

No. 668,679.

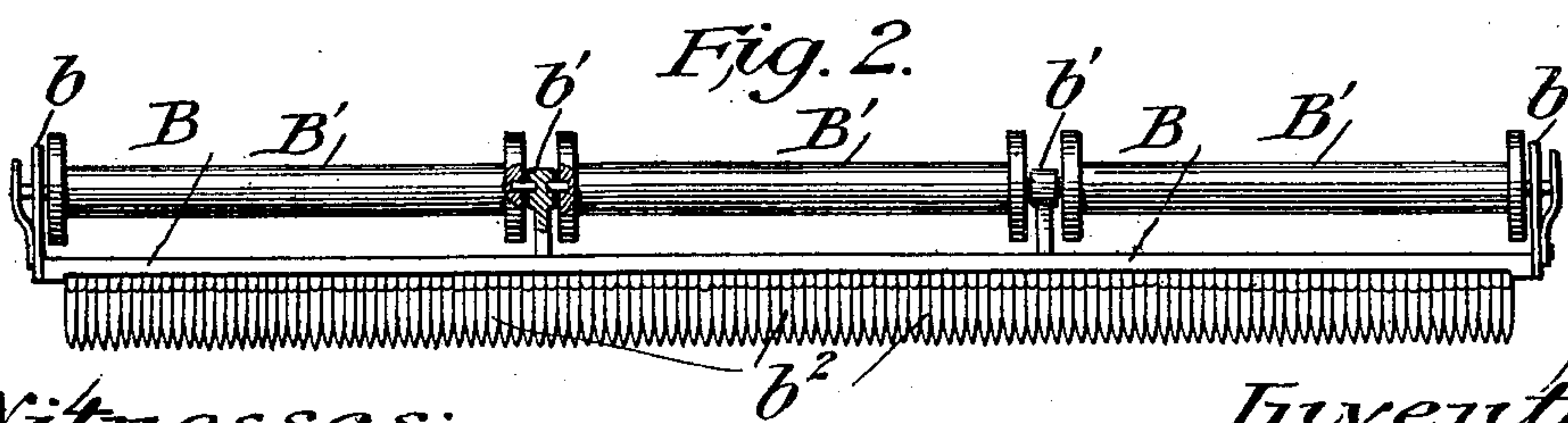
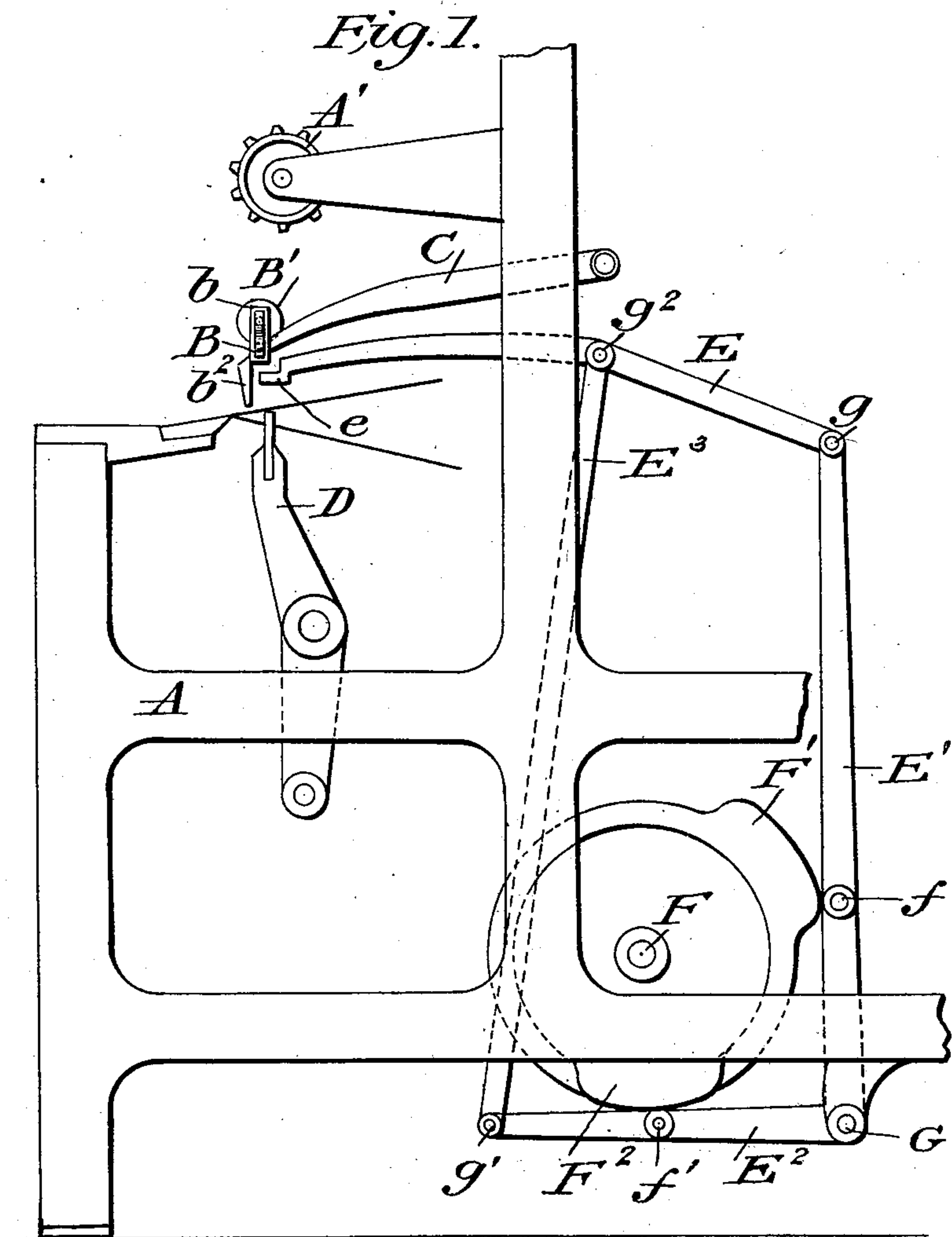
Patented Feb. 26, 1901.

