

(No Model.)

5 Sheets—Sheet 1.

H. M. ALBEE.
ROUTING AND WOOD WORKING MACHINE.

No. 404,945.

Patented June 11, 1889.

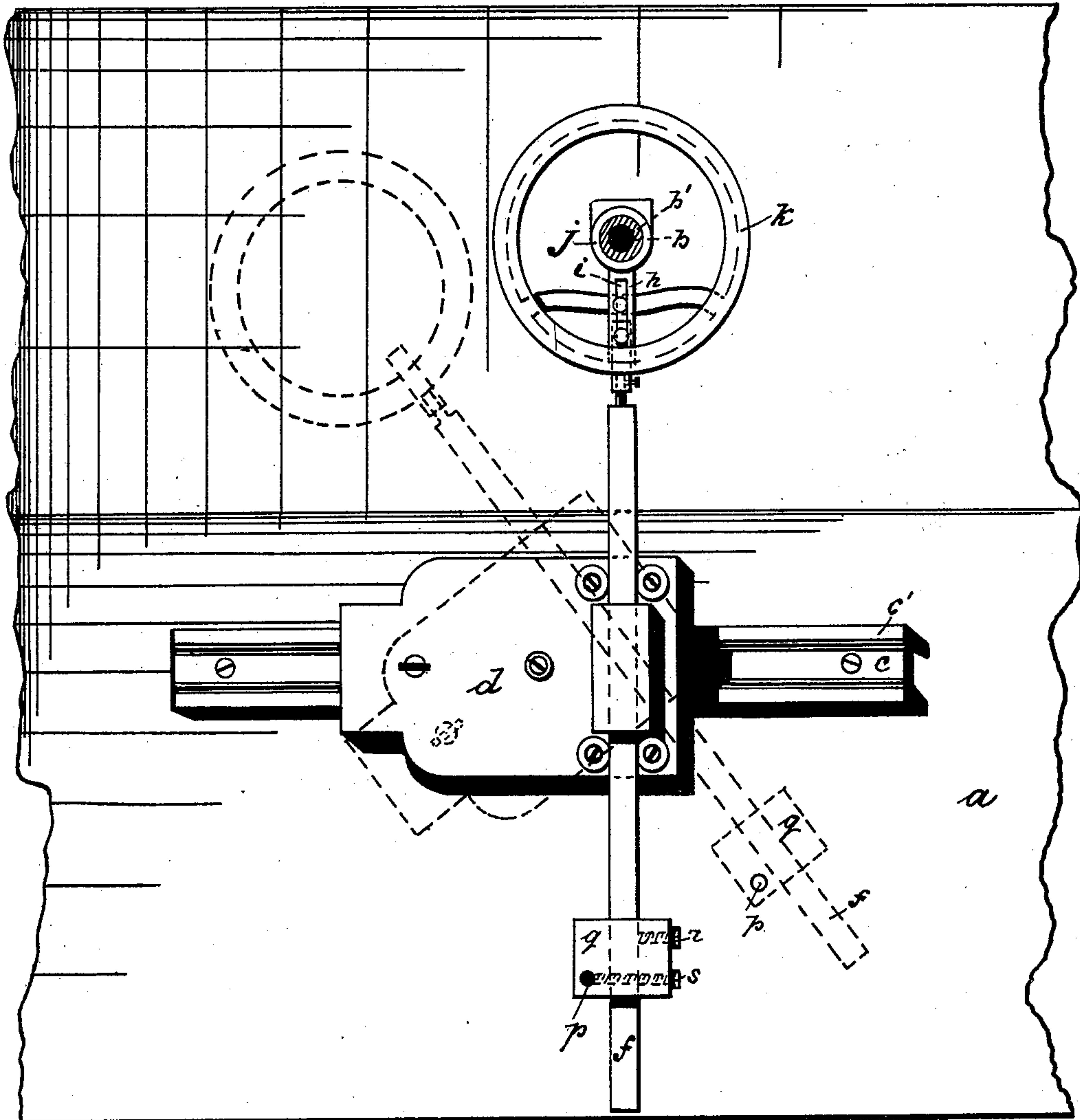


Fig 1.

Inventor.

Witnesses:
Alfred Bartner
E. L. Spelman

Honestus M. Albee

By his Attorneys.

Drake & Co.

(No Model.)

