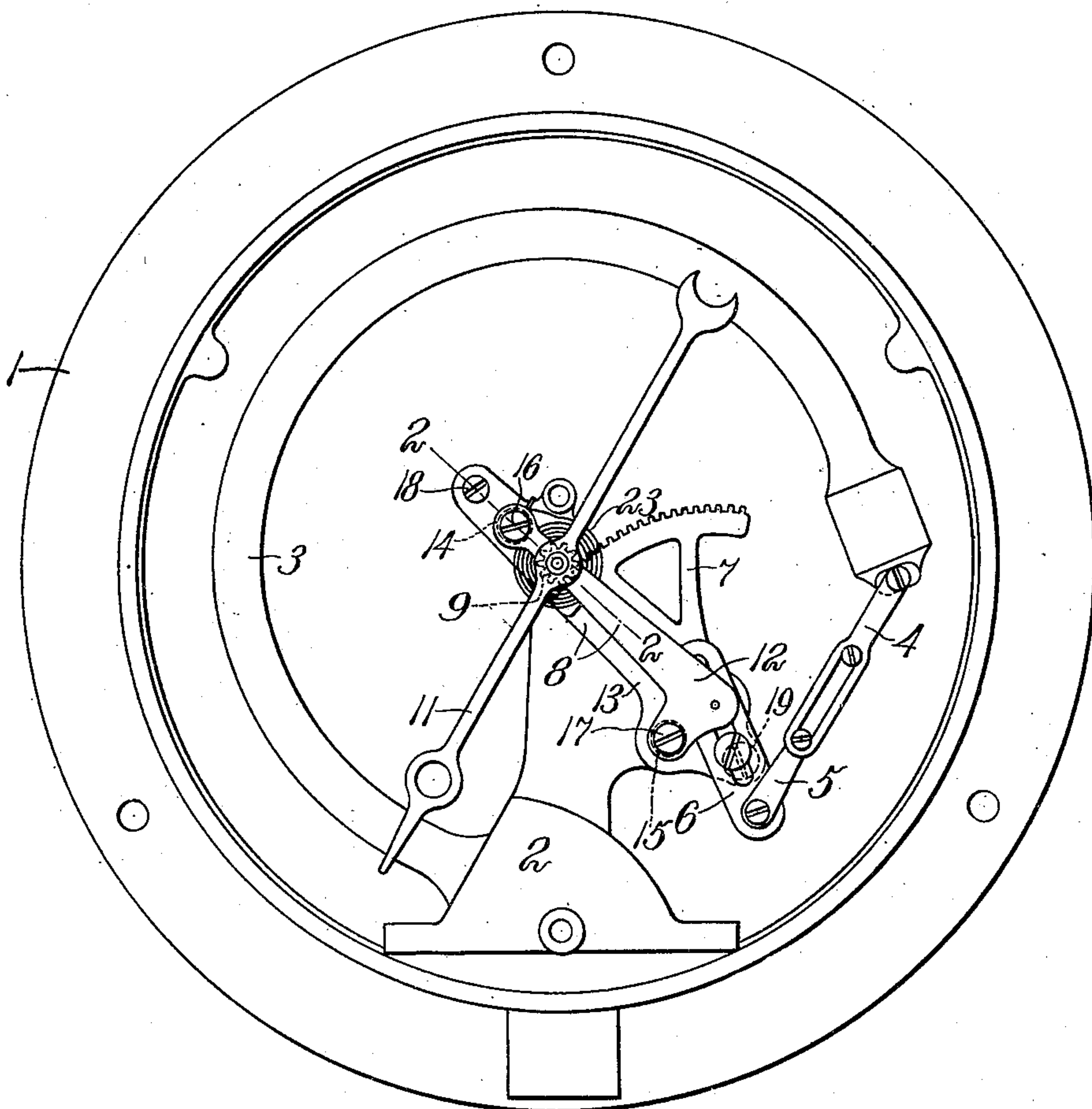


No. 898,148.

