

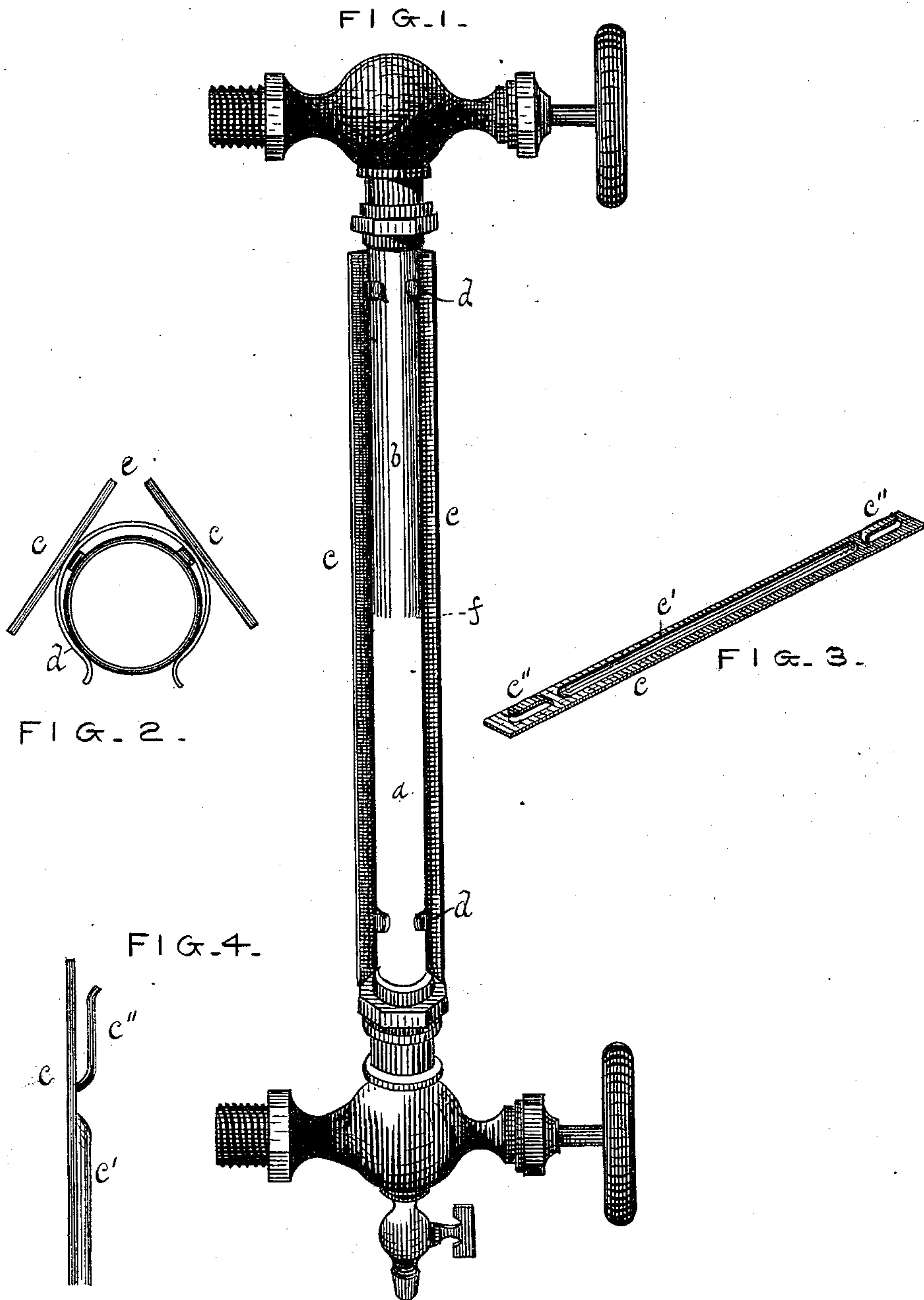
(No Model.)

G. A. HENDERSON.

WATER GAGE.

No. 338,737.

Patented Mar. 30, 1886.



Witnesses.
J. N. Pills
J. O. Eymann

INVENTOR,
GEO. A. HENDERSON.
By *L. P. Graham*,
atty.

UNITED STATES PATENT OFFICE.

GEORGE A. HENDERSON, OF DECATUR, ILLINOIS.

WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 338,737, dated March 30, 1886.

Application filed June 15, 1885. Serial No. 168,716. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. HENDERSON, a resident of the city of Decatur, county of Macon, and State of Illinois, have invented an
5 Improvement in Water-Gages, of which the following is a specification.

The object of my invention is to increase the efficiency of water-gages by making the position of the water in the glass readily per-
10 ceptible.

My invention is based on the fact that rays of light will pass through an empty glass tube in a direct line, while the same tube filled with water will have the refracting capacity of a
15 double-convex lens. To utilize the above-mentioned peculiarities, I exclude the light from the rear portion of the glass, with the exception of a narrow longitudinal strip co-extensive with the glass, and the result is, that
20 when viewed from the front the light through the strip appears above the water-surface as a narrow white line and below the water-surface as a white band the entire width of the glass. The difference in the width of the re-
25 fracted and the unrefracted light is so marked that the position of the water can be determined instantly and with absolute certainty.

In the drawings accompanying and forming a part of this specification, Figure 1 is a front
30 view of a water-gage illustrating the principle of my invention. Fig. 2 is an end view of the glass and casing. Fig. 3 is a perspective view of one-half of the casing, and Fig. 4 is a side or edge view of a portion thereof.

35 *a* indicates that portion of the glass that is filled with water.

b indicates the empty portion of the glass.

c represents the opaque casing as formed of a pair of strips, parallelly adjacent, but not
40 in actual contact.

c' indicates stiffening-ridges on strips *c*.

c'' are attaching-hooks for strips *c*.

d are securing-clamps, that pass through hooks *c''* and embrace the glass.

e in Fig. 2 indicates the opening between
45 strips *c c*, through which light is admitted to the glass.

f in Fig. 1 indicates the water-surface.

It is obvious that the manner of constructing and attaching the casing may be varied
50 almost to infinity, as the only essential requirements are an opaque partial casing provided with a longitudinal opening or a series of closely-connected openings on a vertical line.

I claim as new and desire to secure by Let-
55 ters Patent—

1. An opaque partial casing for the glass of water-gages, having an open face and a single longitudinal rearward aperture, as and for the
60 purpose set forth.

2. A glass for water-gages, having one side transparent and exposed and the other side opaquely incased, with the exception of a narrow central longitudinal strip, as and for the
65 purpose set forth.

3. A partial casing for the glass of water-gages, composed of a pair of coextensive opaque strips, longitudinally parallel and laterally adjacent, substantially as and for the purpose
70 set forth.

4. In a casing for the glass of water-gages, for the purpose set forth, the combination of strips *c*, provided with hooks *c''*, and resilient
75 clamps *d*, as shown and described.

In testimony whereof I sign my name in presence of two subscribing witnesses.

GEO. A. HENDERSON.

Attest:

I. V. EYMAN,
C. C. CLARK.