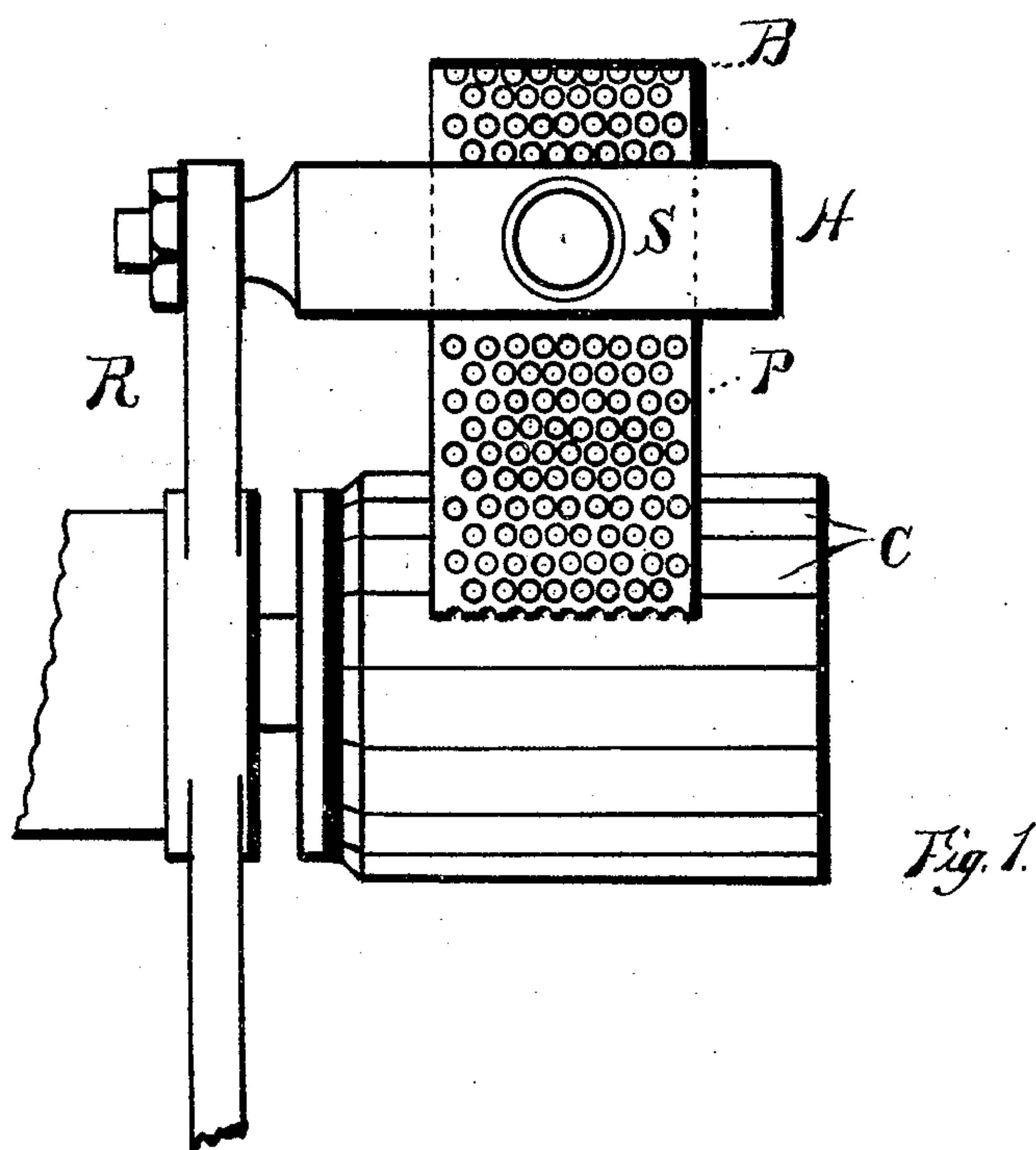
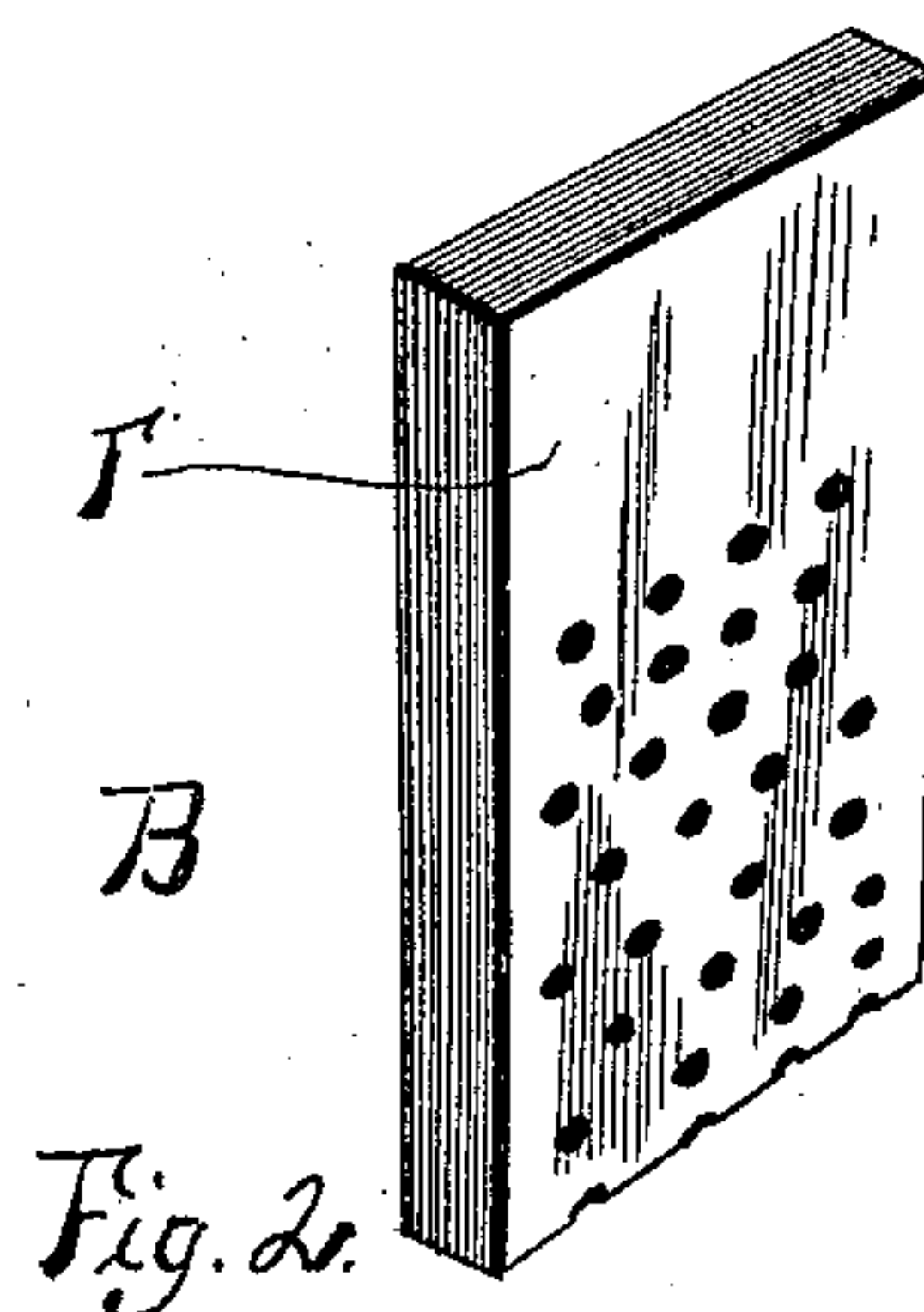