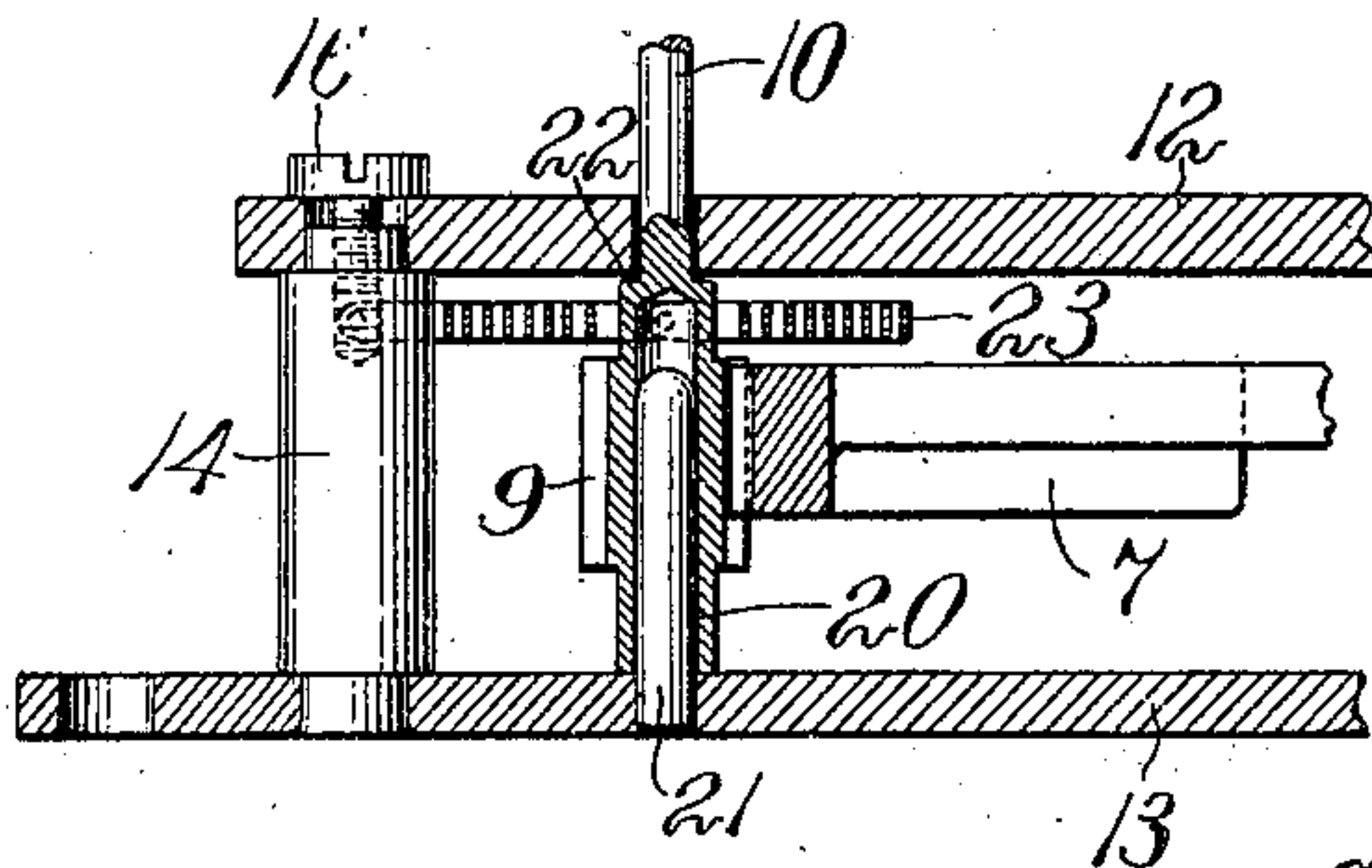
PATENTED SEPT. 8, 1908.