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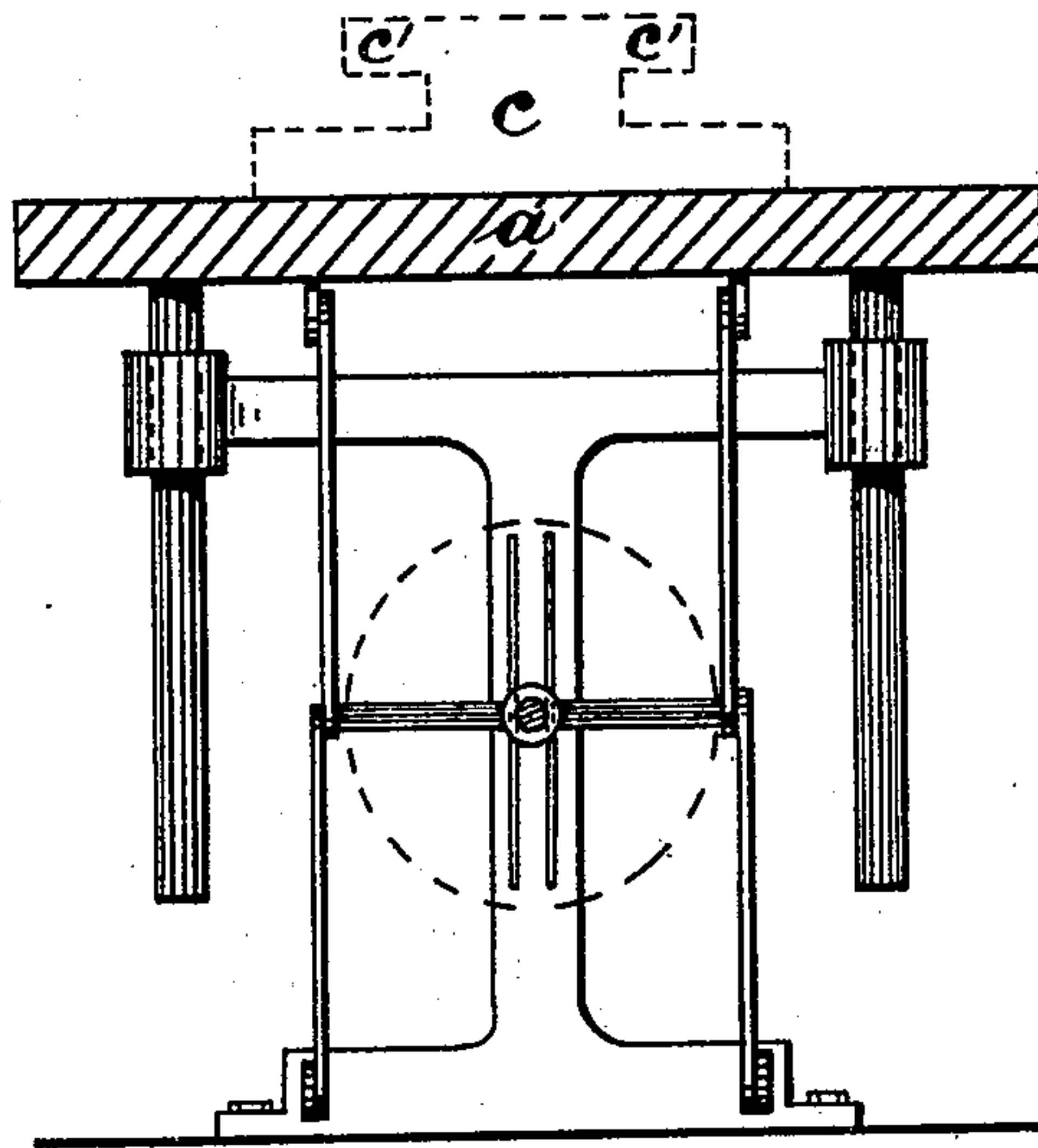


Fig 2.

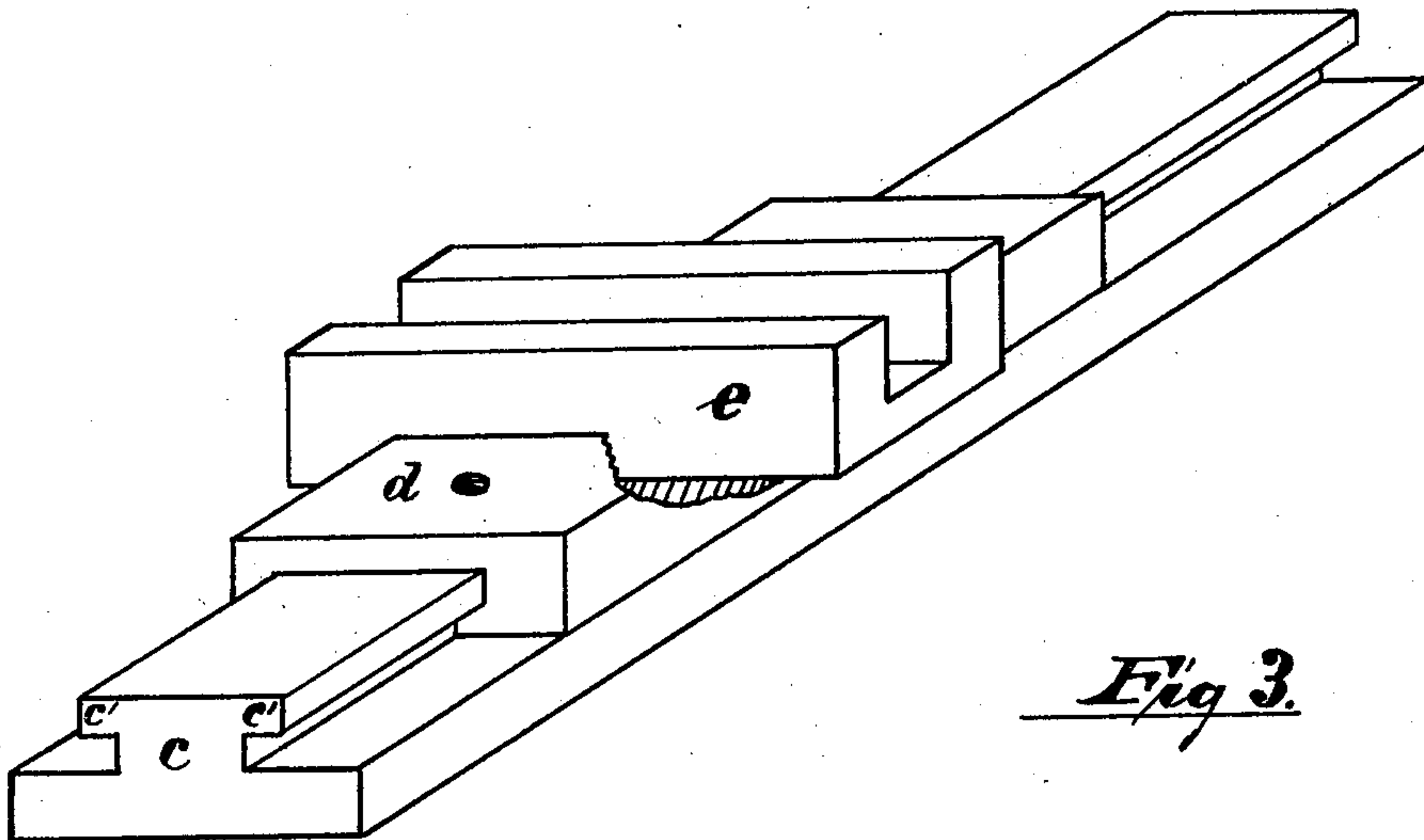


Fig 3.

