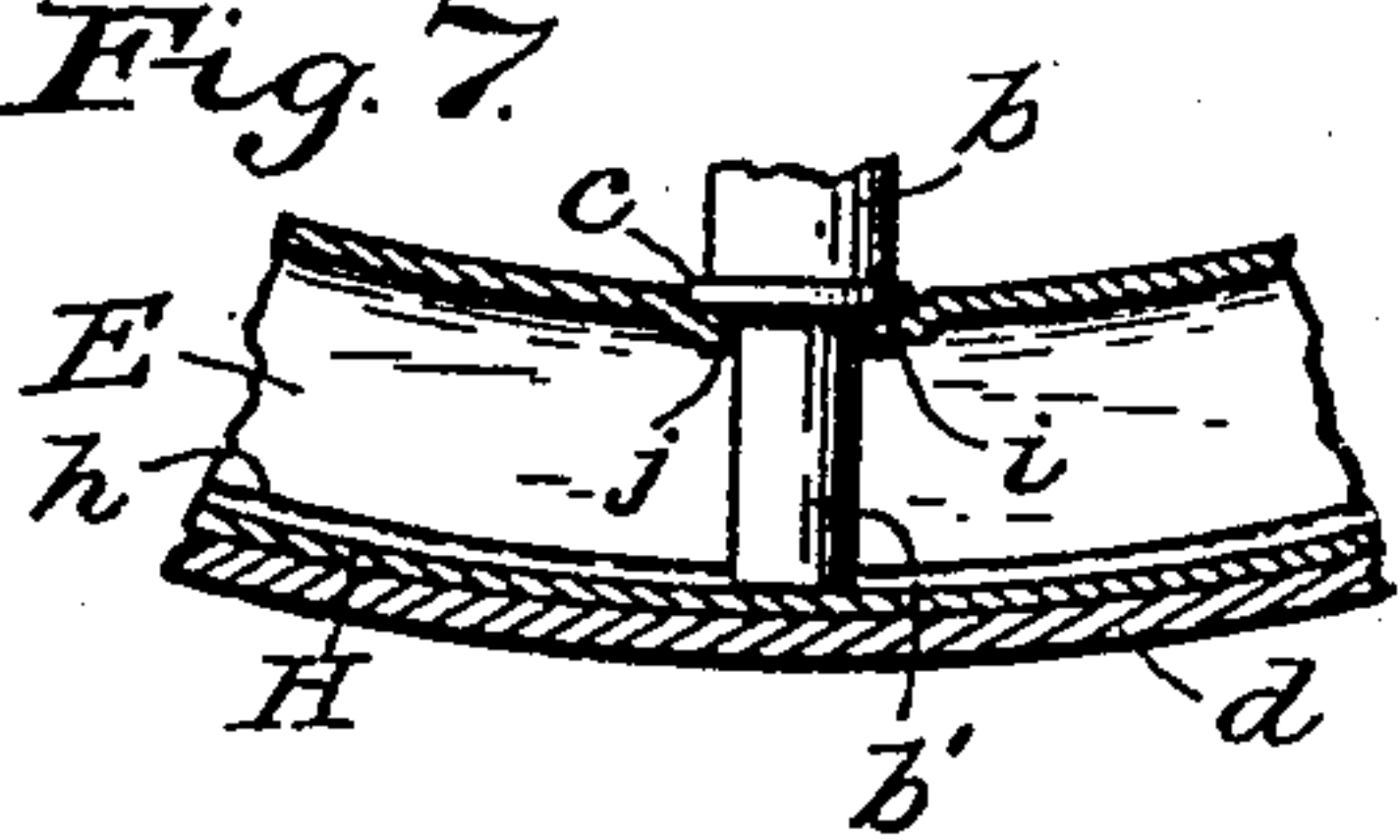


Fig. 8.

