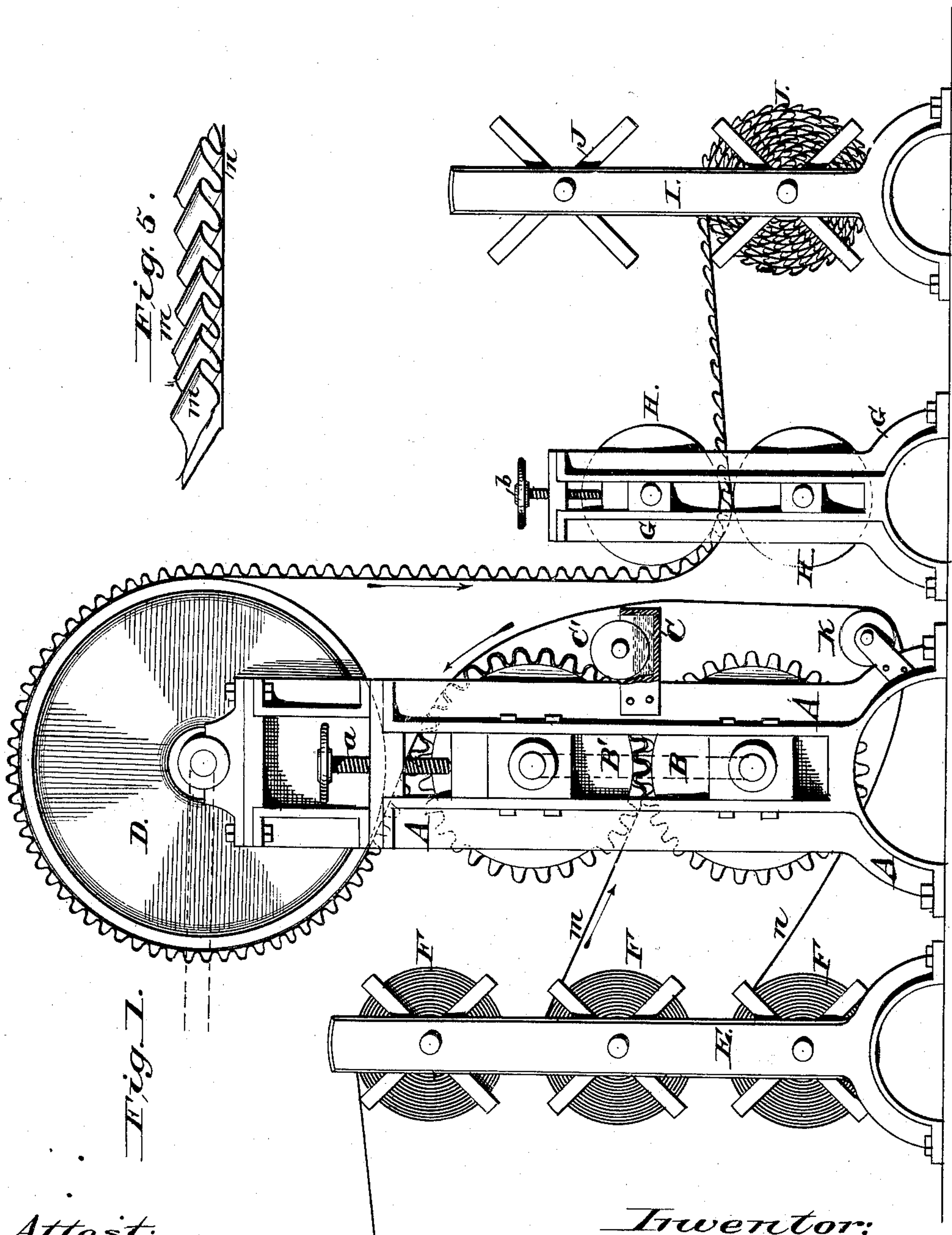


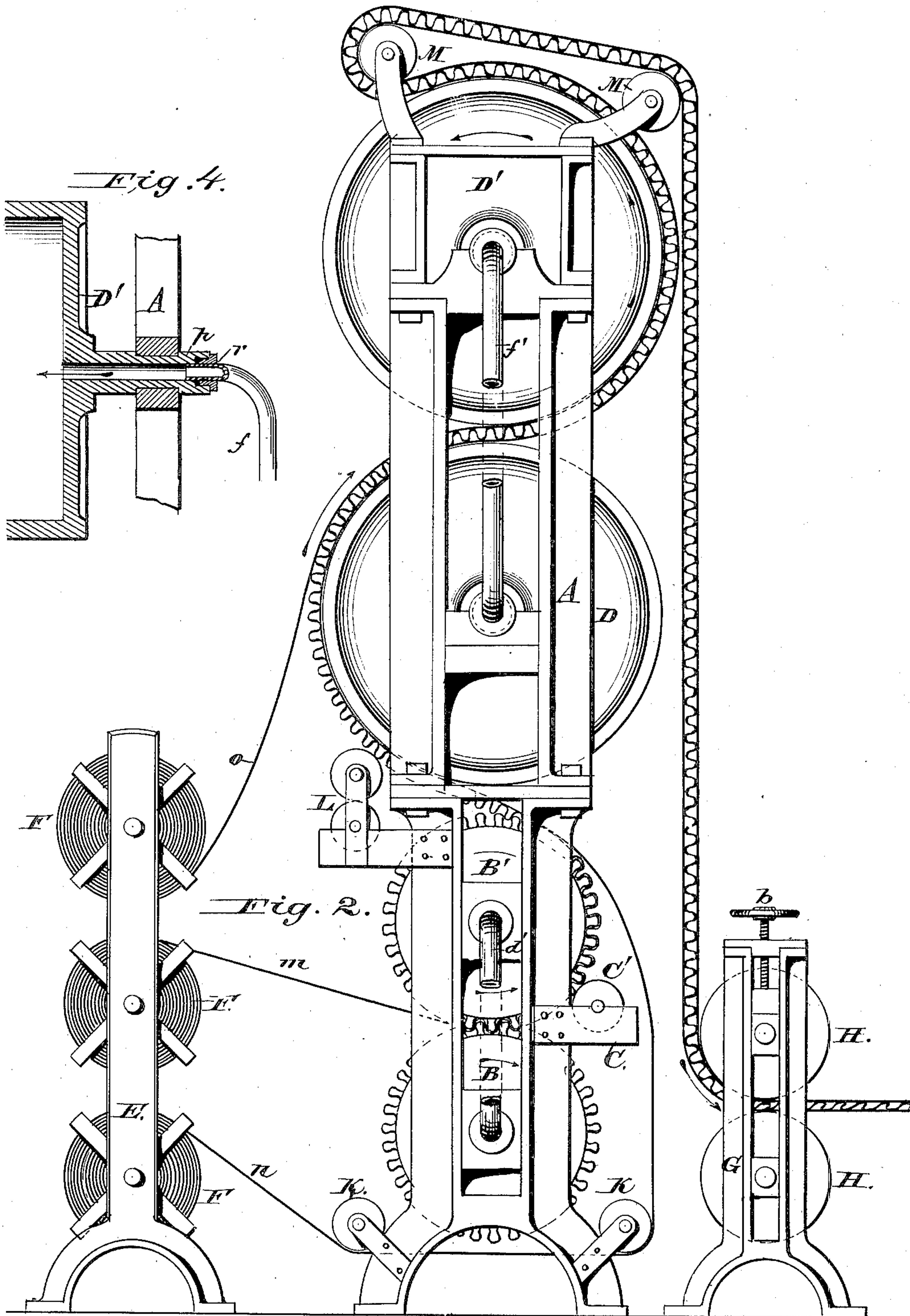
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Machine for the Manufacture of Carpet-Lining.
No. 212,723. Patented Feb. 25, 1879.



