

(No Model.)

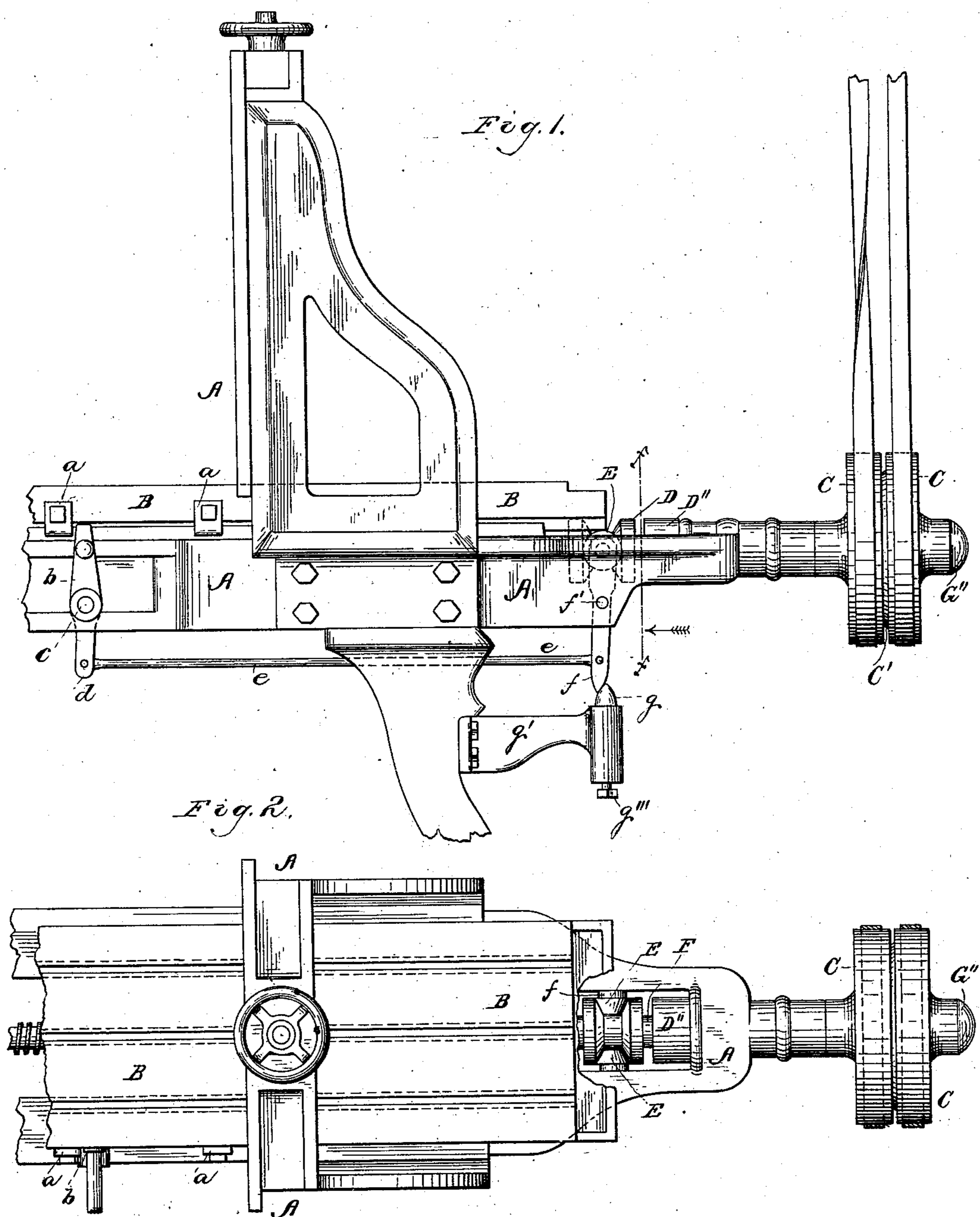
3 Sheets—Sheet 1.

F. P. ROSBACK.

METAL PLANER.

No. 293,675.

Patented Feb. 19, 1884.



Witnesses,
Henry Frankfurter,
W. S. Baker.

Inventor,
Frederick P. Rosback

(No Model.)