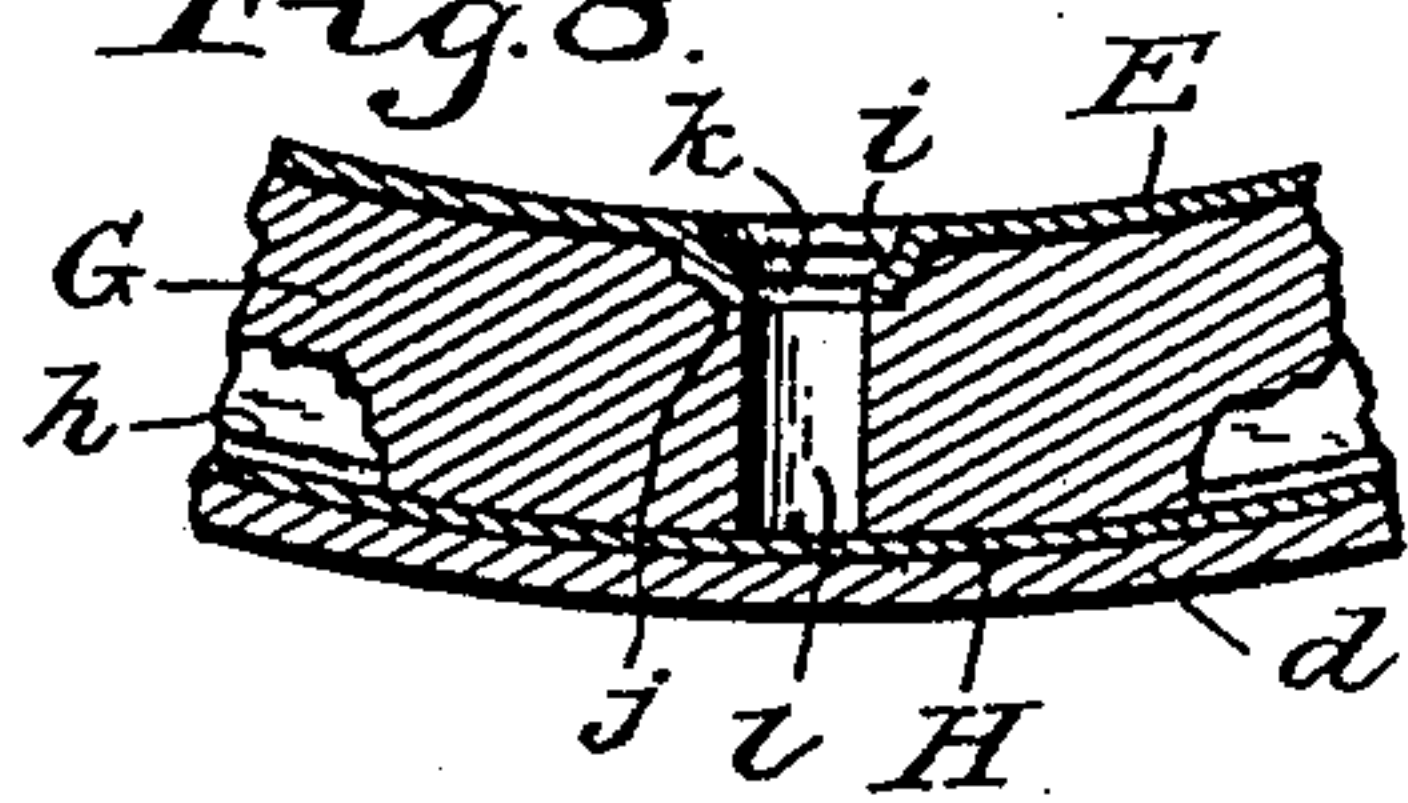


Fig. 9.

