

No. 705,357.

Patented July 22, 1902.

R. M. KEATING  
COMBINED MUFFLE AND MUD GUARD FOR MOTOR VEHICLES.

(Application filed Dec. 23 1901.)

(No Model.)

Fig. 1.

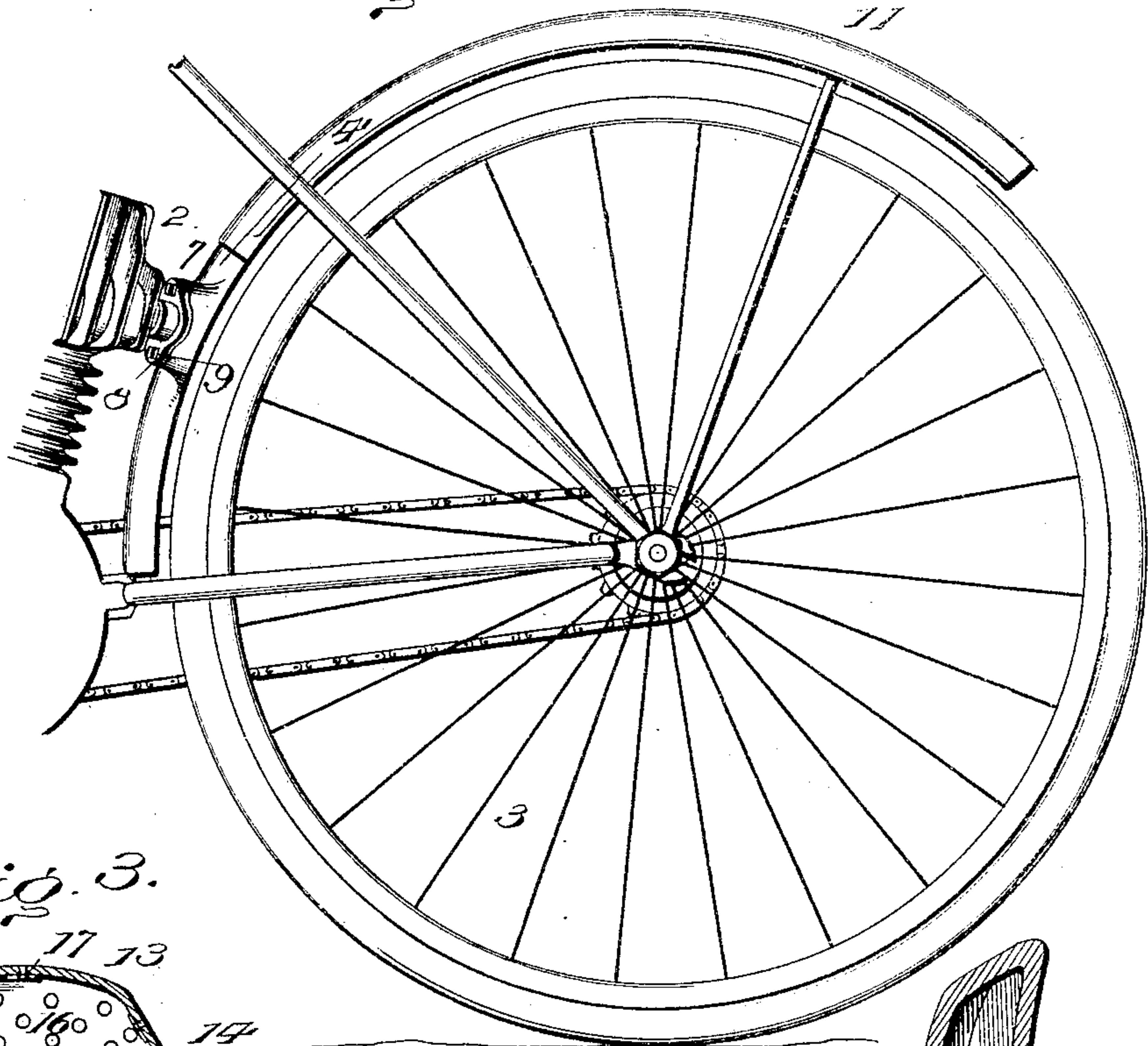


Fig. 3.