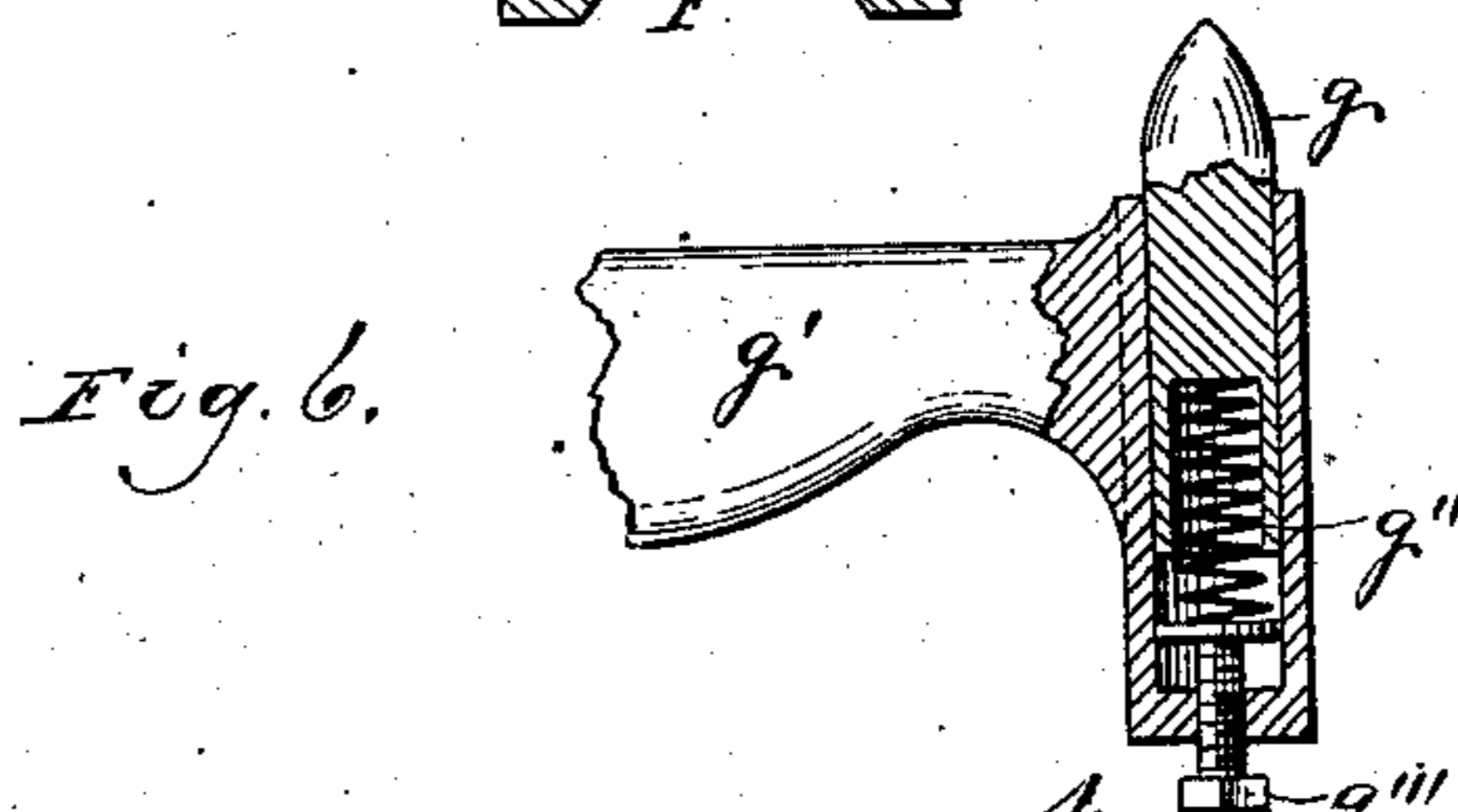
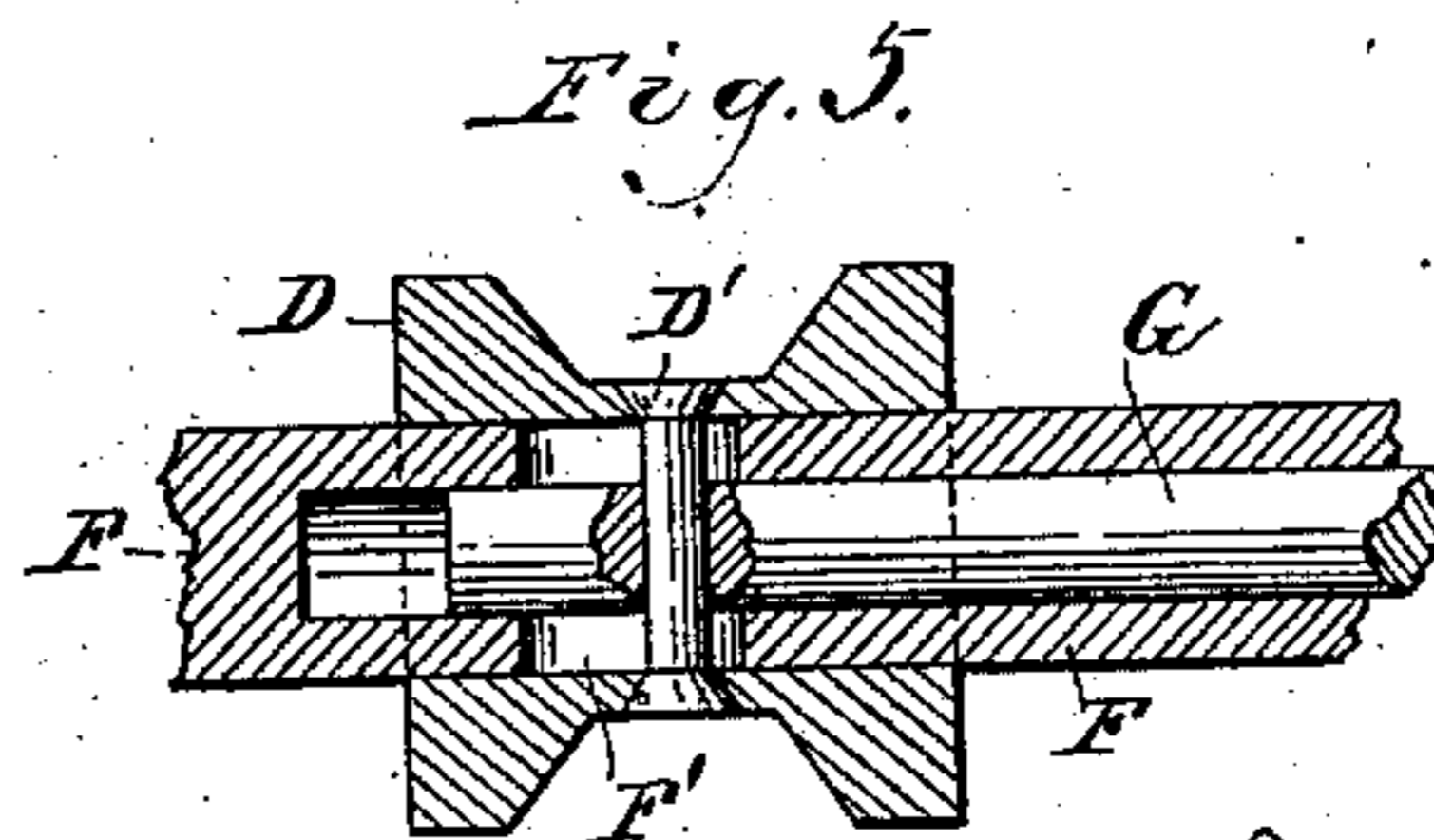
