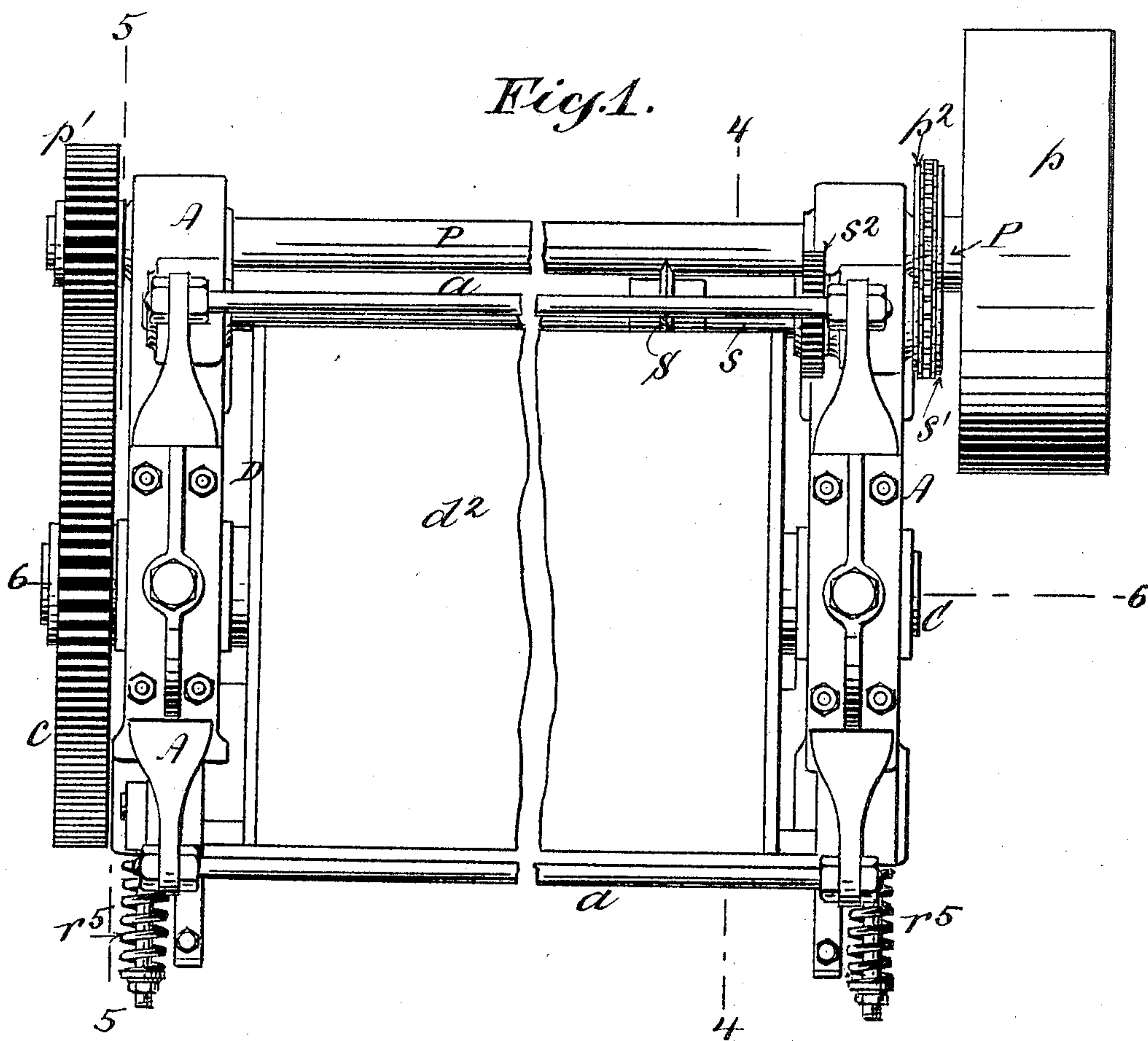


No. 812,859.

PATENTED FEB. 20, 1906.