Witnesses:
Alfred Gartner
E. L. Sherman

Inventor:
Honestus M. Albee
By his Attorneys
Drake & Co

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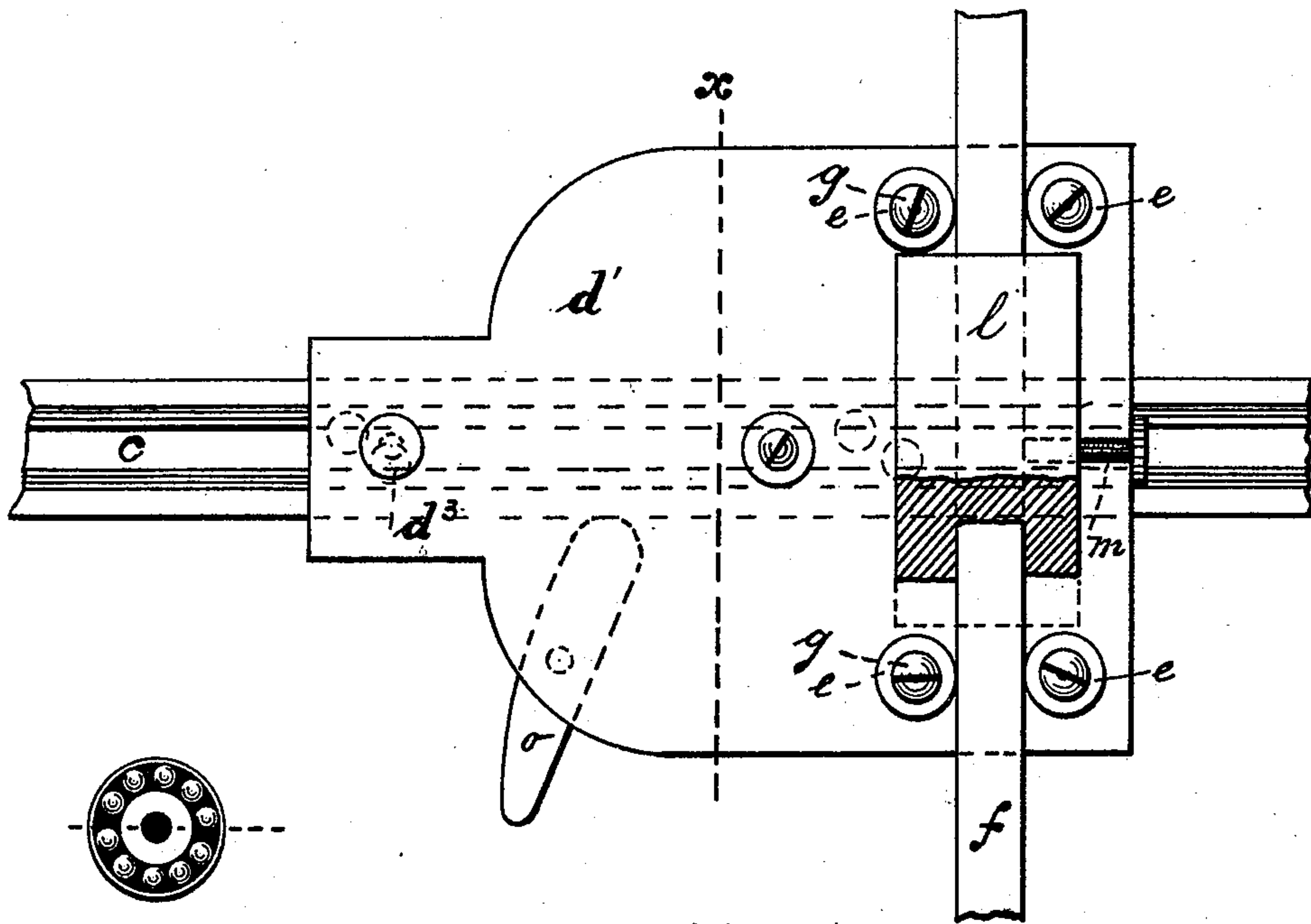


Fig 4.

Fig 6.

