

(No Model.)

A. L. H. MESSMER.
VEHICLE WHEEL.

No. 566,524.

Patented Aug. 25, 1896.

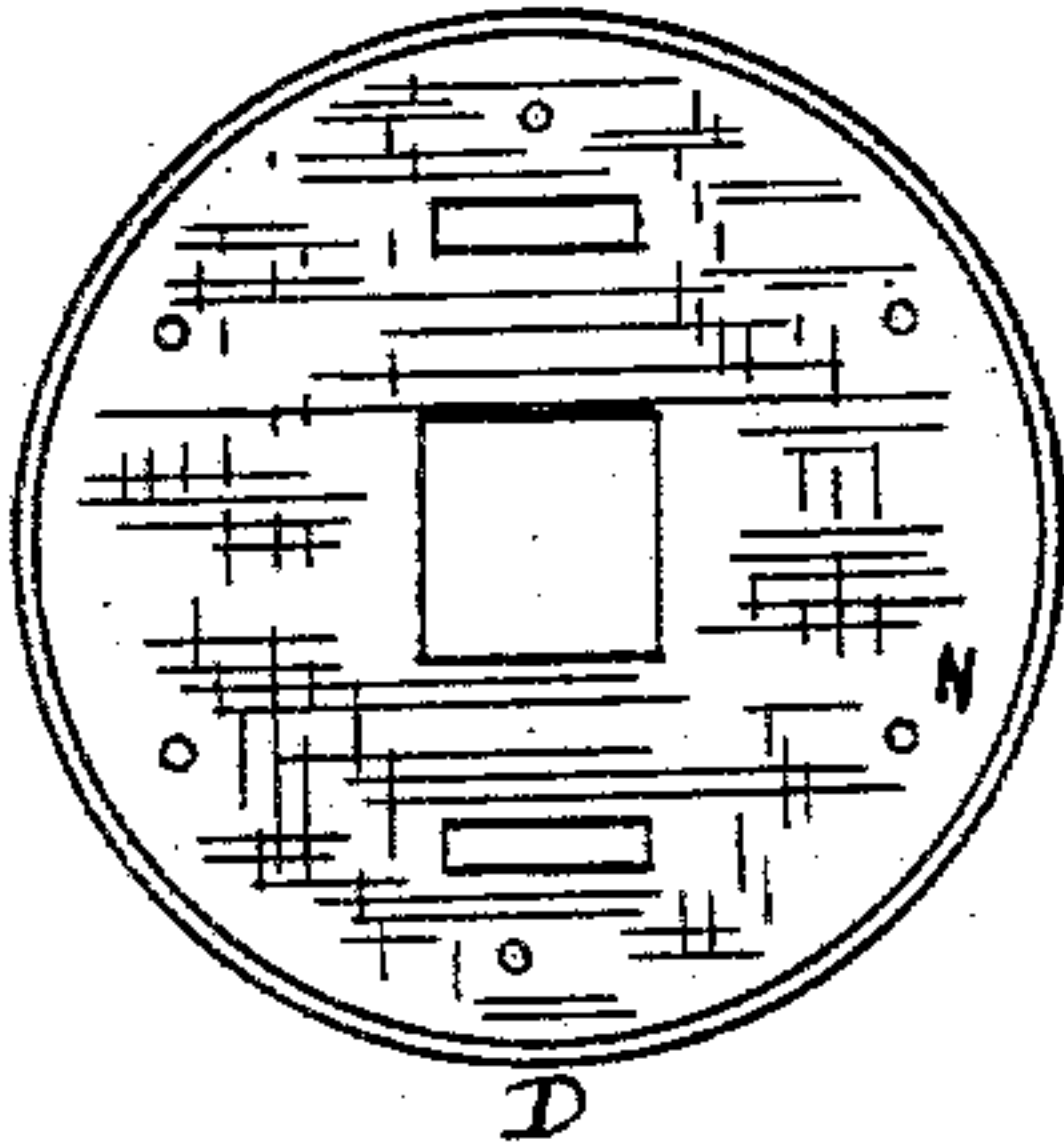


Fig. 2.

