

(No Model.)

A. SMITH.
COMBING MACHINE.

No. 254,714.

Patented Mar. 7, 1882.

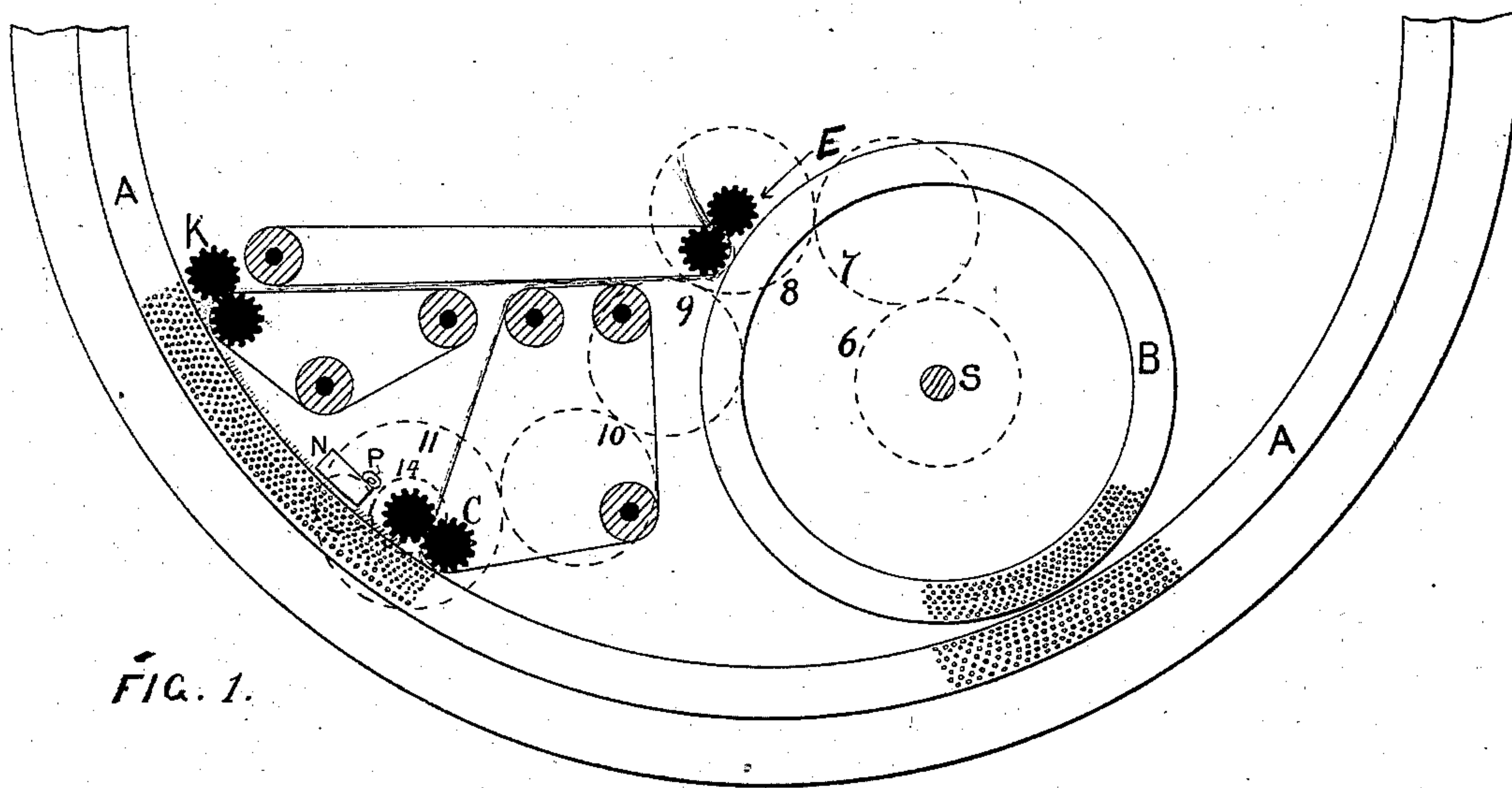


FIG. 1.

