

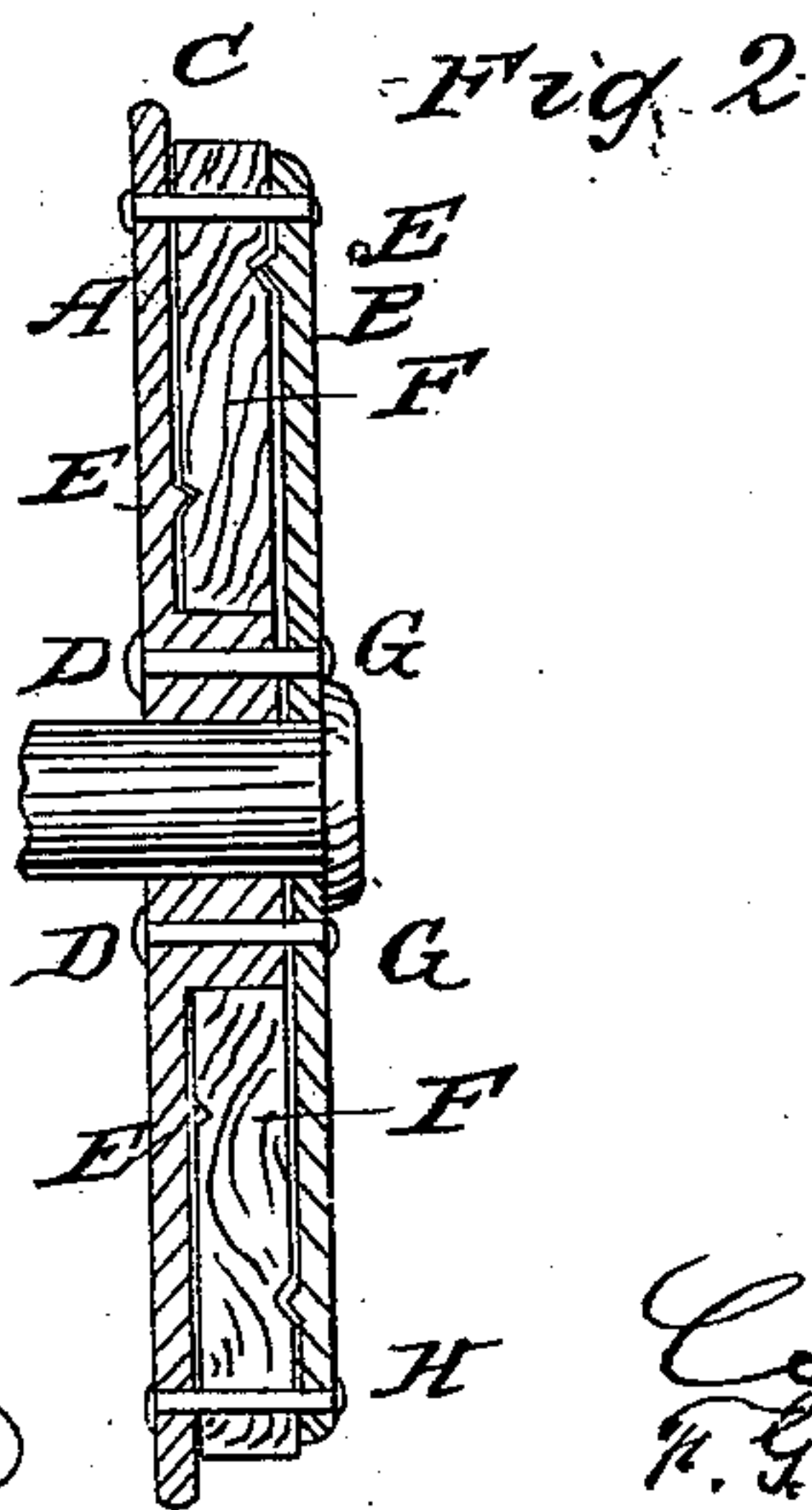
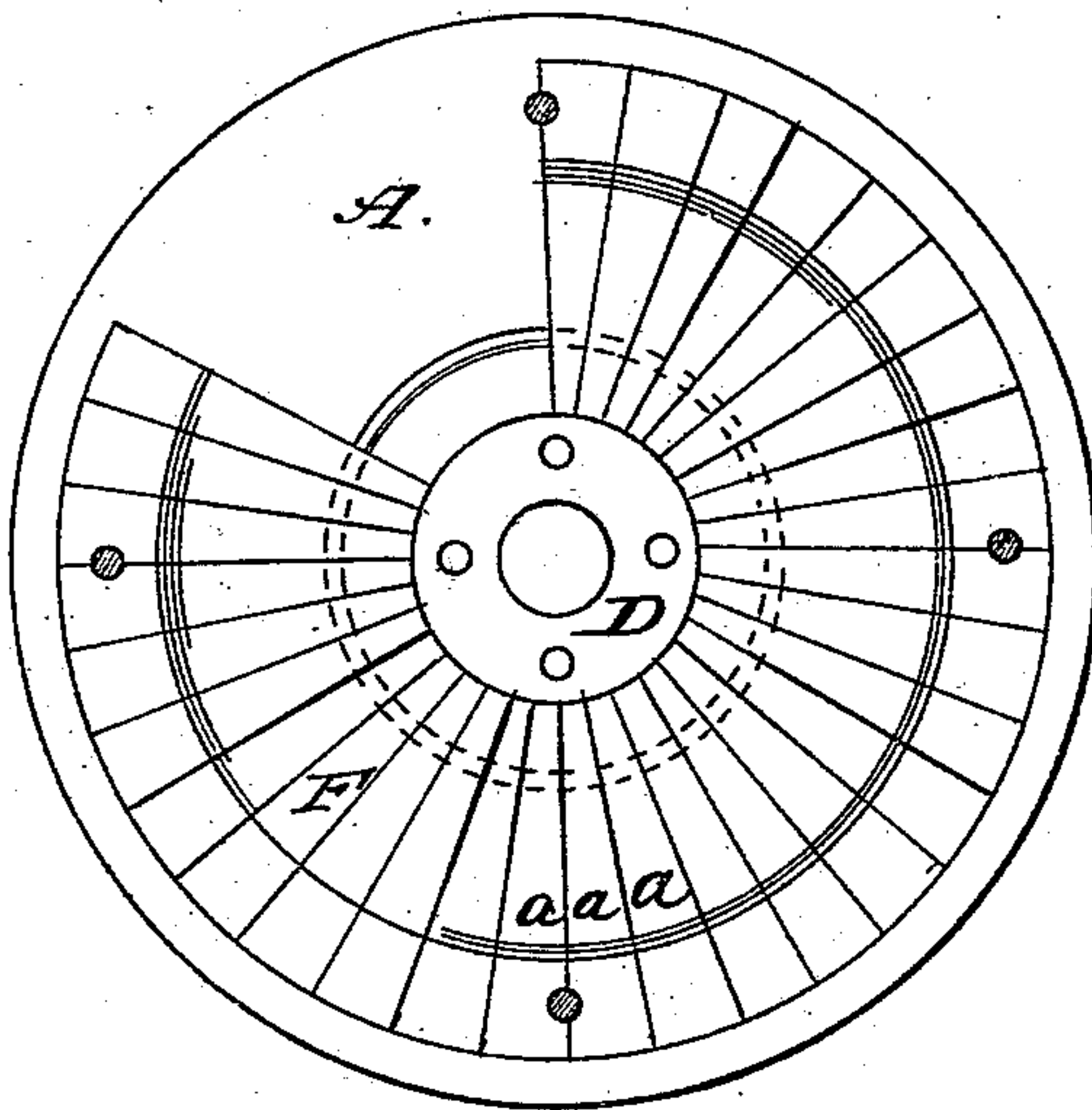
DELAFIELD & JOHNSON.