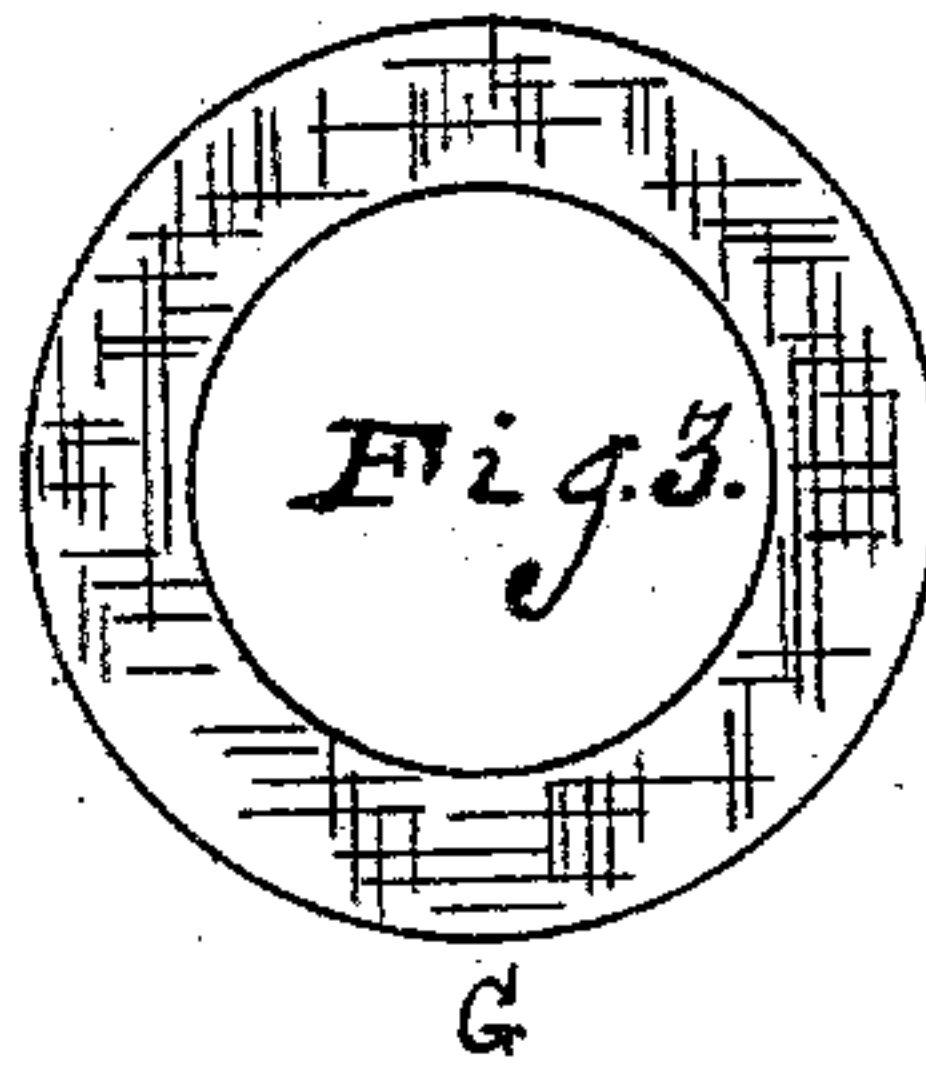


Fig. 1.