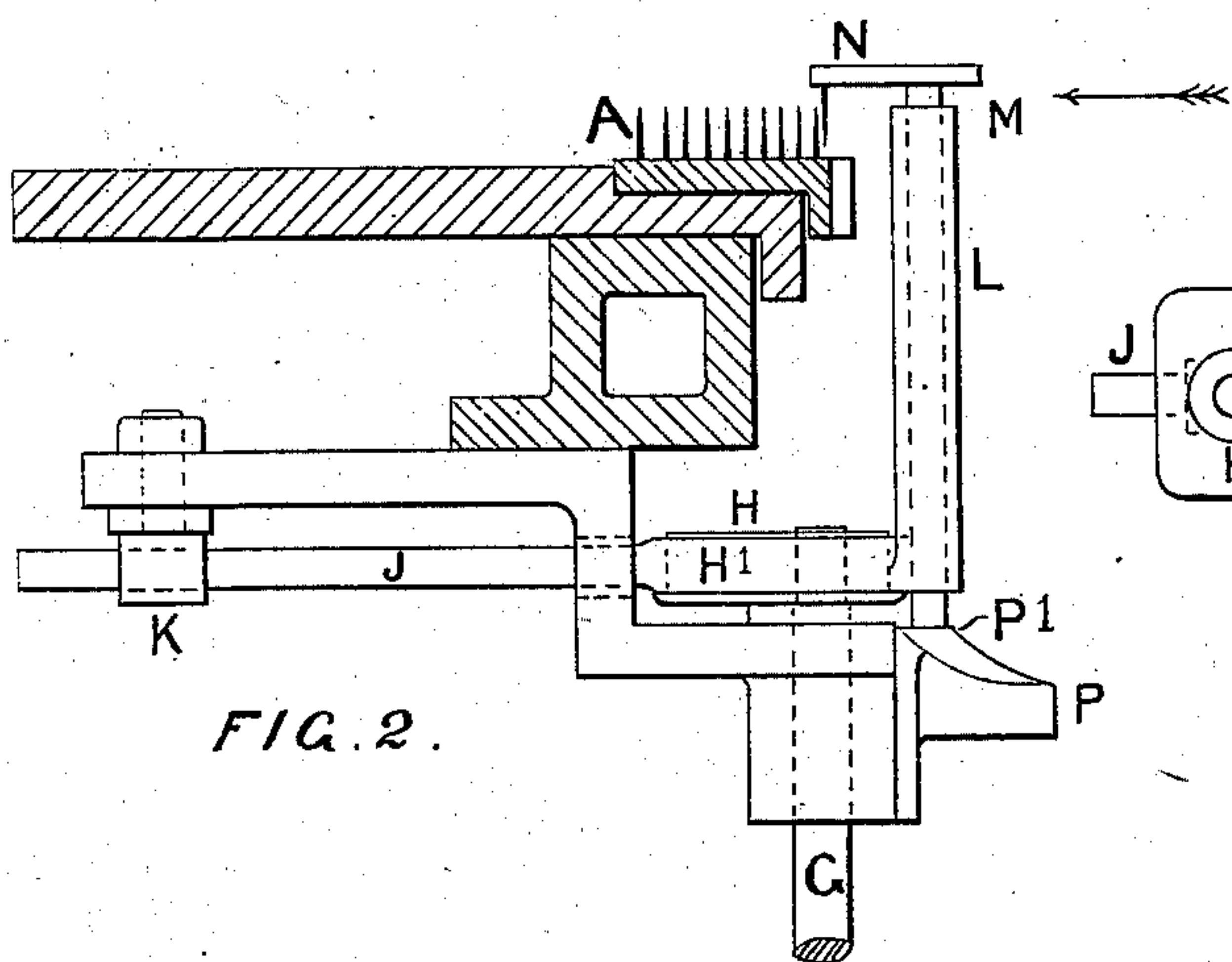


FIG. 2.