J. F. LOWENHAUPT.
EMBOSSING MACHINE.
APPLICATION FILED MAY 25, 1905.

6 SHEETS—SHEET 1.



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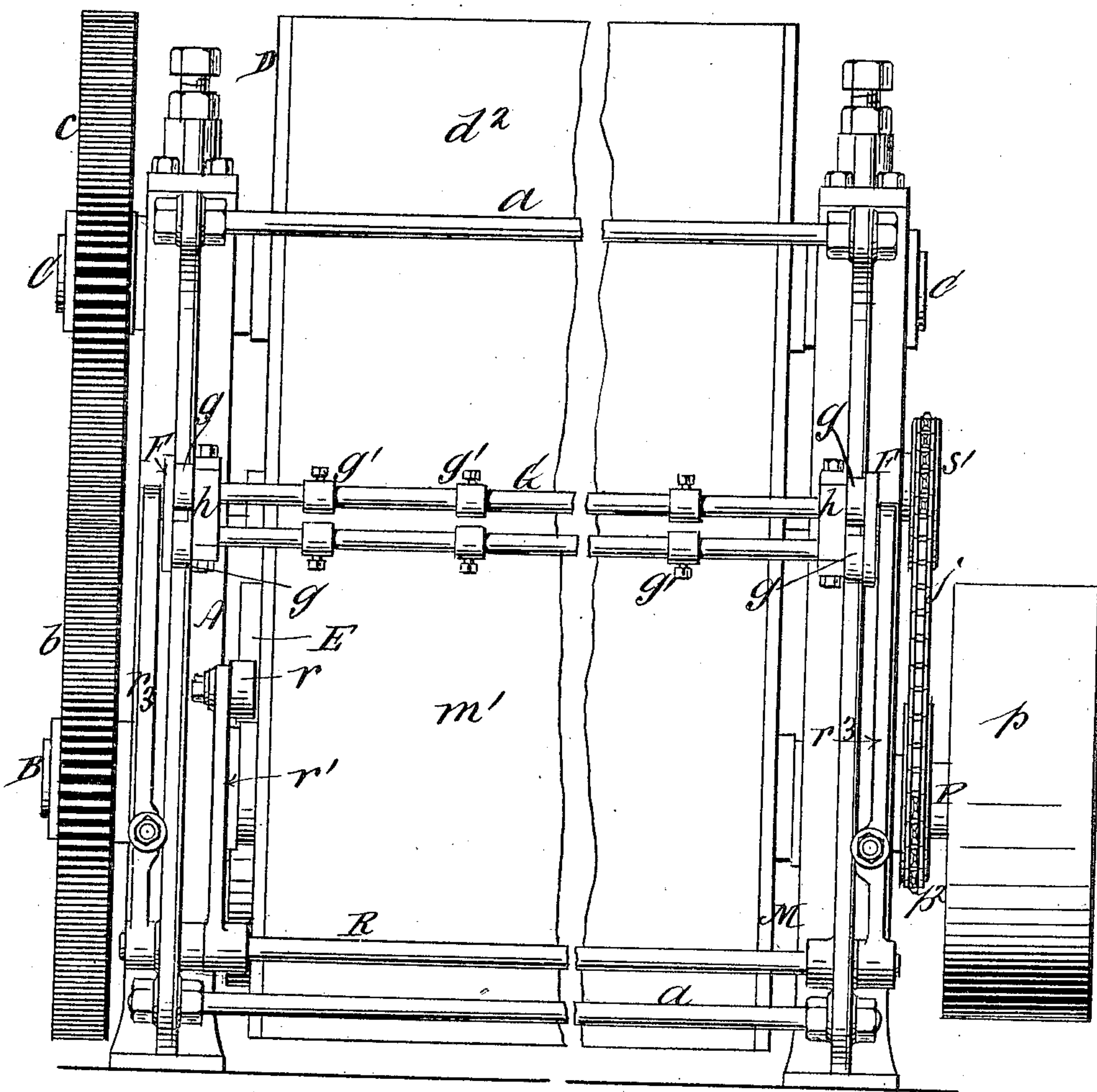
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6 SHEETS—SHEET 2.

Fig. 2.



