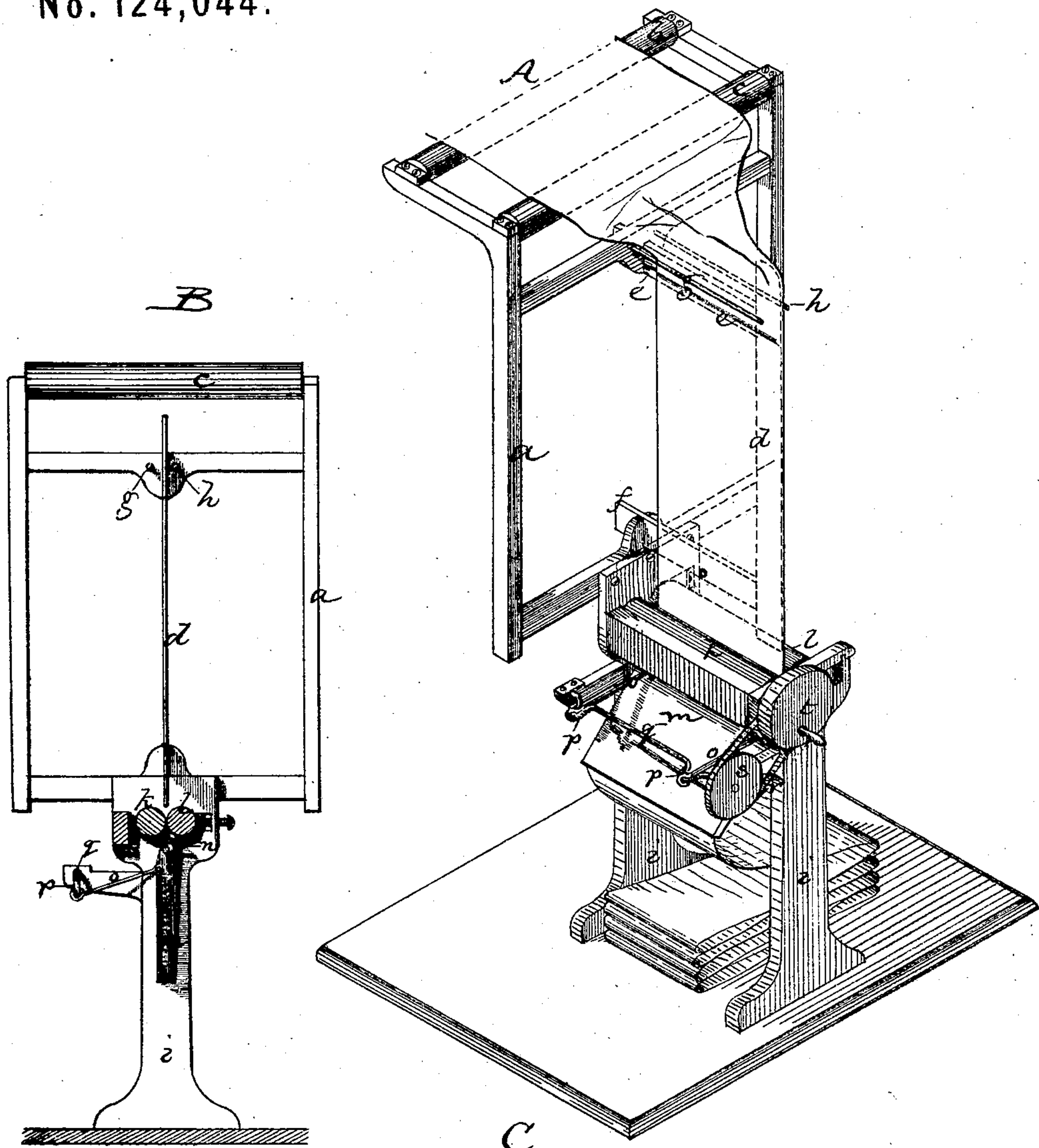