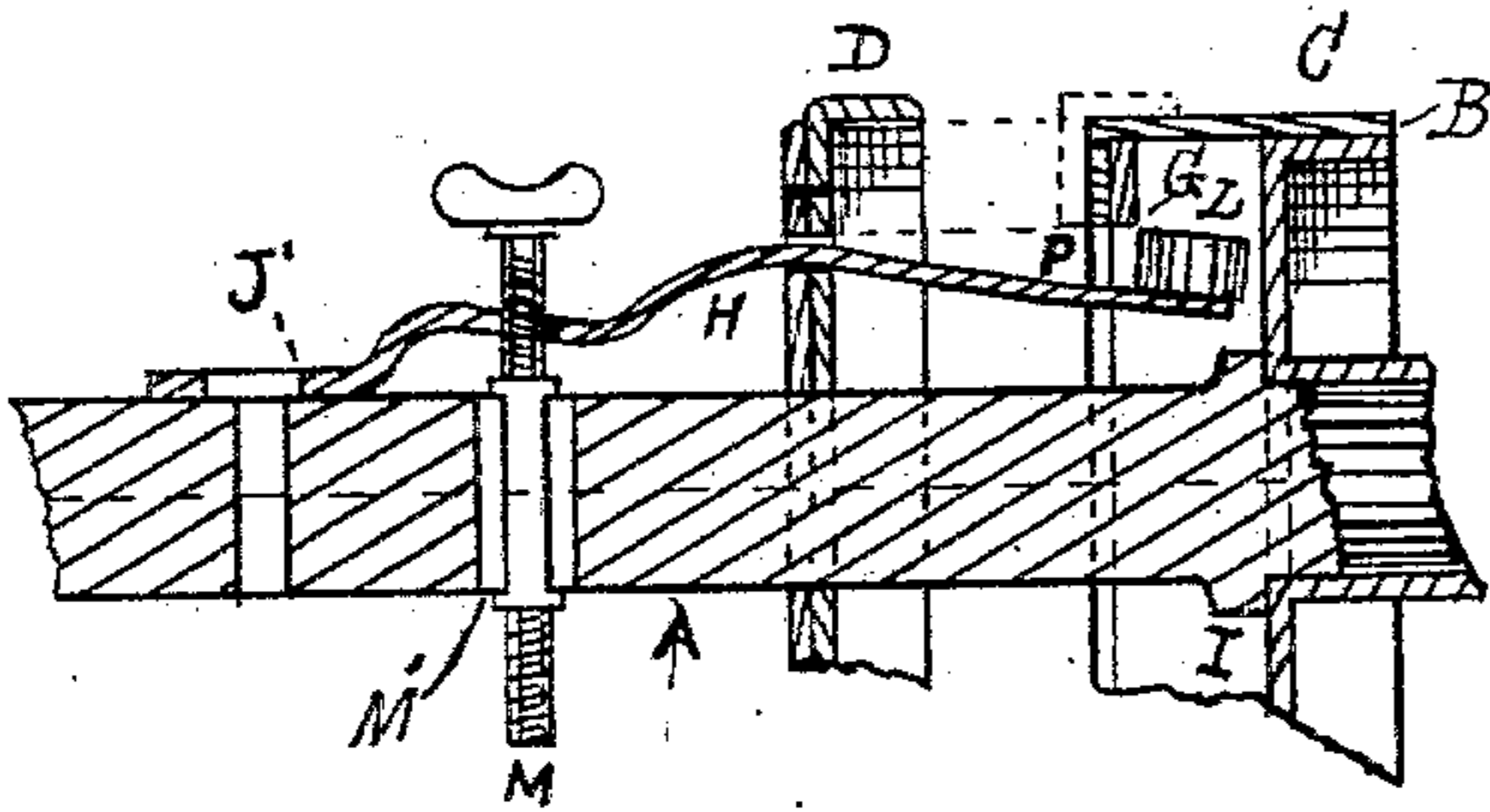