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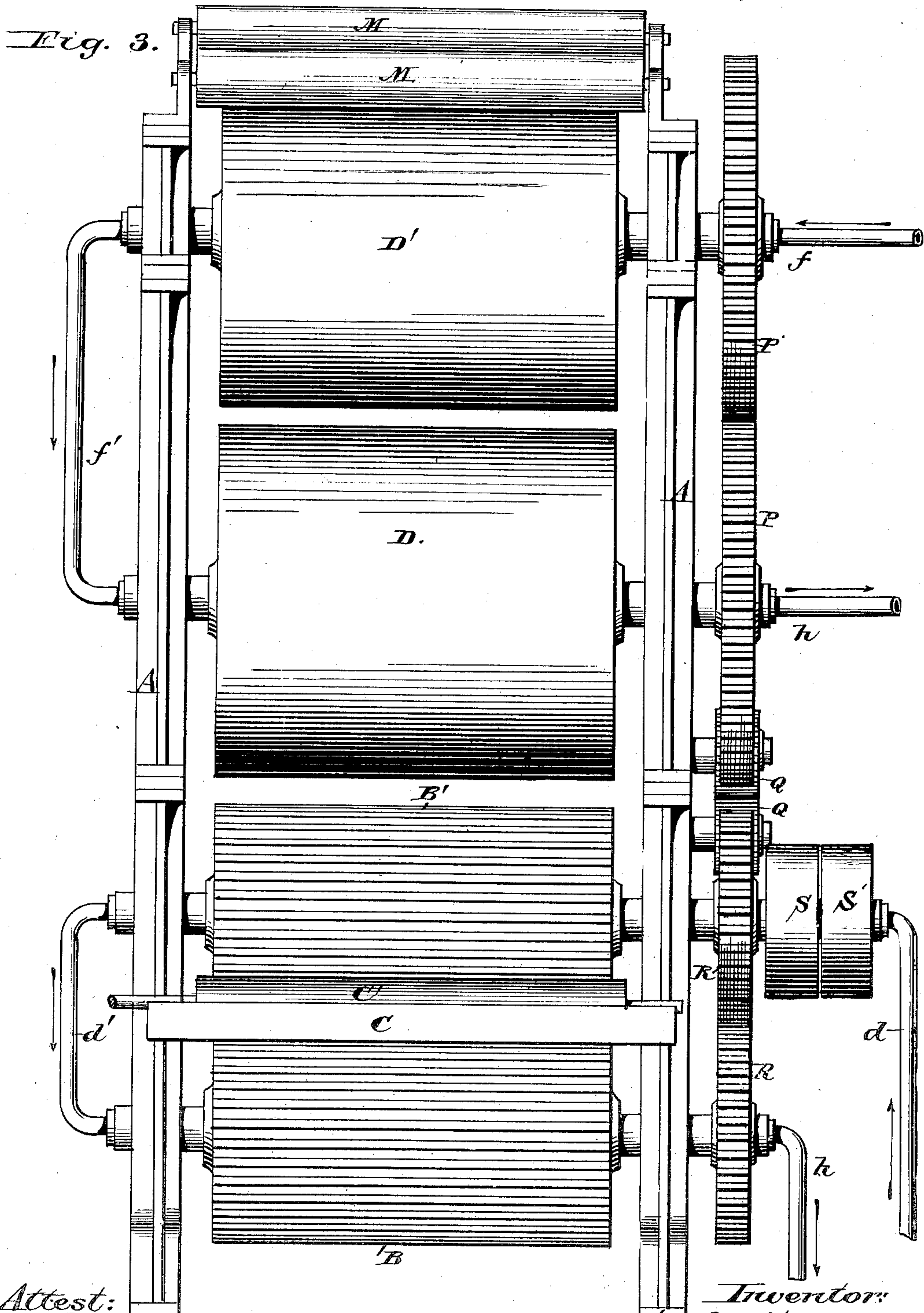
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UNITED STATES PATENT OFFICE.

HARRISON B. MEECH, OF CHATHAM VILLAGE, NEW YORK.

IMPROVEMENT IN MACHINES FOR THE MANUFACTURE OF CARPET-LININGS.

Specification forming part of Letters Patent No. **212,723**, dated February 25, 1879; application filed January 11, 1879.

To all whom it may concern:

Be it known that I, HARRISON B. MEECH, of Chatham Village, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Machines for the Manufacture of Carpet-Linings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to machines for producing in continuous sheets an elastic carpet-lining, consisting of a sheet of plaited, folded, or bent paper, or other suitable flexible material, having attached in one or both sides a flat sheet or sheets of paper, or other suitable flexible material.

The invention consists in the combination of means, substantially such as hereinafter described, whereby the sheet designed to impart elasticity is produced continuously and united to a continuous flat sheet or sheets.

Figure 1 is a side elevation of this improved machine. Fig. 2 is a side elevation of a modification thereof. Fig. 3 is a rear elevation of Fig. 2. Fig. 4 is a section through one of the hollow journals of one of the drying-cylinders, showing the manner in which steam is admitted to the cylinders for heating the same. Fig. 5 is a section of one form of carpet-lining made by this machine.

A in the drawings represents the supporting-standards or frame of the central or main portion of the machine. B B' are two fluting-rollers, which have their bearings in movable boxes in said frame. These rollers are corrugated or fluted, being provided with longitudinal ribs and grooves, and arranged to mesh into each other, as shown. Sufficient space is left between the interlocking surfaces of the respective rollers to allow of a free movement of the paper passed between them. The upper roller may be adjustable by means of the screws *a*, and steam may be admitted to the rollers through their journals after the manner shown in Fig. 4, or by any well-known means. Attached to one side of the frame, between the fluting-rollers, is a paste-trough, C, for con-

tainning paste, provided with a paste-roller, C'. Above the fluting-rollers, having its bearings in the same frame, is the drying-cylinder D, into which steam is admitted through the shafts of the journals.

In front of the part just described is an upright stand or frame, E, supporting the reels F, which contain paper as it comes from the paper-making machine. On the opposite side of the frame supporting the fluting-rollers is an upright frame, G, supporting a pair of pressure-rollers, H, the journals of which, or of one of which, rest in movable boxes in slots of the frame. These rollers may have steam or hot air admitted to heat them, the same as the fluting-rollers and drying-cylinders. The pressure of these rollers may be regulated by set-screws *b*. Beyond the pressure or plaiting rollers is a pair of upright standards, I, supporting reels J, upon which the product of the machine is wound.