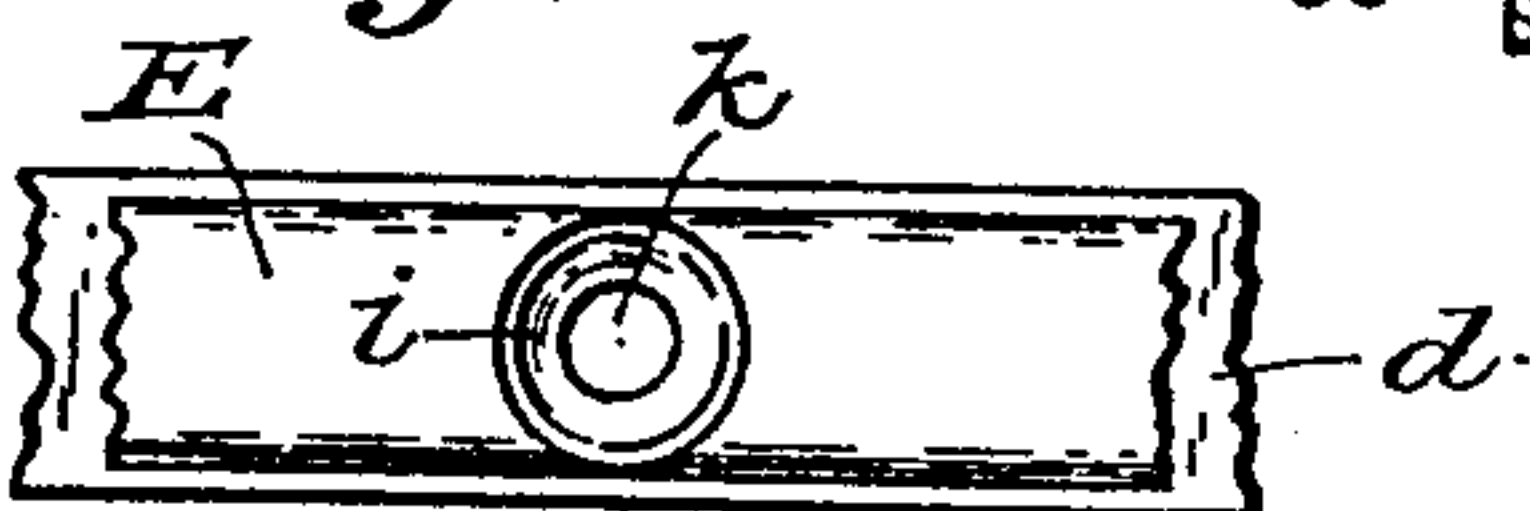


Fig. 10.