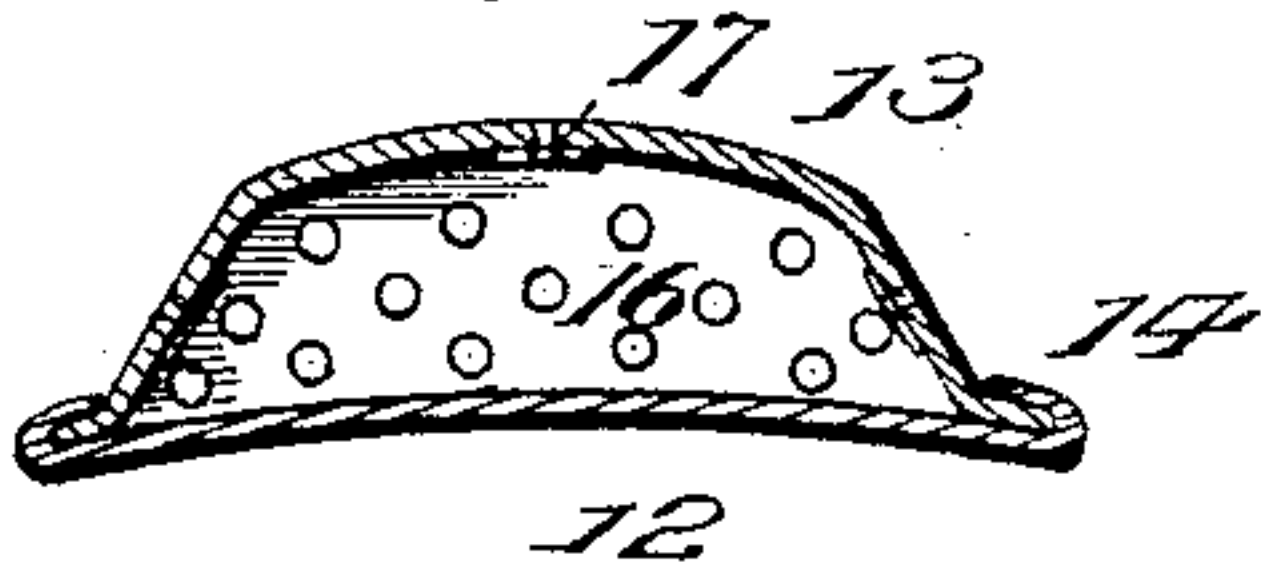


Fig. 2.

