C. M. Dabol.

Pressure Gauge.

No. 30,803. Patented Dec. 4, 1860.

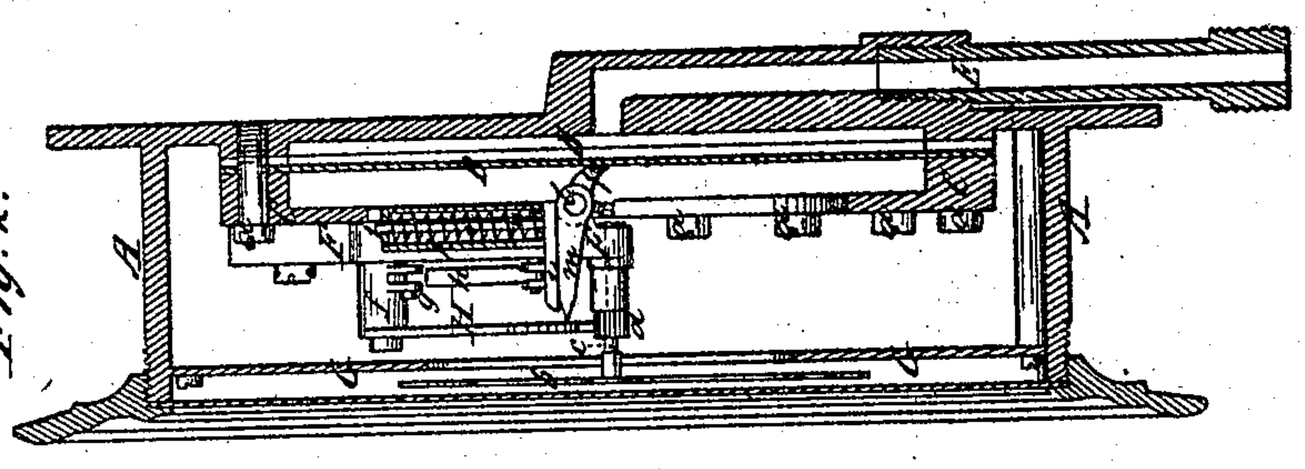

Fig. 2.