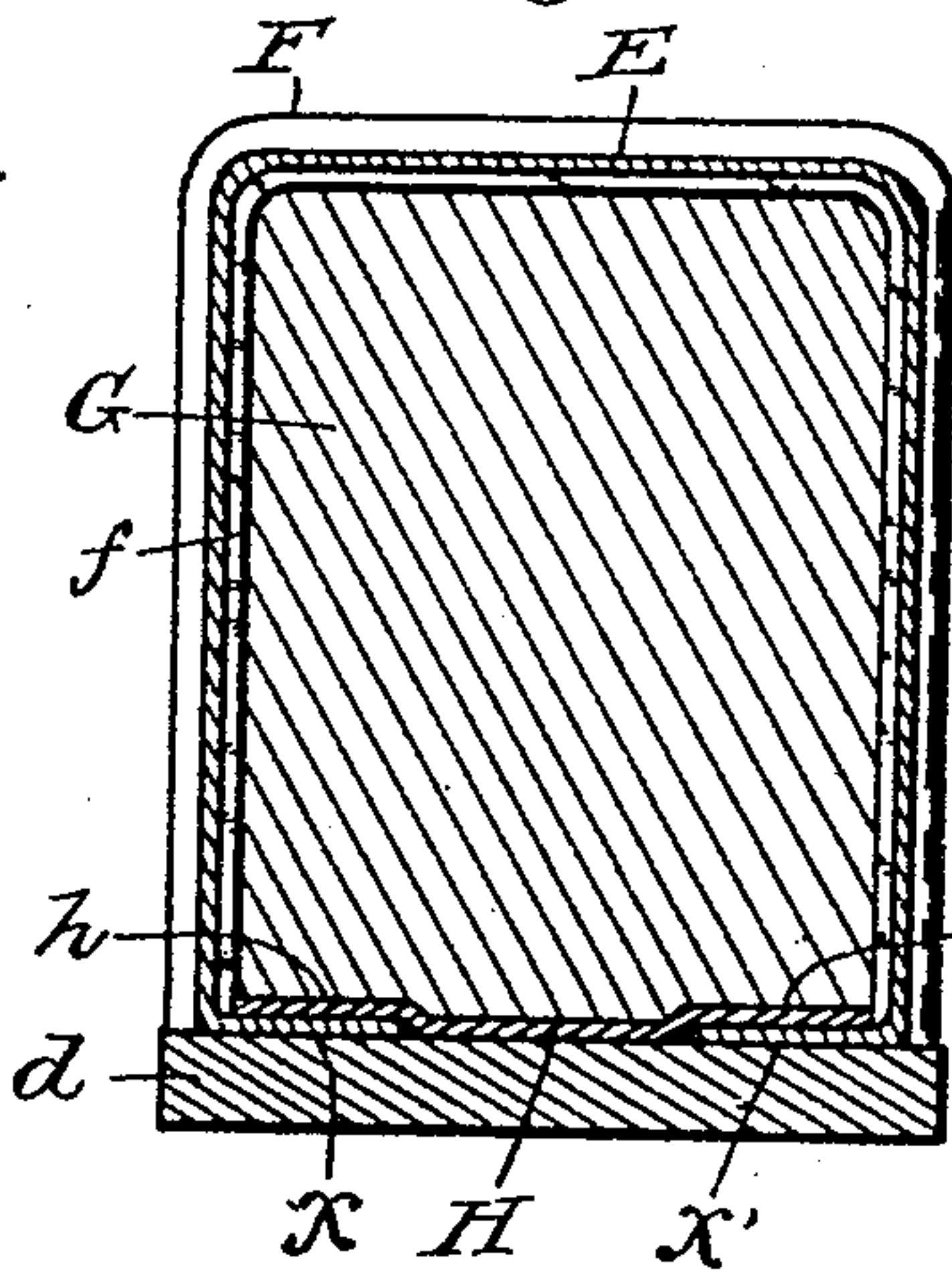
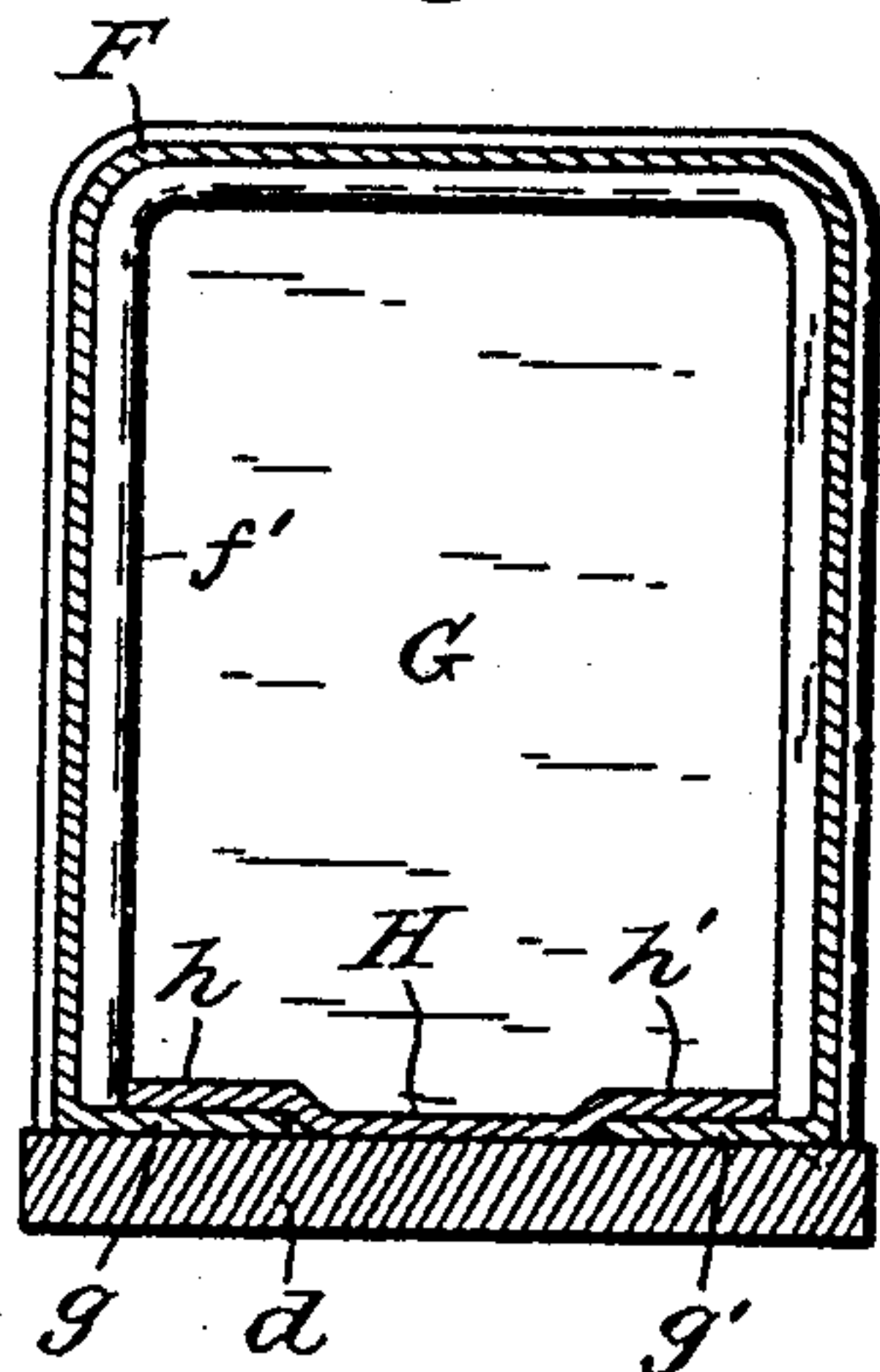