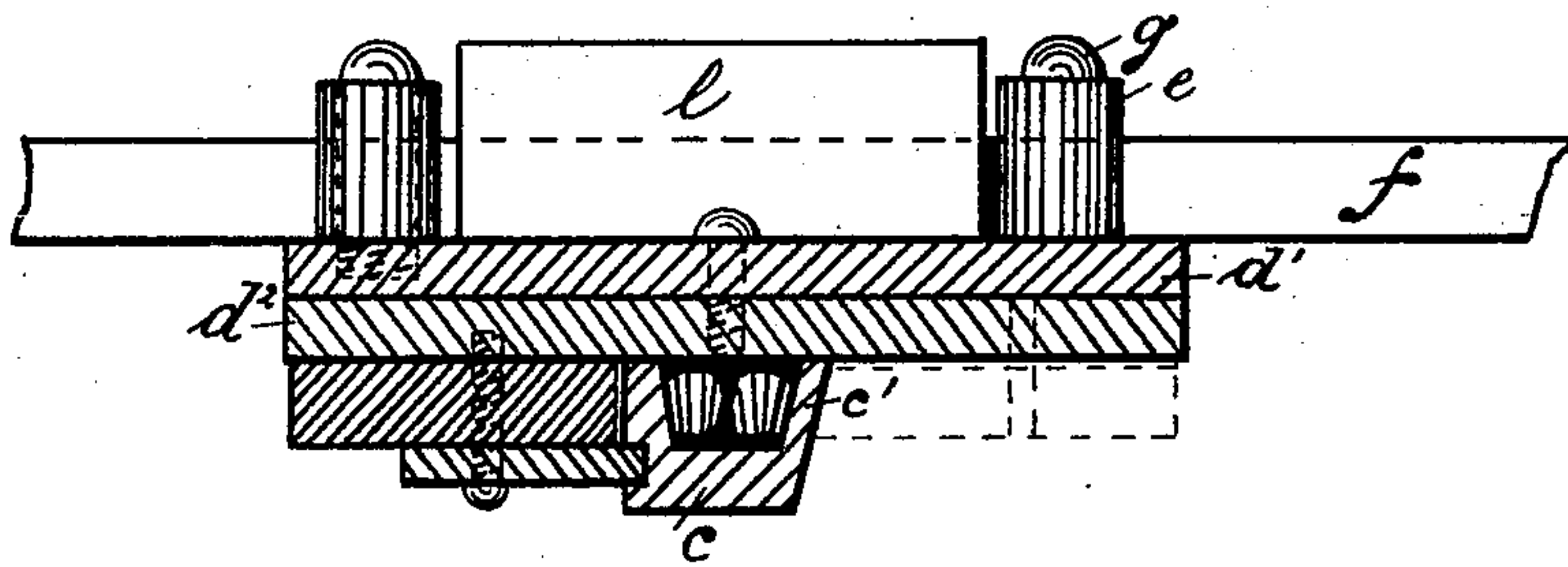


Fig 5.

Fig 7.

Witnesses:
Alfred Gartner
E. E. Sherman

Inventor.

Honestus M. Albee
By his Attorney S. Drake & Co.

(No Model.)

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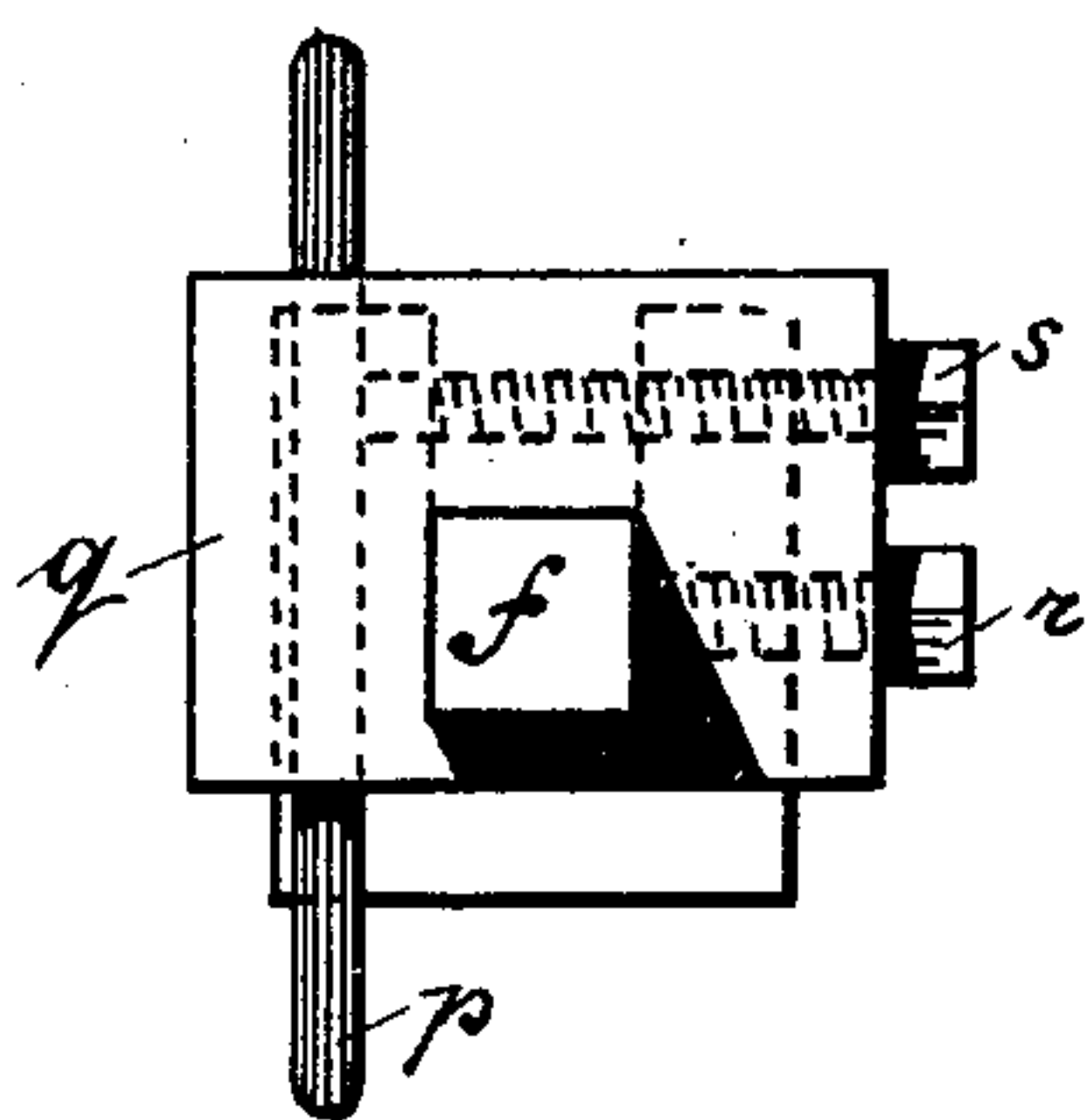


Fig 8.

