

(No Model.)

H. P. DREW.

SWING JOINT FOR ELECTRIC LIGHT BRACKETS.

No. 478,417.

Patented July 5, 1892.

Fig 1

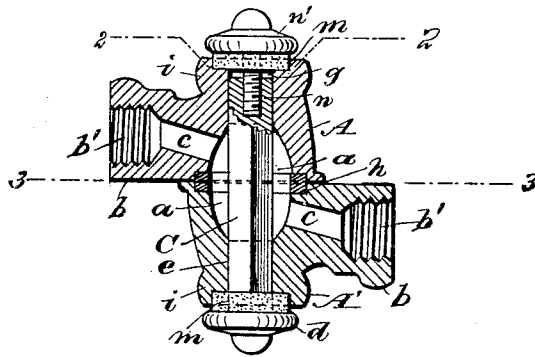


Fig 2

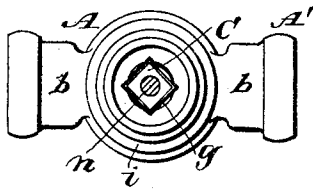


Fig 3

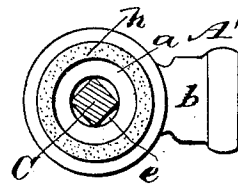
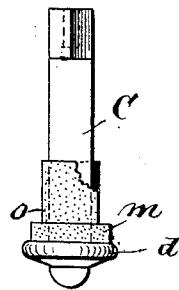


Fig 4



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HENRY P. DREW, OF NEW YORK, N. Y.

SWING-JOINT FOR ELECTRIC-LIGHT BRACKETS.

SPECIFICATION forming part of Letters Patent No. 478,417, dated July 5, 1892.

Application filed March 15, 1892. Serial No. 425,051. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. DREW, of New York city, in the county and State of New York, have invented a new and useful Improvement in Swing-Joints for Pipes, of which the following is a full, clear, and exact description.

The object of this invention is to provide a novel, cheap, substantial, and shapely swing-joint connection for gas-pipes which will be adapted to pass a large volume of gas in proportion to its dimensions, externally considered, and that may be readily converted into an electrically-insulated swing-joint for use where electric lights are combined with gas-fixtures.

To these ends my invention consists in the peculiar construction of parts and their combination, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section of the swing-joint, taken through the axis of both joint-sections, when these are in alignment. Fig. 2 is a plan view of the device with parts removed above the line 2 2 in Fig. 1. Fig. 3 is a transverse section on the line 3 3 in Fig. 1; and Fig. 4 is a side view, broken, of a modified form of the joint-bolt that joins two parts of the joint.

The similar joint-sections A A' are preferably cup-shaped, as shown in Fig. 1, thus providing a like cavity *a* in each section. From the side of the cup-bodies A A' a branch inlet *b* is integrally formed on each, said branches being internally threaded, as at *b'*, to receive gas-pipes that are to be jointed together. The threaded perforations *b'* are prolonged by the formation of cylindrical passages *c*, that are tangentially projected from said perforations until they intersect the cup-cavities *a*, which will provide a continuous gas-passage of comparatively large diameter through the swing-joint when its sections A A' are coupled together.

The preferred means for coupling the sections A A' is shown in Figs. 1, 2, and 3, and consists of a bolt C, the body of which is

made square in cross-section and is furnished with an integral head *d* at one end.

The joint-sections A A' are perforated opposite the cupped cavities *a* and centrally, these perforations being axially coincident when the sections A A' are loosely connected by the bolt C. The hole *e*, that prolongs the cavity *a* in the section A', is of such a relative diameter as will permit the insertion of the bolt-body C, its corners loosely fitting against the cylindrical hole they engage, as shown in Fig. 3. The aperture *g* in the other joint-section A may be made square in cross-section and of a size to receive the square body of the bolt C, neatly fitting its walls against the sides of the bolt, or, as shown in Fig. 2, the hole *g* is preferably made cylindrical and of such a reduced diameter as to require four grooves formed in its wall at equal distances apart, wherein the four corners of the bolt-body will slide, and thus lock the joint-section A from rotating upon the bolt.

Between the joint-sections A A' a joint-ring *h* is placed, which is seated in mating annular recesses formed in the opposite faces of the joint-sections, and, if desired, this joint-ring may be made of a material that is a non-conductor of electricity.

The end portions *i* of the joint-sections A A', which are centrally apertured, as before stated, have annular channels formed around these apertures on the ends to receive packing-washers *m*, that are preferably made of a non-conductor of electricity.

The end portion of the bolt C, that projects into the portion *i* of the joint-section A, is axially perforated a proper depth and screw-tapped to receive a clamping screw-bolt *n*, the head *n'* of which is formed to have a flat bearing upon the joint-washer *m*, through which said screw-bolt is inserted.

It will be seen that when the parts are assembled, as has been explained, a swing-joint is provided which will allow the loose section A' to be rotated freely upon the other section A, which is held in firm connection with the bolt C, and as the latter is of small diameter as compared with the cup-cavities *a*, the passage of gas through the swing-joint will be unobstructed at any point of swinging adjustment given to the latter.

In Fig. 4 the coupling-bolt C is shown detached and a square portion formed on the end of its body that is not provided with a head, the major portion of the bolt being cylindrical and adapted to receive an insulating sleeve *o*, that is made to fit closely upon the bolt and pass through perforated wall of the end portion *i* when the bolt is inserted to couple the joint-sections A A'. In case the insulating sleeve is employed, a sufficient increase should be given to the diameter of the hole *e* as will admit the sleeve, and as the latter is seated upon the washer *m* it will be evident that an insulated connection of parts will result when these are connected by the bolt *n*, as before explained.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a swing-joint, two cupped joint-sections, branches thereon, perforated and threaded to receive pipes and further perforated to connect the threaded perforations with the cupped cavities of the joint-sections, a headed coupling-bolt loosely engaging one joint-section and locked to the other joint-section, a washer between the joint-sections,

a washer under the coupling-bolt head, a clamping screw-bolt engaging a tapped axial hole in the other end of the coupling-bolt, and a washer between the locked joint-section and the head of the clamping screw-bolt, substantially as described.

2. In a swing-joint, two cupped joint-sections apertured and threaded internally in integral branches, a headed coupling-bolt loose in one joint-section and fast in the other joint-section, an insulating joint-washer between the coupling-bolt head and the loose joint-section, a joint-washer of non-conducting material between the adjacent edges of the two joint-sections, a clamping screw-bolt penetrating the other end of the coupling-bolt, an insulating joint-washer between the clamping screw-bolt head and the end of the fastened joint-section, and an insulating sleeve on the bolt-body engaging the loose joint-section and its washer, substantially as shown and described.

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Witnesses:

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