Fig. 11.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES HEART, OF ALEXANDRIA, INDIANA, ASSIGNOR TO HEART METAL WHEEL AND GEAR COMPANY, OF ALEXANDRIA, INDIANA, A CORPORATION OF INDIANA.

WHEEL-FELLY.

No. 810,860.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Original application filed May 25, 1905, Serial No. 262,114. Divided and this application filed September 8, 1905. Serial No. 277,487.

To all whom it may concern:

Be it known that I, CHARLES HEART, a citizen of the United States, residing at Alexandria, in the county of Madison and State of Indiana, have invented new and useful Improvements in Wheel-Fellies; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to wheels that comprise parts of such vehicles as wagons, carriages, automobiles, and the like, the invention having particular reference to the felly portions of the wheels, of which the principal elements were originally shown in my application filed May 25, 1905, Serial No. 262,114, and divided therefrom, objects of the invention being to provide an improved felly for wheels of the above-mentioned character that may combine the maximum strength with the minimum weight and be durable and economical in use.

With the above-mentioned and minor objects in view the invention consists in certain novel features of construction in a felly for wheels adapting the same to be formed principally of sheet-metal material, so as to be light, strong, and durable; and the invention consists, further, in the parts and combinations and arrangements of parts, as hereinafter particularly described and claimed.

Referring to the drawings, Figure 1 is a front elevation of a vehicle-wheel having the improved felly; Fig. 2, a perspective view of the joint-piece for the felly of the wheel; Fig. 3, a fragmentary plan view of the felly at the joint thereof; Fig. 4, a fragmentary side elevation of the felly at the joint thereof; Fig. 5, a fragmentary horizontal sectional view on the line A A in Fig. 4, omitting the filling of the felly; Fig. 6, a fragmentary vertical sectional view on the line B B in Fig. 3, omitting the filling of the felly; Fig. 7, a fragmentary vertical sectional view of the felly and tire and a spoke end in elevation connected therewith, omitting the filling of the felly; Fig. 8, a fragmentary vertical sectional view of the felly and tire at a spoke-socket; Fig. 9, a fragmentary plan view of the felly at a spoke-socket; Fig. 10, a transverse sectional view

of the felly on the line C C in Fig. 4, and Fig. 11 a transverse sectional view on the line D D in Fig. 4 at the joint of the felly.

