

(No Model.)

J. M. WHITING.
CAR WHEEL.

No. 282,593.

Patented Aug. 7, 1883.

Fig. 1.

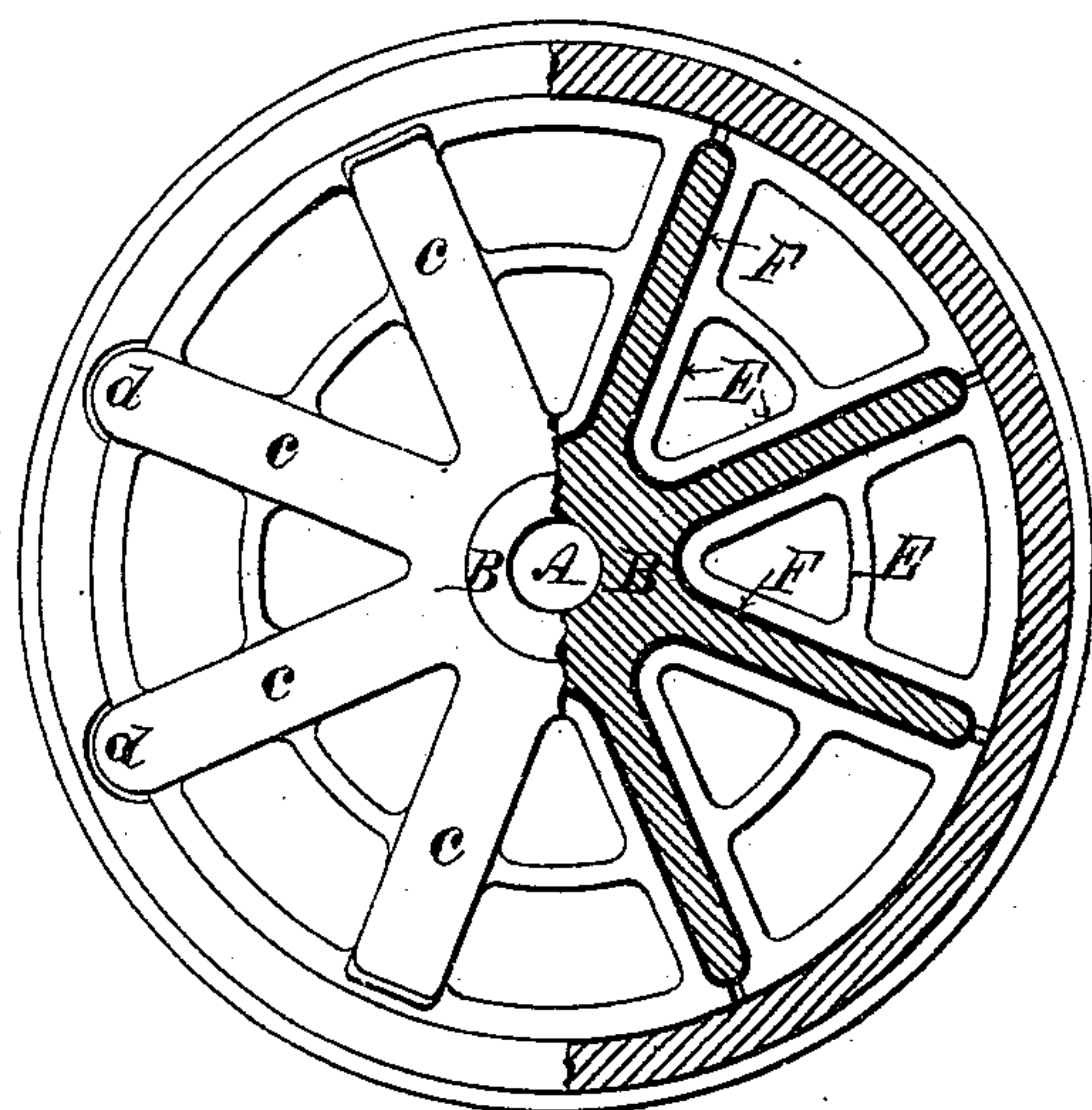


Fig. 2.