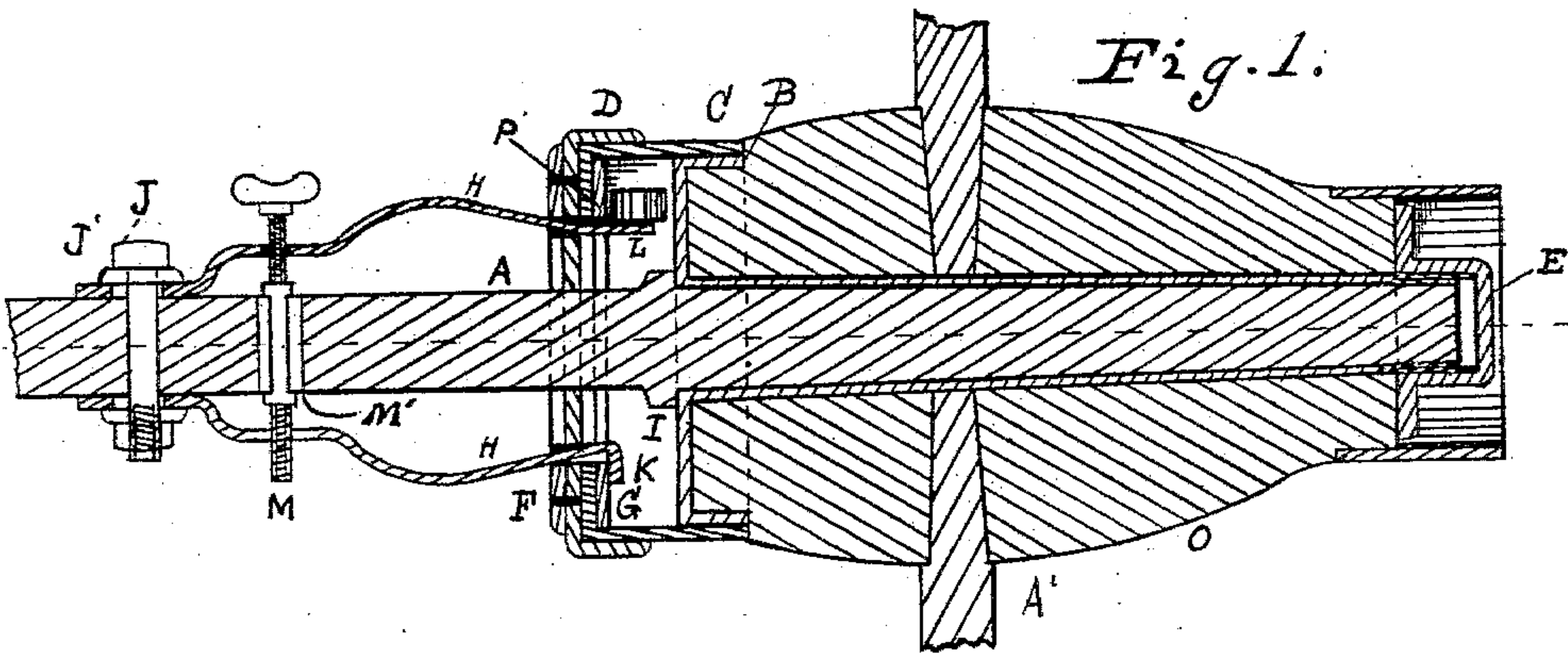


