

(No Model.)

4 Sheets—Sheet 1.

J. P. JAMISON.

MACHINE FOR EMBOSSING PAPER, WOOD, &c.

No. 374,253.

Patented Dec. 6, 1887.

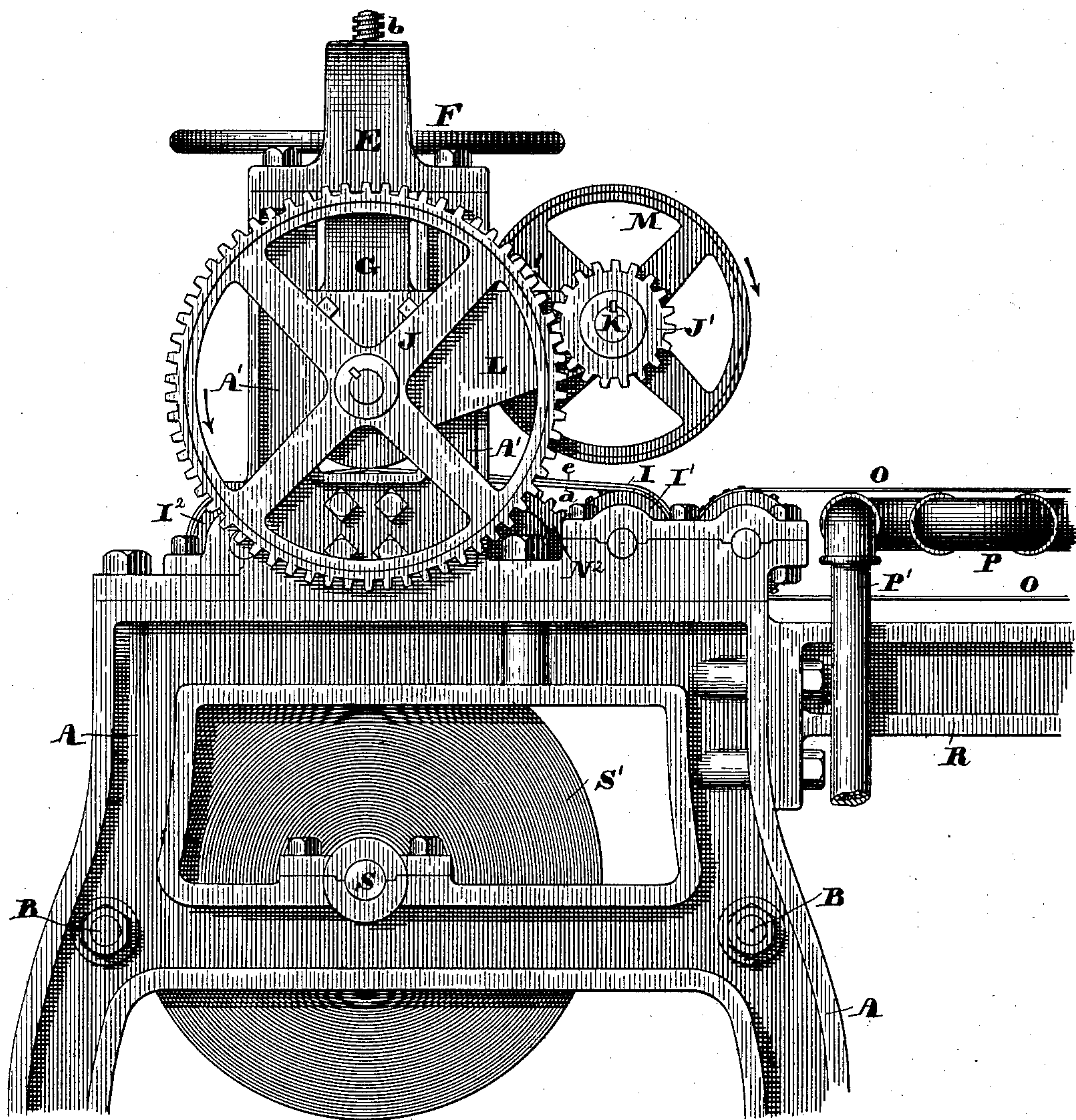


Fig. 1.

Witnesses:

Walter E. Lombard
William L. Barry

Inventor:

John P. Jamison,
by N. C. Lombard
Attorney.