J. I. COLLINS.

LOOM FOR WEAVING TUFTED PILE FABRICS.

(Application filed Feb. 17, 1900.)

(No Model.)



Witnesses:

W. H. Searcy,

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James Irven Collins

# UNITED STATES PATENT OFFICE.

JAMES IRVEN COLLINS, OF AMSTERDAM, NEW YORK, ASSIGNOR TO  
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## LOOM FOR WEAVING TUFTED PILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 668,679, dated February 26, 1901.

Application filed February 17, 1900. Serial No. 5,596. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES IRVEN COLLINS, of the city of Amsterdam, county of Montgomery, and State of New York, have invented a new and useful Improvement in Looms for Weaving Tufted Pile Fabrics, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in looms for weaving tufted pile fabrics of the moquette-carpet variety; and its purpose is to enable the production of such fabrics having widths which cannot be woven upon looms of this class as ordinarily constructed. As is well known in this art, the width of the fabric is limited to the length of the tuft-yarn beam and its carrying-frame. This frame and its beam are necessarily of very light construction, and when the length of the frame is extended beyond a definite limit it has been found that the frame, together with its beam, developed a tendency to sag, and thus cause an uneven feeding of the tuft-yarns carried by the beam.

By my invention the objection hereinbefore noted is obviated, and as a means to attain this end I employ a suitable mechanism which serves to support the tuft-yarn-carrying frame at a point or points intermediate its ends while the frame is being transferred from the spool-chains to the place where the tufts are incorporated into the fabric.

A practical embodiment of my invention is represented in the drawings herewith, in which—

Figure 1 is a view at the right, showing parts of a loom, together with my invention applied thereto. Fig. 2 is a view in elevation of one of the tuft-yarn-spool frames employed in my invention.

A designates the main frame of the loom; A', one of the sprocket-wheels around which pass the chains for carrying the series of tuft-yarn-spool frames B employed in weaving this class of fabrics, and C is one of the transferring-arms employed to effect a transfer of the tuft-yarn-spool frames from the chains to the warps. D is the reed or comb employed for beating up the tufts and the wefts of the fabric. These parts are old and well known in the art.

The tuft-yarn-spool frame B may be of ordinary construction in so far as the spring-bearings  $b$  at the ends of the frame and the tuft-yarn tubes  $b^2$  are concerned. In the construction illustrated, however, I have provided intermediate bearings  $b'$ , so that the tuft-yarn-spool frame is adapted to support a plurality of tuft-yarn spools B'. The opposing ends of the spools B' are near to each other by reason of thin bearings  $b'$  being employed, so that the frame carries what is practically one spool of considerable length, the tuft-yarns carried by such spool being fed through the tubes  $b^2$ , which latter are arranged on the spool-frame B in an unbroken line. As thus constructed the said spool-frame, with its spools, if supported only at its ends, as is usual, would sag at the middle to such an extent that an uneven feeding of the tuft-yarns would occur, and consequently imperfect fabrics be produced.

In order to sustain the parts of the spool-frame in alinement, I have provided devices which support the spool-frame intermediate its ends at the time the tuft-yarns are being incorporated into the fabric. Such devices embrace the arm E, having at its front end a finger or lip  $e$ , which is designed to be brought under the spool-frame and afford the same a proper support at the necessary moment. This arm E has movements synchronously with the transferring-arms C. The shaft F is provided with a cam  $F'$ , adapted to act upon a roll  $f$ , carried by a lever  $E'$ , pivoted at G at the lower part of the loom. The upper end of this lever  $E'$  is pivoted at  $g$  to the rear end of the arm E. By means of the devices described a suitable longitudinal movement is given to the arm E. Mounted also on the shaft F is a cam  $F^2$ , which acts upon a roll  $f'$ , carried by a lever  $E^2$ , the latter being also pivoted at the point G at the lower side of the frame. The free end of the said lever  $E^2$  is connected at  $g'$  to the lower end of a link  $E^3$ , the upper end of which is pivoted at  $g^2$  to the arm E at a point intermediate its ends, whereby the necessary vertical movements are imparted to the arm E.

I have described a loom as provided with a single supporting-arm E, designed to sustain the tuft-yarn-spool frame at its center;



but it is to be understood that my invention is not to be limited to a spool-frame thus supported, for obviously such spool-frame might be supported at more than one point in its  
5 length if found necessary or desirable.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a loom for weaving tufted pile fabrics, the combination of a tuft-yarn-spool frame  
10 carrying a plurality of tuft-yarn spools arranged end to end, with arms to effect trans-

fer of such spool-frame, and an arm to support such spool-frame at a point intermediate its length while being transferred, substantially as described.

In testimony whereof I have hereto signed my name in the presence of two subscribing witnesses.

JAMES IRVEN COLLINS. [L. s.]

Witnesses:

W. H. SEALEY,

CHAS. A. KENWORTHY.

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