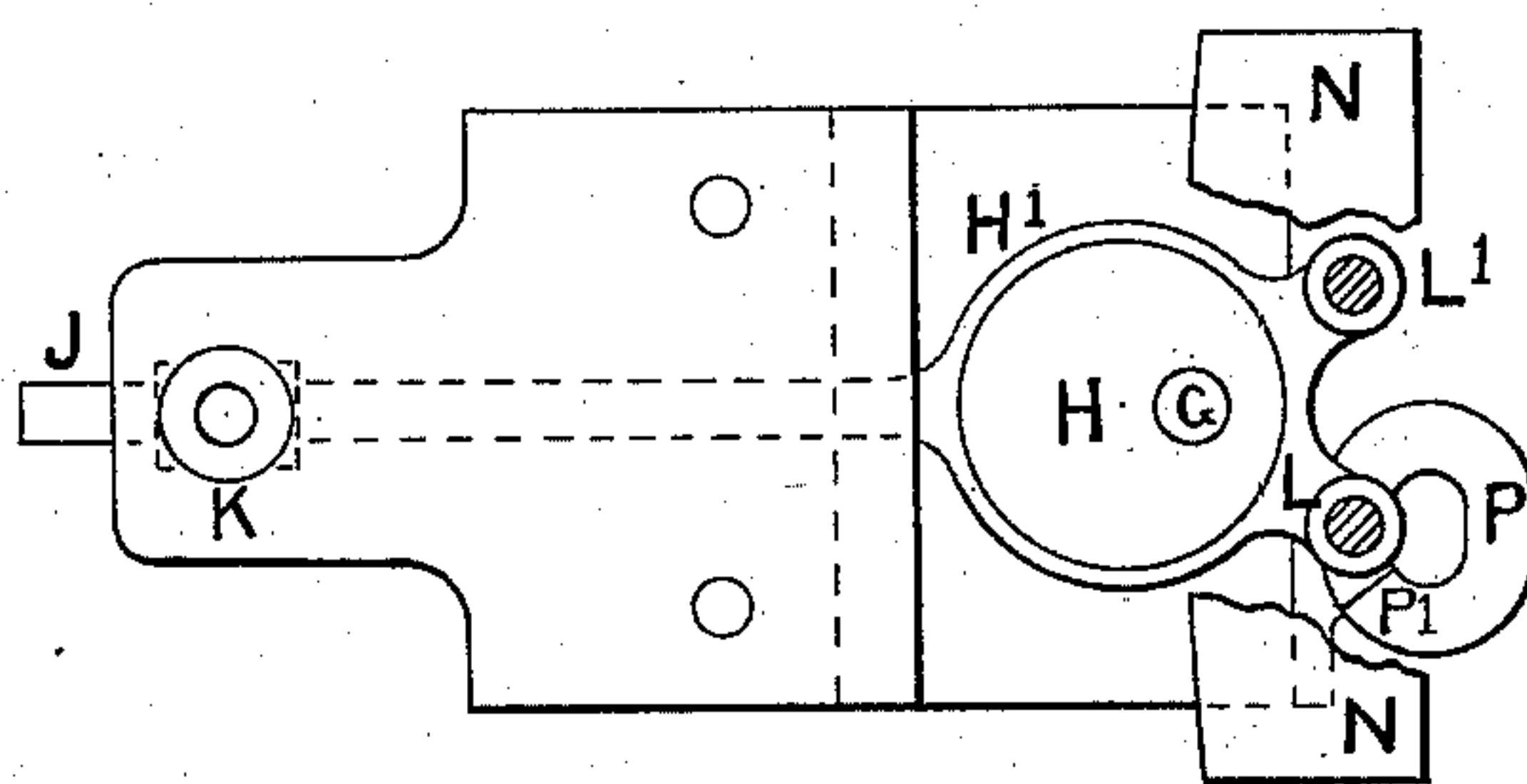


FIG. 3.