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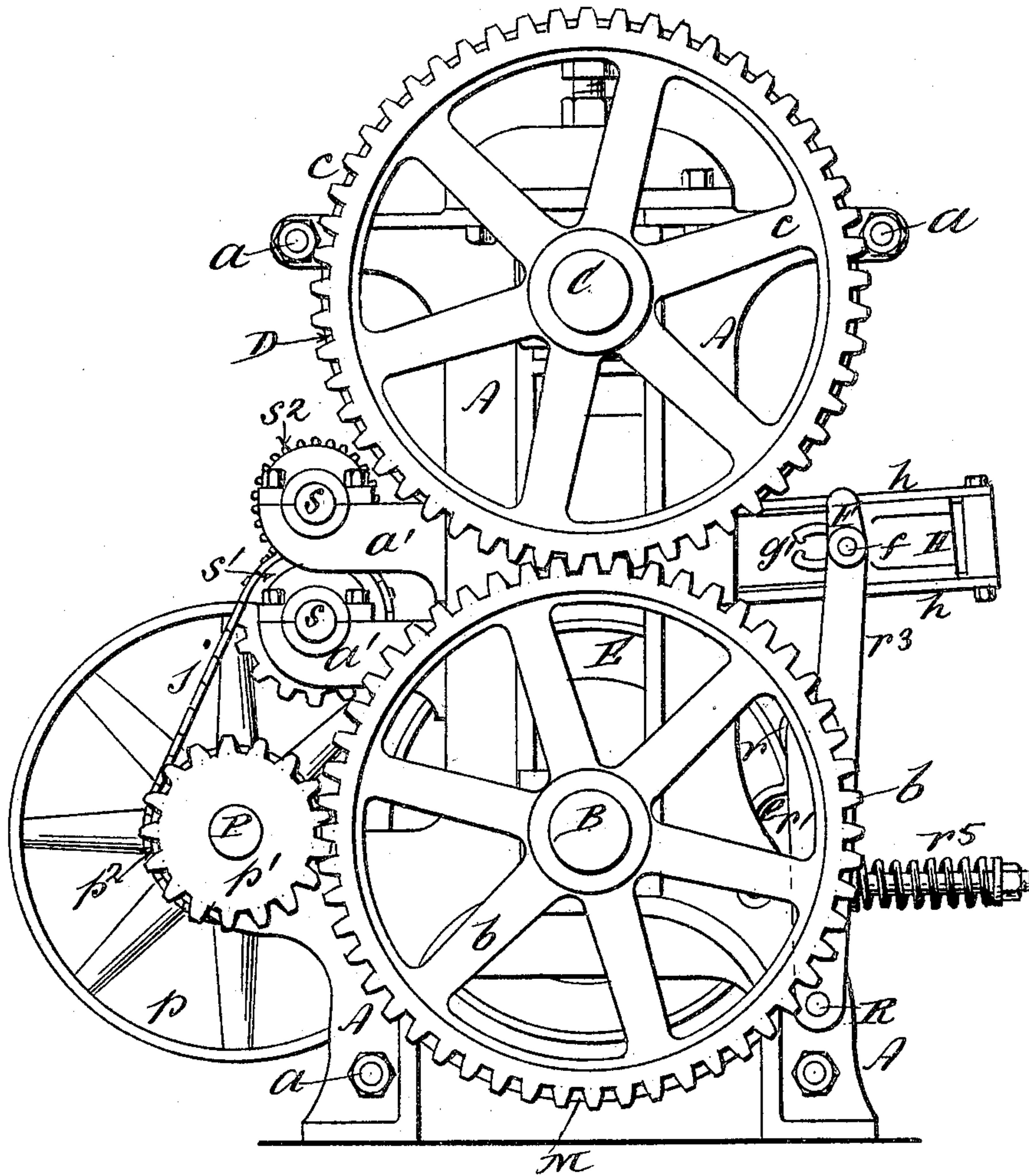
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6 SHEETS—SHEET 3.

Fig. 3.



