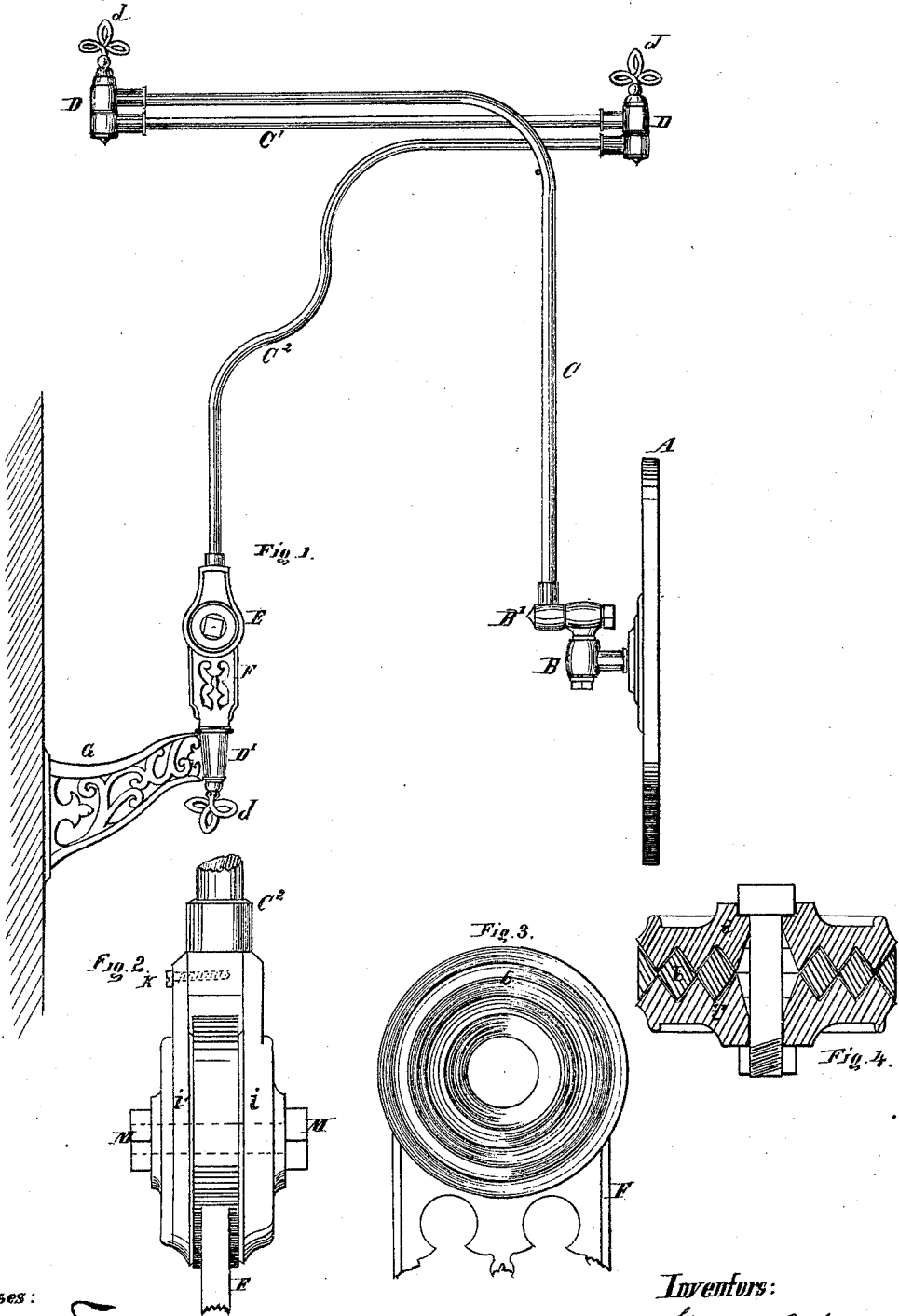


HENRY S. WOOD & JAMES W. MORRISON.
 Improvement in Mirror-Reflectors.

No. 114,243.

Patented April 25, 1871.