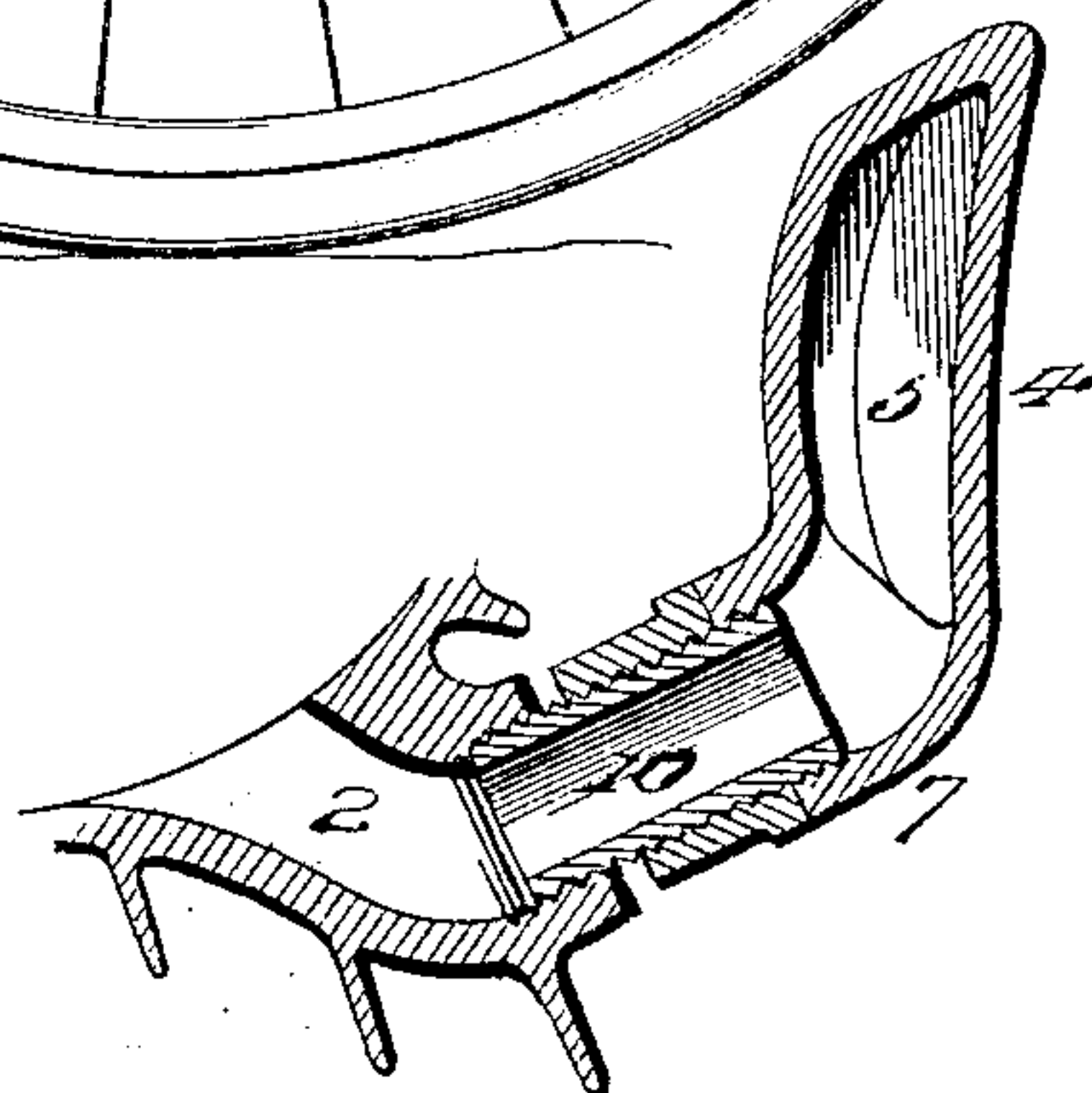
