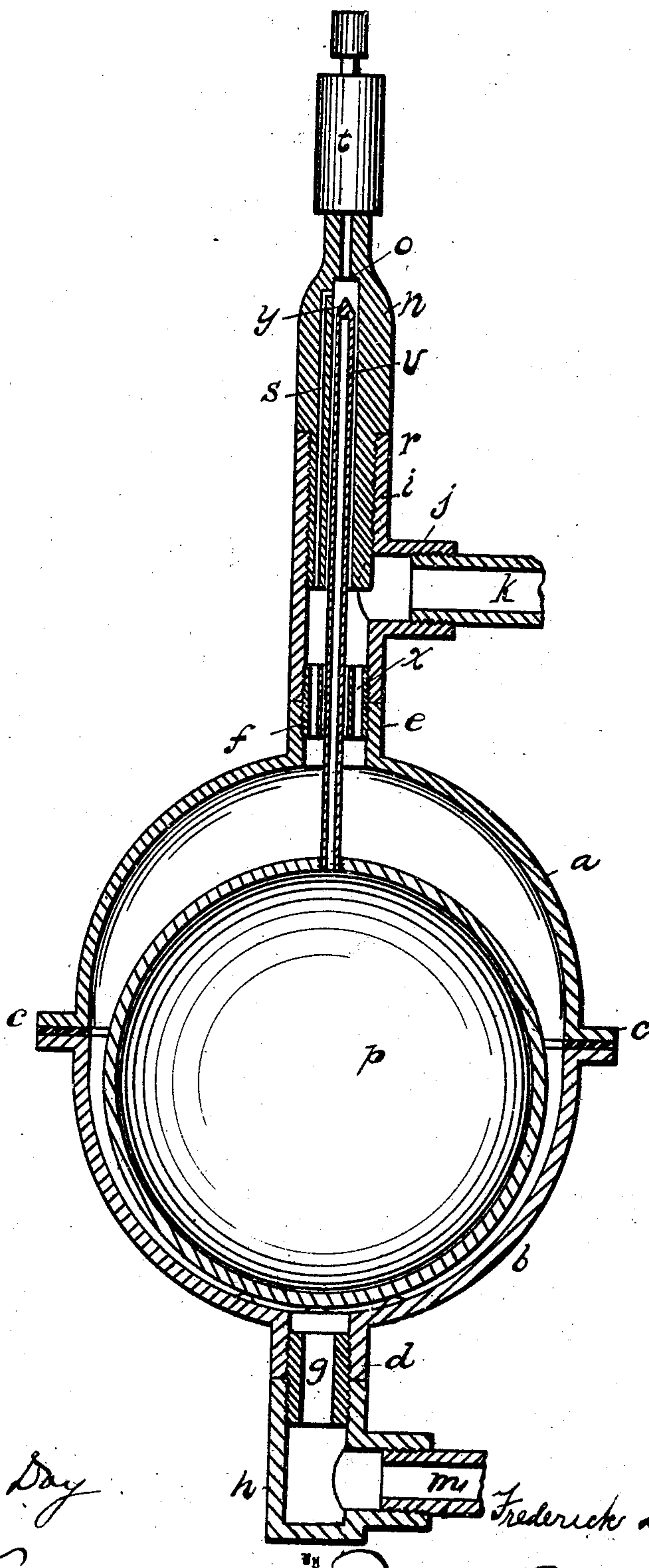


928,650.

Patented July 20, 1909.



Witnesses

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Анонсы

UNITED STATES PATENT OFFICE.

FREDERICK D. GOODNOUGH, OF DETROIT, MICHIGAN.

LOW-WATER ALARM.

No. 928,650.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed November 16, 1908. Serial No. 462,791.

To all whom it may concern:

Be it known that I, FREDERICK D. GOODNOUGH, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Low-Water Alarms, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to low water alarms, and the object of my improvements is to provide a low water alarm which shall be simple in construction, direct, certain and prompt in its action, and which may be attached to any boiler without the provision of other apparatus. I secure this object in the apparatus illustrated in the accompanying drawing, in which the figure is a sectional elevation of a device embodying my invention.

a, b, is a casing approximately spherical in shape, consisting of two hemispherical parts, *a, b*, united by the joint *c*, which may be packed as illustrated.

d, is a nipple at the lower end of the casing *b*, and *e* is a nipple at the top of the part *a*, of the casing *a, b*.

g, is a screw-threaded thimble adapted to be secured into the nipple *d*, and *h*, is an L-shaped coupling secured on to the protruding end of the thimble *g*, and making a close fit with the end of the nipple *d*.

f, is a thimble secured into the nipple *e*, and *i*, is a T-shaped coupling secured upon the protruding end of the thimble *f*, to make a close joint with the end of the nipple *e*.

k, is a pipe which connects with the boiler above the water line and at its outer end is secured into the branch *j*, of the coupling *i*.

m, is a pipe similar to *k* communicating with the boiler below the water line and at its outer end engaging the internal threads in a branch of the L-shaped coupling *h*.

n, is a part having a whistle *t*, at its upper end and having a cylindrical opening or bore extending through it axially in which bore is a valve-seat *o*.

p, is a spherical float in the casing *a, b*.

v, is a hollow rod extending from the float

p, guided in the bore of the part *n*, into which the stem *v* extends; said stem has a valve *y*, at its upper end adapted to come against the valve-seat *o*, to close the passage through the part *n*.

s is a passageway in the wall of the part *n*, at the lower end thereof, passing upward in said wall and opening into the bore of said part just adjacent to the upper end of the stem *v*, below the valve seat *o*. The thimble *e* is provided with openings *x* and serves as a guide for the stem *v*.

The operation of the above described device is as follows: When the water in the boiler is at the required height it passes through the pipe *m*, into the casing *a, b*, rises to its proper level therein and raises the float *p*, until the valve *y* comes against the seat *o*, at which time the passageway through the part *n* is closed; when the level of the water in the boiler and consequently in the casing *a, b*, falls below the required level the valve *y*, comes off the seat *o*, and leaves a passage through the part *n*, which causes the whistle *t*, to sound to indicate that the water level in the boiler has fallen below its required level.

What I claim is:

The combination of a casing *a, b*, a float in said casing, a stem extending upward from said float and provided with a valve at its upper end, a passageway extending from said casing, said stem extending into said passageway, a part *n* in said passageway provided with an opening therethrough, and a valve-seat *o* in said opening, said stem being adapted to fit in said opening so as to be guided by its walls, said valve being adapted to come against said valve-seat, and a signal adapted to be sounded by the passage of steam through said opening, the part *n* being provided with a passageway in its wall opening at the lower end of said part and opening into the bore thereof just below the valve-seat *o*.

In testimony whereof, I sign this specification in the presence of two witnesses.

FREDERICK D. GOODNOUGH.

Witnesses:

CLARENCE E. DAY,

ELLIOTT J. STODDARD.