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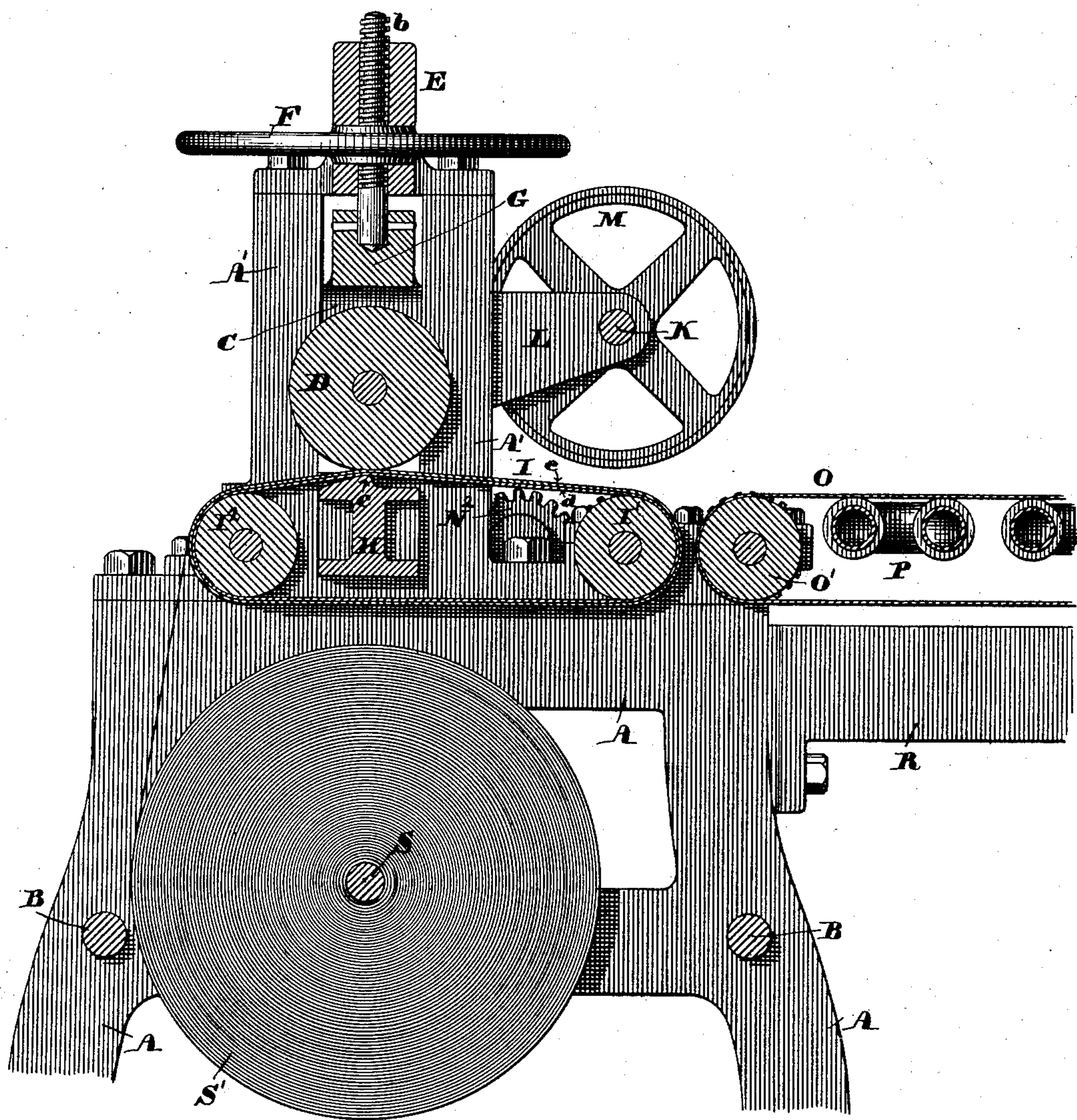


Fig. 2.