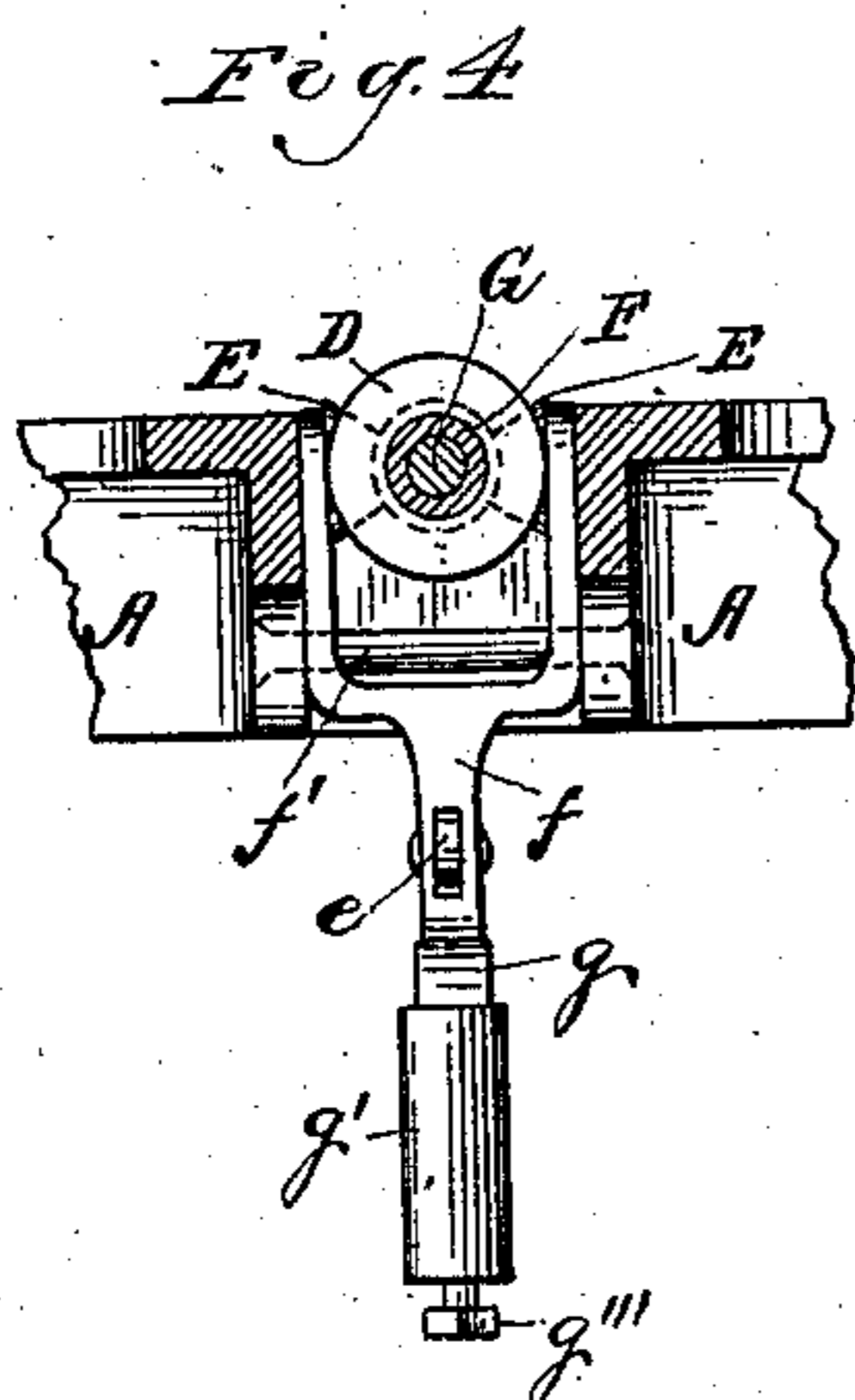
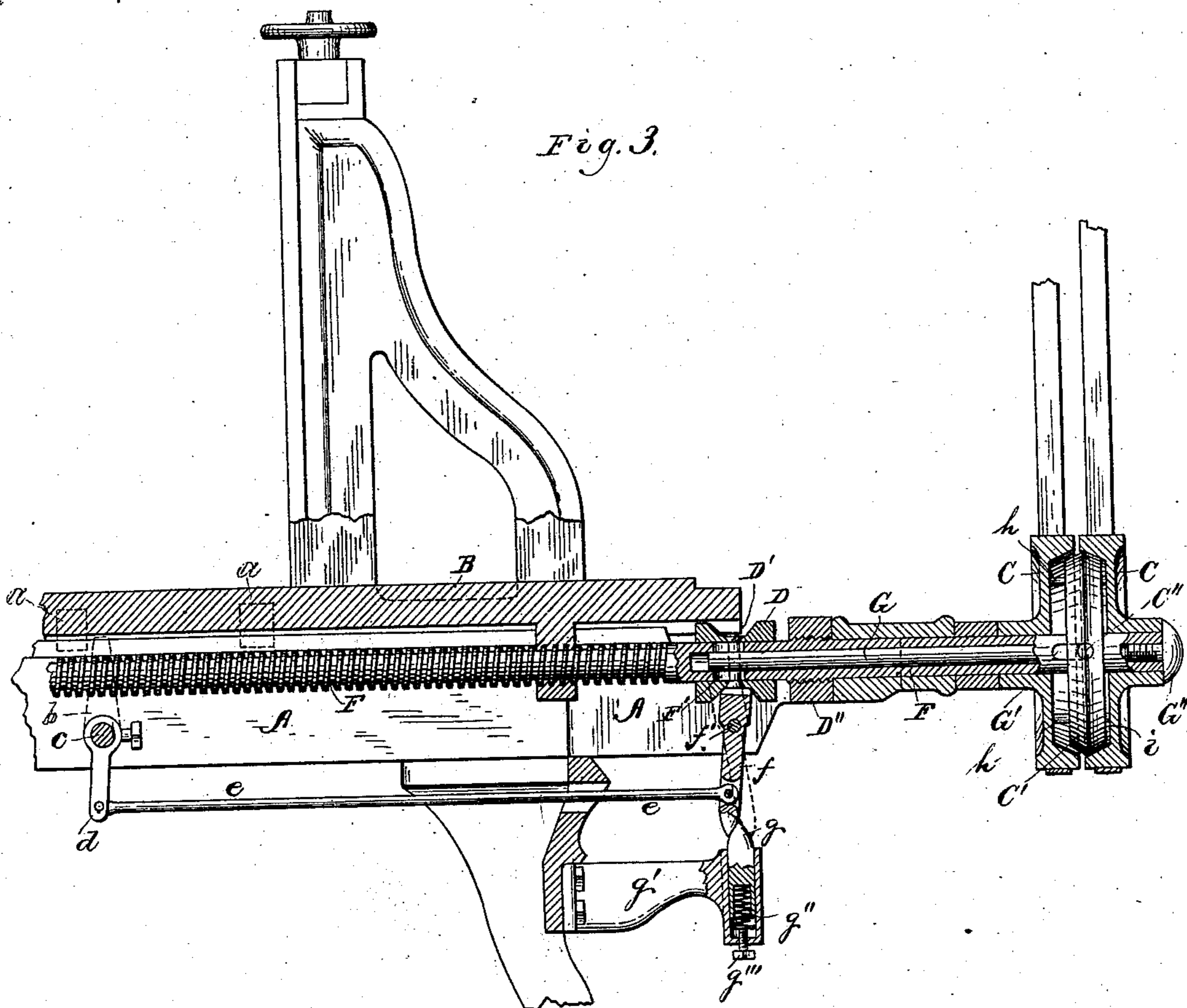
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F. P. ROSBACK.