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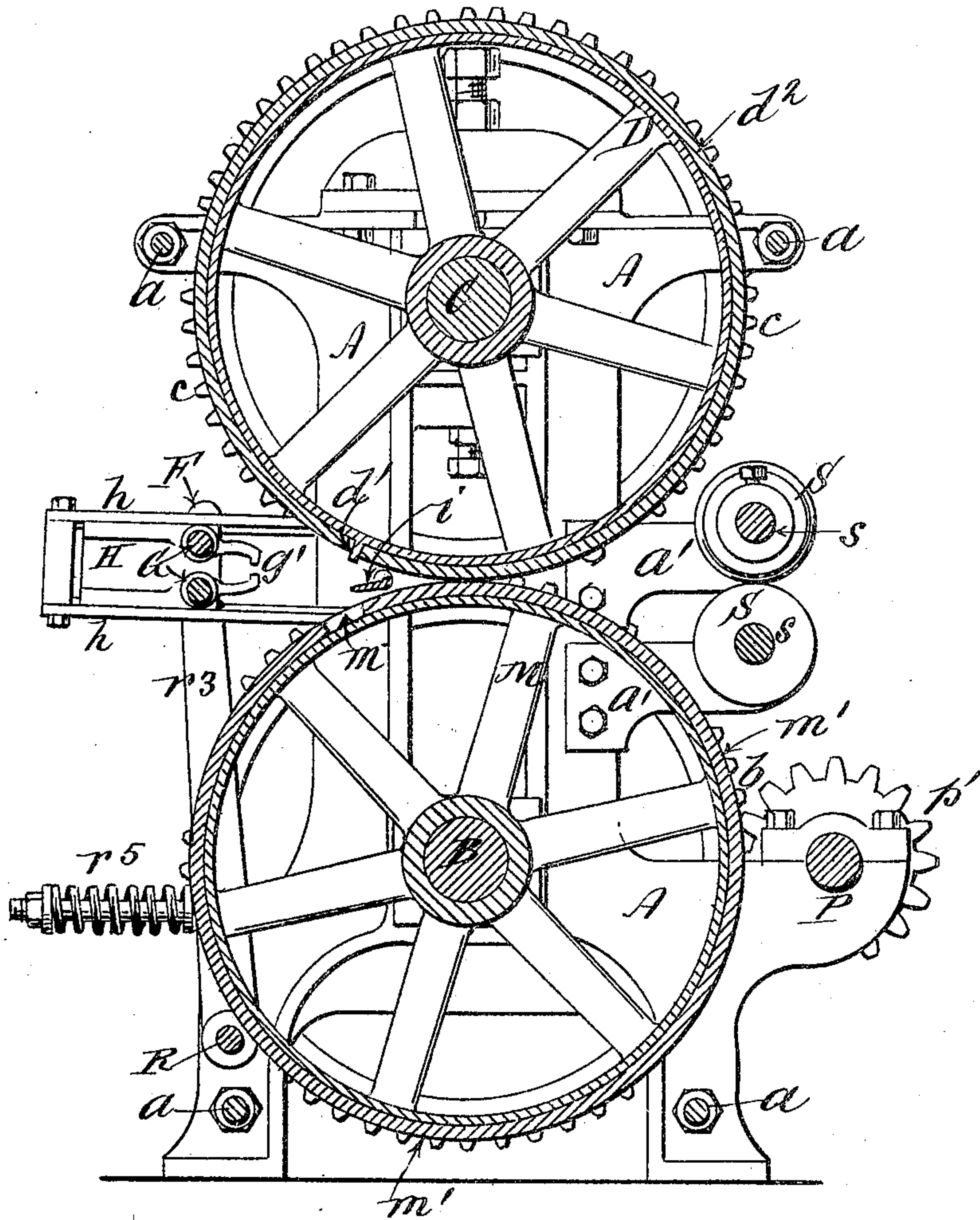
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6 SHEETS—SHEET 4.

Fig. 4.



