J. W. & E. W. KARN.

Device for Bending Sleigh-Runner Frames.

No. 165,103. Patented June 29, 1875.

Fig. 4

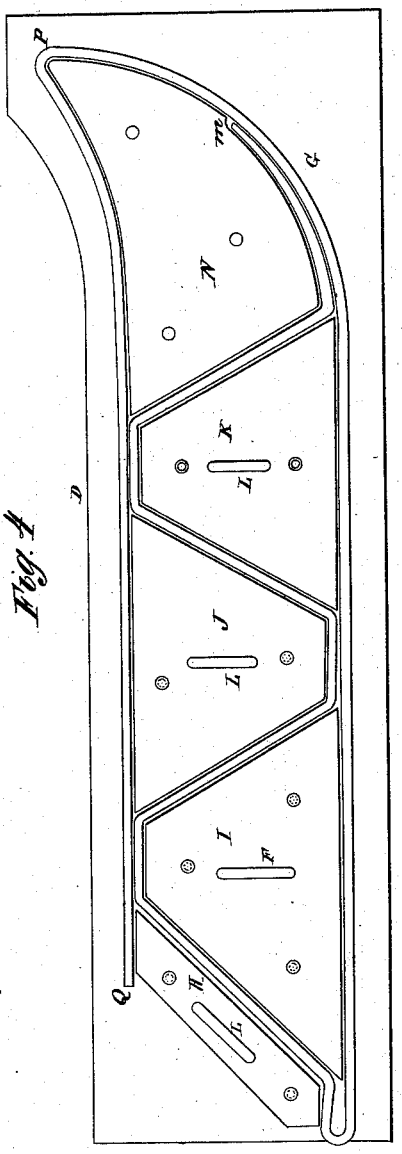


Fig. 6

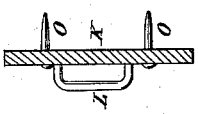
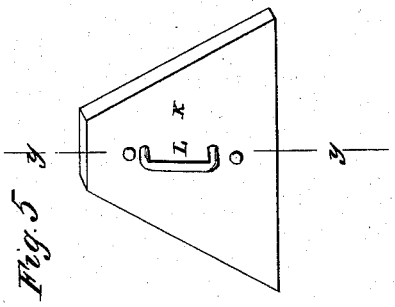


Fig. 5



WITNESSES:

A. W. Almqvist

A. F. Terry

INVENTOR:

J. W. Karn and

BY E. W. Karn

ATTORNEYS.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JACOB W. KARN AND EUGENE W. KARN, OF SENECA FALLS, NEW YORK.

IMPROVEMENT IN DEVICES FOR BENDING SLEIGH-RUNNER FRAMES.

Specification forming part of Letters Patent No. **165,103**, dated June 29, 1875; application filed May 13, 1875.

To all whom it may concern:

Be it known that we, JACOB W. KARN and EUGENE W. KARN, of Seneca Falls, in the county of Seneca and State of New York, have invented a new and Improved Former for Bending Sled-Frames; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a plan view of the former; Fig. 2, a detail of one of the segmental plates; Fig. 3, a section of Fig. 2 through line *y y*.

This invention relates to a device for forming or bending the iron in the construction of sleds; and it consists in a base-plate in combination with detachable segmental plates provided with dowel-pins and handles for placing and removing the same, the segmental plates forming, when placed upon the base-plate, a pattern around and between which the iron is bent to the required shape.

In the drawing, G represents the base-plate, and N, K, J, and I the segmental plates, each of which are provided with dowel-pins O, which fit into corresponding holes in the base-plate to hold them in position, and are also provided each with handles L, by means of which they may be placed or removed. The first one of these segmental plates is curved at its front end to correspond to the desired curvature of the runner, and is cut away at *m* to accommodate the doubled thickness of the iron. The other plates are of a trapezoid shape, of which the parallel sides form the horizontal parts of the frame.

In bending the iron into the required shape the plate N is inserted and the iron bent first at the cut-away portions at *m*. Plate L is then inserted and the bending continued with the successive insertion of plates until the end of the frame is reached. The iron is then bent with a loop and extended forward to form the runner, which is turned at P to form a nose, and is from thence extended to the rear as far as Q, when the operation is complete.

Having thus described our invention, what we claim as new is—

The base-plate G, provided with holes, in combination with the detachable segmental plates having dowel-pins O and handles L, substantially as and for the purpose described.

JACOB W. KARN.
EUGENE W. KARN.

Witnesses:
JASPER N. HAMMOND,
BURROUGHS T. WARN.