METAL PLANER.

No. 293,675.

Patented Feb. 19, 1884.



Witnesses,

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(No Model.)

3 Sheets—Sheet 3.

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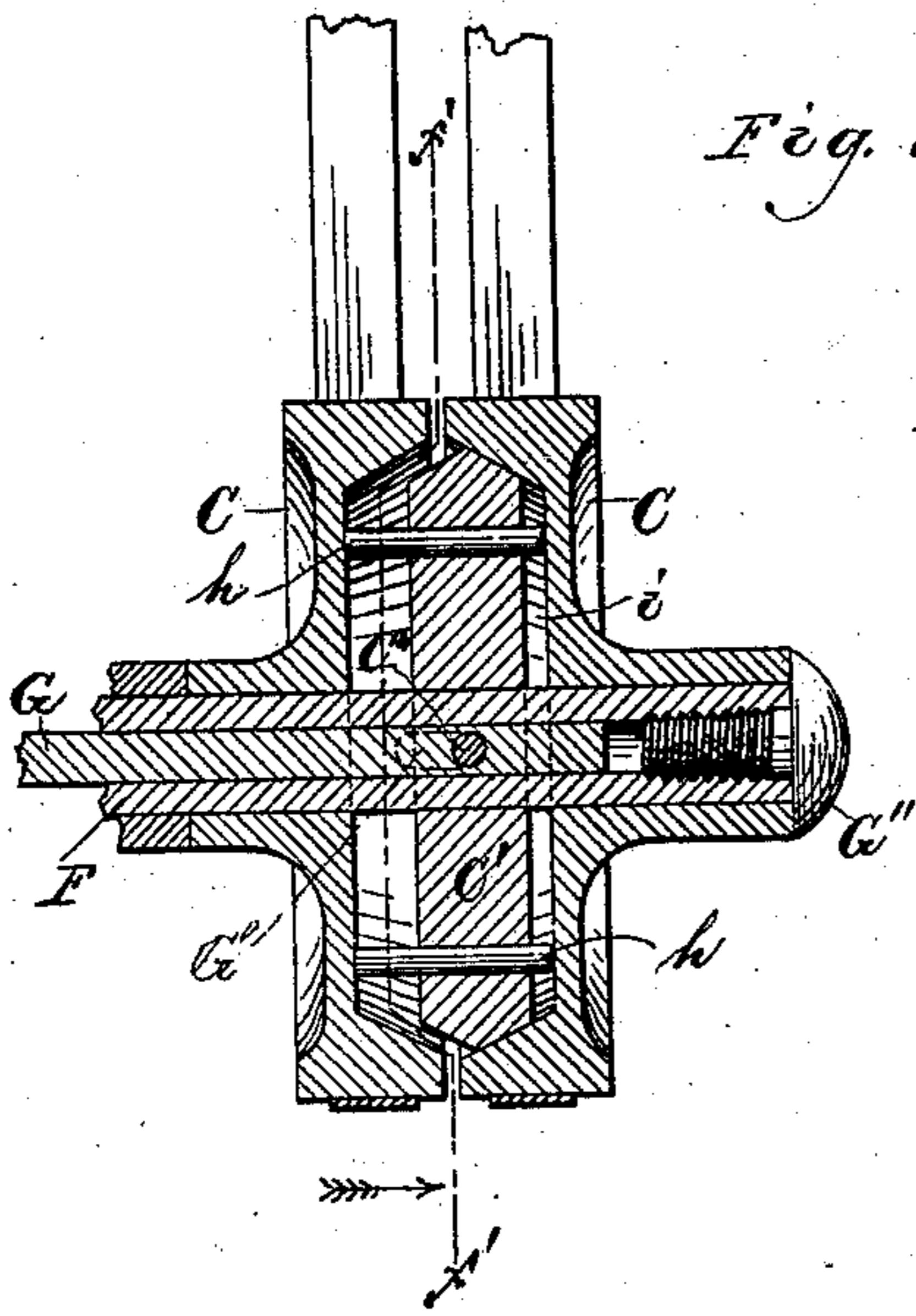


Fig. 7.