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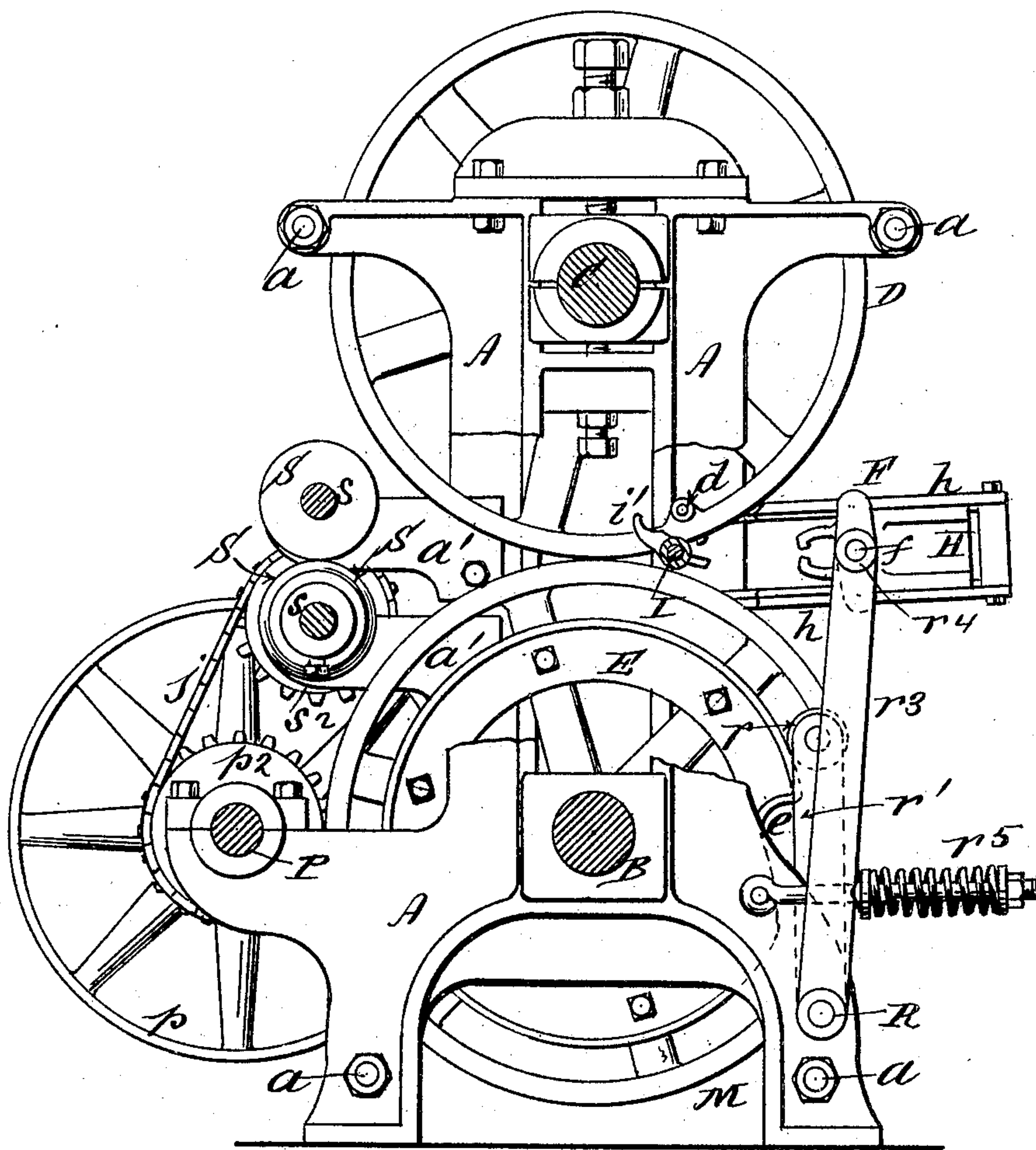
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6 SHEETS—SHEET 5.

Fig. 5.



