G. WARNER.

SUSPENDING CHANDELIER.

No. 182,089. Patented Sept. 12, 1876.

Fig. 3.

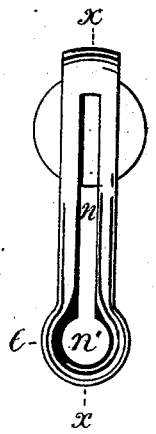


Fig. 2.

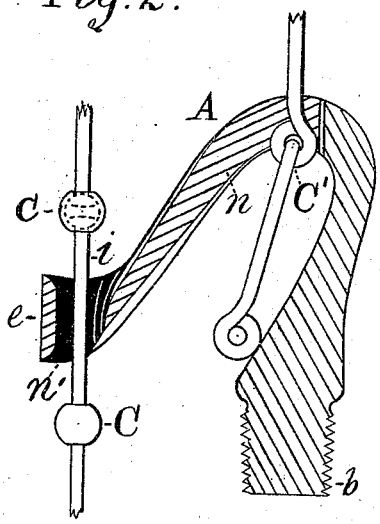
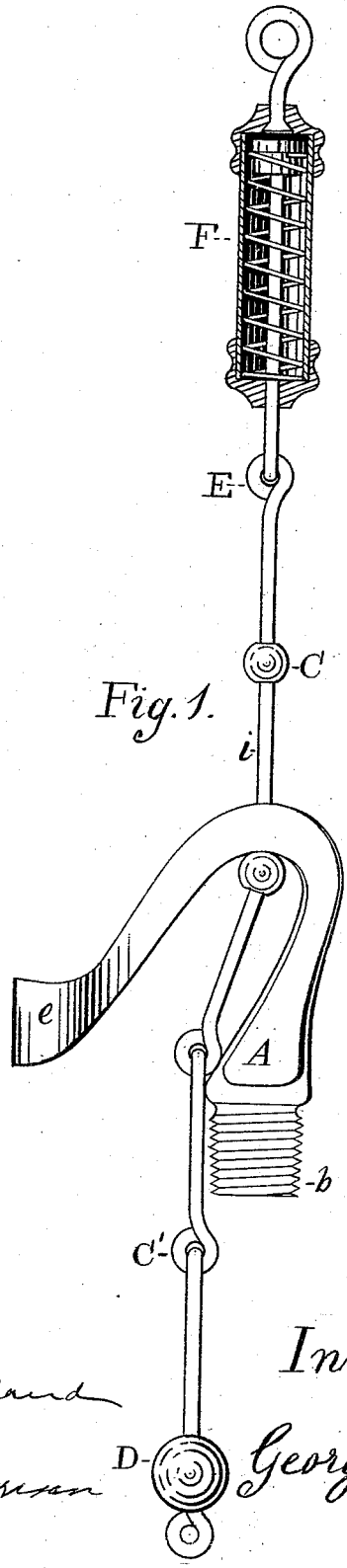


Fig. 1.



Witnesses;

James M. Shankland

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GEORGE WARNER, OF DES MOINES, IOWA.

IMPROVEMENT IN SUSPENDING CHANDELIERS.

Specification forming part of Letters Patent No. **182,089**, dated September 12, 1876; application filed May 6, 1876.

To all whom it may concern:

Be it known that I, GEORGE WARNER, of the city of Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Improvement in the Means of Suspending Chandeliers and Drop-Lights, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to securely suspend chandelier and drop-light fixtures of various kinds and weight (to which it may be applicable) at different heights, as may be desired, by the combination of a hook, A, provided with a guard, *e*, and a chain, E C C′ D, or its equivalent, the joints C C′ of the links serving as stops to suspend the hook A, to the lower part *b* of which the chandelier or drop-light desired to be at any moment lowered or raised is to be attached, the guard *e* preventing the separation of the hook from the chain, at the same time permitting the hook to be moved freely up and down the chain, or caught on the joints C C′ of the links, as shown in the side view, Figure 1, of the accompanying drawing.

The hook A is partly divided by a vertical slot, *n*, through which the central part of the links pass to the center of its axis from the hole *n′* in the guard *e*, shown in the top view, Fig. 3, and in the vertical section, Fig. 2.

C C′ show two kinds of chains suited to this purpose, the links of the upper one having the ends enlarged, and connected by a hollow ball forming the joint, the lower one by coiled ends interlocking each other, the one entering the slot, the other being across, and forming a stop, as shown at C′, Fig. 2.

The ball D at the lower end of the chain is made too large to pass through the hole in the guard *e*, and is guided by the under side of the hook to its center, preventing the farther descent of the hook.

An incased spiral spring, F, Fig. 1, (showing a vertical section of the cylindrical case,) of slight but of sufficient strength to ease the catching of the hook on the stops, and also to take up the slack of the upper part of the chain should the hook be accidentally elevated, but not of sufficient strength to sustain the weight of the fixture suspended. It is not proposed to use this spring in all cases, but only where its additional security and elasticity may be required.

The chain being suspended by its upper end E, and the chandelier or drop-light being attached to the lower part of the hook A, if now the hook is elevated from the position seen in Fig. 1, the joint C, being too large to pass through the central part of the hook, will follow down its upper edge to the hole *n′* at the outer end, through which it passes easily. The hook now being pressed forward from the position seen in Fig. 2, between the joints C C, the link *i* will pass into the slot *n* to the center of the hook, as seen in Fig. 1.

To lower the hook and attachments they must be again elevated, when the chain will again pass into the hole *n′*, and may be lowered to the final stop D, or caught on either of the other stops, as before. Should the slack of the chain beneath the hook fall in the way of the light, or other object, it may be led to one side by passing through a guide for that purpose, or fall into a receptacle beneath the hook.

Chains of different and more flexible kinds may also be used when provided with stops that are larger than the chain, placed at intervals, as may be required. The hook may also be a solid instead of a slotted one, provided with a guard to surround a chain, having two rows of links with joints that are parallel to each other, with the same results.

I claim as my invention—

The combination, with a chain, E, having stops, as C, C′, and D, with or without the spiral spring F, as may be required, of a hook, A, provided with a guard, *e*, to keep the chain within its reach, and, at the same time, allow it to be adjusted up and down to any desired height, substantially as described, and for the purposes set forth.

GEORGE WARNER.

Witnesses:

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