

(No Model.)

2 Sheets—Sheet 1.

H. SCHLOTFELDT.
SPEED INDICATOR.

No. 574,076.

Patented Dec. 29, 1896.

Fig. 1.

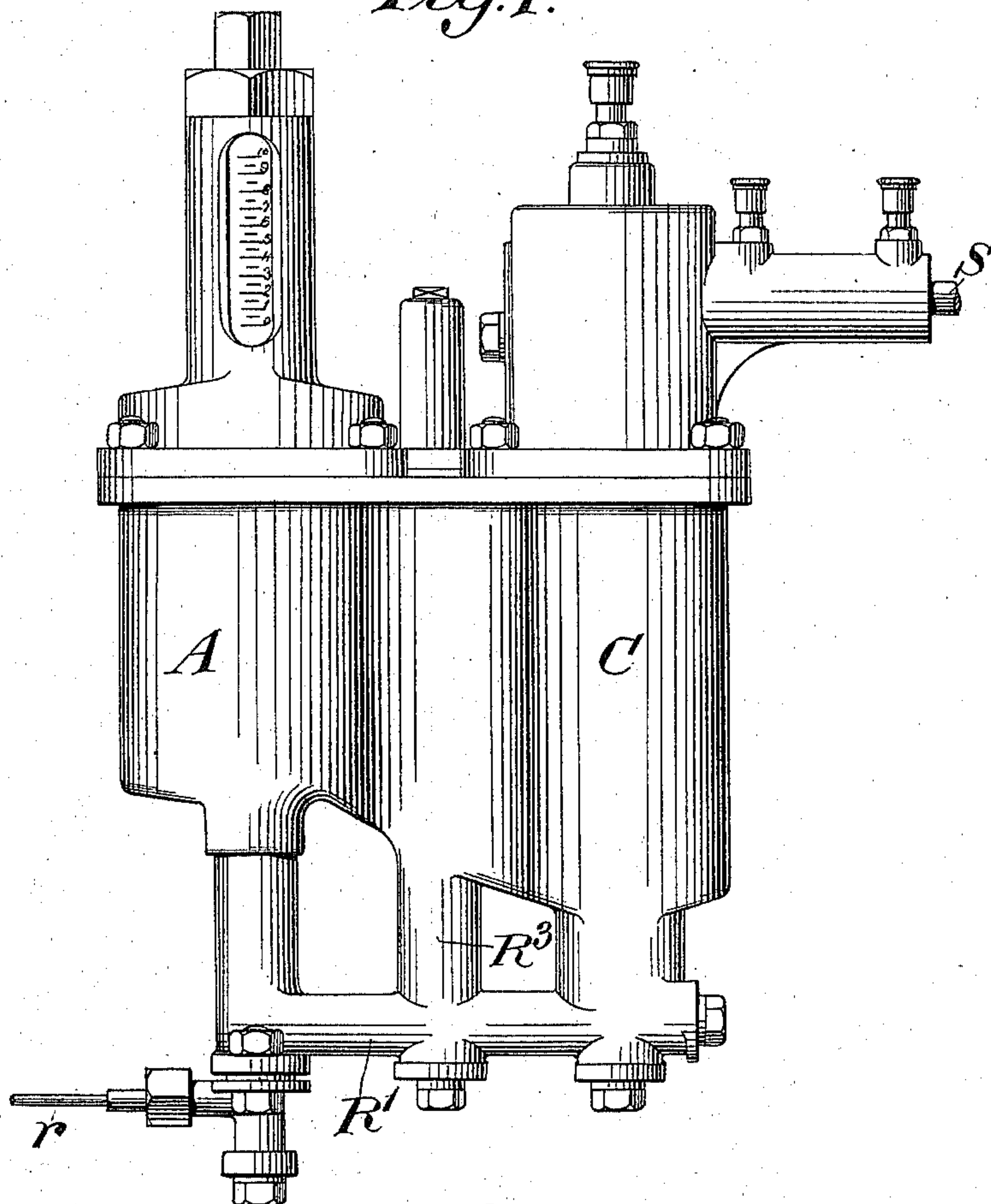
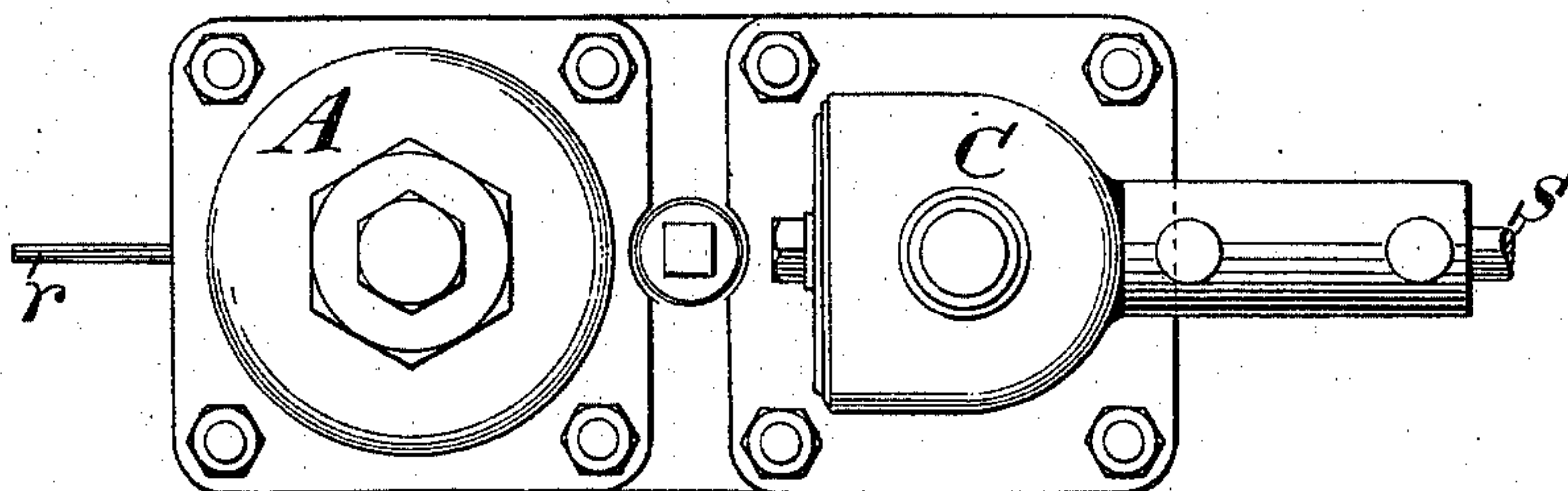