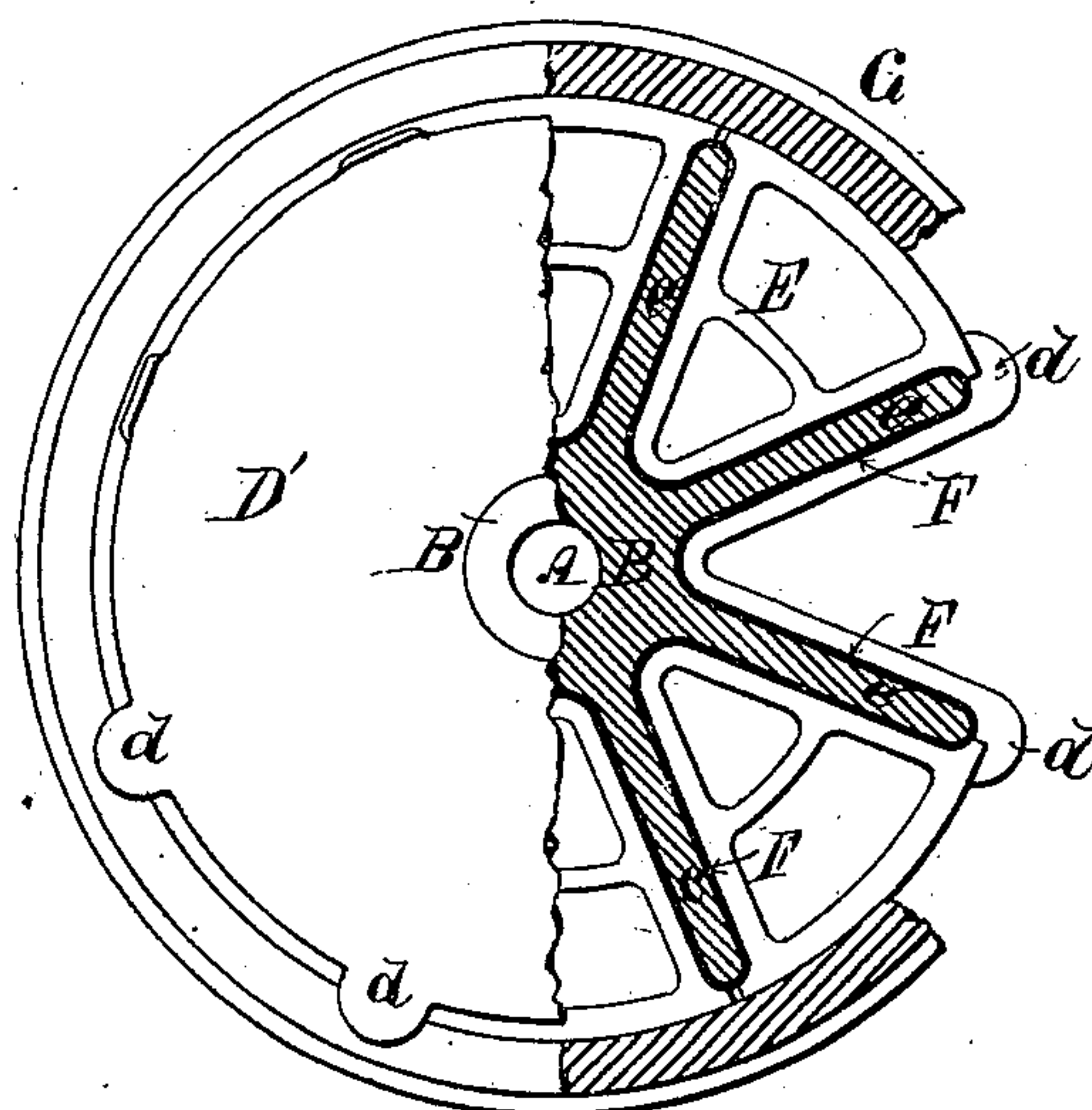


Fig. 3.

