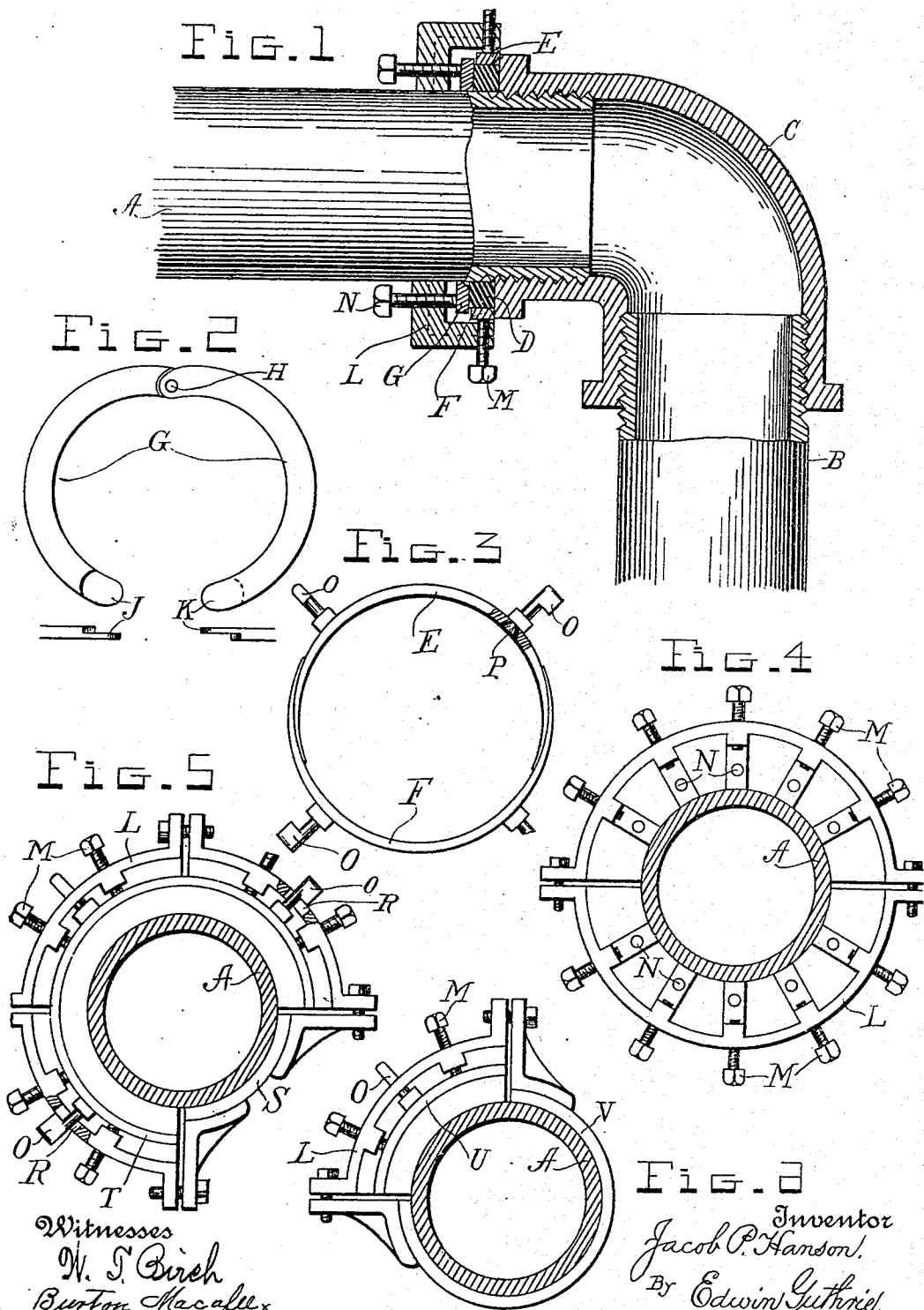


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No. 807,739.

PATENTED DEC. 19, 1905.

J. P. HANSON.
LEAK STOPPING GLAND.
APPLICATION FILED AUG. 17, 1905.



Witnesses
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UNITED STATES PATENT OFFICE.

JACOB PATRICK HANSON, OF NEW YORK, N. Y.

LEAK-STOPPING GLAND.

No. 807,739.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed August 17, 1905. Serial No. 274,531.

To all whom it may concern:

Be it known that I, JACOB PATRICK HANSON, a citizen of the United States, residing at New York, in the county of New York and State
5 of New York, have invented certain new and useful Improvements in Leak - Stopping Glands, of which the following is a specification.

My invention relates to leak - stopping
10 glands, and belongs directly to that type or class of devices comprising a divided frame adapted to encircle a steam-pipe near a joint and to be clamped upon the pipe and devices
15 arranged to compress suitable packing against the joint or portion thereof where the leak is situated.

The object of my invention is the production of a contrivance of the character mentioned having particular construction and arrangement of parts believed to render the invention more effective in stopping leaks in
20 pipe-joints whatever pressure may be on the pipes and which cheapens the cost of the invention by providing substitute portions that
25 may be employed in place of more expensive parts. For example, where leaks occur at intervals entirely around the pipe at the joint it is necessary to use the pipe-clamping ring-frame of my invention entire; but where there
30 is but a single leak at one point the user need only purchase and use a portion—ordinarily one-fourth part—of the entire pipe-clamping ring-frame, substituting for the remaining
35 parts a cheap metal member, as fully described hereinbelow.