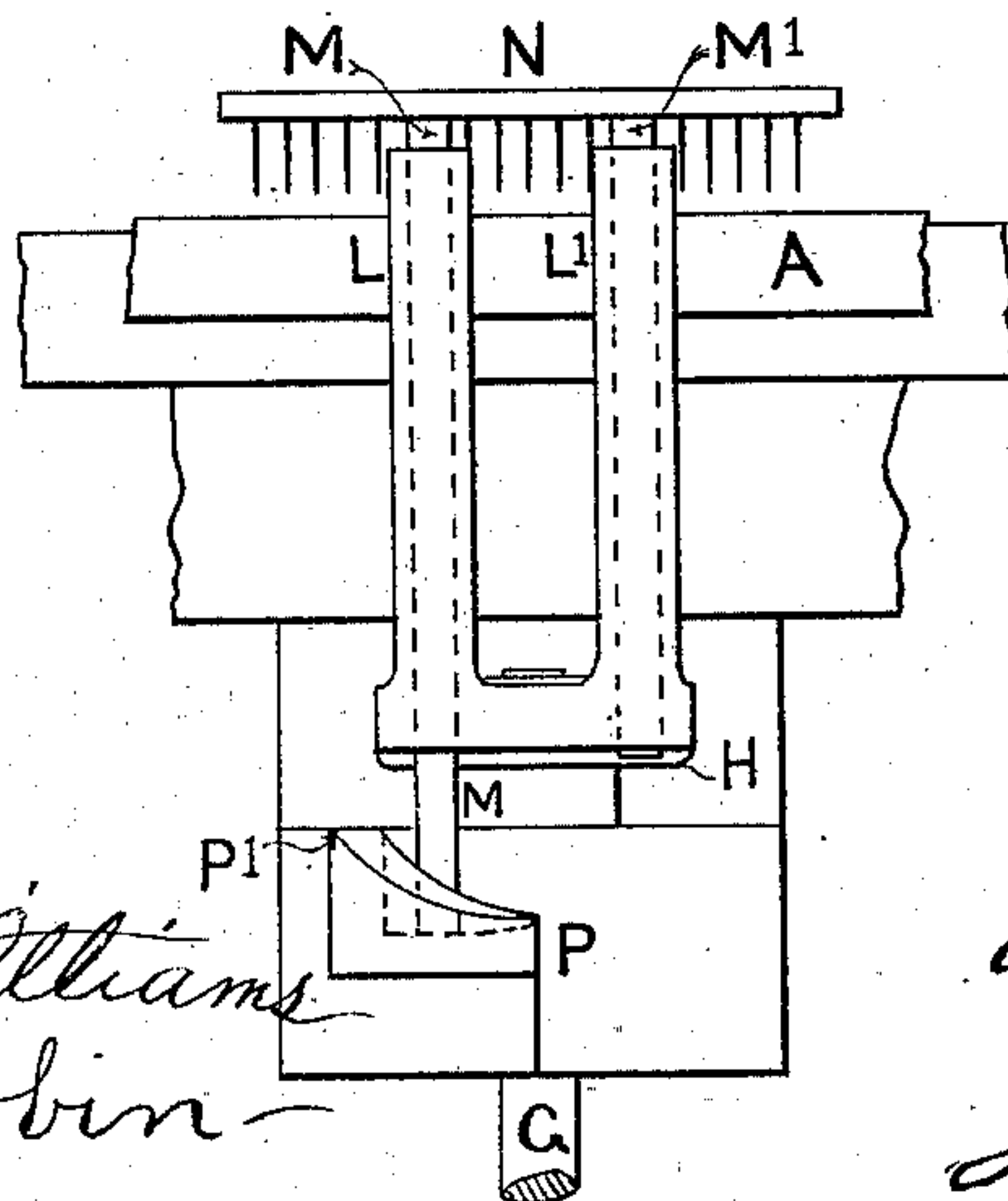


FIG. 4.

Witnesses:

David S. Williams
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UNITED STATES PATENT OFFICE.

ALBERT SMITH, OF BRADFORD, COUNTY OF YORK, ENGLAND.

COMBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 254,714, dated March 7, 1882.

Application filed October 20, 1881. (No model.) Patented in France August 23, 1881, and in Belgium August 27, 1881.