Fig. 2.



Witnesses:-

George Barry Jr.
Fred Haynes

Inventor.
Heinrich Schlötfeldt
by attorneys
Frank Sewall

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Fig. 3.

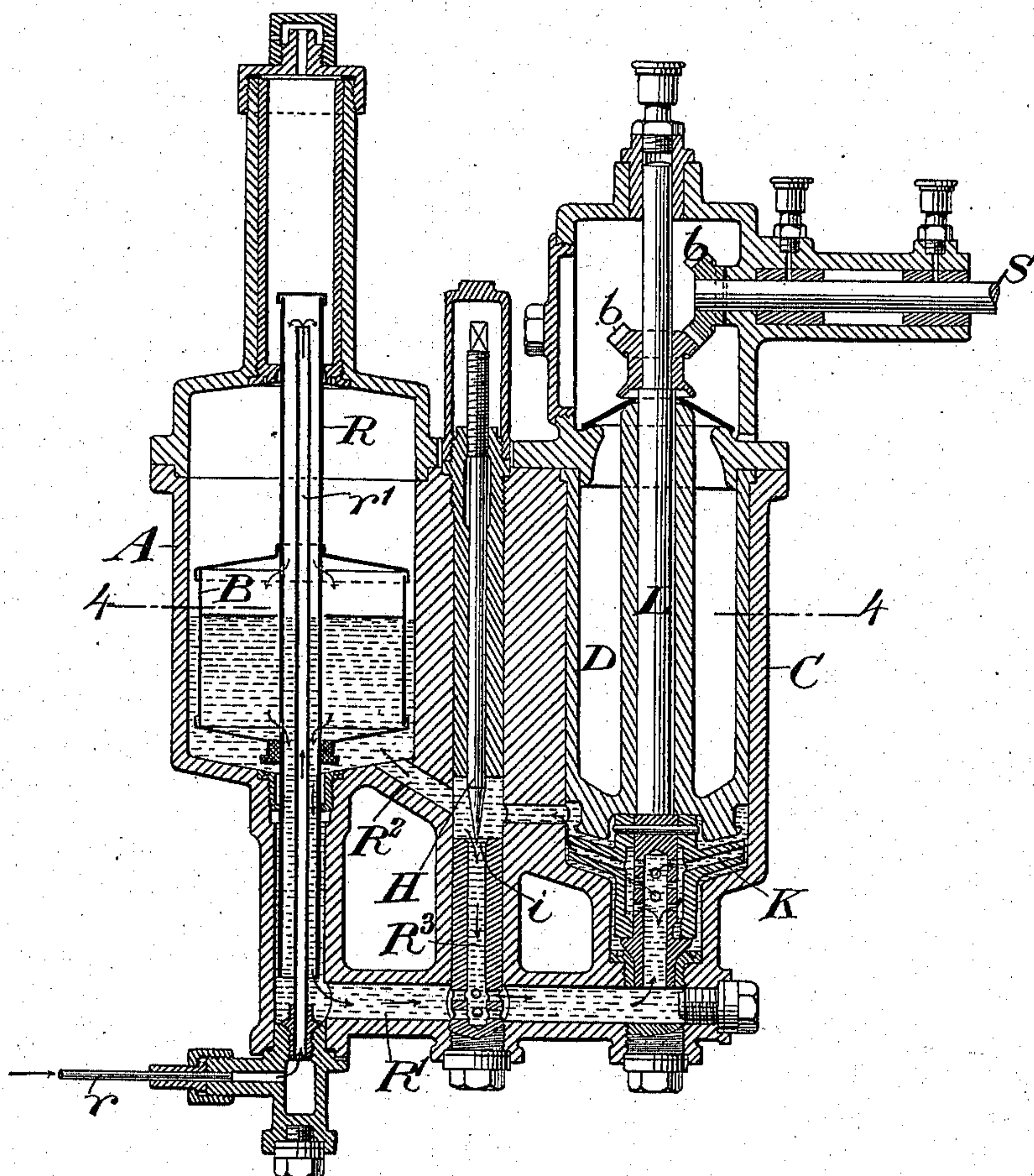
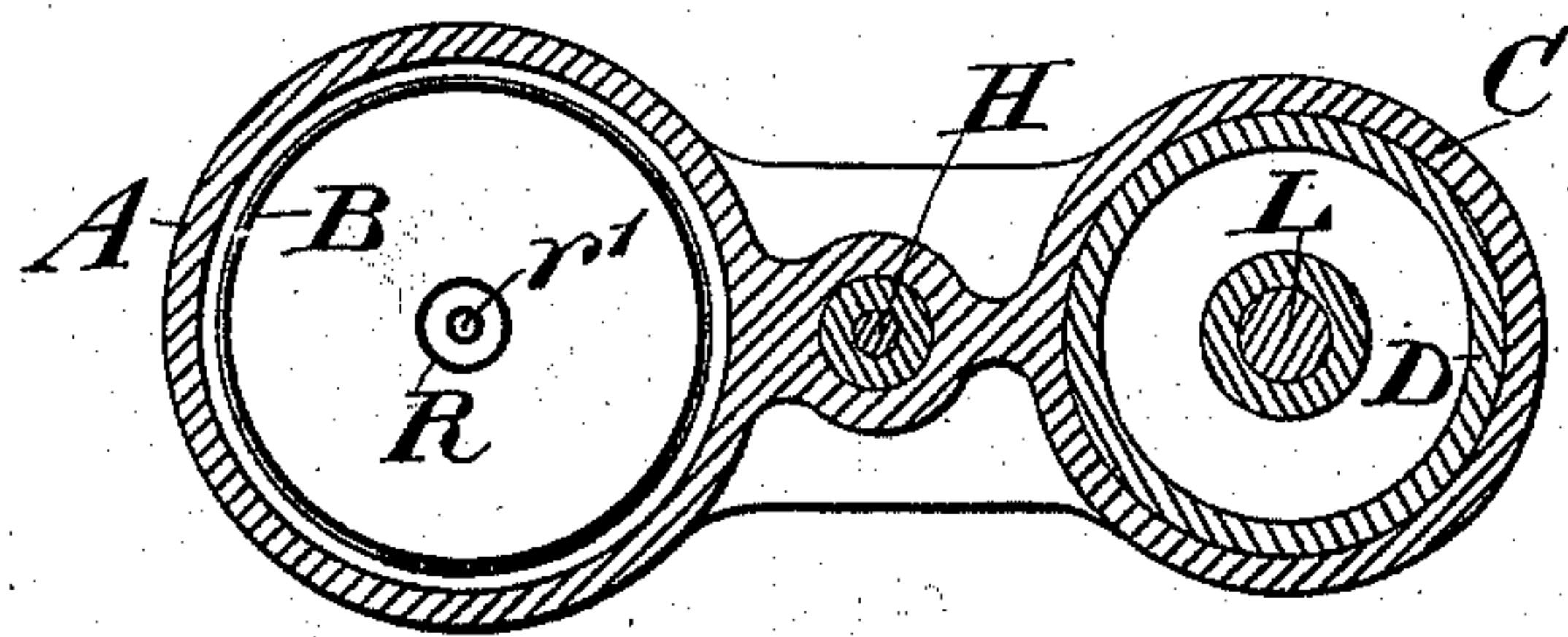


Fig. 4.