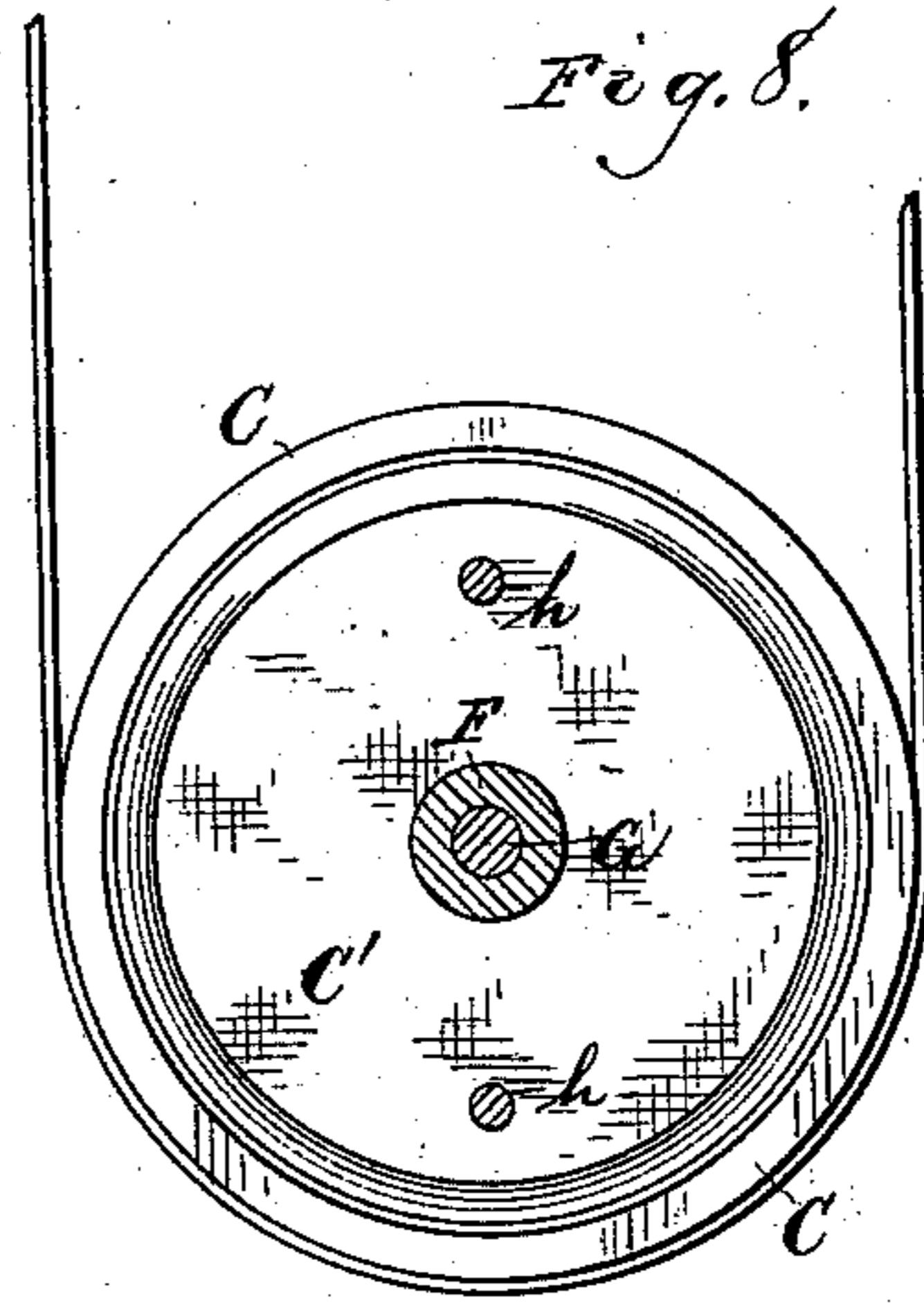


Fig. 8.

