

(No Model.)

3 Sheets—Sheet 1.

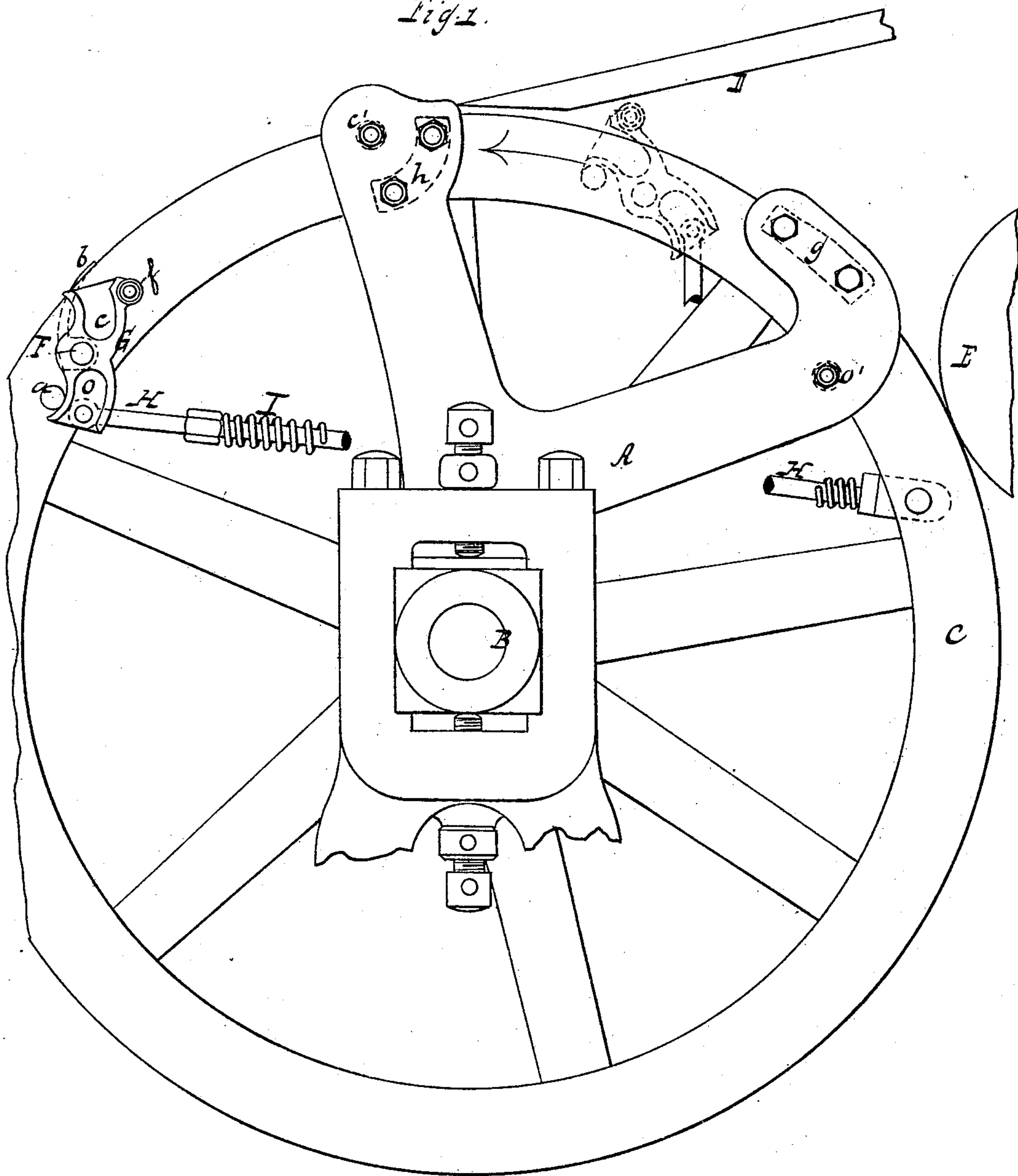
G. P. FENNER.