Railway Car Wheel.

No. 94,293.

Patented Aug. 31, 1869.

Fig 1.



Witnesses
O. Hinchman
J. W. Brooks

Inventors
C. Delafeld
H. G. Johnson
Mumford

United States Patent Office.

CLARENCE DELAFIELD, OF CASTLETON, AND FRANK G. JOHNSON,
OF NORTHFIELD, NEW YORK.

Letters Patent No. 94,293, dated August 31, 1869.

IMPROVED RAILWAY-CAR WHEEL.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, CLARENCE DELAFIELD, of Castleton, and FRANK G. JOHNSON, of Northfield, in the county of Richmond, and State of New York, have invented a new and useful Improvement in Car-Wheels; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in car-wheels, whereby it is designed to provide more elastic, durable, and cheaper wheels than those now in use.

The invention consists in an improved construction of car-wheels made of metal and wood, as hereinafter more fully specified.

Figure 1 represents a section of our improved wheel taken in the plane of its diameter, some of the wood portion being removed.

Figure 2 represents a transverse section.

Similar letters of reference indicate corresponding parts.

Car-wheels have been hitherto made of wood and metal under various arrangements, having for their object to combine the soft and yielding qualities of the wood with the qualities of strength and hardness possessed by the metal, to produce more easy-running cars with less wear upon the wheels and the rails.

In all arrangements previously tried, the wood portions of the wheels have been hooped with iron or steel tires, which to a very great extent counteract the usefulness of the wood portion, which is confined thereby, and not permitted to impart its full measure of usefulness.

We provide two metal disks, A B, the one, A, being of sufficiently greater diameter than the other for the excess to form the flange C, and either one may have a central cone, D, through which the bore is made for the axle.

Each disk is also provided with an annular projection, E, on its inner face, the inner wall of which is inclined so that when pressed into the central wood portion F of the wheel by clamping the two disks against the said wood portion, the latter will be drawn inward against the hub or cone D.

These annular projections are preferably arranged at unequal distances from the centre or periphery, so as not to weaken the wood, as would be the case if placed opposite each other.

For this wood part F of the wheel, we prefer to employ tough but not very hard timber, such as yellow or North Carolina pine, and other similar woods, taking care to select straight and even-grained timber, splitting it into narrow pieces, *a*, which we arrange in the wheel between the two flanges, with the grain in the radial lines, tapering them to fit the space snugly, and to rest with their inner ends against the hub D, while their outer ends are flush with or slightly projecting from the edge of the disk D.

The whole being so arranged, is firmly clamped together by bolts G passing through the hub, where we prefer to first tighten the flanges up against the wood, to draw it by the projections E inward, and other bolts, H, designedly arranged near the periphery, to clamp the wood part as compact as possible thereat, and especially to prevent any lateral spreading of the wheel at the tread.

We have found by experience that wheels constructed in this way, with a wood face or tread, taking the wear on the end of the grain, are capable of greater endurance than metal wheels with steel tires, and much less injurious to the rails. They also run very still and with less jarring to the cars, and do not become loose or weak from changes under atmospheric influence.

Having thus described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

The disks A B, when provided with the projections E, in combination with the wood strips F, as herein described for the purpose specified.

The above specification of our invention signed by us, this 20th day of March, 1869.

CLARENCE DELAFIELD.
FRANK G. JOHNSON.

Witnesses:

FRANK BLOCKLEY,
ALEX. F. ROBERTS.