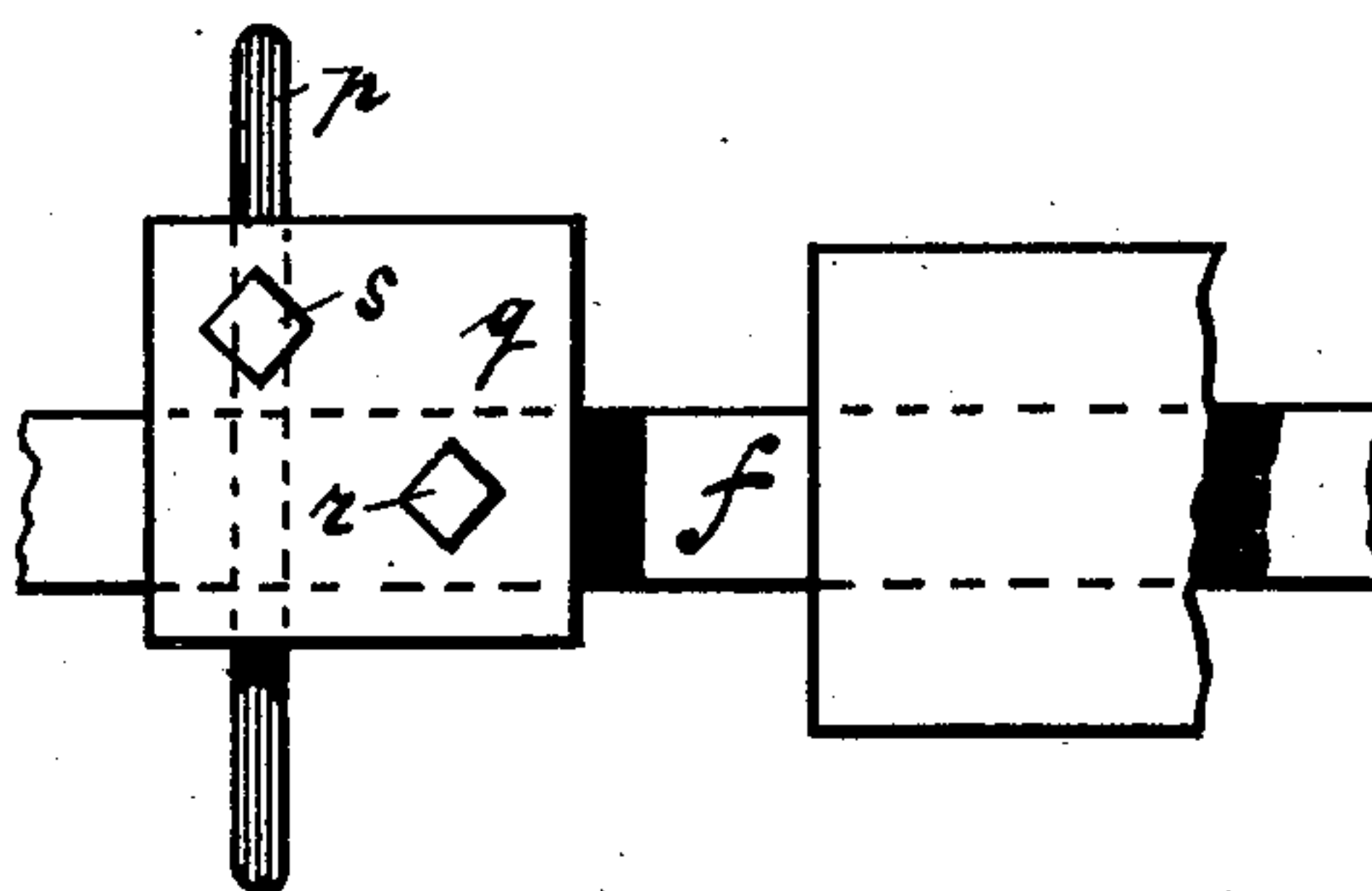


Fig 9.