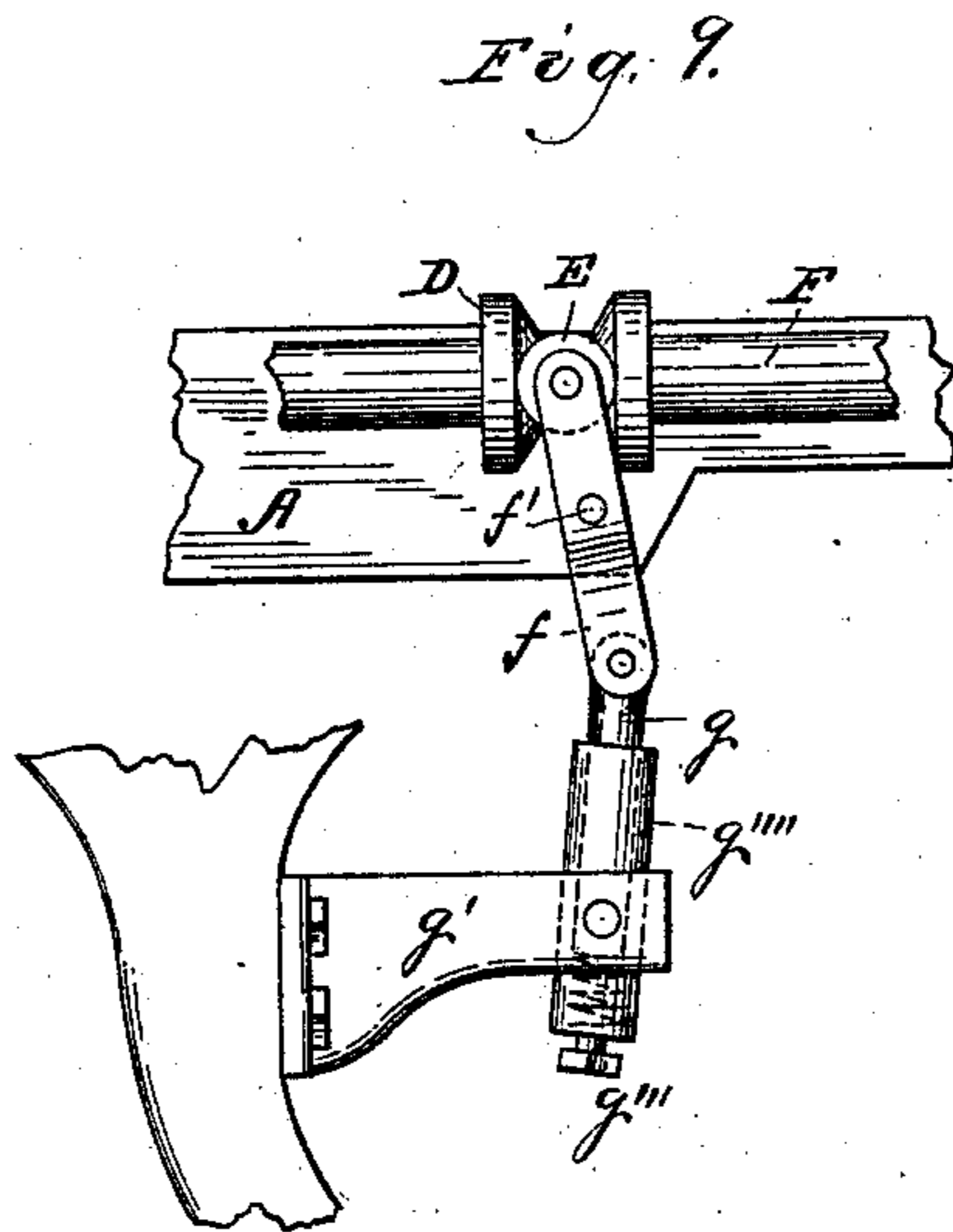


Fig. 9.

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UNITED STATES PATENT OFFICE.

FREDRICK P. ROSBACK, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES COLAHAN, OF CLEVELAND, OHIO.

METAL-PLANER.

SPECIFICATION forming part of Letters Patent No. 293,675, dated February 19, 1884.

Application filed September 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK P. ROSBACK, of Chicago, Illinois, have invented certain new and useful Improvements in Metal-Planers, of which the following is a specification.

The invention consists in improvements in devices for reciprocating the planer-bed steadily and uniformly, without the usual shock and jar which results from the use of gear-wheels and the many devices now in common use, and at the same time entirely dispense with the complicated expensive mechanism, and make my machine more compact, and requiring less room and power than the old forms of machines, while its operation is entirely noiseless. The frame-work A may be of the usual form, as may be the planer-bed B, all having the usual guides to insure the straight movement of the bed with the least friction, while the large screw which imparts movements thereto is secured in the usual manner under the planer-bed.

My invention consists in attaching directly to the outer end of this screw the power-pulleys, and making the said pulleys revolve in the direction desired, to secure the two-way or reverse movement thereof by means of a double friction-clutch that will alternately clasp and release the pulleys, to give the requisite reverse revolution to the screw that causes the planer-bed to travel back and forth on its ways or track; and it consists in devices constructed and operated substantially as hereinafter described, and shown in the drawings.

Figure 1 is a side elevation view of a planer embodying my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a longitudinal section. Fig. 4 is a section on line *ff* of Fig. 1. Fig. 5 is a detail view of sliding sleeve and its manner of attachment. Fig. 6 is a detail view of the wedged-shaped yielding stop-pin. Fig. 7 is a detailed section, showing construction of pulleys and the clutching-disk and the manner of operation. Fig. 8 is a sectional view on line *f'f'* of Fig. 7. Fig. 9 is a modification of yielding stop-pin and shifting-lever.