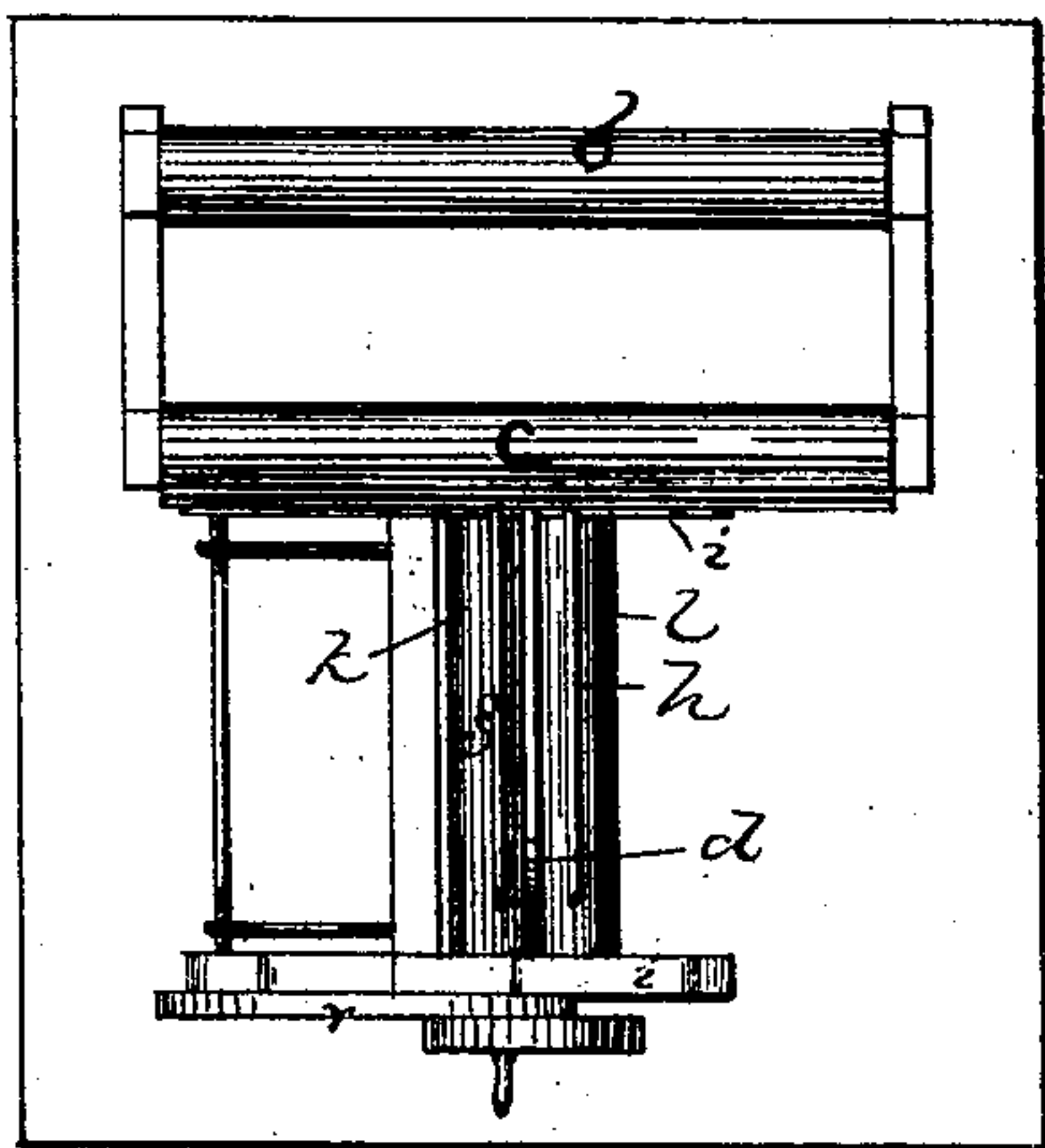


