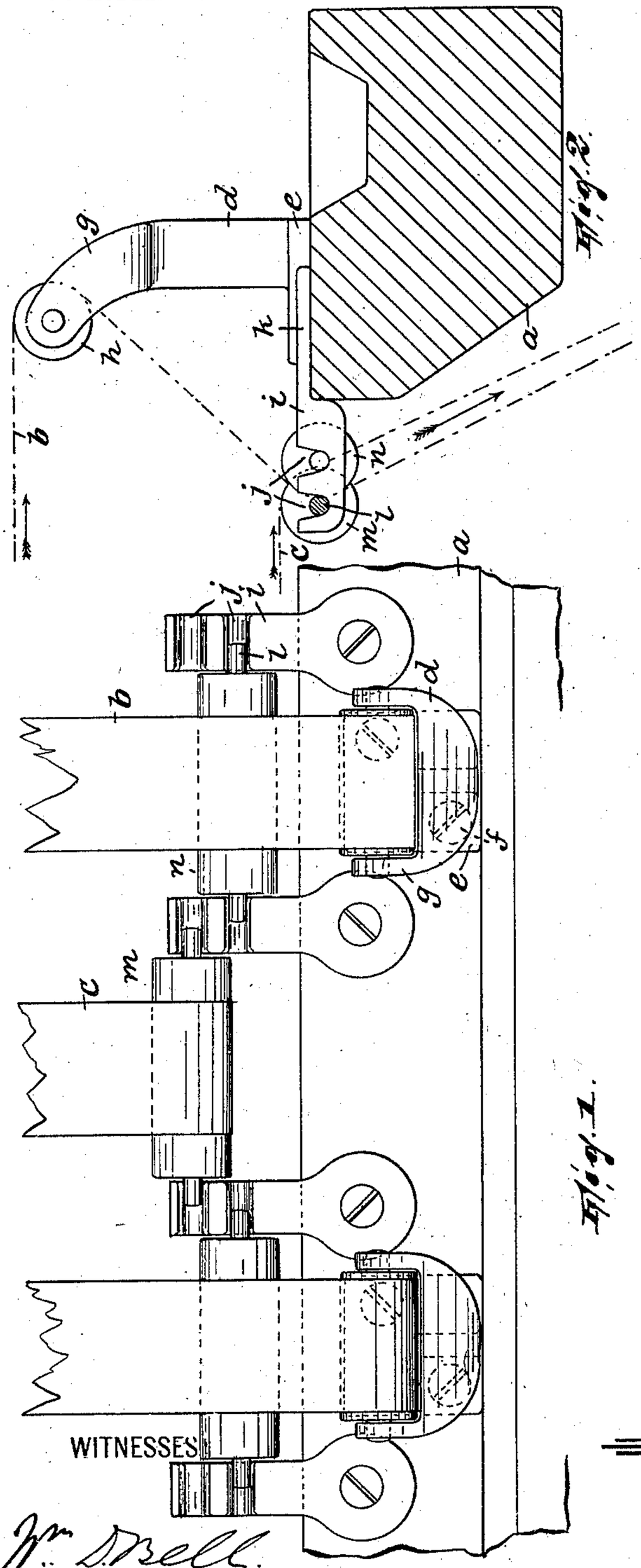
No. 748,274. PATENTED DEC. 29, 1903.

J. FRANK & F. BENZ, JR.

WEB SUPPORTING OR GUIDING MEANS FOR NARROW WARE LOOMS.

APPLICATION FILED APR. 28, 1903.

NO MODEL. 2 SHEETS—SHEET 1.