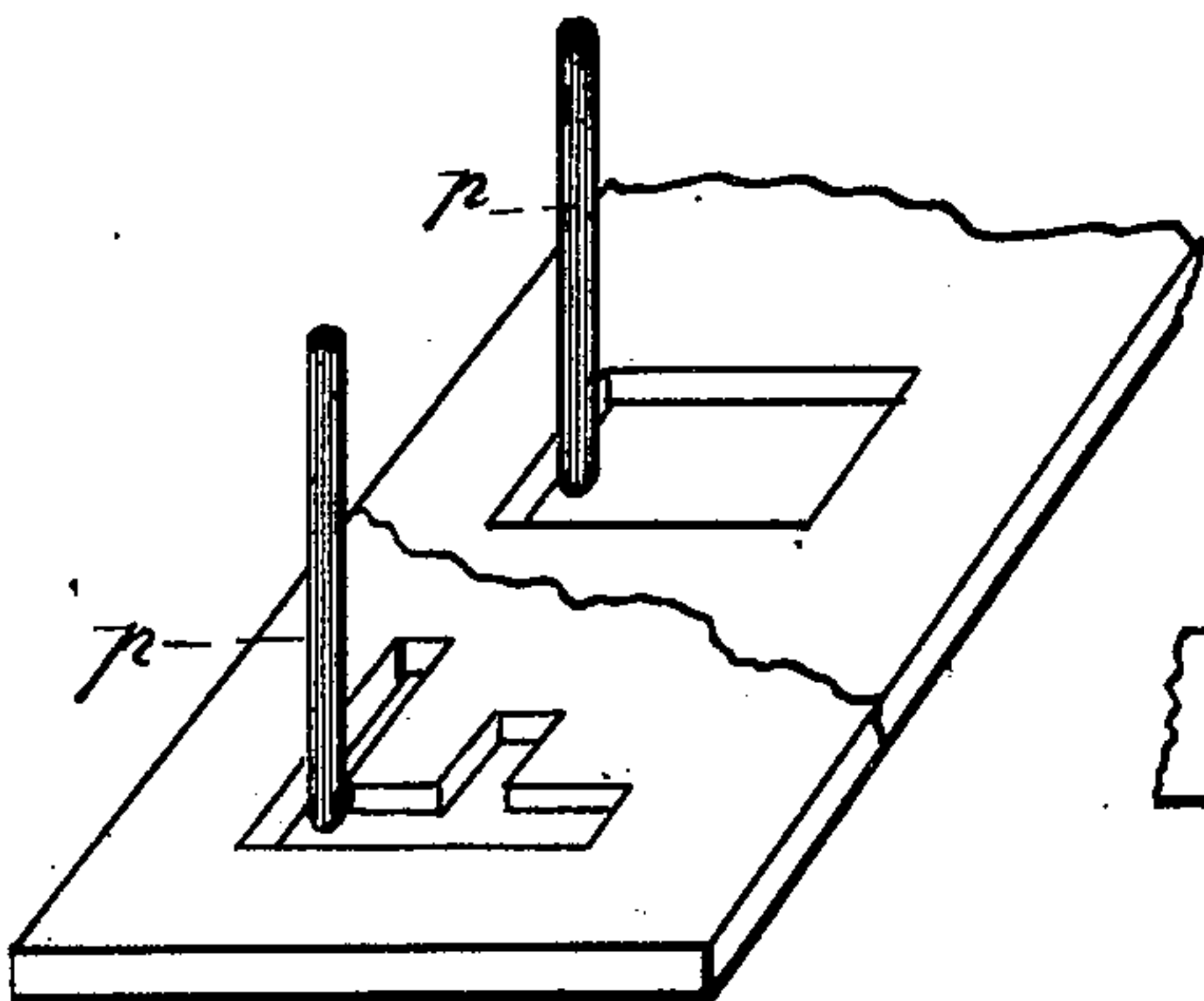


Fig 11.

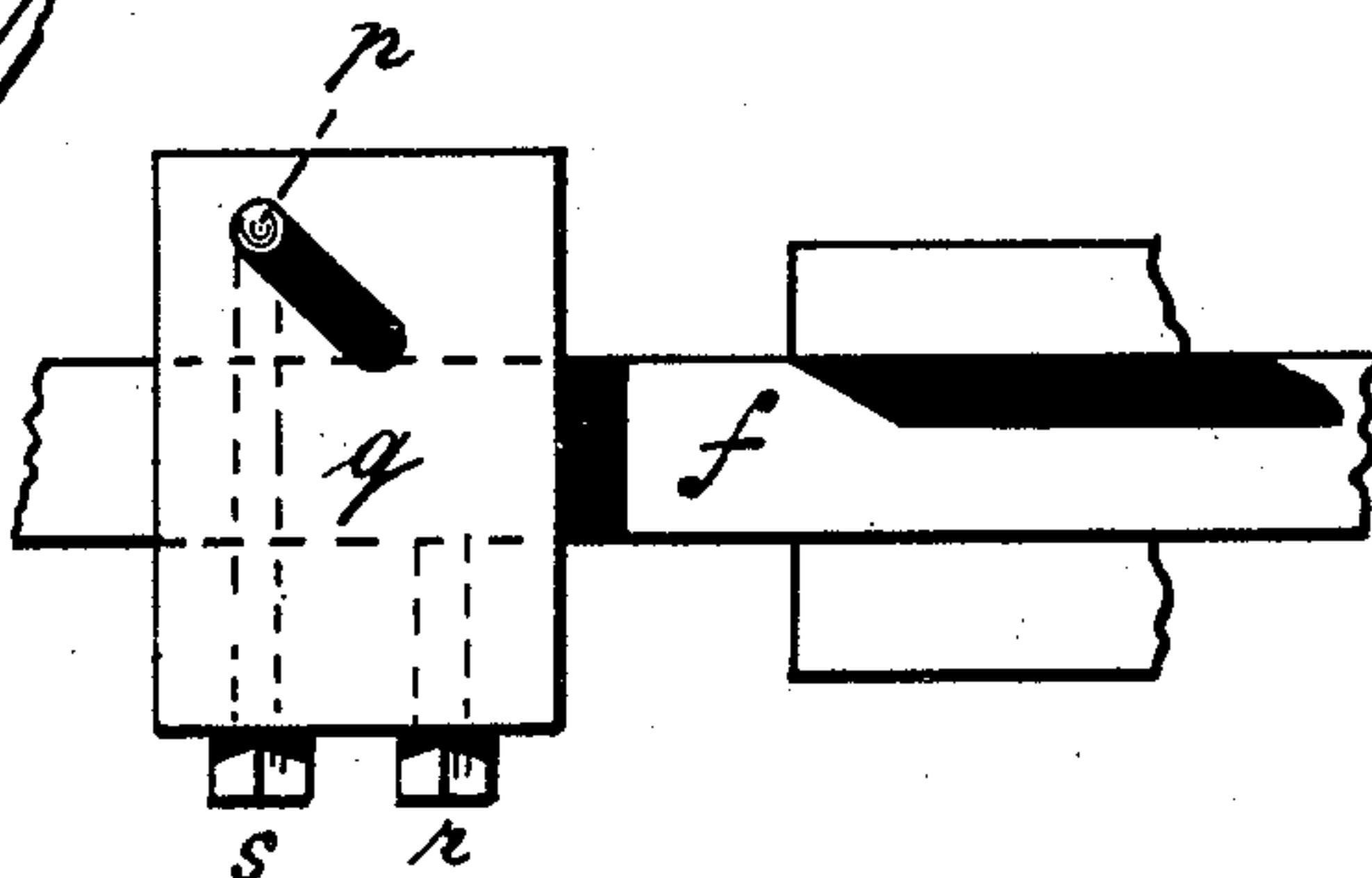


Fig 10.