Fig. 5.

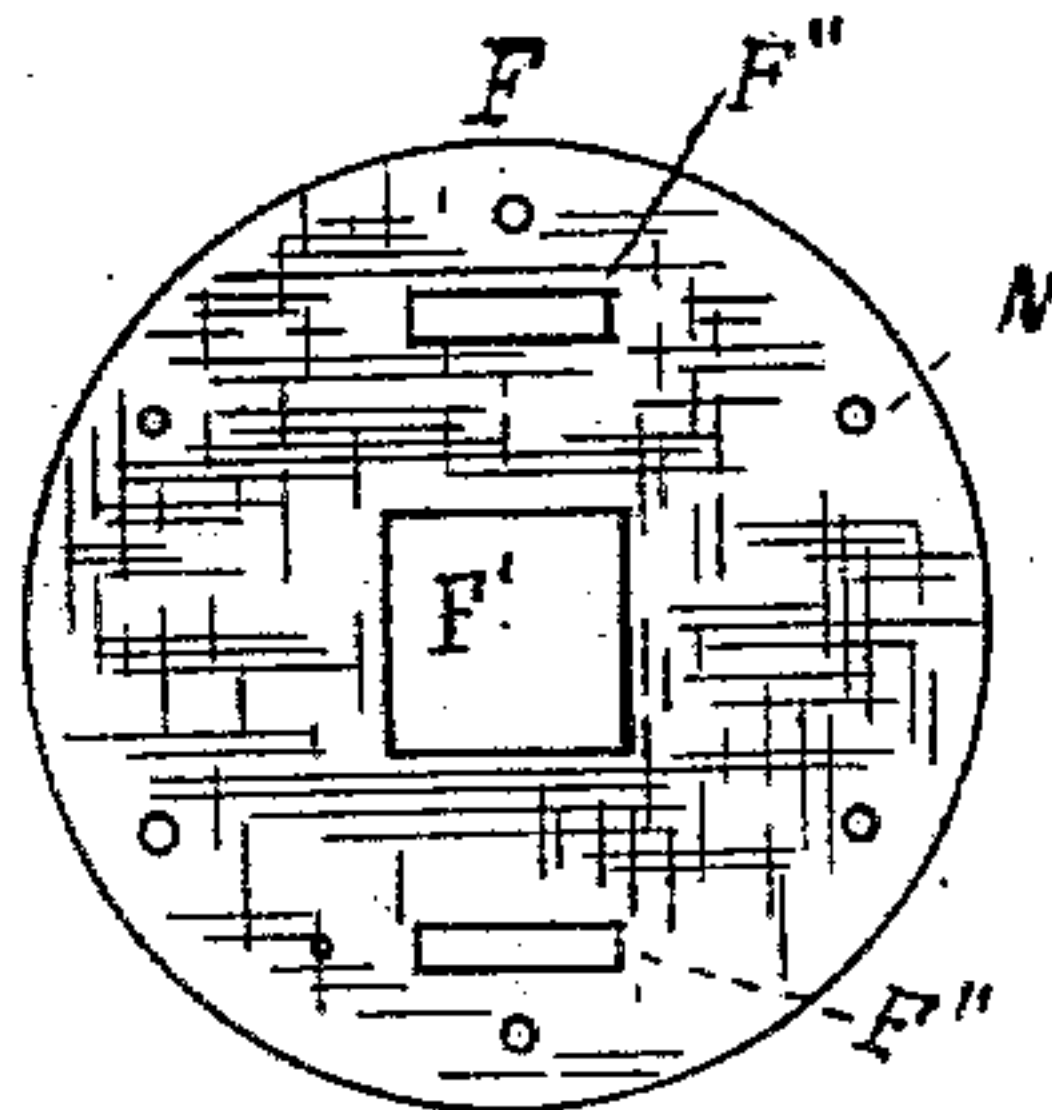


Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE

ALEXANDER L. H. MESSMER, OF GARDNER, MASSACHUSETTS.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 566,524, dated August 25, 1896.

Application filed December 9, 1895. Serial No. 571,505. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER L. H. MESSMER, a citizen of the United States, residing at Gardner, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Vehicle-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in vehicle-wheels; and the objects of my improvements are, first, to provide a spring mechanism for securely fastening the wheel to the axle; second, adapting the said wheel to be quickly and easily detached therefrom; third, to provide a sand and dirt excluding cap and washer, in conjunction with the said spring and its connections; fourth, to provide a friction-reducing washer and a friction-reducing roll in conjunction with said spring-fastening mechanism; fifth, to provide a screw mechanism for adjusting said spring or hooked holders with respect to their connection with said wheel, and, sixth, to provide upon the outer extremity of the axle-box and secured thereto a cap adapted to protect the outer extremity of the axle against dust and dirt and to the retention of lubricating material therein. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of the entire mechanism. Fig. 2 is a side elevation of a cap D, Fig. 1. Fig. 3 is a side elevation of a frictional washer G. Fig. 4 is a side elevation of a protecting-washer F. Fig. 5 is a longitudinal elevation of a portion of the mechanism shown in Fig. 1, but having its adjustable parts differently disposed in order to illustrate a different stage or phase of its operation.

Similar letters refer to similar parts throughout the several views.

Referring to the drawings, A is an axle having any suitable stop or shoulder I, against which the box B operatingly contacts.