G. SPENCER.  
PRESSURE GAGE.  
APPLICATION FILED DEC. 14, 1907.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
*M. J. Hennessy*  
*A. C. Bowser*

by

Inventor:  
*George Spencer,*  
*Ralph W. Foster*  
*Attorney.*



# UNITED STATES PATENT OFFICE.

GEORGE SPENCER, OF MEDFORD, MASSACHUSETTS, ASSIGNOR TO CROSBY STEAM GAGE AND VALVE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## PRESSURE-GAGE.

No. 898,148.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed December 14, 1907. Serial No. 406,549.

*To all whom it may concern:*

Be it known that I, GEORGE SPENCER, a citizen of the United States, and resident of Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pressure-Gages, of which the following is a specification.

My invention relates to index mechanisms, employed in pressure gages, in which a sector engages and actuates a pinion which carries an index or pointer adapted to indicate upon a dial the pressure of the gage to which the mechanism is attached.

The invention relates more particularly to the mounting of the pinion and its object is to do away with the wear and tear incident to the present method of mounting such pinion and to avoid the resulting injury to the mechanism and inaccuracy of the records.

Heretofore the pinion has been rigidly mounted on a shaft journaled in the frame supporting the mechanism, the bearings thus formed between the pinion shaft and the frame comprising simply the outer ends of said shaft, which are thus subjected to great wear and tear resulting in their rapid destruction and leaving the action of the mechanism wabby and inaccurate. I avoid these difficulties by furnishing a long bearing for the parts, thus distributing the wear and preventing the injuries mentioned.

The invention is an improvement on my patent of August 28, 1906, No. 829,553.

The invention is illustrated by the accompanying drawings in which—

Figure 1 is a plan view of a pressure gage equipped with the index mechanism. Fig. 2 is a section on the line 2—2 Fig. 1, showing my improved mounting of the pinion.

Fig. 1 shows a pressure gage inclosed within the case 1 and having the gage mechanism mounted upon the gage socket 2. The Bourdon tube spring 3 has its inner end fixed to said socket and to its free outer end is attached the slotted link 4 adjustable longitudinally on the slotted link 5 pivoted to the slotted link 6, adjustable longitudinally on the arm of the sector 7 which is mounted in the frame 8 and engages the pinion 9 on whose shaft 10 is mounted the index hand 11.

The frame 8 comprises top and bottom plates 12, 13, held together by the pillars 14, 15 and pillar screws 16, 17, the frame being fixed to the gage socket by screws 18, 19.

My invention consists in boring the pinion shaft at 20 and mounting it upon the stud 21 fixed in the lower plate 13 and furnishing such shaft, toward its outer end, with the shoulder 22 adapted to engage the inner side of the upper plate 12, leaving its outer end reduced and adapted to extend through said upper plate and receive the index hand 11. The pinion shaft 10 is thus rotatably mounted upon the stud 21, having a long bearing thereon, while the bearings between the pinion shaft and the frame plates are loose, so that substantially all the wear between the parts is distributed along the stud. The spring 23 has one end fixed to the pillar 14 of the frame and the other end fixed to the pinion shaft 10, and its function is the usual one of taking up any lost motion between the pinion and the sector, thus maintaining a firm engagement between these parts.

Having described my invention what I claim and desire to secure by Letters Patent is:

1. In a pressure gage as described, the combination, with the gage mechanism, of a frame suitably supported and index mechanism mounted thereon comprising a sector and a pinion cooperating with said sector, the pinion having a bored shaft rotatably mounted upon a stud fixed in said frame and forming with said stud a long bearing, together with intermediate mechanism and registering means; substantially as described.

2. An index mechanism comprising a frame and mounted thereon a sector and a pinion cooperating with said sector, the pinion having a bored shaft rotatably mounted upon a stud fixed in said frame and forming with said stud a long bearing and said pinion shaft being adapted to carry an index hand; substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses.

GEORGE SPENCER.

Witnesses:

GEORGE G. CLARK,  
RALPH W. FOSTER.