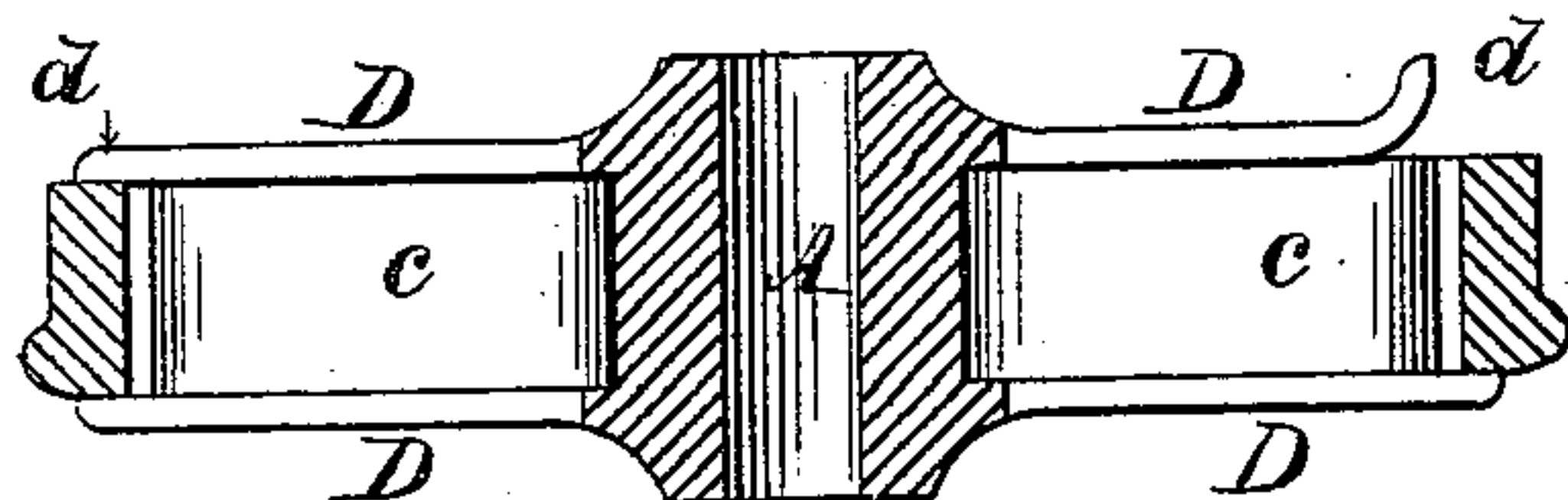
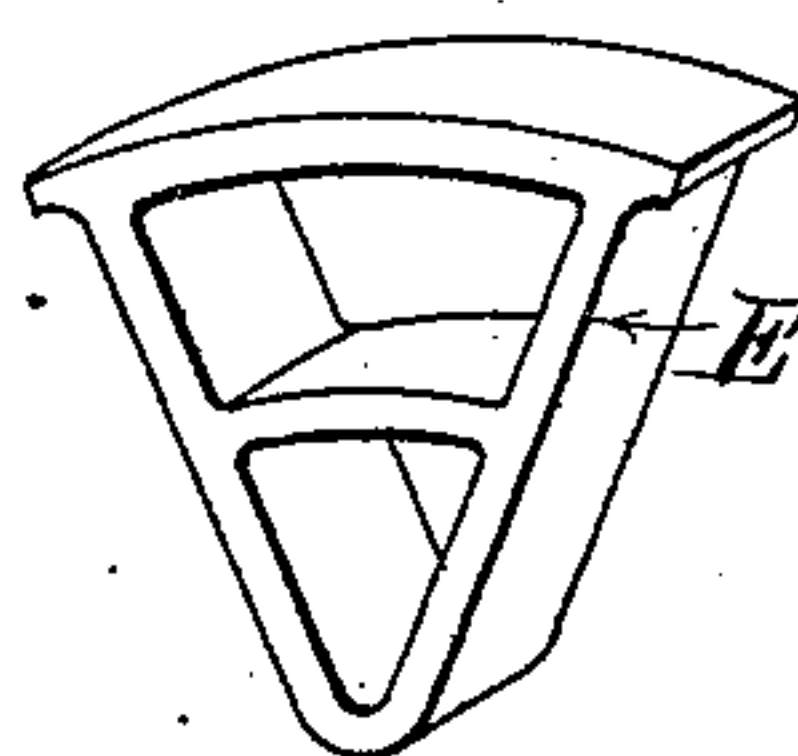


Fig. 4.



WITNESSES:

H. B. B. B.
Wm. L. C. C.

INVENTOR:

James M. Whiting
by Joseph A. Miller
Att'y

UNITED STATES PATENT OFFICE.

JAMES M. WHITING, OF PROVIDENCE, R. I., ASSIGNOR OF ONE-HALF TO JULIUS CARROLL AND GEORGE C. ELIOTT, OF SAME PLACE.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 282,593, dated August 7, 1883.