GRIPPER MOTION FOR PRINTING PRESSES.

No. 272,674.

Patented Feb. 20, 1883.

Fig. 1.



WITNESSES:

William Miller
Otto Aufeland

INVENTOR

George P. Fenner.

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ATTORNEYS

(No Model.)

3 Sheets—Sheet 2.

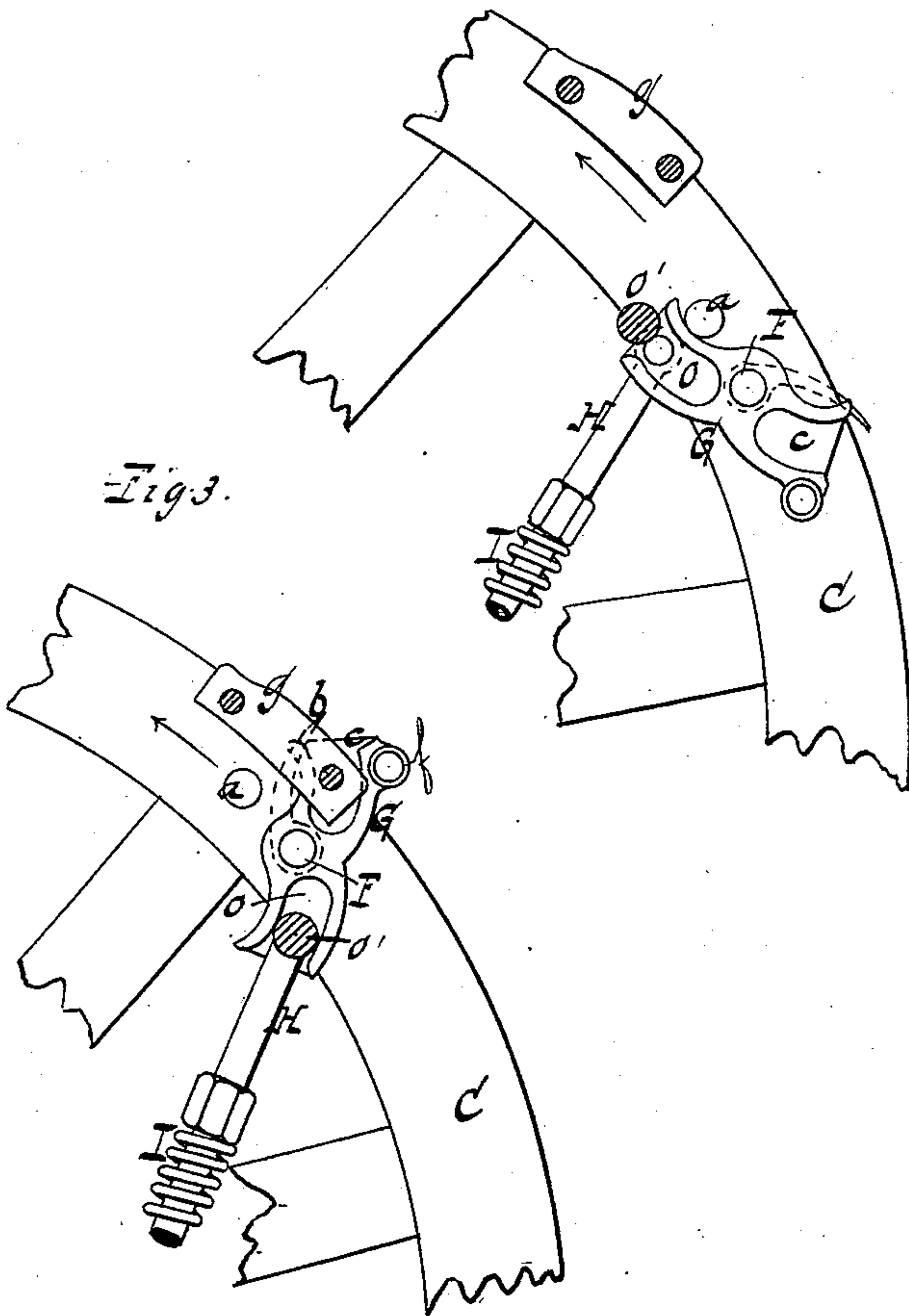
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Fig. 2.