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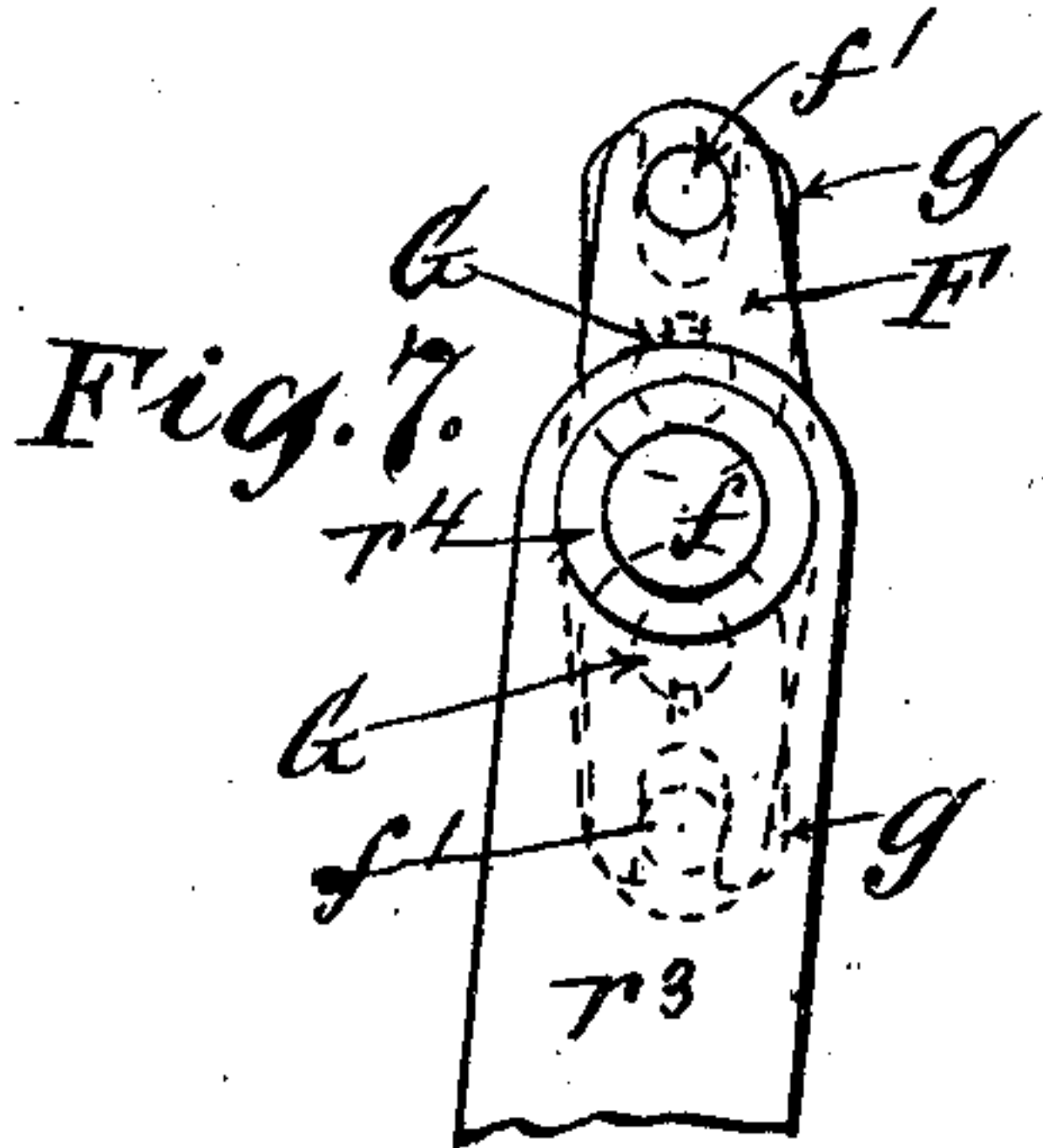
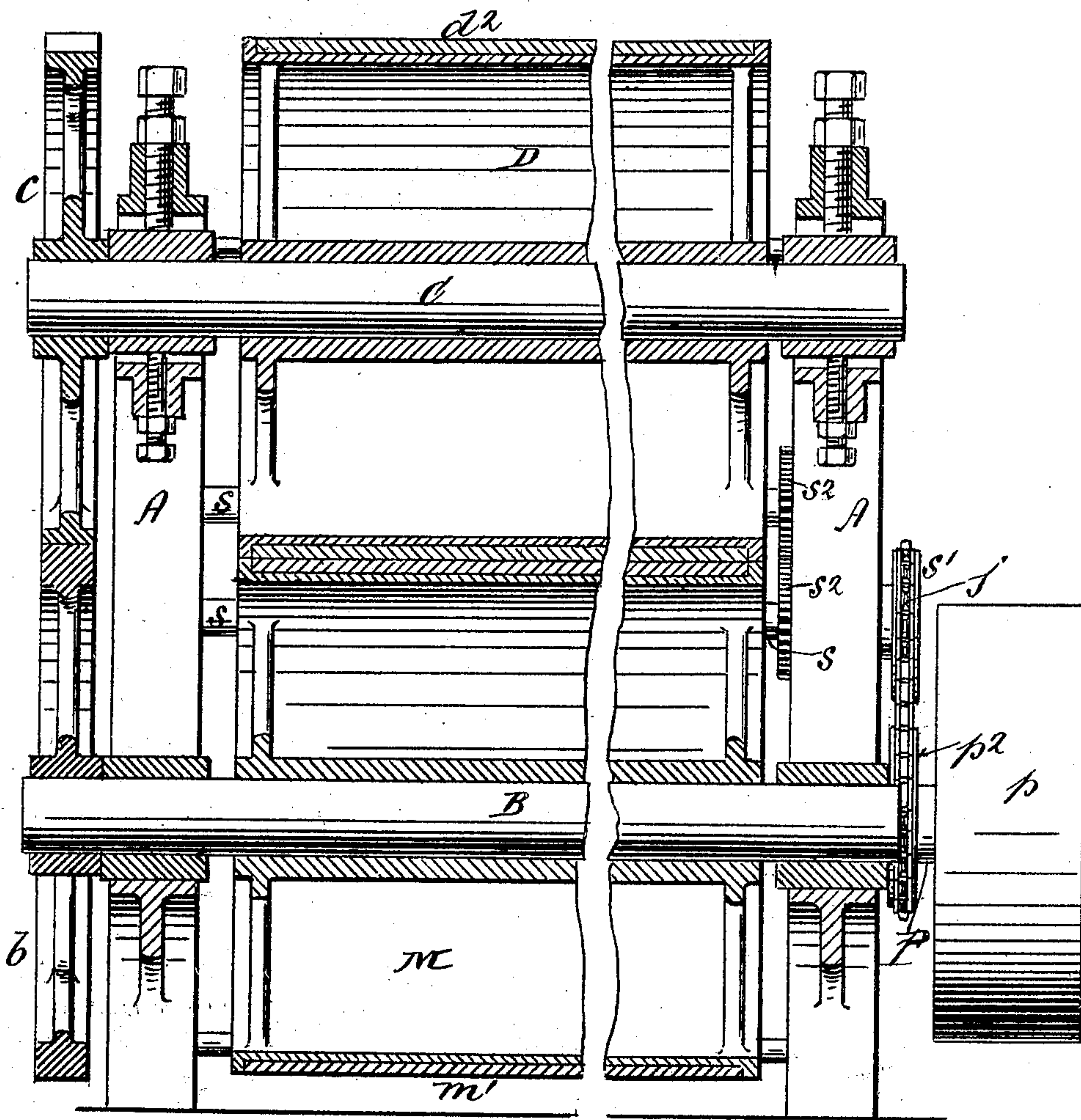
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6 SHEETS—SHEET 6.