Witnesses:
George Barry Jr.
Fred Haynes

Inventor:
Heinrich Schlottfeldt
by attorneys
Pratt & Howard

UNITED STATES PATENT OFFICE.

HEINRICH SCHLOTFELDT, OF KIEL, GERMANY.

SPEED-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 574,076, dated December 29, 1896.

Application filed March 21, 1896. Serial No. 584,251. (No model.) Patented in England November 26, 1895, No. 22,607, and in Belgium November 27, 1895, No. 118,576.

To all whom it may concern:

Be it known that I, HEINRICH SCHLOTFELDT, a subject of the Emperor of Germany, and a resident of Kiel, in the German Empire, have
5 invented a new and useful Improvement in Speed-Indicators, of which the following is a specification, and which has been patented in England by Patent No. 22,607, dated November 26, 1895; in Belgium by Patent No.
10 118,576, dated November 27, 1895, and in Austria by patent dated February 22, 1896, Vol. 46, page 643.

The present invention relates to speed-indicators in which by rotation of a centrifugal
15 apparatus moving a fluid a gaseous pressure is produced which corresponds to the velocity and is indicated by a pressure-gage.

The novelty of the present invention consists in means hereinafter described and
20 claimed whereby the stuffing-boxes required in similar apparatus are avoided and whereby the measure of the atmospheric pressure corresponding to a fixed or certain velocity or number of rotations can be exactly regulated.

25 The invention is shown in the annexed drawings.

Figures 1 and 2 show the exterior view of the apparatus in elevation and in plan, respectively. Fig. 3 is a vertical central section. Fig. 4 is a plan in section on line 4 4
30 of Fig. 3.

L is a shaft turning in a vertically-arranged cylinder C, which shaft is driven by means of bevel-gearing *b* from the shaft S, the number
35 of revolutions of which is to be indicated. The lower end of the shaft L, which is hollow, carries the centrifugal disk K, through the lateral holes of which the fluid drawn in at the lower end of the shaft L is thrown out.
40 As a liquid mercury is preferable and is contained in a reservoir A and in a float or air-vessel B in said reservoir, and in the axis of which a tube R, closed above and open below, is fastened, possessing holes pierced
45 through it into the interior of the float at the upper and lower part of the same. The tube R surrounds a tube *r'*, open above and communicating below with the pressure-gage, and is connected by means of a passage R'
50 with the lower open end of the shaft L, while the reservoir A is connected by means of a

passage R² with the space in which the disk or body K revolves.

To dispense with stuffing-boxes, the shaft L, having the centrifugal disk K fast upon
55 it and through which the mercury must rise from below, is put vertically into the inclosing cylinder C, and the remaining space of the cylinder C is filled by a cylindrical body D, which fits both within the cylinder and
60 around the shaft.

When the cylindrical disk K is brought into rotation, the mercury is drawn from the float B through the tube R and passage R' and
65 forced into the reservoir A through the passage R². By this process the air in the float or air vessel B, the tube *r'*, and the tube *r*, leading to the pressure-gage, is exhausted or rarefied. The measure of rarefaction is proportional to the speed of rotation of the disk
70 K. In order, however, to regulate the measure of the atmospheric pressure in B exactly for a fixed number of revolutions, an adjusting spindle or pin H has been added, by means of which the opening of a passage R³, connecting the passages R' and R², can be ad-
75 justed.

When H is raised from its seat more or less, more or less liquid will run through the passage R³ and the atmospheric pressure in the
80 float B is lessened more or less.

What I claim as my invention is—

1. The combination of the liquid-reservoir A, the hollow float B in said reservoir having
85 an attached tube R open at the bottom but closed at the top and having communication with the upper and lower portions of the space within the float, the air-tube arranged within and open at its upper end to said tube R and having at its lower end provision for
90 connection with a pressure-gage, the cylinder C having at its bottom a suction-passage R' communicating with the open bottom of the tube R and having above a passage R² communicating with the bottom of the reservoir
95 A, the said passages R' R² having a connecting passage R³ between them, the centrifugal disk K and its shaft L arranged in the cylinder C and having lateral openings forming communications through the center of
100 said shaft between said passages R' R², and the regulating-screw H for giving more or

less opening to the said passage R³, substantially as herein described.

2. The combination with the cylinder D and the centrifugal disk K and its shaft L
5 contained within said cylinder, of the cylindrical body D filling the space between said cylinder and shaft above said centrifugal

disk, substantially as and for the purpose herein described.

HEINRICH SCHLOTFELDT.

Witnesses:

A. SCHAPER,

H. LEIDENFROST.