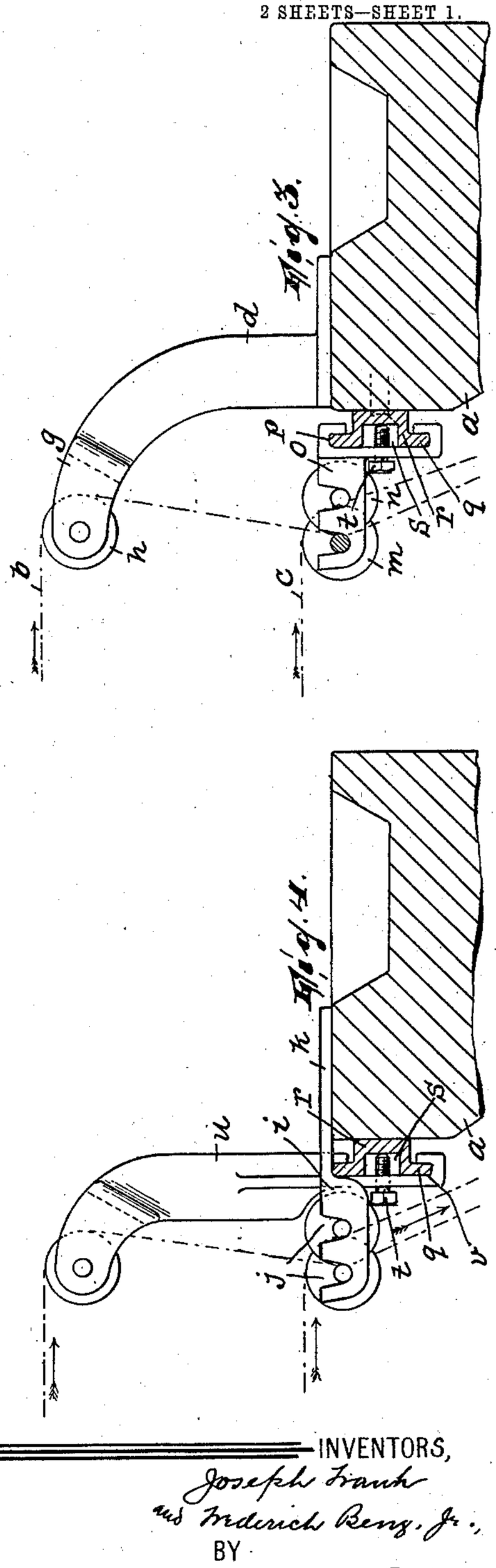


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES:

W^m. D. Bell.

Robert J. Pollitt.

INVENTORS,

Joseph Frank

and Frederick Benz, Jr.,

BY

Gartner & Howard,

ATTORNEYS.

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NO MODEL. 2 SHEETS—SHEET 2.

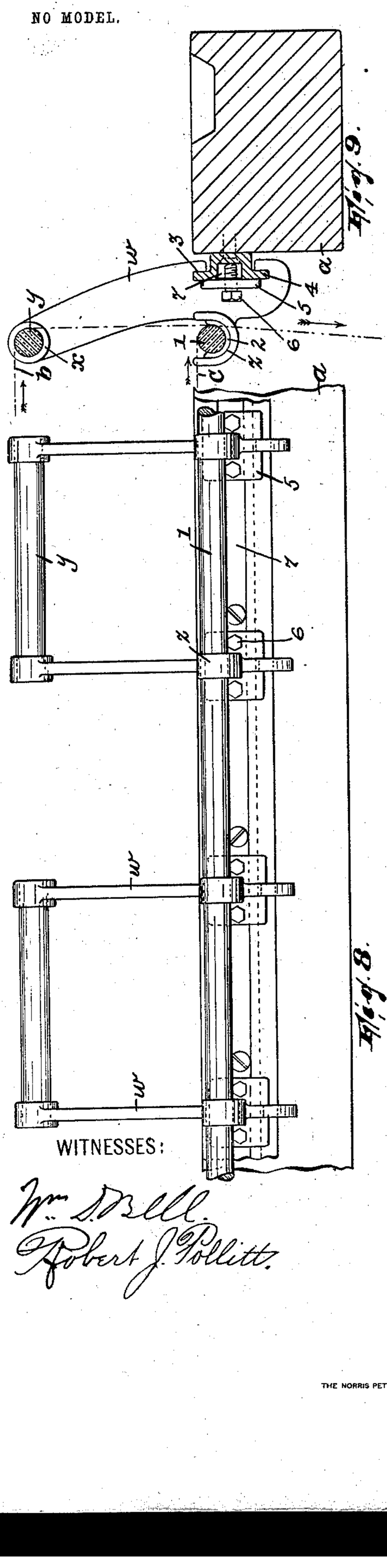

Fig. 8.