E is a cap, preferably adapted to be secured upon the outer end of the box B. A cap C is adapted in size and suitably constructed to be firmly secured to the longitudinal flange

of the box B. Within the cap C is a loose washer G.

F is a washer of soft material, such as leather. This is mortised at F' to adapt it to be slid over the body of the axle A, and at F'' to adapt it to be slid over the springs H H. The cap D is similarly formed, and these two parts, F and D, are riveted together through holes N, which form a combined cap adapted to rest over the cap C and exclude dirt and dust therefrom, and by reason of their forms said sliding movement will cause their free extremities to move toward and from each other.

The hooked holders H H are endwise adjustably secured to the axle A by means of bolt or pin J passing through slots J' in the ends of said hooked holders. Additional means for adjusting said hooked holders endwise and toward and from said axle is embodied in the arbor M, which rests in a longitudinal slot in axle A, one end of which arbor is provided with a right-hand screw and its opposite end with a left-hand screw, the same being adapted to adjust the said hooked holders H H toward and from the axle and to rigidly secure them in fixed position in an obvious manner. In the illustration one of the holders H has a hooked end K, adapted to rest against one of the sides of the frictional washer G. A preferable construction, however, consists in providing said end of this holder with a roll L, which performs the office of the hook with less frictional contact. On small vehicle-wheels one hooked holder or spring would be sufficient to hold the wheel on its axle. Two or more hooked holders or springs would be more practical on large wheels, as they would assist in balancing the wheel on its axle. When the wheel is in running position upon the axle, its parts are disposed as shown in Fig. 1; but when the holders H H are compressed for the purpose of removing the hub from the axle the holders H H, washer F, and cap D are in positions shown in Fig. 5. The bore in the cap C and that in the washer G are alike in diameter, and these, with the wheel-hub O, revolve about the axle A, while the cap D, washer F, and holders H remain at rest with respect to said axle. It is obvious, then, that to remove the hub O from the axle it is only necessary to compress the holders H

to the positions shown in Fig. 5 by turning the arbor-screw M and sliding the cap D, which will cause the holders H to release their hold upon the washer G, when the wheel may be slid off the axle in the ordinary manner. The cap E is intended to hold the box B in its position in the hub and to protect the axle from the entrance of dust, and also for the retention of the lubricating material in the hub. This cap is screwed to the end of the box, which box extends beyond the hub. The inwardly-projecting flange P upon the cap C might be employed in combination with the hooked holder H without the use of the washer G, which is only added as a preventive of wear, or the washer G may be employed in combination with hooked holder H by fastening the washer on the inside of the hub O, so as to take the place of inwardly-projecting flange P of the cap C.

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

1. Means for taking up slack and wear between shoulder I and box B, and between cap C and hook K, of holder H, consisting of slot J in holder H, and slot M' in axle A, in combination with fixed bolt J and longitudinally-adjustable screw-arbor M, substantially as shown.

2. In combination with axle A hooked holders H, or its equivalent roll-holder, hub O,

flanged cap C, longitudinally-adjustable cap D mortised for reception of hooked holders and axle, substantially as shown.

3. In combination with axle A hooked holders H or its equivalent roll-holder, hub O, flanged cap C, longitudinally-adjustable two-part cap F and D alike mortised for reception of hooked holders and axle, substantially as shown.

4. Hub O, cap C, and hooked holders H, secured to axle A, the said hook-holders adapted to be engaged and disengaged from cap C by means of screw-arbor M, substantially as shown.

5. The hub O and its attachments, in combination with hooked holders H, adapted to be longitudinally adjusted upon axle A by means of slots J' in said hooked holders, combined with slot M' in said axle, and with screw-arbor M, substantially as shown.

6. Hub O, box B, flanged cap C, washer G, axle A, hooked holders H and means for securing said holders to said axle in combination with releasing and engaging screw-arbor M, substantially as shown.

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

ALEXANDER L. H. MESSMER.

Witnesses:

WM. H. CARROLL,
GEO. E. O'HEARN.