Witnesses:
Alfred Gartner
E. L. Sherman

Inventor.
Honestus M. Albee
By his Attorneys, Drake & Co.

5 Sheets—Sheet 5.

ROUTING AND WOOD WORKING MACHINE.

Patented June 11, 1889.

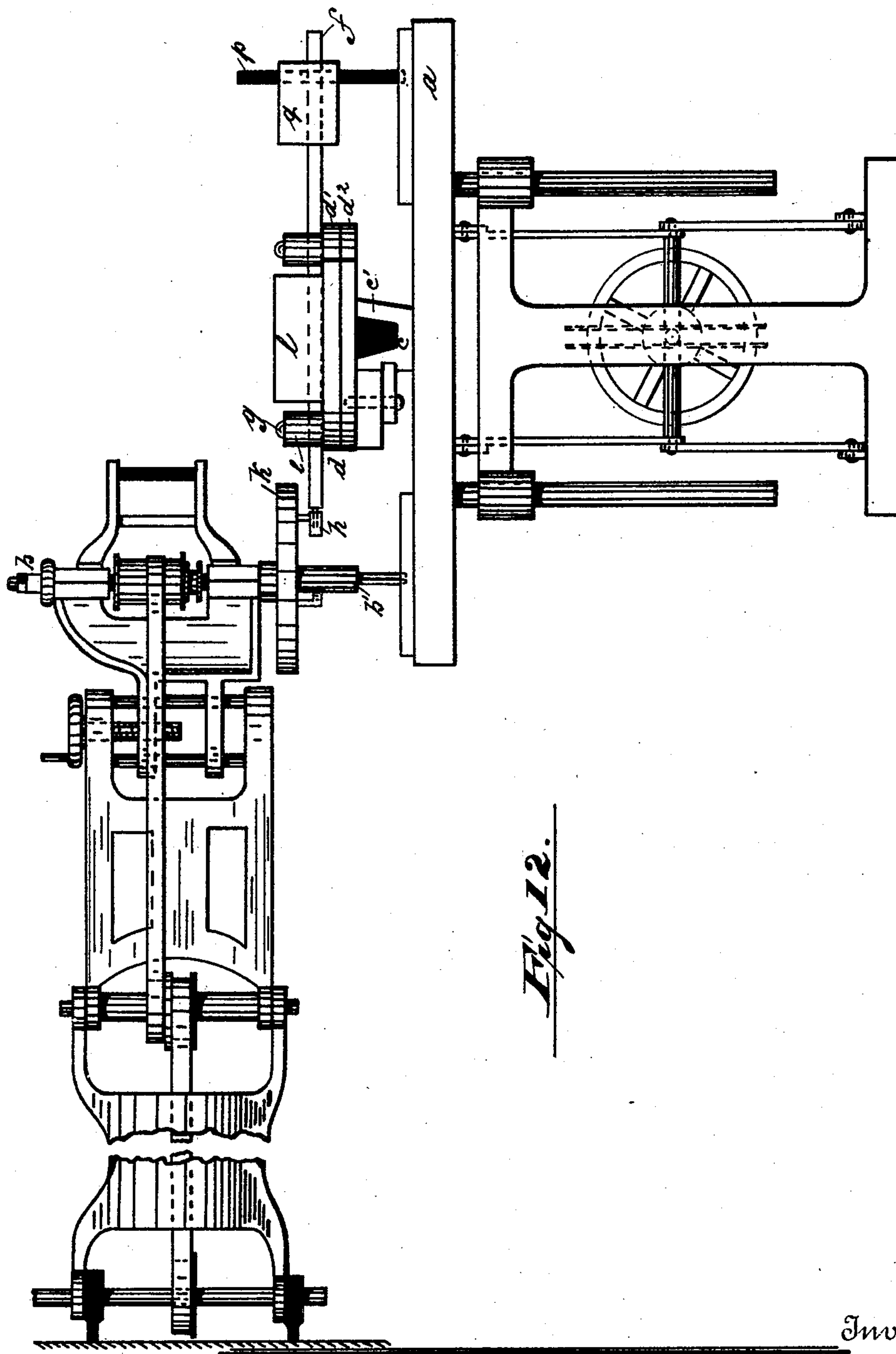


Fig 12.

Witnesses:
Alfred Gartner
E. L. Sherman

Inventor:

Honestus M. Albee

By his Attorney s

Drake V G

UNITED STATES PATENT OFFICE.

HONESTUS M. ALBEE, OF NEWARK, NEW JERSEY.

ROUTING AND WOOD-WORKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 404,945, dated June 11, 1889.

Application filed August 18, 1888. Serial No. 283,137. (No model.)

To all whom it may concern:

Be it known that I, HONESTUS M. ALBEE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Routing and Wood-Working Machines; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in that class of routing or wood-working machines illustrated by me in a prior patent, dated December 28, 1886, and in a cotemporaneous application herewith, in which a revolving routing-tool is arranged on a jointed vibrating or laterally-swinging frame, provided with a handle and with means for giving rapid rotary motion to the tool. The improved means for carrying the tool is shown more fully in the cotemporaneous application, to which reference is made for a fuller understanding of the case.