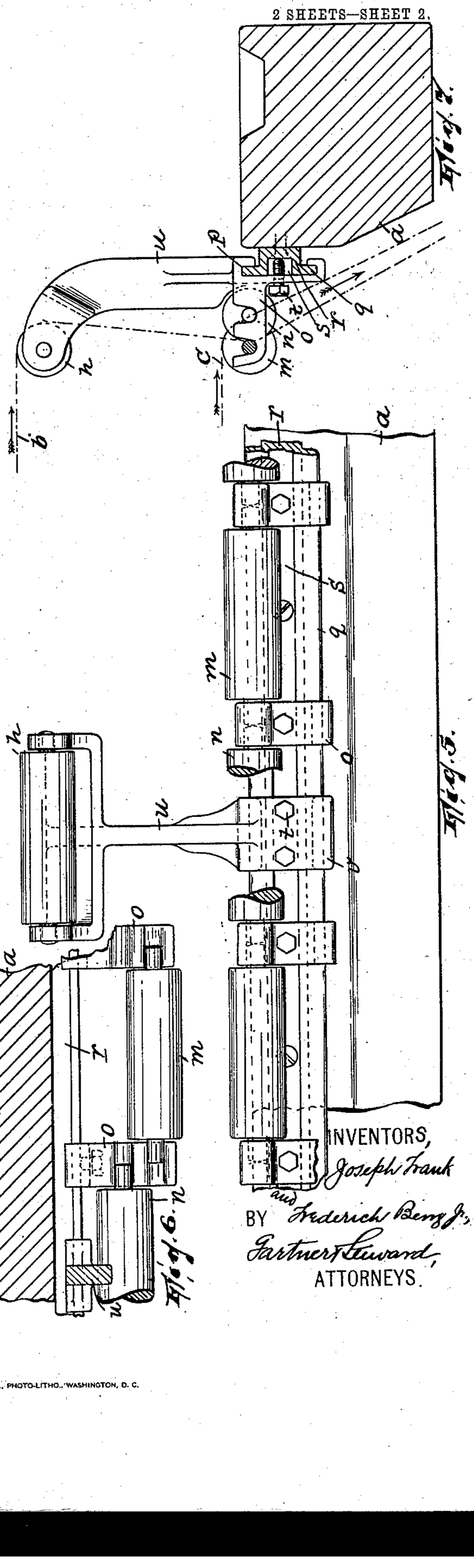

Fig. 9.

Fig. 7.

Fig. 6.

WITNESSES:

Wm. D. Bell.

Robert J. Pollitt.

INVENTORS,

Joseph Frank

and Frederick Benz Jr.,

BY Fartner & Steward,

ATTORNEYS.

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UNITED STATES PATENT OFFICE.

JOSEPH FRANK, OF NEW YORK, N. Y., AND FREDERICK BENZ, JR., OF HALEDON, NEW JERSEY, ASSIGNORS TO FRANK & DUGAN, OF PATERSON, NEW JERSEY, A FIRM.

WEB SUPPORTING OR GUIDING MEANS FOR NARROW-WARE LOOMS.

SPECIFICATION forming part of Letters Patent No. 748,274, dated December 29, 1903.

Application filed April 28, 1903. Serial No. 154,613. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH FRANK, residing in the city, county, and State of New York, and FREDERICK BENZ, Jr., residing at Haledon, county of Passaic, and State of New Jersey, citizens of the United States, have invented certain new and useful Improvements in Web Supporting or Guiding Means for Narrow-Ware Looms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to ribbon-looms; and it has reference particularly to ribbon-looms of the type known to the trade as "double-decker" looms—that is to say, looms in which the capacity is increased by providing for carrying on the weaving in two or more superposed planes. In this class of looms it is usual to pass the finished goods over continuous parallel glass rods or bars secured to the breast-beam. Owing to the fact that the glass bars are continuous throughout the length of the breast-beam, accessibility to the ribbons by the weaver for whatever purpose is not as easy as it might be.

Besides other objects to be hereinafter pointed out this invention has therefore for its object to arrange the means over which the ribbon passes at the breast-beam so that full accessibility to the goods is at all times possible.

The invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of the breast-beam and the parts constituting our invention. Fig. 2 is an end elevation of what is seen in Fig. 1. Figs. 3 and 4 illustrate modifications, certain corresponding brackets being in the one modification fixed, while in the other they are adjustable. Fig. 5 is a view in front elevation of still another modified form of the invention, the brackets in this case being both adjustable. Figs. 6 and 7 are respectively a top plan and end view of what is shown in Fig. 5; and Figs. 8 and 9 show a still further modification, two brackets in this case being combined into one and the whole being adjustable.

In said drawings, *a* designates the breast-beam, and *b* and *c* the ribbons.

In order to permit that full accessibility to the goods which it is above stated is desired, each ribbon according to the present invention is passed over an individual guiding element at the breast-beam.

As shown in Figs. 1 and 2, *d* is a bracket whose lower end is formed as a base *e*, fixed to the top of the breast-beam, as by screws *f*, and whose upper end is forked, as at *g*, and carries a horizontal roller *h*, over which one of the ribbons *b* passes. *i* is a horizontal bracket, which is preferably provided with two transverse channels *j*, forming bearings, and which has a plate *k* whereby the bracket is fixed against the upper face of the breast-beam. In corresponding channels *j* of each two brackets *i* are journaled the trunnions *l* of a roller *m n*. In one pair said trunnions are journaled in the innermost channels, while in the next pair they are journaled in the outermost channels, so that the effect throughout the series of brackets is a staggered arrangement of the rollers. Over the rollers *m* extend the ribbons *c*, while over the rollers *n* extend the ribbons *b* after they leave rollers *h*. Ribbons *b* and *c* thus engage rollers *n* and *m* on relatively opposite sides.

As illustrated in Fig. 3, the brackets for rollers *m n* are adjustable, (those for ribbons *b* remaining fixed, as in Figs. 1 and 2.) Each bracket *o*, which is transversely channeled the same as the bracket *i*, is formed with a socket *p*, which receives the web portion *q* of a T-rail *r*, secured to the rear face of the breast-beam. The outer face of the T-rail is formed with a longitudinal channel *s*, which receives a set-screw *t*, carried by the bracket and adapted to be set against the T-rail, so as to bind the bracket in any desired position.

In the construction shown in Fig. 4 each bracket for the ribbon *b* is rendered adjustable, (the other bracket, *i*, remaining fixed, as in Figs. 1 and 2.) Each bracket *u* for ribbons

b in this instance is provided with a socket *v*, which receives the web portion *q* of the T-rail *r*, said bracket carrying the set-screw *t*, taking against the rail in the longitudinal groove *s* thereof.

As shown in Figs. 5, 6, and 7, the brackets for both the ribbons *b* and *c* are arranged adjustably. Each bracket is substantially like the corresponding one in Figs. 3 and 4, where in said figures the bracket referred to is adjustable.

As shown in Fig. 8, each bracket *w* does the double work of coacting to sustain both a ribbon *b* and a ribbon *c*. The upper end of the bracket is formed with a socket *x*, adapted to receive a rod *y*, whose length is approximately the same as the distance between each two brackets. Only alternating pairs of brackets carry the rods *y*, so that the remaining spaces between the brackets are clear. The lower end portion of the bracket is formed with a socket *z*, receiving a glass bar 1, which may without inconvenience so far as the lower ribbon *c* is concerned extend throughout the length of the breast-beam continuously. 2 designates a lining for the bracket, of soft material, such as paper, adapted to protect the glass bar against abrasion. The bracket is formed with another socket, 3, which receives a T-rail 4, secured to the rear face of the breast-beam, and it has webs 5, carrying set-screws 6, adapted to take against the surface of the rail in a longitudinal groove 7 thereof.

Our arrangement of the means for holding the ribbons at the breast-beam is not only advantageous in that it facilitates accessibility to the ribbons and to the adjacent parts of the loom, but in that it permits of arranging the ribbons in much closer disposition, while at the same time all the advantages that are derived from providing each ribbon with its individual holding means are retained.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a loom for weaving a plurality of webs simultaneously, the combination of a breast-beam and means for sustaining the finished webs at the breast-beam in two or more superposed planes, said means comprising two sets of individual supports for the webs and one of said sets of supports having relatively staggered web-engaging portions, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands this 24th day of April, 1903.

JOSEPH FRANK.
FREDERICK BENZ, JR.

Witnesses:
JAMES B. NEWTON,
JOHN W. STEWARD.