Similar reference characters in the various figures of the drawings designate corresponding elements or features.

In the drawings, *a* designates the hub of a wheel containing the improvements; *b*, the spokes having tenon-shoulders *c*; *E*, the improved felly; *F*, the joint-piece of the felly, and *d* the tire of the wheel.

The improved felly is composed mainly of a single piece of sheet metal pressed to proper size and shape and so as to be approximately U shape in cross-section, the whole being circular and having inner flanges *x* and *x'*, that are engaged by the tire *d*, the ends of the piece forming the felly being connected together by a novel joint-piece *F*, that is formed from a single piece of sheet metal by suitable dies and presses, the contour of the joint-piece being approximately U shape in cross-section and having a band-like part doubled upon itself and forming lips *e* and *e'* and extending over the exterior of the joint ends of the piece forming the felly and between the two joint ends and having flanges *f* and *f'* extending against the inner sides of the felly from the joint ends and against the flanges *x* and *x'*, the latter being cut back at their ends and the band-like part of the joint-piece having lips *g* and *g'* extending against the inner side of the tire *d* between the ends of the felly-flanges. The flanges *f* and *f'* may be suitably secured to the felly, as by brazing or by rivets, as may be preferred.

The felly *E* has flat spoke-seats *i* pressed in its inner face and an annular flange *j*, extending about the spoke-holes *k* to form substantial bearings for the tenon-shoulders of the spokes, the tenons *b'* extending into the sockets *l*, that are formed in the filling of the felly.

The felly being hollow is provided usually with a filling *G*, which may be composed of pressed fiber or other suitable material coated with suitable waterproofing, the sockets *l* being formed in the filling; but in small sizes of wheels the filling may be omitted from the felly, if desired, the filling being designed to brace the thin metal sides of the felly when made relatively large.

A reinforcing-band *H* extends along the pe-

riphery of the felly with its middle portion between the flanges x and x' , so as to bear against the tire d , the band having offset side parts h and h' , that lap over the inner sides of the flanges x and x' to the inner sides of the side plates of the felly. The filling G when employed engages the band. In some cases, however, the band may not be required, but is desirable usually in large wheels, and especially when the tire may be allowed to shrink excessively.

It will be understood that various types of tires may be applied to the felly. It has been found that in practice soft sheet-steel is the preferable metal of which to form the felly and its reinforcing-band.

In practical use the felly will not cause trouble on account of drying and shrinking, as is the case when composed of wood, and the filling G will prevent the entrance of water to the interior of the felly, thereby preventing deterioration of the metal on account of rust or corrosion.

Having thus described the invention, what is claimed as new is—

1. A wheel including a hollow metal felly having a joint provided with a joint-piece formed of metal that is doubled over upon itself at the exterior of the felly and extending between the joint ends of the felly and against the inner sides thereof.

2. A wheel including a hollow metal felly having internal flanges at the periphery thereof, a reinforcing-band extending between the flanges of the tire and also against the inner surfaces of the flanges, and a tire engaging the reinforcing-band and also the flanges of the felly.

3. A wheel including a hollow metal felly having spoke-seats pressed in the inner face thereof and flanges extending from the spoke-seats into the interior of the felly, a filling in the felly having spoke-sockets therein, spokes engaging the spoke-seats and extending through the flanges thereof into the sockets of the filling, and a hub attached to the spokes.

4. A wheel including a hollow metal felly having internal flanges at the periphery thereof, a reinforcing-band extending between the flanges of the tire and also against the inner surfaces of the flanges, a filling in the felly having spoke-sockets therein and having its periphery in contact with the inner side of the reinforcing-band, spokes extending into the sockets of the filling, and a hub attached to the spokes.

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

CHARLES HEART.

Witnesses:

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E. T. SILVIUS.