I accomplish the objects stated by fashioning and associating parts as illustrated in the accompanying drawings, of which—

Figure 1 is a side view of a pipe-joint having my invention shown in section applied thereto. Fig. 2 is a front view of the divided
40 presser-ring having its parts pivotally connected. Fig. 3 is an edge view of the members composing the spring and the securing-keys. Fig. 4 is a front or interior view of
45 the pipe-clamping ring-frame, the pipe within it being shown in section. Fig. 5 is a front view of the pipe-clamping ring-frame, showing the position of a modified spring-ring
50 about the pipe. The pipe is in section, and in this view appears a one-quarter substitute fractional clamp member. Fig. 6 shows the application of one-quarter of the pipe-clamping
55 ring-frame with a fractional spring-ring and a three-quarter substitute clamp member.

Like letters are employed to refer to like elements throughout.

Considering Figs. 1, 2, 3, and 4, the parts will be seen which constitute the entire invention as shown assembled in Fig. 1. The letters
60 A and B designate two pieces of steam-pipe coupled by the elbow C. Assuming it is desired to stop one or more leaks in the joint between the pipe A and the elbow C, I first place
65 next to the joint a ring of packing D of any chosen substance in the form of a ring having a rectangular cross-section. It is thought to be unnecessary to show that the ring of packing
must be divided at some point to enable it to be placed around the pipe. The letters E and F
70 mark the upper and lower twin members of spring metal, which engage each other and form the spring-ring, as best shown in Fig. 3, and are placed around the packing D
75 exteriorly. The letter G marks a flat ring comprising two halves pivotally secured to each other by the pin H and having overlapping ends J and K, which when closed one
80 upon the other after the ring has been placed around the pipe make practically a continuous flat annular band resting against the vertical outer face of the packing D, as shown in
Fig. 1.

The part termed in this description the
"pipe-clamping ring-frame" is designated by
85 letter L. It may be divided into separable parts, as illustrated. Two sets of screws pass through the ring L, and the ring may have relatively thickened portions to give the
90 threads of the screws sufficient hold. The radially-disposed screws are marked M, and these exert pressure at intervals around the spring-ring members E and F. The screws
arranged parallel with the axis of the ring are referred to by the letter N, and these screws
95 act upon the divided ring G. It is believed to be now shown and explained that if ring L be clamped about the pipe A the spring-ring and the divided ring G constitute a stuffing-box within which the packing D may be
100 compressed against the pipe-joint by the action of screws M and N.

In assembling my invention I have arranged that the halves of ring L and the halves E and F of the spring-ring, which are placed
105 together, as stated, upon the outer curved surface of the packing, may be handled as single pieces—that is to say, the upper half of ring L and the upper member E of the spring-ring may be joined together and hand-

one piece, and the same is true of the lower half of ring L and the member F of the spring-ring. I effect such arrangement by providing the members of the spring-ring with turn-
 5 keys O, having conical retaining-heads P, flush with the inner surfaces of the spring-ring members. The keys are shown in Fig. 3 turned edgewise and broadside to the ob-
 10 server. When turned broadside, the keys pass through slots R in ring L and are then turned to retain the spring member and ring L together, as will be understood from Fig. 5.

The pipe-clamping ring-frame L is relatively an expensive piece to make, and when
 15 leaks are located at one or more points throughout—for example, three-quarters of the circumferential joint—the user may purchase three-quarters only of ring L, substituting for the remaining one-quarter a cheaper complementary clamp member S. Under these
 20 conditions the spring-ring element T need be but a plain band T, as shown in Fig. 5, or if only one-quarter of ring L is purchased and used the spring-ring no longer is employed
 25 and the quarter-length band U is all that is needed with a corresponding extent of packing. Under those circumstances the substitute cheap clamping member V must obviously possess sufficient flexibility to permit
 30 the opening between its extremities to be widened to the diameter of the pipe. It is my purpose to construct the ring L of brass or bronze and the substitute members of iron and steel, thus making them much more
 35 cheaply.

Having now described my invention and explained the mode of its operation, what I claim is—

1. In a leak-stopping gland, the combina-

tion with a divided pipe-clamping ring-frame, 40 of the spring-ring members E and F, a divided flat ring, and screws borne by said ring-frame whereby said spring-ring members and flat ring are pressed upon, substantially as described.

2. In a leak-stopping gland, the combina- 45 tion with a divided pipe-clamping ring-frame, of spring-ring members, and means for removably connecting the ring-frame divisions and spring-ring members, substantially as 50 described.

3. In a leak-stopping gland, the combina- 55 tion with a divided pipe-clamping ring-frame, of spring-ring members, the said ring-frame being provided with slots R, and the spring-ring members having the turn-keys O adapted to be passed through said slots whereby the divisions of the ring-frame and said spring- 60 members are separably connected, substantially as described.

4. In a leak-stopping gland, the combina- 65 tion with pipe-clamping-frame divisions, of a substitute complementary clamping member constructed and arranged substantially as described.

5. In a leak-stopping gland, the combina- 70 tion with pipe-clamping ring-frame divisions, of a divided spring-ring and a divided flat ring coextensive with the ring-frame divisions, and screws borne by said divisions arranged to press upon the said spring-ring and flat ring, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB PATRICK HANSON.

Witnesses:

WILLIAM F. STELLMAN,
 PATRICK J. CLANCY.