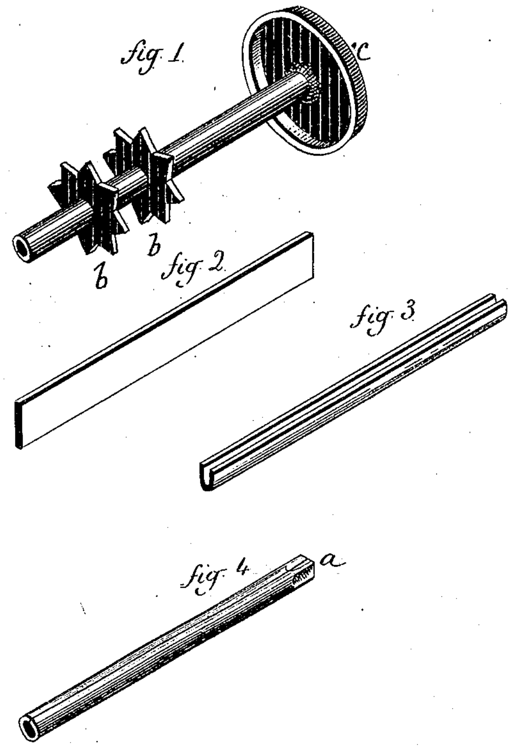
W. N. WEEDEN.

WICK-RAISERS.

No. 193,581. Patented July 24, 1877.



Witnesses.

J. H. Shumway

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UNITED STATES PATENT OFFICE.

WILLIAM N. WEEDEN, OF WATERBURY, CONN., ASSIGNOR TO BENEDICT & BURNHAM MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN WICK-RAISERS.

Specification forming part of Letters Patent No. **193,581**, dated July 24, 1877; application filed June 25, 1877.

To all whom it may concern:

Be it known that I, WILLIAM N. WEEDEN, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Wick-Raisers; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, perspective view. Figs. 2, 3, and 4 illustrate the process of manufacture.

This invention relates to an improvement in the manufacture of the wick-raising device commonly used in kerosene-burners—that is to say, a shaft arranged transversely of the wick-tube, and on which are mounted one or more star-shaped wheels, the points of which engage the wick through slots in the wick-tube and a button on the outer end of the shaft, for conveniently turning the raiser.

In the usual construction the shaft is made from wire. This must be of sufficient size to prevent bending, and very much larger than would be necessary for simply raising the wick, as the resistance offered to raising and lowering the wick is very little; hence a much greater amount of metal is used in the shaft than its legitimate use requires.

The stars are usually attached to the shaft by making the perforations through the stars slightly smaller than the wire shaft; but, from the fact that the wire will vary in size, it frequently happens that the stars loosen on the shaft, and fail to revolve when the shaft is turned, rendering the burner useless.

An irregular-shaped perforation in the star, or irregular shape of the shaft, to some extent overcomes this difficulty, but adds to the cost.

The object of this invention is to reduce the quantity of metal used in the raiser, preserve the requisite strength, better secure the stars, and cheapen this important part of the burner.

The invention consists in a shaft formed into tubular shape from sheet metal, combined with the stars and button, as more fully hereinafter described.

Strips of sheet metal are cut the length of the shaft, and in width corresponding to the circumference of the shaft to be produced, one of which is represented in Fig. 2. This strip is then placed in suitable dies, which bend it longitudinally into U shape, transversely, as seen in Fig. 3, then transferred to other dies, the cavity in which is cylindrical. The open side is closed, producing a tube, as seen in Fig. 4. At the same time the end *a* is squared, or made other than a perfect cylindrical shape, and the shaft is complete.

Preferably, in the final closing, the tube is made slightly tapering; but this is not essential.

The stars *b b* are perforated in the usual manner, and slightly less in diameter than the diameter of the shaft at the point where they are to rest. Then the tubular shaft is forced into the perforation to properly locate stars. In this operation the seam in the tube will close slightly as the stars pass onto it, and the elasticity of the metal, tending to expand the shaft, will hold the stars so firmly that accidental loosening is impossible.

The button *c* is perforated corresponding to the end *a* of the shaft, and forced therein, or riveted, so as to become practically a part of the shaft. This tubular form of shaft requires little more than half the weight of metal required in the wire shaft, and gives to the shaft a strength greater than the same diameter of wire.

The cost of shaping the tube is little more than that of preparing the wire; hence there is a saving of cost nearly corresponding to the saving in metal. Add to this the elastic or expanding nature of the tube to hold the stars, a much better wick-raiser is produced than the usual construction.

I claim—

The herein-described wick-raiser for lamp-burners, consisting of the tubular open raiser-shaft, combined with the stars and button, substantially as described.

WILLIAM N. WEEDEN.

Witnesses:

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E. L. BRONSON.