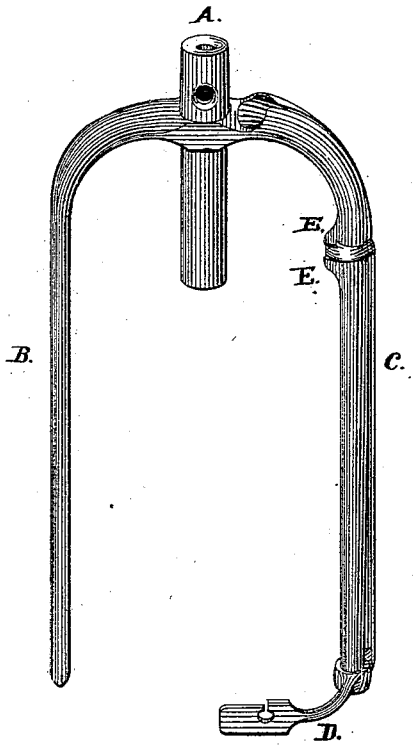
G. J. HAZARD.

Flier for Roving-Machines.

No. 213,196. Patented Mar. 11, 1879.



WITNESSES.

Henry C. Knight

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UNITED STATES PATENT OFFICE.

GEORGE J. HAZARD, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO PROVIDENCE MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN FLIERS FOR ROVING-MACHINES.

Specification forming part of Letters Patent No. **213,196**, dated March 11, 1879; application filed June 29, 1877.

To all whom it may concern:

Be it known that I, GEORGE J. HAZARD, of the city and county of Providence, in the State of Rhode Island, have invented a certain new and useful Improvement in Fliers for Roving-Machines; and I do hereby declare that the following specification, taken in connection with the drawing furnished and forming a part thereof, is a full, clear, and exact description of my said improvement.

My invention relates to such fliers as are provided on the hollow arm thereof with lugs, which afford bearings for the presser.

Prior to my invention these presser-lugs have always been separately constructed, and applied to the flier by the operations of brazing or soldering. In practical operation these lugs frequently get detached, thereby involving much waste of time in the removal of the flier for repairs or the substitution of a new one. The interior of the hollow arm of a flier is necessarily well finished for the smooth and easy passage of the roving, and this finishing must be done before the arm is bent and curved; but the lugs cannot be fitted and brazed or soldered until after the hollow arm has been finished inside, closed into its tubular form, and properly bent.

It is obvious that the high degree of heat incident to brazing and the use of acids incident to soldering are both conducive to the roughening of the interior smoothly-finished surface of the hollow arm adjacent to the lugs, said arm not being fully closed, but more or less open in a vertical line on its outer side, and thereby exposed to the action of fire and acids. On account of this roughening of the interior finish from these causes, such fliers frequently abrade and tear the roving, so as to render them practically worthless.

To obviate all these difficulties, as well as to lessen the cost of construction, my invention consists in a flier provided with presser-lugs, which are solidly formed upon and are a part of the metal of which the hollow arm of the flier is composed.

For the production of fliers of this novel construction I have devised a series of dies, which, by progressive operation, effect the proper shaping of the flier-arm prior to its being bent, and provide for the development of the solid lugs thereon.

To more particularly describe my invention I will refer to the accompanying drawing, in which a flier is shown embodying my invention.

The hub A and solid arm B are made as heretofore; but the hollow arm C differs from all others heretofore known, in that the lugs E E are composed of the same metal as the hollow arm and are integral therewith. These lugs afford a bearing, as heretofore, for the upper end of the presser D, and, being homogeneous with the metal of the hollow arm, they can never become displaced, as has heretofore in practice been a comparatively frequent occurrence.

Inasmuch as the bearing between the lugs must be milled and finished, I prefer to originally form them as if one long lug, and then separate them by the transverse cut of a milling-tool.

Fliers constructed in accordance with my invention are capable of longer service than those with soldered or brazed lugs; and the roving is not abraded by my fliers, on account of the unimpaired finish of the interior surface of the hollow arm.

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

A flier for roving-machines, provided with presser-lugs which are solidly formed upon and are a part of the metal of which the hollow arm of the flier is composed, substantially as described.

GEORGE J. HAZARD.

Witnesses:
WALTER B. VINCENT,
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