To all whom it may concern:

Be it known that I, ALBERT SMITH, a subject of the Queen of Great Britain and Ireland, and residing at Bradford, in the county of York, England, have invented certain Improvements in Combing-Machines, of which the following is a specification.

This invention relates to certain improvements to that class of combing-machines known as "Noble's combs," and has special reference to the Letters Patent granted to me, No. 243,640, dated June 28, 1881; and it has for its object the combing out of the beard, so that the additional drawing-off rollers can nip hold of it to better advantage; and it consists in mounting a short comb between the ordinary and additional drawing-off rollers.

In the accompanying drawings, Figure 1 is a diagram plan of one-half of the large-circle comb of a Noble's combing-machine, and shows the position in which I mount my short comb. Fig. 2 is a cross-section through the large-circle comb, and a side elevation of my improvement. Fig. 3 is a plan of my improvement; and Fig. 4 is a view of Fig. 2, looking in the direction of the arrow.

A represents the usual large-circle comb, and B one of the small circles, the vertical comb-teeth on these circles being represented only on portions of the combs. The power for driving the operative parts of the machine is derived from vertical shafts S in the center of small-circle combs B, the large and small circle combs and the ordinary drawing-off rollers, C, being driven from these shafts in the usual manner, as shown, for instance, in Whitehead's British Patent No. 530 of 1869—and the drawing-off rollers at each side of the machine are driven from the before-mentioned vertical shafts S through the usual train of gears beneath the machine, as indicated by the dotted circles. A wheel, 6, on shaft S is geared with a similar wheel, 8, on the lower end of the shaft of one of the drawing-off rollers, E, through a pinion, 7, motion being communicated from wheel 8 through the pinions 9 and 10 to a gear-wheel, 11, on the lower end of one of the drawing-off rolls C.

In order to reverse the direction of the fibers forming the beard, so that the additional roll-

ers can nip hold of it to better advantage, I place immediately behind the rollers C a short comb, which is actuated in the following manner: The perpendicular rotating shaft G is driven by pinion 14 on the shaft of one of the rollers C. At the top of perpendicular shaft G, I secure eccentric H, around which is placed a clip, H', having a long projecting guide-rod, J, which is carried by swivel-bearing K. At the opposite side of eccentric clip H', and at right angles with rod J, are two vertical projections, L and L', through which holes are bored, so that the spindles M and M' of comb N may slide easily therein. The eccentric H revolving causes the comb N to rotate elliptically, and when the teeth of comb N are near the inside diameter of large-circle comb A the spindle M of short comb, resting on incline of cam P, drops from the top of incline at P' to the bottom of incline, the teeth of the comb N, passing through the beard, and, traveling for a short distance along with the large circle, A, the comb N will begin to leave the large circle A and comb out the beard for the additional rollers k to nip hold and draw the fiber out from the teeth of the large circle, as described in the before-mentioned specification. The cam P is level for about one-quarter of the circumference on the face where the end of spindle M travels, and when the teeth of small comb N are clear of the beard the spindle will begin to rise, the incline of circular cam P raising the short comb until the points of the teeth are above the beard in the circle, and when the spindle M has reached the summit of incline it drops, the teeth of short comb passing through the beard close to the large circle, which is combed out, as before described. Thus, by the short comb revolving and the spindle M continuously traveling up the incline of cam P, the beard is combed out as it leaves the ordinary drawing-off rollers round the whole of the circumference of the large-circle comb.

What I claim as my invention is—

1. The combination of cam P, eccentric, and means for rotating the same with clip H', having guide-rod and bearing therefor, and short comb N, carried by said clip.

2. The combination of the cam P, eccentric,

and means for rotating the same with clip H',
having guide-rod and bearing and carrying
projections L L', and a comb, N, having spin-
dles adapted to said projections, all substan-
5 tially as set forth.

In testimony whereof I have signed my name

to this specification in the presence of two sub-
scribing witnesses.

ALBERT SMITH.

Witnesses:

JOHN WAUGH,
JOHN GILL.