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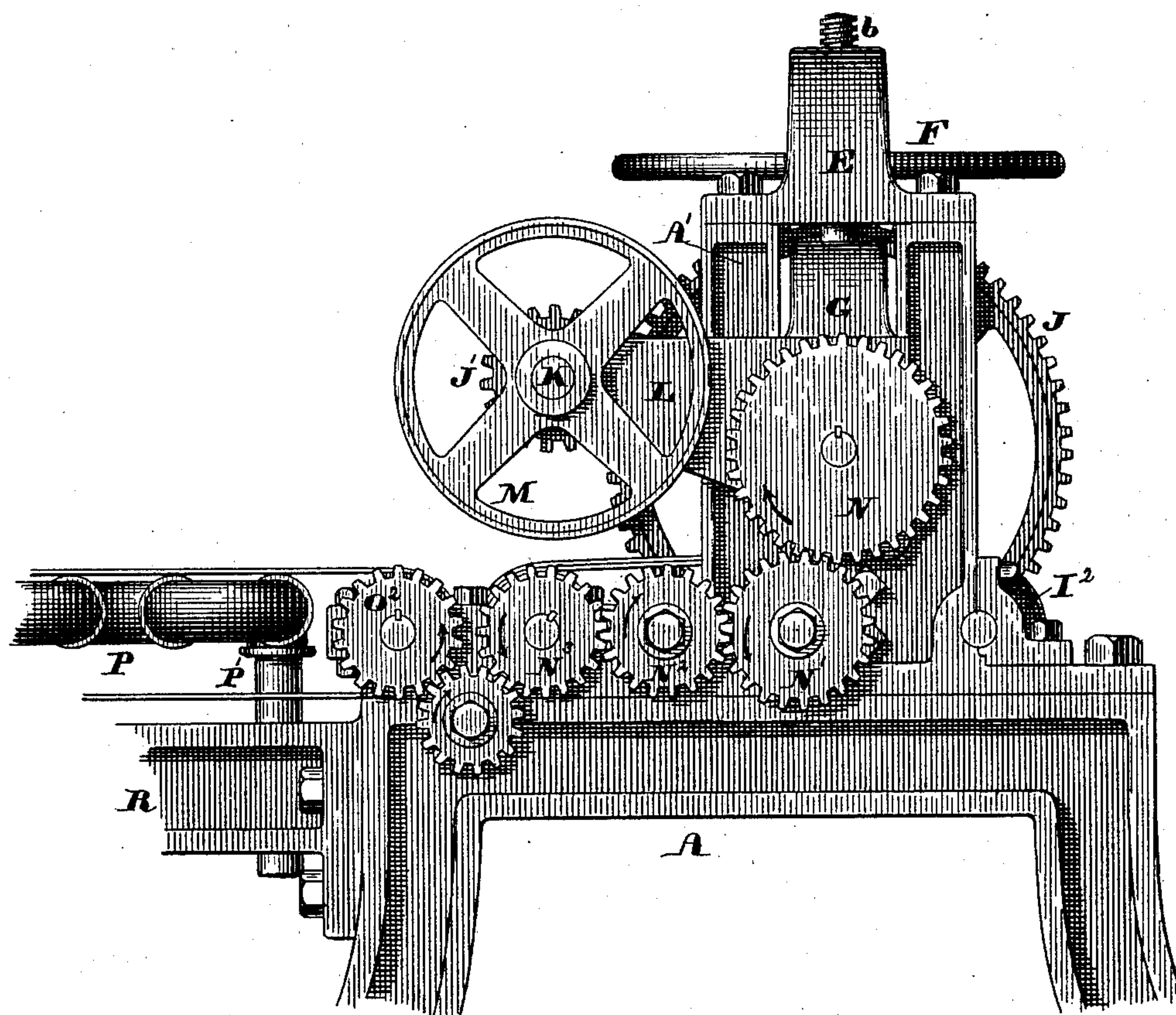


Fig. 3.



Fig. 5.

Witnesses:

Walter E. Lombard.
William H. Barry

Inventor:

John P. Jamison,

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(No Model.)