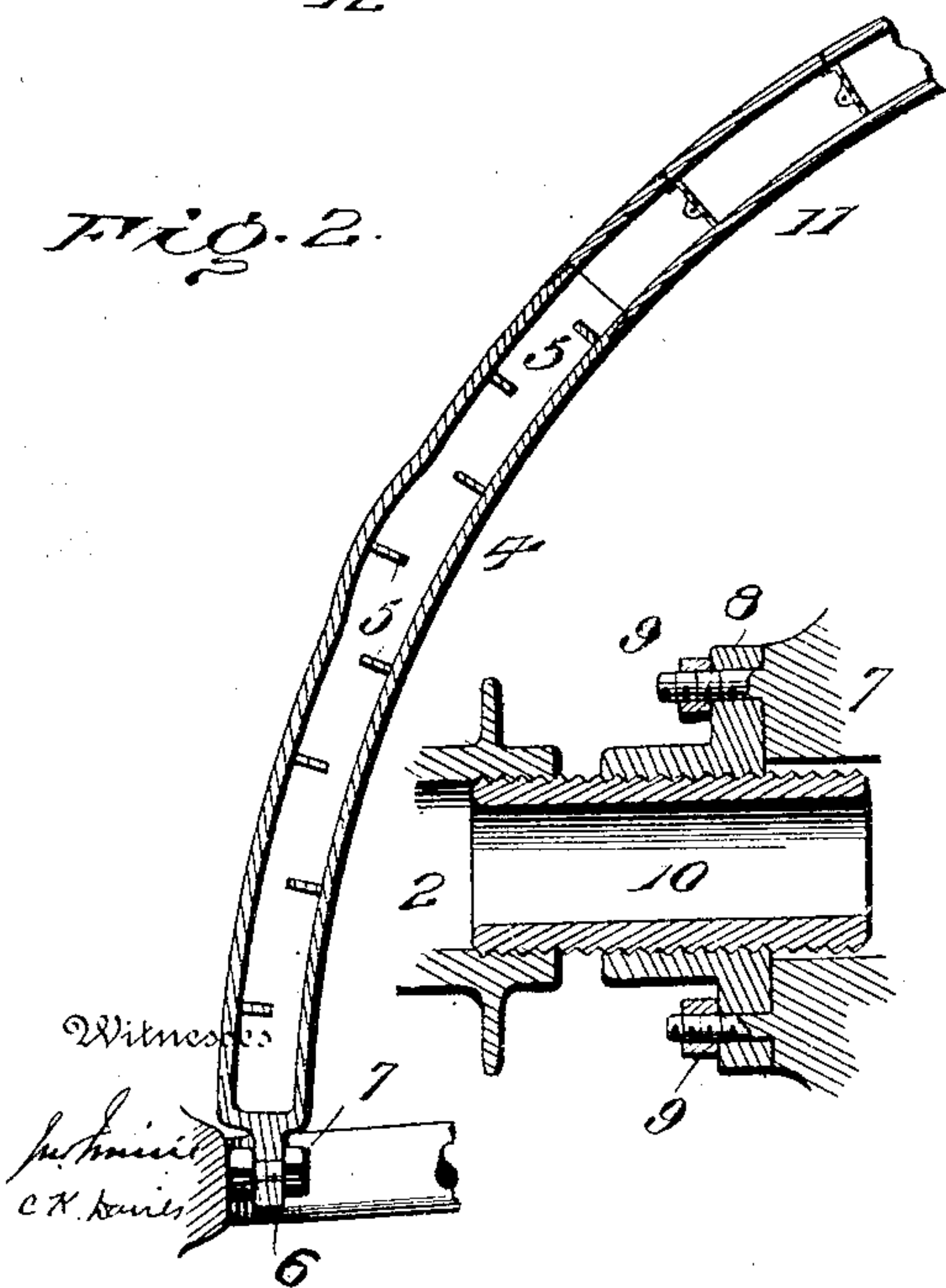