Fig. 3.



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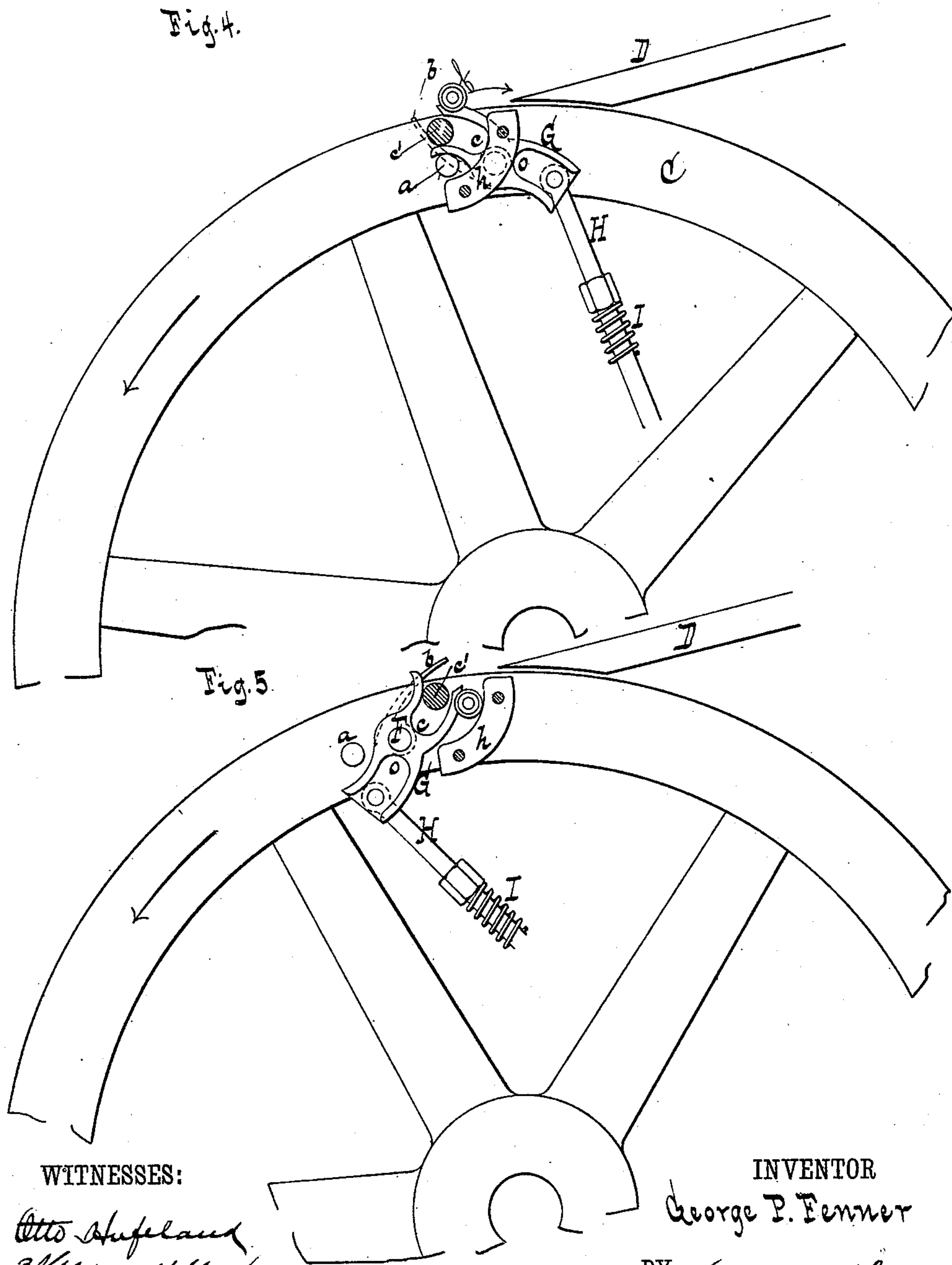
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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

GEORGE P. FENNER, OF NEW LONDON, CONNECTICUT.