The shafts of the pressure-rollers H H are provided at one end with fixed or expansive gearing, and may be driven by a belt extending from a pulley on the shaft of one of them to a pulley on a shaft of one of the fluting-rollers or drying-cylinders, or to a pulley on a countershaft above.

The feeding-reels may be operated by the draft of the paper sheets, or may be provided with actuating mechanism. The paste-rollers may be operated by the friction of the paper sheet or of the fluting-rollers, or by independent actuating mechanism. The winding-reels will be operated in the usual manner of operating winding-reels, and may have their speed graduated to suit the increasing diameter of the roll.

The material for forming the carpet-lining generally consists of a thick heavy brown paper. The sheet *m* is unwound from one of the reels F and passed between the fluting-rollers, which form it into flutes. The heat of the rollers tends to set it in the shape thus formed. As it emerges from between the fluting-rollers it is carried upon the teeth of the upper roller, B', and the outer ribs of the flutes come in contact with the paste-roller C', which imparts paste thereto.

A sheet, *n*, passes under the fluting-rollers from another of the reels F, and under the

small roller, K, up on the opposite side of the machine, and over the top of the fluting-roller B', where it meets the fluted sheet *m* and rests upon the pasted ribs of the flutes thereof. The whole is then carried over the drying-cylinder D, where the paste is dried and the two sheets made to adhere.

The united sheets are passed down and between the pressure-rollers H, by means of which the flutes are partially compressed into plaits, as represented in Fig. 5, and the product thus formed is wound upon reels J. As thus formed the plaited sheet imparts elasticity, while the flat sheet gives strength and stability, preserving the plaits in their proper relations. The dust and dirt from the carpet will fall between the folds or plaits.

When it is desired to form an elastic lining having a flat covering on both sides, a supplementary drying-cylinder, D', Fig. 2, is arranged above the cylinder D, and a supplementary paste-box, L, provided with a paste-roller or paste-rollers, is placed in a position where the ribs of the opposite side of the fluted sheet will come in contact with the paste-roller.

A third sheet, *o*, from one of the feeding-reels, is carried up and applied to the opposite side of the fluted sheet in a manner similar to the application of the sheet *n*, the drying for this sheet being effected by said drying-cylinder D'. The united sheets thus formed are passed forward over the top of the said cylinder D' and carried back over the small rollers M, passed down to the pressure-rollers, and wound upon the winding-reels, as in the other instance.

The rollers and drying-cylinders are connected by gears and belts in such a manner that the material will be drawn through the machine uniformly and continuously.

Steam may be admitted to the fluting-rollers through the pipes *d d'*, and to the drying-cylinders through the pipes *f f'*, circulating back through pipes *h*; or independent supply and return pipes may be used for each roll and each cylinder. These pipes project through stuffing-boxes *r* into the ends of the hollow journals *p* of the rollers and cylinders.

P P are the gears for operating the drying-

cylinders. R R are the gears for operating the fluting-rollers. The driving-pulley S, with its accompanying loose pulley S', may be placed on the shaft of one of the fluting-rollers or drying-cylinders, and motion communicated to the other rolls and cylinders through suitably-adjusted gears or otherwise.

No claim is here made to the carpet-lining itself, that being described and claimed in a separate application filed January 22, 1879.

What is claimed as the invention is—

1. In machine for making carpet-lining from two or more sheets of fabric, the combination of a pair of fluting-rollers for fluting one of the sheets, a pair of pressure-rollers for compressing or partially compressing the flutes to plaits or folds, mechanism for actuating the same, means for applying paste or other adhesive substance to unite the folded and flat sheets, and mechanism for supplying said flat sheet, substantially as described.

2. The combination of feeding-reels, fluting-rollers, pressure-rollers, and winding reel with suitable actuating mechanism, substantially as described.

3. The combination of fluting-rollers, a device or devices for applying paste to the ribs of the fluted sheet, a drying-cylinder, and suitable actuating mechanism, substantially as described.

4. The combination of fluting-rollers, a device or devices for applying paste to the ribs of the fluted sheet, a drying-cylinder, pressure-rollers, and suitable actuating mechanism, substantially as described.

5. The combination of fluting-rollers, a device or devices for applying paste to the ribs of one side of the fluted sheet, a drying-cylinder, a device or devices for applying paste to the ribs of the opposite side of the fluted sheet, a supplementary drying-cylinder, and suitable actuating mechanism, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HARRISON B. MEECH.

Witnesses:

FORMAN WHITNEY,
I. A. THOMPSON.