A is the main frame.

B is the platen or bed on which the mate-

rial is placed to be planed, and which is moved back and forth under the cutter by the screw F.

C C are the pulleys revolving the screw.

D is the sleeve, secured by means of a key or pin, *D'*, passing through a slot, *F'*, in the screw, which admits of an endwise adjustment of the clutch-sleeve in the slot *F'*, and to which the sliding bar or shaft *G*, that carries the friction-disk *C'*, is secured.

E is a roller of bevel form, placed one on each side of the shifting-lever *f*, and fitting the surface thereof closely.

F is the screw that imparts motion to the traversing carriage or table B.

G is the bar or shaft that connects the sleeve D to the friction-disk *C'*.

h h are pins or lugs fitted loosely in the disk *C'*, for the purpose of holding the operating-pulleys C C apart. Said pulleys revolve loosely on the screw-shaft when disconnected from the friction-disk *C'*. The friction-disk *C'* is fitted loosely on the screw-shaft, and is connected thereto by a pin or key, *C''*, which slides in the slotted hole *G'* in the screw-shaft F. Said pin or key is firmly secured in the shaft *G*, which carries or revolves the friction-disk *C'*, the slot *G'* admitting of the sliding of the disk or clutch shaft to and from the pulleys alternately, as required.

G'' is a cap retaining the pulley C on its shaft.

i i indicate a space between the pulley and its clutching-disk, which serves as an air cushion to prevent any shock or jar when the disk shall engage with the pulley.

a a are projecting or trip lugs secured to the side of the reciprocating table B.

b is a tripping arm or lever secured firmly to the rock-shaft *c*, which rock-shaft has its support on the main frame.

d is a rocking crank secured firmly to the shaft *c*, and connected to rod *e*, which is connected to the shifting-lever *f*, said lever *f* being supported by a pin, *f'*, secured to the main frame, which serves as its fulcrum, and upon which it vibrates, it being retained on either side by a wedged-shaped pin, *g*, which pin has a vertical movement in its supporting-arm *g'*, which is secured to the main frame, and rests

upon a coiled spring, g'' , adjustably secured by a set-screw, g''' .

D'' is a collar firmly secured to the stem or shaft F , to retain said screw firmly in the main frame A .

I claim as my invention—

1. In a metal-planing machine, the combination of a reciprocating table, B , the screw F , with its actuating-shaft G , disk C' , and pulleys $C C$, substantially as shown and described.

2. The combination of the carriage B , screw F , its actuating-shaft G , disk C' , and pulleys $C C$, provided with space $i i$, said space serving as an air cushion to the sliding disk C' , pulleys $C C$, and carriage B in its operation, substantially as shown and described.

3. The combination of the screw F , provided with slots $F' G'$, shaft G , with its pins or keys $D' C''$, disk C' , and pulleys $C C$, with the sliding carriage and the tripping devices, substantially as shown and described.

4. The planer-carriage B , provided with lugs $a a$, screw F , shaft G , clutch C' , pulleys $C C$, pins or keys $D' C''$, clutch-sleeve D , rock-shaft c , and crank-levers $b d$, rod e , and clutch-lever f , to impart reciprocating movements to said carriage, substantially as shown and described.

5. The sliding carriage B , provided with the lugs $a a$, the rock-shaft c , its crank-levers $b d$, rod e , clutch-lever f , stop-pin g , clutch-sleeve D , and rollers $E E$ and shaft G , for im-

parting reciprocating movements to disk C' , in combination with the pulleys $C C$ and the screw F , whereby the planer-bed is caused to move back and forth.

6. The pulleys $C C$ and their belts traveling in opposite directions, the friction-disk C' , its sliding pins $h h$, reciprocating shaft G , and its pin G'' , for imparting rotary movement to shaft F , substantially as shown and described.

7. The shifting-lever f , its fulcrum f' , bevel-wheels $E E$, sleeve D , vertical sliding stop-pin g , provided with its spring g'' , and set-screw g''' and supporting-arm g' , substantially as and for the purpose set forth.

8. In the mechanism imparting a reciprocating movement to a planer, the screw F , the friction-disk C' , and the pins $h h$, fitted loosely therein and projecting beyond the sides thereof, in combination with the pulleys $C C$, whereby a space is secured for compression of air, which serves as a cushion, preventing sudden shock or jar in the shifting of said friction-disk, substantially as shown and described.

9. The reciprocating friction-clutch C' , provided with its two bevel-edges, for alternately engaging pulleys $C C$, and its sliding pins $h h$, shaft G , and screw F , substantially as shown, and for the purpose described.

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Witnesses:

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