J. W. FARWELL.
 Cloth Doubling and Folding Machines.
 No. 124,044. Patented Feb. 27, 1872.



Witnesses.
 M. W. Frothingham.
 S. B. Kilders.



John W. Farwell,
 By his Atty.
 Crosby & Gould

UNITED STATES PATENT OFFICE.

JOHN W. FARWELL, OF LEWISTON, MAINE.

IMPROVEMENT IN CLOTH-DOUBLING AND FOLDING MACHINES.

Specification forming part of Letters Patent No. 124,044, dated February 27, 1872.

To all whom it may concern:

Be it known that I, JOHN W. FARWELL, of Lewiston, in the county of Androscoggin and State of Maine, have invented an Improvement in Cloth-Doubling and Folding Machines; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to an improved method of doubling cloth, or to the organization of a cloth-doubling machine.

In my machine I lead the cloth (at its full width) over a guide-roll at the top of the machine, and from the front roll it passes over the top and down at the front of a vertical guide or "sword," the cloth being doubled at its center over the front edge of this sword, each part or side of the cloth passing between a horizontal guide-bar at the top of the sword and an adjacent rod or finger. The two edges of the cloth are brought together and kept together by the attendant standing behind the machine and reaching through an open frame; and the cloth thus doubled passes down and between two presser and feed rolls, and into and through a flat metal tube or rigid tube suspended under the rolls, said tube being hung at its upper end and having a swinging movement, so that, as the doubled cloth emerges from its lower end, it is laid in a pile of alternate folds, right-angular to its central fold. By such an arrangement it will be seen that the cloth is piled directly after being doubled, or without any intermediate guiding, which would tend to disturb the relation of the two doubled parts.

My invention consists in the combination or arrangement of an upper or horizontal guide-roll or bar, a vertical sword or doubling-edge at the front of and below the plane of said guide bar or roll, two horizontal guide-fingers near the upper end of the sword, two feed and draw rolls under the sword, and a vi-

brater or vibrating tube under said rolls, the cloth passing over the upper roll and down at the front of the sword, over the edge of which it is bent, (its two doubled parts passing between the fingers of the bar at the top of the sword,) and thence through the feed-rolls at the foot of the sword, by which rolls it is delivered into the vibrating tube, through which it passes, and by which it is laid in a pile, so that, as it passes directly down from the doubling mechanism, it is laid in the alternate loose folds, or is formed into a regular pile.

The drawing represents a machine embodying the invention.

A shows the machine in perspective. B is a vertical cross-section of it. C is a plan of it.

a denotes an open frame, at the top of which one or two guide bars or rolls, *b c*, are placed. *d* denotes a vertical bar (called a sword) placed or set at a distance in front of the frame *a* about half of the width of the cloth to be doubled, the sword being attached to the frame by two bars, *e f*, and being preferably made adjustable forward or back, for cloth of various widths. Near the upper bar *e*, and parallel to it, two rods or fingers, *g h*, extend from the frame *a*, said fingers serving to bring the two parts of the cloth together, (as the cloth is fed down,) when the end of the cloth has been folded over the front edge of the sword, and the two sides or parts are entered between the respective fingers and the adjacent surfaces of the bar *e*. The frame *a* is mounted on the top of one of two standards or uprights, *i*, and in the upper ends of these standards two feed-rolls, *k l*, are journaled, said rolls being directly under and parallel with the bar *e*. Just under these rolls is suspended the vibrater *m*, which is preferably made as a flat tube, of a length and width just sufficient to permit the doubled cloth to pass freely through it. The vibrater is hung at its top, as seen at *n*, and, at a short distance below, it is connected by two links, *o*, with two cranks, *p*, of a crank-shaft, *q*, which shaft may be driven by a belt, *r*, running over

a pulley, *s*, on the crank-shaft and a pulley on the shaft *t* of one of the feed-rolls, so that, as the cloth is fed through by the rolls, the swinging movement imparted to the vibrater lays the doubled cloth in a pile, as seen at *A*. One of the feed-rolls may be journaled in sliding bearings pressed toward the other roll by suitable springs, the stress of which may be regulated by set-screws.

I claim—

The combination of the guide-rolls, guide-fingers, sword, draw-rolls, and vibrater, when arranged to operate substantially as described.

JOHN W. FARWELL.

Witnesses:

FRANCIS GOULD,
M. W. FROTHINGHAM.