Fig. 6

Fig. 4.

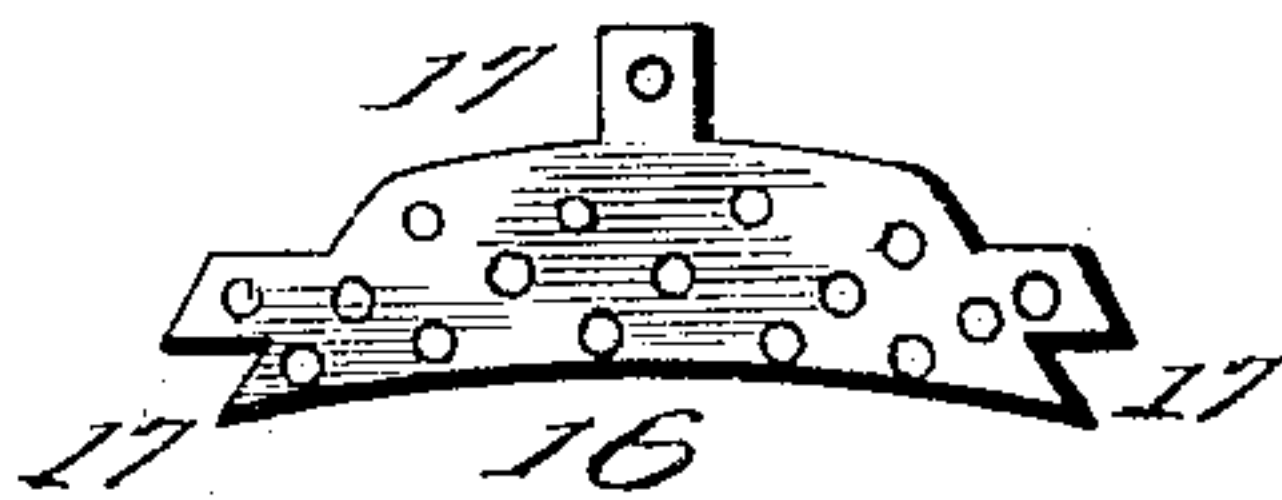
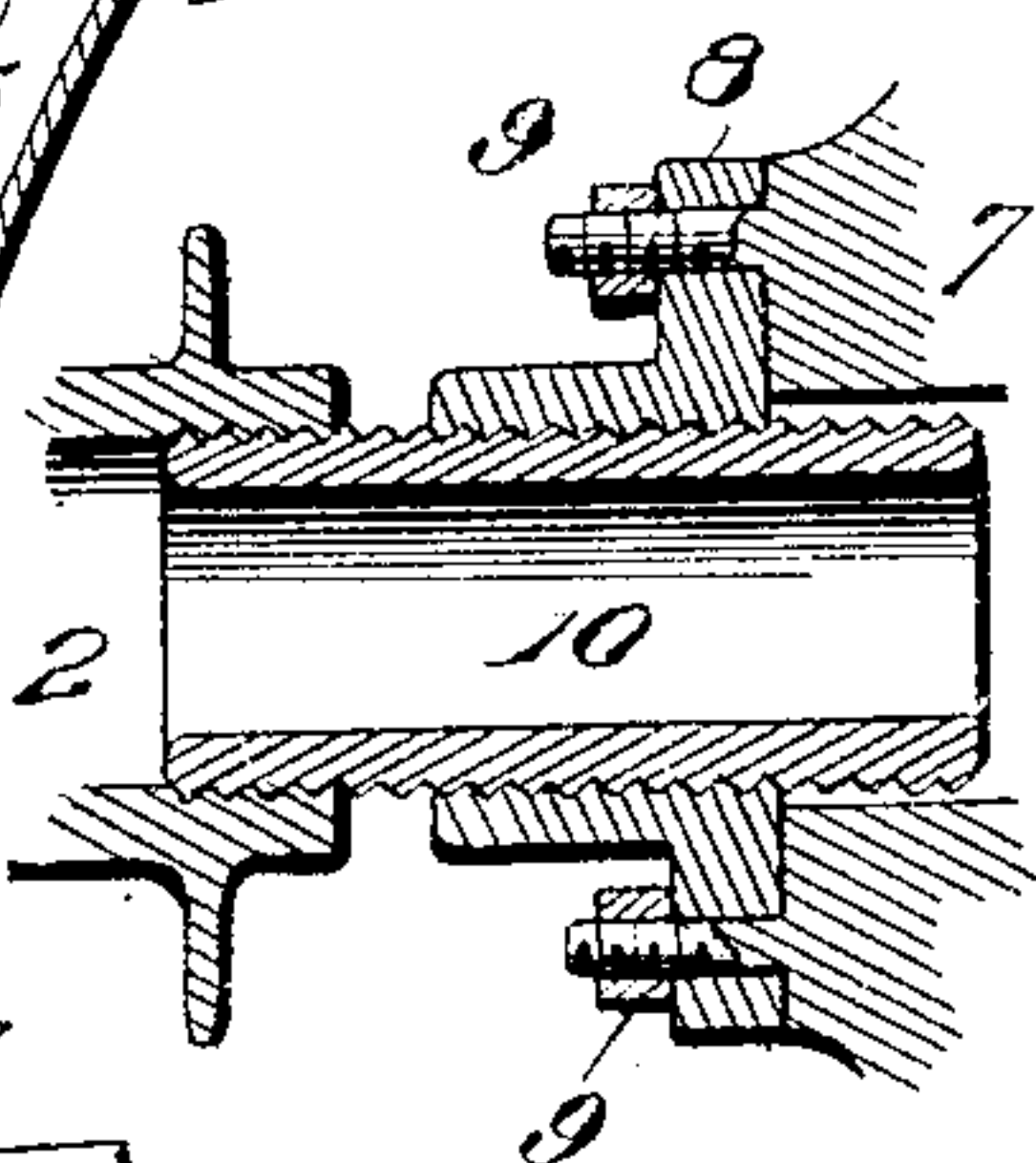


Fig. 5



Inventor

R. M. Keating

By

W. A. Bartlett

Attorney



# UNITED STATES PATENT OFFICE.

ROBERT M. KEATING, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO THE  
R. M. KEATING MOTOR COMPANY, OF MIDDLETOWN, CONNECTICUT, A  
CORPORATION.

## COMBINED MUFFLE AND MUD-GUARD FOR MOTOR-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 705,357, dated July 22, 1902.

Application filed December 23, 1901. Serial No. 86,937. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT M. KEATING, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Muffles and Mud-Guards for Motor-Vehicles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to mufflers for the exhaust of a gasolene-engine as attached to a motor-bicycle.

The object of the invention is to construct a muffle and mud-guard which can be easily and firmly attached to a motor-bicycle and which can be disconnected on occasion; and the invention consists in the details of construction and combination of parts hereinafter pointed out in the claims.

Figure 1 is a side elevation of a part of a gasolene-engine as attached to a motor-bicycle, showing the rear wheel and the mud-guard muffle. Fig. 2 is a broken longitudinal section of the mud-guard muffle, showing the connection of cast and sheet metal parts. Fig. 3 is a cross-section of the sheet-metal part of the muffle. Fig. 4 is a plan or elevation of one of the sheet-metal partition-plates. Fig. 5 is a longitudinal section of the coupling between the muffle and the engine-exhaust, and Fig. 6 is a section of a modification.