Fig. 6.



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UNITED STATES PATENT OFFICE

JAMES F. LOWENHAUPT, OF WOODHAVEN, NEW YORK.

EMBOSSING-MACHINE.

No. 812,859.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed May 25, 1905. Serial No. 262,123.

To all whom it may concern:

Be it known that I, JAMES F. LOWENHAUPT, a citizen of the United States, residing at Woodhaven, Queens county, and State of New York, have invented certain new and useful Improvements in Embossing-Machines, of which the following is a specification.

My invention relates to the embossing of cardboard, paper, and flexible material generally, and particularly to the manufacture of what are known as "card-mounts," consisting of embossed cards for the backing or mounting of photographic and other pictures and for analogous purposes. Heretofore these card-mounts have been embossed singly, thus involving considerable time in their handling and manipulation and necessarily rendering them, relatively speaking, expensive.

The main object of my invention is to simplify and cheapen the manufacture of such card-mounts by providing suitable apparatus, whereby a whole sheet of cardboard may be accurately fed to and embossed by and between a series of rotatable dies and matrices to form any prescribed number of card-mounts in such manner that the operation may be designated as practically continuous.

To this end the invention consists in the combination and arrangement of parts hereinafter described and claimed specifically.

In the accompanying drawings, Figure 1 is a plan of the apparatus; Fig. 2, a front elevation; Fig. 3, a side elevation; Fig. 4, a vertical section upon plane of line 4 4, Fig. 1; Fig. 5, a vertical section upon plane of line 5 5, Fig. 1. Fig. 6 is a sectional elevation on plane of line 6 6, Fig. 1. Fig. 7 is a detail view, upon an enlarged scale, of the cross-head and adjoining parts.

In the drawings, A represents the side members or standards of the framework united by cross-rods *a*.

P is the power-shaft, mounted in suitable bearings in the standards A and carrying the power-pulley *p* at one extremity and the pinion *p'* at the other. The pinion *p'* meshes with a gear *b* upon the shaft B, journaled in the standards A, said gear *b* in turn meshing with a corresponding gear *c* upon the shaft C, mounted adjustably on the side members A. The upper shaft C carries what may be designated as the "die-drum" D, while upon the lower shaft B the matrix-drum M is mounted.