(No Model.)

C. L. COFFIN.  
COMMUTATOR OR COLLECTOR BRUSH.

No. 545,347.

Patented Aug. 27, 1895.



WITNESSES  
*Arthur Guinness*  
*Amelia J. Williams*

INVENTOR  
*Charles L. Coffin.*

# UNITED STATES PATENT OFFICE.

CHARLES L. COFFIN, OF DETROIT, MICHIGAN.

## COMMUTATOR OR COLLECTOR BRUSH.

SPECIFICATION forming part of Letters Patent No. 545,347, dated August 27, 1895.

Application filed February 5, 1895. Serial No. 537,406. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. COFFIN, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful  
5 Improvement in Commutator or Collector Brushes, of which the following is a specification.

My invention consists in an improvement in commutator or collector brushes for dynamos or electric motors, hereinafter fully  
10 described and claimed.

Figure 1 is a plan view of a commutator showing one brush and a portion of the brush-holding mechanism, and Fig. 2 is a detail perspective view of a brush embodying my invention.  
15

C represents the commutator of a dynamo or motor; R, the rocker-arm, which carries the brush-holders, one of which is shown at  
20 H, and S represents a set-screw, which clamps the brush in holder A. All of these parts are old and well known and form no part of my invention.

B represents my improved brush or collector strip, consisting of a thin sheet of metal, preferably copper, perforated, as shown at P. The perforations are preferably staggered, as shown, as this causes the end of the brush to wear better; but they may of course be in  
25 regular lines. The perforations P are so arranged as to preserve a continuous edge to the strip, as in Fig. 1, or they may be arranged so as to leave a continuous edge to  
30

the strip and with a non-perforated upper portion, as in Fig. 2. The perforations P permit the access of air to the interior of the brush and prevent overheating, which is such a great defect in brushes as ordinarily made. The continuous edge affords an elastic flexible boundary surface and presents no sharp  
35 points or indentations to catch the wiping-cloths.  
40

The modifications shown in Fig. 2, having the solid non-perforated upper portion, is better adapted to certain forms of brush-holders  
45 than the brush shown in Fig. 1.

In practice each brush will preferably be made up of a number of thin perforated strips, as shown in Fig. 2.

What I claim as my invention, and desire  
50 to secure by Letters Patent, is—

1. A commutator or collector brush consisting of a perforated metal strip having a continuous edge.

2. A commutator or collector brush consisting of a strip of sheet metal perforated a portion of its length, with a continuous edge along the perforated portion.  
55

3. A commutator or collector brush consisting of a strip of sheet metal comprising a solid non perforated portion and a perforated portion having a continuous edge.  
60

CHARLES L. COFFIN.

Witnesses:

GEO. H. LOTHROP,

AMELIA J. WILLIAMS.