Witnesses:
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H. J. Brown

Inventors:
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Atty

UNITED STATES PATENT OFFICE.

HENRY S. WOOD AND JAMES W. MORRISON, OF CHICAGO, ILLINOIS,
ASSIGNORS OF ONE-THIRD THEIR RIGHT TO JACOB P. PFANNER, OF
SAME PLACE.

IMPROVEMENT IN MIRROR-REFLECTORS.

Specification forming part of Letters Patent No. **114,243**, dated April 25, 1871.

To whom it may concern:

Be it known that we, HENRY S. WOOD and JAMES W. MORRISON, of Chicago, in the county of Cook and State of Illinois, have invented a certain Improvement in Adjustable Mirror-Reflectors; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which, together with the letters and figures marked thereon, forms part of this specification, and in which—

Figure 1 is a side elevation of our invention as adapted to use. Fig. 2 is a front view of the main friction-joint enlarged to full size. Fig. 3 is a side view of the internal limb of said joint, and Fig. 4 is a transverse central section of Fig. 2.

Like letters of reference made use of in the several figures indicate like parts.

Nature of the Invention.

This invention relates to that class of mirror-reflectors which are supported upon a jointed adjustable arm, and are used in conjunction with a large mirror, enabling a person to see in the reflector the reflection of his back in the mirror.

Our invention relates more particularly to the construction and arrangement of the joints of the flexible supporting-arm; and it consists of a novel construction and arrangement of parts, as will be presently more fully explained.

To enable those skilled in the art to make and use our invention, we will proceed to describe the same with particularity, making use in so doing of the aforesaid drawing.

General Description.

A is the reflector, consisting of a small mirror inclosed in a suitable framing. The drawing exhibits a side view only of the same. This reflector is supported by the double joint B B' from the folding arms C C' C², which are jointed together by the vertical pivot-joints D D, fitted each with a thumb-screw, *d d*, for the purpose of tightening these joints at pleasure, and fixing them rigidly, if desired, in any position wanted.

The arm C² is jointed by the horizontally-pivoted joint E to the upright part F, which,

in turn, is jointed by a vertical pivot, D', provided with a thumb set-screw, *d'*, to the bracket G, which is supported from the wall or frame of the large mirror, or from any desired point of attachment.

The joint E, which is shown enlarged in various views at Figs. 2, 3, and 4 of the drawing, supports the entire weight of the folding arms and reflector at a disadvantage of leverage, especially large when the arms are extended. For this reason it is necessary that this joint should be capable of assuming a considerable rigidity, if required. I therefore make the central limb of this joint, being that part which extends upward from the part F above spoken of, with double annular corrugated surfaces *b*, and the two outer limbs of the joint, *i i'*, are made with their inner surfaces in like manner corrugated to fit against the said central limb. One of the outer limbs—viz., the one *i'*—is made detachable by means of the screws *k*, so that the parts may be readily placed together. A bolt, M, is passed through the center of these joined parts, by means of which they may be tightened together to any degree of rigidity, to so speak in a comparative sense, so that this joint may, by the friction of the corrugated surfaces in contact, be enabled to sustain the weight of the extended arms and reflector, even at the disadvantage of the leverage, and at the same time will permit the same to be moved about up and down freely.

The joints B B' are, respectively, vertical and horizontal pivots, forming thus at the reflector a universal joint, so that the said reflector may be moved about at any angle desired.

The arms C and C², it will be observed, proceed for a portion of their length vertically, while the intermediate arm, C¹, proceeds horizontally. By this construction the person using the reflector may stand with back to the glass and bring the reflector directly in front of himself, the supporting-arms passing over his head or shoulder.

Claims.

Having thus fully described the construction and operation of our invention, what we

claim, and desire to secure by Letters Patent, is—

1. The combination of the reflector A, universal joint B B', jointed arms C C¹ C², friction-joint E, and bracket G, constructed and operating substantially as specified.

2. The friction-joint E, consisting of the central corrugated limb, *b*, and the two outer cor-

rugated limbs, *i i'*, substantially as and for the purpose specified.

HENRY S. WOOD:
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Witnesses:

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H. F. BRUNS.