R is a rock-shaft actuated by a cam or ec-

centric E upon the shaft B through the medium of the roller *r* and arm *r'*, said rock-shaft R carrying the lever *r³*, in the upper ends of which the cross-heads F are fulcrumed—that is to say, each cross-head F is formed with a trunnion *f*, which fits in a bearing *r⁴*, formed in the lever *r³* for its reception. On the side of each cross-head F opposite to that on which the trunnion *f* is situated are studs *f'* for engagement with bifurcated arms *g*, keyed to rock-shafts G, the opposite ends of which are journaled in slides H, mounted upon stationary ways *h* on either side of the machine. These rock-shafts G carry grippers *g'*, the opposed ends of which are brought together by the rocking of the shafts G, pinching between them the sheet of cardboard to be fed to the cylinders D and M. Springs *r⁵* are arranged to thrust the roller *r* against the cam E, so that when the depression *e* in the latter is reached the shaft R will be rocked, throwing the upper end of each lever *r³* inward, the levers carrying with them the cross-heads F. As a result the studs *f'*, acting on the bifurcated arms *g*, rock the shafts G, and thereby bring the grippers *g'* together.

Motion is transmitted through the bifurcated arms *g* and rock-shaft G to the slides H to admit of the feed-thrust. The return of the roller *r* to the concentric portion of the cam E returns the slides and parts to their normal position with the gripper-fingers separated as at first. Previous to this action a sheet of card is fed in between the grippers *g'* until its edges rest against registering shoulder *i*, which is a straight-edge formed upon the rock-bar I, fulcrumed between the standards A A and carrying an arm or projection *i'*, which normally projects into the path of a roller *d* on the drum D, so that during the rotation of the cylinder the registering straight-edge *i* is tripped or depressed at the proper time to admit of the feeding of the edge of the sheet to the dies. This happens just prior to the forward movement of the grippers *g'*, hereinbefore described, the cam E being so timed with relation to the motion of the drum D as to effect this result. The forward motion of the grippers carries the edge of the cardboard into contact with the stop *d'* on the cylinder D, which at this moment is central or on the vertical line between the axes of the two drums D and M, the dies pinching and carrying forward the sheet from this

point. The matrix-drum M is recessed, as at m , to admit of the protrusion of the stop d' . The cardboard after being embossed by and between the die d^2 and the matrix m' passes
 5 to and between the slitters S, which consist of circular knives mounted on shafts s s , journaled in brackets a' , attached to the side standards A. The shafts s s are rotated by motion borrowed from the power-shaft
 10 through the medium of the sprocket-chain j , which engages with the sprocket-wheels p^2 upon the power-shaft P and with the sprocket-wheel s' upon one of the said slit-ter-shafts s , the two latter being geared together by gear-
 15 wheels s^2 s^2 . The slitters S serve as feeders and are adjustable laterally upon their shafts s , as are the grippers g' for the purpose of varying their relation to the requirements of the work to be performed.

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

1. In a machine for embossing, in combination with a cylindrical rotatable die and a cylindrical rotatable matrix, the cam E,
 25 rock-shaft R, levers r^3 , cross-head F, rock-shafts G, grippers g' , and slides H, for the purpose set forth.

2. In a machine for embossing, in combination with a cylindrical rotatable die and
 30 a cylindrical rotatable matrix, the cam E, springs r^5 , rock-shaft R, levers r^3 , cross-head

F, rock-shafts G, grippers g' , and slides H, for the purpose set forth.

3. In a machine for embossing card-mounts, a cylindrical rotatable die and a cylindrical
 35 rotatable matrix, combined with feed mechanism adapted to forward the cardboard, means coöperative with a portion of said feed mechanism for returning the grippers
 thereof to their normal position, a registering
 40 shoulder, and means, operable prior to the forward movement of the grippers, for tripping said shoulder to permit of the feeding of the edge of the card to the dies.

4. In a machine for embossing card-mounts, 45 a cylindrical rotatable die and a cylindrical rotatable matrix, combined with feed mechanism adapted to forward the cardboard, means coöperative with a portion of said feed
 mechanism for returning the grippers thereof
 50 to their normal position, a registering shoulder, means, operable prior to the forward movement of the grippers, for tripping said shoulder to permit of the feeding of the edge
 of the card to the dies, a rock-shaft carrying
 55 said shoulder and having a projection, and a roller carried by the die for coöperation with said projection.

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