The object of this invention is to enable the jointed tool-carrier to be employed in a greater variety of work upon wood, in routing, carving, and other lines of ornamentation, to enable the device to be employed with greater facility and ease, and to reduce the cost of construction of parts.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a plan showing a table over which is suspended a routing-tool, the same being shown in horizontal section, and to which my improvements are attached. Fig. 2 is an end view of a table for carrying the said attachments. Fig. 3 is a detail perspective view of a certain track or way and a sliding guide-rod carriage. Fig. 4 is a plan of a preferred construction of the same, embodying certain detail improvements. Fig. 5 is a section of the same, taken on line *x*. Fig. 6 is a plan and Fig. 7 a central sectional view of a pivotal bearing employed in said preferred carriage. Fig. 8 is an end view, Fig.

9 a side view, and Fig. 10 a top view, of a portion of said guide-rod, showing certain guide-pins adjustably secured thereon. Fig. 11 is a perspective view of a pattern, showing the said guide-pins in engagement therewith. Fig. 12 is an elevation of the routing-tool and table and its operative mechanism.

In said drawings, *a* indicates an adjustable table, adapted to be raised or lowered at will; so as to raise the work to or lower the same from the routing-tool.

b indicates a revolving shaft, arranged in suitable bearings such as are described in my cotemporaneous application and in my prior patent, said shaft having at the lower end thereof a socket *b'*, adapted to receive a suitable cutter or routing-tool. Being arranged on a jointed arm, as above referred to, the said shaft *b* and cutter carried thereby are free to move in any direction in a horizontal plane, or in a plane or direction parallel with the table *a*, as indicated in Fig. 1.

Upon the table *a*, preferably longitudinally thereon, is arranged a track or way *c*, having suitable undercut flanges *c'*, and upon said track is arranged a sliding carriage *d*, which is held down on said track by said flanges. Said carriage provides bearings *e* for a guide-rod *f*, which may be either a simple transverse track or way, as in Fig. 3, or said bearings may be and preferably are as in Figs. 4 and 5, where said bearings are shown to be anti-friction rollers arranged in studs *g*, projecting from the top of the carriage.

The guide-rod *f* is secured rigidly to an arm *h*, slotted, as at *i* in Fig. 1, and carried by a collar *j*, arranged on the tool-carrying shaft *b*, the said arm extending from the said shaft to an annular frame *k*, by means of which it is given firmness. The said guide-rod may thus have a compound motion, being movable with the carriage *d* and having an independent movement thereon.

Under certain conditions, where peculiar effects of ornamentation are to be gained or a greater freedom of movement, I prefer to secure, in addition to the movements above described, or in lieu thereof, a pivotal movement, whereby the cutter will be caused to make curved grooves. I have formed the carriage in parts *d'* *d''*, as indicated in Fig. 5, one

of said parts having a pivotal movement on the other. Should I desire to employ the pivotal movement alone, I clamp the sliding parts so that they will be stationary on the track *c*, and relieve the upper part *d'* from the lower part *d*² by loosening a set-screw *d*³, Fig. 4, and thus the rod *f* will be free to move pivotally and give to the cutter the same movement. The guide-rod is set upon the carriage in this event, and a set-block *l*, Figs. 4 and 5, which is fitted closely between the bearings *e* and held to the rod *f* by a set-screw *m*, or other suitable means, so that the rod is prevented from moving longitudinally. The same result may be accomplished in any other suitable manner.

The carriage may be fixed upon the track or way *c* by a cam-lever *o*, Fig. 4.

When I employ a pattern such as is indicated in Fig. 11, I secure on the guide-rod a guide-pin *p*, held by a carrier *q* and extending downward therefrom into engagement with the pattern. By following the outline of the pattern with the pin the pattern will be reproduced by the cutter in the board being worked upon. The carrier *q* is adjustably held on the guide-rod by a set-screw *r*, and the pin is held in said carrier by a set-screw *s*, or other suitable means.

Having thus described the invention, what I claim as new is—

1. In combination with a revolving and laterally-movable cutter, a table having a track or way thereon, a carriage movable on said track or way, and a guide shaft or rod *f*, arranged in connection with said carriage and said cutter, said parts being arranged and adapted to operate substantially as and for the purposes set forth.

2. In combination with the shaft *b*, adapted to receive a cutter, of an annular frame *k*, col-

lar *j*, arm *h*, rod *f*, connected to said arm and sliding between bearings *e* of a carriage *d*, a track *c*, and a guide-pin *p*, adapted to engage a pattern and secured upon said guide-rod, substantially as and for the purposes set forth.

3. In combination with a revolving shaft free to move horizontally in any direction, a guide-rod free to move in any direction in a horizontal plane and direct the said shaft therein, and an adjustable guide pin and carrier, all said parts being arranged and adapted to operate substantially as and for the purposes set forth.

4. In combination with the laterally-movable cutter, a track or way and a carriage arranged thereon, said carriage being made in parts, one of which is pivotally movable on the other, and a guide-rod connected with said cutter and sliding on said pivotally-movable part of said carriage, substantially as and for the purposes set forth.

5. In combination with a revolving and laterally-movable cutter, a track or way adjacent thereto, a carriage movable on said track or way, and a rod sliding on said carriage and connected with said cutter, substantially as and for the purposes set forth.

6. In combination with a revolving and laterally-movable cutter, a track or way, a pivotal carriage movable on said track or way, and a rod adjusted on said carriage and connected with said cutter, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of August, 1888.

HONESTUS M. ALBEE.

Witnesses:

HARRY GARDNER,
E. L. SHERMAN.