Application filed May 14, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. WHITING, of the city and county of Providence, and State of Rhode Island, have invented a new and
5 useful Improvement in Car-Wheels; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

10 This invention has reference to an improvement in wheels for railroad-cars; and it consists in the peculiar and novel construction by which the jar of the wheel is deadened and a limited amount of elasticity is secured in the
15 wheel, as will be more fully set forth herein-after.

Car-wheels as heretofore constructed form either a rigid structure when made of cast metal, or when made of wrought metal require
20 expensive machinery and costly labor.

The object of this invention is to construct car-wheels of cast metal and interpose a yielding material, so that the sudden shocks to which the wheels are exposed will be dead-
25 ened and a slight yield given to the wheel, by which it will run smoothly and noiselessly.

Figure 1 is a view, partly in section, of my improved car-wheel. Fig. 2 is a view, partly in section, of a modification of my improved
30 car-wheel. Fig. 3 is a sectional view of the same, showing the manner of securing the armed spider to the tire. Fig. 4 is a perspective view of the sectional blocks used in building up the car-wheel.

35 In the drawings, A is the armed spider, consisting of the hub B and the spokes C C. The spokes C C are provided on each side with the projecting plates D, wider than the spokes, so that a recess is formed into which the blocks
40 E E can be placed; or one side of the spider A may consist of the plate D', or, if desired, both sides may be formed into solid plates, provided the plate on one side is made so that the tire can be placed over the same. The
45 ends of the spokes are preferably rounded, as also in the intersection of the spokes with the hub, and on the sides of the spokes, as well as over the ends, the strip F of india-rubber, rawhide, prepared paper, or any other similar
50 material is placed. The blocks E E are now

inserted, bearing on the strip F along their sides as well as at the ends. These blocks are forced firmly into the space between the spokes, so as to compress the interposed material F, and are held in place by a powerful chuck bearing against all the blocks. The tire G is now
55 placed over the blocks E E, resting against the projecting ends *d* of the plates D, or against the plate D', and will thus firmly hold the parts together. One or more of the blocks E
60 may now be secured by bolts or keys to the tire, and the wheel is completed; or the spider A may be made of malleable cast metal, and the ends *d* of the plates D on one side may be turned, as shown in Fig. 3, so as to pass through
65 the tire, and may be straightened out when the tire is secured, so as to firmly hold the same in place. The ends *d* may enter recesses formed in the tire, in which they can have sufficient
70 lateral play to prevent binding, so as not to injure the elasticity of the wheel; and one side of the plate D' may also be provided with such projections *d d*, by which the same is held in place.

It will be observed that the broad surface
75 of the blocks E E bear on the tire, and that the tapering sides rest against the elastic or semi-elastic material interposed between them and the spokes. Any jar or sudden concussion will therefore be taken up by the interposed
80 material, and will not be transmitted to the axle. A limited elasticity, due to the elasticity of the interposed material, will be secured in the wheel, and it will therefore be more durable than the rigid cast-metal wheels hereto-
85 fore constructed, while all parts can be made of cast metal, although I prefer that a rolled-steel tire be used.

It is obvious to those skilled in the art that the parts may be secured together in various
90 ways, and as I have pointed out some of these ways, I do not wish to confine myself to any particular manner of securing the tire or the parts.

Light wheels for horse-cars may be con-
95 structed on this principle, by which the jar and hum of the present car-wheels is avoided and a noiseless car-wheel secured.

Having thus described my invention, I claim
as new and desire to secure by Letters Patent— 100

1. The combination, with the cast-metal spider A, of the separate cast metal blocks E, one between each two arms of the spider, the elastic material F, between the spider and blocks, 5 and the tire G, which embraces and holds all the blocks E in position, substantially as described.

2. The combination, with the cast-metal spider A, of the separate cast-metal blocks E, one 10 between each two arms of the spider, the elastic material F, the tire G, and the retaining-plate D, all arranged and combined substantially as stated.

3. The combination, with spider A, having spokes, as described, the separate blocks E, be- 15 tween said spokes, the interposed elastic material, and the tire, all arranged as described, of the plates D, having ends d, of malleable iron, capable of being bent into position to secure the parts together, all substantially as de- 20 scribed.

JAMES M. WHITING.

Witnesses:

J. A. MILLER, Jr.,
M. F. BLIGH.