The engine 1 is of any usual construction and held to the bicycle in usual manner. The exhaust-pipe 2 of the engine is near the rear wheel 3 of the bicycle.

I make the muffle and mud-guard in two sections. The front section 4 of the muffle is a hollow casting nearly crescent shape in cross-section and a segment of a ring in longitudinal section. Baffle-plates 5 extend part way across the tube on its inner surface, as is common in muffles. The front end of the casting 4 has a rib 6, through which a screw 7 extends to connect that end of the muffle firmly to the frame and engine. The casting 4 is made with a socket or swell, projecting at one side. This socket has its face finished for the attachment of a coupling-nut 8, which nut may be held to the socket by

bolts 9, provided with nuts or connected in other usual manner for connecting metallic parts. A coupling-joint 10, which is a short tube externally threaded, may be entered into the nut 8 and advanced as far as is adjudged necessary. A thread is formed in the exhaust-pipe 2, into which the joint 10 can be screwed. In assembling the parts the engine and muffler-section 4 are fitted approximately to position and then the joint-pipe 10 can be screwed either way to increase or decrease the distance between the muffler and engine. Thus it is not necessary to make the neat and precise calculation as to sizes and distances of parts heretofore needful in this class of machines.

The cast-metal section 4 of the muffler is strong and easily cast. A long curved tube with baffle-plates could not easily be cast, as the core would be difficult to withdraw, and a long casting would be objectionable on account of its weight. I therefore make the extension 11 of the muffle-guard of sheet metal, as shown in Fig. 3, said section consisting of a curved sheet-metal tube provided with baffle-plates.

An inside sheet-metal strip 12 is connected to an outside strip 13 by turning the edges 14 of the inside strip over the edges of the outside strip, both strips being then in generally concavo-convex form, but the outer strip or plate being more curved.

A number of sheet-metal partitions 16, having ears 17, are formed with a general outline conforming to the form of the muffle. The ears 17 are bent down and soldered or otherwise secured to the plate or sheet 13 of the shell before the parts 12 13 are assembled. These partitions thus serve as formers or supports for the shell of the muffle and strengthen the same. The plates 16 have a number of perforations, and thus serve as baffle-plates in the sheet-metal part of the muffle. The two sections 4 and 11 are connected by a lap-joint.

The muffle is attached in any suitable way to the bicycle-frame so as to serve as a mud-guard as well as a muffle.

In Fig. 6 a detail is shown wherein the nut



80 is held to the casting 4 by the thread of the joint 10 engaging a thread in the casting instead of by separate bolts.

What I claim is—

5 1. A combined mud-guard and muffle for motor-vehicles, composed of a front section consisting of a hollow cast-metal tube provided with means for attachment to the frame and for coupling to the engine-exhaust, and  
10 a rear section consisting of a curved sheet-metal tube connected to the front tube by a suitable joint, substantially as described.

2. A combined mud-guard and muffle for motor-vehicles, consisting of a front section  
15 in form of a cast-metal tube with interior baffle-plates extending from the sides, and a rear section in form of a sheet-metal tube, substantially crescent-shaped in cross-section, and having internal baffle-plates extend-  
20 ing across the tube and provided with perforations.

3. The combination of the mud-guard muffle having a projecting socket, with the engine-exhaust having a threaded opening, and

a screw-threaded joint-coupling tube extend- 25  
ing both into the muffle and the exhaust-pipe.

4. The combination with the engine having a threaded exhaust-pipe, and the hollow mud-guard muffle having a projecting socket, of a  
nut attachable to such socket, and a threaded 30  
joint-coupling tube engaging with the exhaust of the engine and the socket of the muffle.

5. In a muffle and mud-guard, a sheet-metal tube, crescent-shaped in cross-section, and  
having perforated internal baffle-plates ex- 35  
tending across the tube.

6. The sheet-metal mud-guard and baffle-plate, composed of perforated cross-partitions in outline substantially of the form of  
the completed tube, and the tube-plates sur- 40  
rounding such partitions and having a lap-joint at the edges.

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

ROBERT M. KEATING.

Witnesses:

G. H. NOYES,  
JOSEPH P. QUIRL.