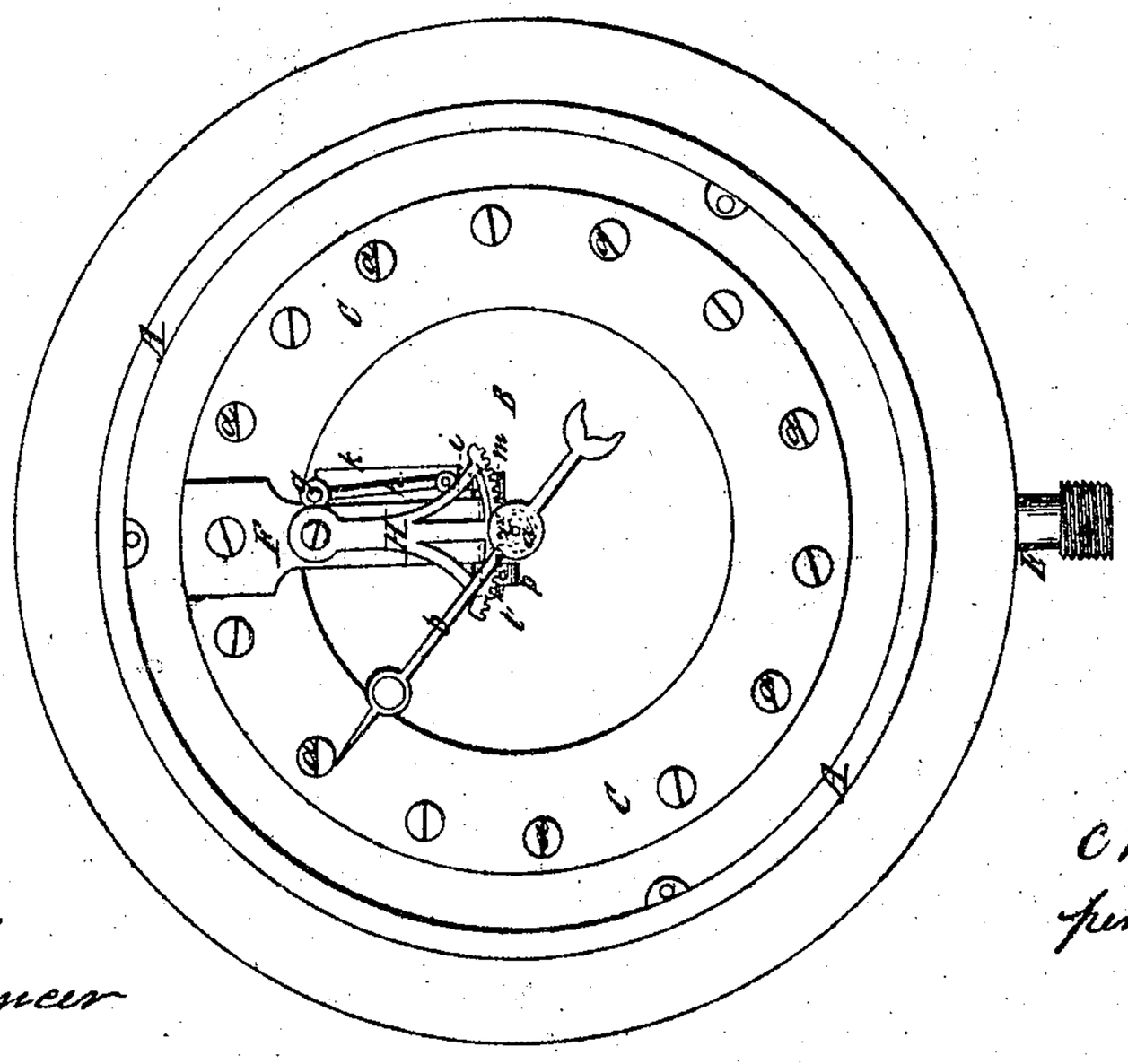

Fig. 1.

Witnesses.
J. Wolcomb.
R. S. Spencer

Inventor.
C. M. Dabol
per Munn & Co
Attorneys

THE ECKERT LITHOGRAPHING CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES M. DABOLL, OF NEW LONDON, CONNECTICUT.

PRESSURE-GAGE.

Specification of Letters Patent No. 30,803, dated December 4, 1860.

To all whom it may concern:

Be it known that I, C. M. DABOLL, of New London, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Pressure-Gages; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of a pressure gage constructed according to my invention, having its dial or index plate removed to expose the working parts. Fig. 2 is a central section of the same.

Similar letters of reference indicate corresponding parts in both figures.

My invention consists in a certain improved combination and arrangement of parts for combining the diaphragm with the index whereby certain advantages are obtained as will be hereinafter specified.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, represents the case of the gage.

B, is the metal diaphragm secured in place by a ring C, and screws *a*, *a*, in such manner as to form a chamber D, behind the diaphragm.

E, is the steam pipe for connecting the chamber D, with the steam boiler or other apparatus whose contained pressure is to be indicated by the gage.

F, is a hanger secured rigidly to the ring C, for the purpose of supporting the indicating mechanism.

G, is the graduated circular dial or index plate on which the pressure is indicated.

b, is the index attached to the arbor *c*, which is fitted to turn freely in a bearing in the stationary hanger F, and furnished with a pinion *d*, which gears with a toothed sector H, whose hub *f*, is fitted to work freely on a fixed stud, secured in the hanger F. From one side of the hub *f*, of the sector there projects a short arm *g*, which is connected by a rod *h* with a straight faced lifter *i*, which is secured to the lower end of a rod *j*, that is fitted to slide in a direction parallel with the face of the plate G, in a spring box *k*, which is secured rigidly to or forms part of the hanger F.

l, is a rockshaft arranged parallel with the face of the plate G, but perpendicular to the rod *j*, in a bearing provided for it in the hanger F. This rock-shaft is furnished with a long curved toe *m*, in contact with which the lifter *i*, is held by the spiral spring *n*, which is applied to the lifter rod *j*, within the box *k*, and the said rockshaft is also furnished with a shorter toe *p*, which is held in contact with the diaphragm B, by the spring *n*, pressing the lifter *i*, against the toe *m*.

The pressure of the steam or other fluid on the back of the diaphragm B, presses it against the toe *p*, and so causes the toe *m*, to press upward against the lifter *i*, and so by the action of the rod *h*, upon the arm *g*, of the sector H, tends to turn the sector more or less in the direction of the arrow shown upon it in Fig. 1, and so, by the action of the sector on the pinion *d*, to turn the index more or less in the opposite direction according as the pressure is greater or less. The duty of the spring *n*, is to keep the toe *p*, in contact with the diaphragm B, and carry back the sector H, and the index as the pressure on the back of the diaphragm diminishes. This mechanism for combining the diaphragm with the index is very reliable in its character and but little liable to get out of repair, and it admits of a more uniform graduation of the dial than other mechanism for the same purpose as by giving the proper curvature to the face of the toe *m*, the index may be caused to derive from the diaphragm, precisely such a movement as may be desired.

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

The combination of the rock-shaft *l*, and its toes *p*, *m*, the lifter *i*, and its guide rod *j*, and spring *n*, and the rod *h*, connecting the said lifter with the sector H, which gears with the pinion on the index shaft, the whole being applied and arranged in combination with the diaphragm and index substantially as herein specified.

CHAS. M. DABOLL.

Witnesses:

ALFRED COIT,

D. T. BRAINARD.