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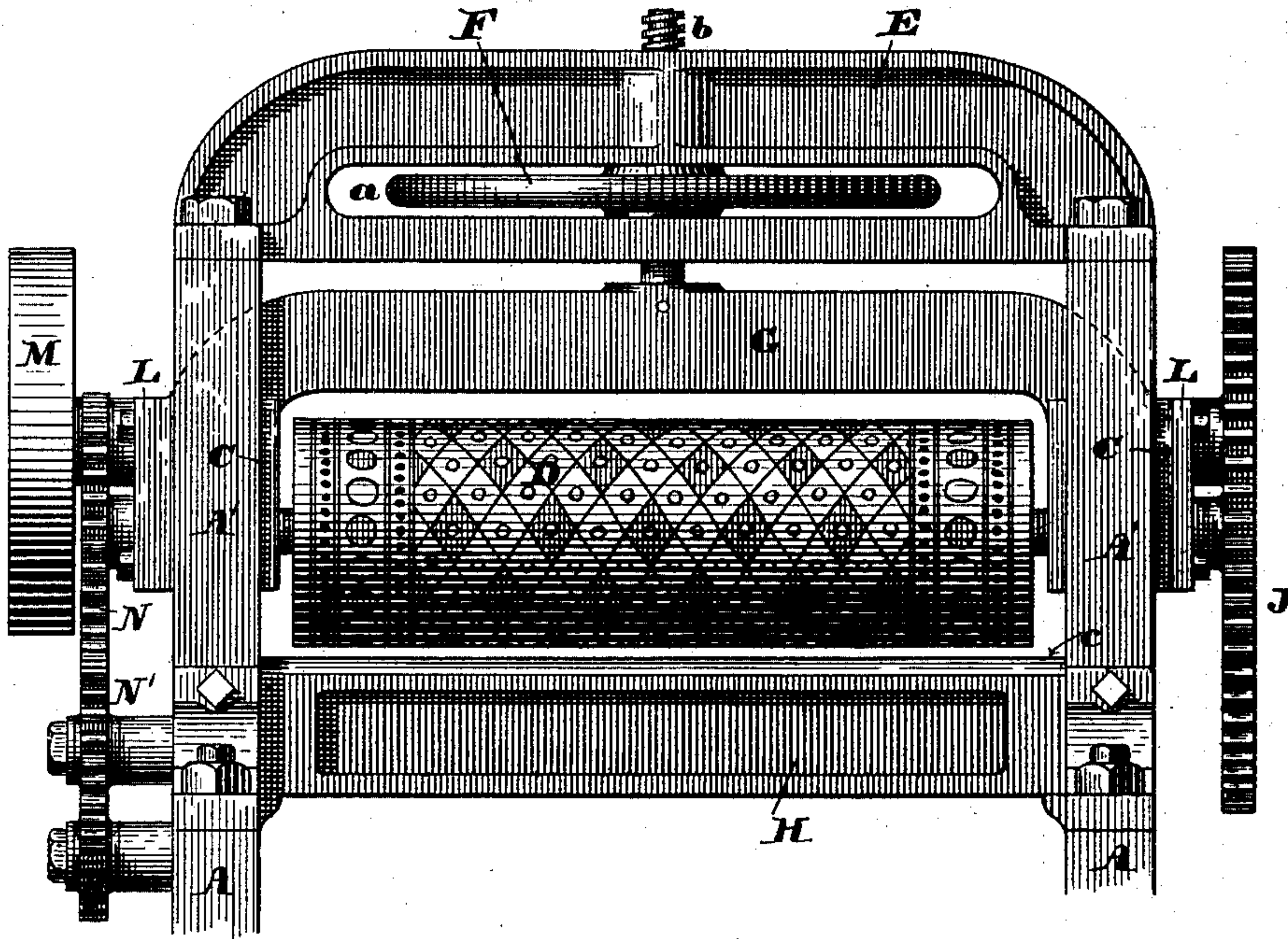


Fig. 4.

Witnesses:

Walter E. Lombard.
William H. Perry

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN P. JAMISON, OF CAMBRIDGEPORT, MASSACHUSETTS.

MACHINE FOR EMBOSSING PAPER, WOOD, &c.

SPECIFICATION forming part of Letters Patent No. 374,253, dated December 6, 1887.

Application filed June 27, 1887. Serial No. 242,563. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. JAMISON, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for Embossing Paper, Wood, and other Materials, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to machines for embossing paper, wood, and other similar materials; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings, and to the claims to be hereinafter given.

Figure 1 of the drawings is a side elevation of so much of a machine as is necessary to illustrate my invention. Fig. 2 is a central vertical section of the same, the cutting-plane being parallel to the side of the machine. Fig. 3 is an elevation of the side of the machine opposite to that shown in Fig. 1. Fig. 4 is a front elevation of the upper portion of the same with the feed apron and roll removed, and Fig. 5 is a section of a portion of the feed-apron.

In the drawings, A A are the side frames of the machine, connected together by the tie-rods B B, and having bolted to their upper edges the stands A' A', slotted to receive the boxes C C, in which is mounted the engraved embossing or die roll D. The upper ends of the stands A' A' are tied together by the cross-head E, provided with the long slot *a*, in which is fitted the wheel-nut F, which works upon the screw *b*, firmly secured in the tie-bar G, connecting the boxes C C in such a manner that by turning the wheel F the boxes C C and the embossing-roll D will be moved upward or downward, according to the direction said wheel is turned. The lower ends of the stands A' A' are firmly bolted to the bed-girt H, provided upon its upper side with a rounded rib, *c*, the apex of which is directly beneath the axis of the embossing-roll D, as shown.

I is the feed-apron, mounted upon the rolls I' and I², and composed of a layer or thickness of leather, *d*, and a layer or thickness of rubber, *e*, the two materials being firmly secured together over their entire contact-surfaces by means of rubber cement or other suitable ad-

hesive material, so that the rubber, while it may yield to the pressure of the embossing-roll, cannot stretch longitudinally or laterally. This belt or apron passes between the embossing-roll D and the bed-girt H, and upon its surface rests the sheet or web of paper or other material to be embossed as it is being fed through the machine.

The shaft of the embossing die-roll D has mounted upon one end thereof the spur gear-wheel J, with the teeth of which the teeth of the pinion J' engage to impart to said roll a rotary motion. The pinion J' is mounted upon one end of the shaft K, mounted in bearings in the arms L, secured to or formed in one piece with the boxes C C, and carrying at its other end the driving-pulley M. The shaft of the die-roll D also has mounted thereon the gear-wheel N, which, acting through suitable intermediate gears, N' and N², and the gear N³, secured upon the shaft of the roll I², imparts to said roll I² a rotary motion, and causes the apron I to be moved around said roll at a speed corresponding to the speed of the periphery of the die-roll D.

O is an endless metallic apron mounted upon the roll O' and another (not shown) at any suitable distance from O', said apron being moved in unison with the apron I by means of the gear-wheel O², mounted upon the roll O', and the intermediate gear-wheel meshing into said gear-wheel O² and the gear N³, as shown. The apron O is heated by means of a coil of pipe, P, interposed beneath the upper portion of said apron, into which steam is admitted through pipe P', connected with any suitable source of supply, and from which it is discharged at the opposite end of said coil.

It is designed to make the apron O of sufficient length and extend the coil of steam-pipe to sufficient distance to completely dry the moistened paper before rolling it up after being embossed.

R is a tie-girt connecting the main side frames of the machine with the stands for supporting the outer roll for supporting the apron O, which roll is not shown in the drawings, but may be of any ordinary construction.

S is a shaft mounted in bearings in the main frames of the machine, and has mounted thereon the roll of paper, S', which is to be embossed. The paper to be embossed is moist-

ened, and the end of the web is placed upon the apron I and passed beneath the die-roll D, and is thus subjected to a heavy pressure between the die-roll D and the apron I along a narrow line above the apex of the rounded rib of the bed-girt H, the rubber outer surface of the apron I yielding to permit the projecting portions of the design on the die-roll to embed the paper in said rubber without so stretching the apron, either longitudinally or transversely, as to wrinkle or tear the paper. The embossed paper passes from the apron I upon the heated metallic apron O, to be conveyed to a sufficient distance away to be thoroughly dried, when it is rolled up or otherwise disposed of to put it in suitable condition for the market.

Other materials—such as paper or paper-pulp combined with cloth or wood—may be embossed successfully upon this machine.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a machine for embossing paper, wood, or other material, the combination of a revolving die-roll, a fixed bed-girt beneath said die-roll and having a rounded upwardly-projecting

rib extending longitudinally thereof and opposed to and parallel with the under surface of said roll, and a flexible and yielding feed-apron supported by said rounded rib, and mechanism, substantially as described, for moving the periphery of said die-roll and the upper surface of said apron in unison, as set forth.

2. In a machine for embossing paper, wood, or other material, the combination of a revolving die-roll, a fixed bed-girt beneath said die-roll and having a rounded upwardly-projecting rib extending longitudinally thereof and opposed to and parallel with the under surface of said roll, an endless feed-apron supported by said rounded rib, and mechanism, substantially as described, for moving the periphery of said die-roll and the upper surface of said apron in unison, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 22d day of June, A. D. 1887.

JOHN P. JAMISON.

Witnesses:

WALTER E. LOMBARD,
WILLIAM H. PARRY.