GRIPPER-MOTION FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 272,674, dated February 20, 1883.

Application filed August 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. FENNER, a citizen of the United States, residing at New London, in the county of New London and State of Connecticut, have invented new and useful Improvements in Gripper-Motions for Printing-Presses, of which the following is a specification.

This invention relates to gripper-operating mechanism for the impression-cylinders of printing-presses, and has for its object to provide novel means for gradually opening and closing the grippers in such manner as to effectually avoid noise.

The object of my invention I accomplish by the mechanism hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 represents an end view of a portion of a cylinder printing-press provided with my gripper-motion. The remaining figures show the parts constituting my gripper-motion in different positions in relation to each other, which will be explained as the description progresses.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a portion of the frame, which forms the bearings for the shaft B of the impression-cylinder C.

D is the feed-table, and E the tape-wheel, which forms a portion of the sheet-delivery apparatus.

F is the gripper-shaft, which is connected to the impression-cylinder in the usual manner.

On the end of this shaft is mounted a double-recessed toe, G, the recesses in said toe being curved in such a manner as to allow them to come into contact with the studs *c' o'* (hereinafter described) without creating any noise. The

toe ordinarily used in gripper-motions has both sides of its recesses straight, so that when said recesses come into contact with the stationary studs in the frame an objectional noise is produced. In my gripper-motion I have curved

the sides of the recesses in the toe so as to prevent this noise. The inner surface of this curved toe is connected to the rod H, which carries the gripper-actuating spring I. A stop, *a*, limits the turning motion of the toe G in either direction. The impression-cylinder revolves in the direction of the arrow marked on

it in Fig. 1, and the position of the toe G is shown in this figure in full lines when the grippers *b* are closed and in dotted lines when the grippers are open. As the cylinder revolves the sheet which is held by the grippers receives the impression, and when the sheet arrives at the delivery-wheel E the grippers are opened and the sheet is carried off by the delivery apparatus. The operation of opening the grippers is effected as follows: When the grippers have reached the position shown in Fig. 2 the curved opening-recess *o* of the toe G engages with a stud, *o'*, which projects from the inner side of the frame A, and as the motion of the cylinder progresses the gripper-shaft is turned in the direction of the arrow marked near it in Fig. 2, and the grippers are opened. On account of the curved form of the recess *o* this motion takes place without noise. When the recess *o* clears the stud *o'* the grippers would, left free to follow the action of the spring I, come down with a bang, creating a disagreeable noise. In order to prevent this noise, I have attached to the toe G a roller-stud, *f*, which is brought in the position shown in Fig. 3 before the recess *o* clears the stud *o'*, and after the stud *o* clears that stud the roller-stud *f* bears upon a cam, *g*, secured to the inner surface of the frame A, the outer surface of this cam being so shaped that the grippers will open gradually and without the least noise. After the grippers have been opened the toe G assumes the position shown in dotted lines in Fig. 1, and when the gripper-shaft has arrived in the position shown in Fig. 4 the curved closing-recess *c* of the toe G engages with a stud, *c'*, projecting from the inner surface of the frame A, and the grippers are gradually closed, so as to take hold of the sheet fed over the feed-table D. The recess *c*, being curved, engages with the stud *c'* gradually, so as to prevent noise. Before the recess *c* clears the stud *c'* the roller-stud *f* of the toe G engages a cam, *h*, (see Fig. 5,) secured to the inner surface of the frame A, and the grippers are prevented from closing with a bang. At the moment when the roller-stud *f* clears the inner surface of the cam *h* the grippers have almost closed, and they close instantly after the roller-stud has cleared the cam. It must be remarked that the roller-stud *f* and the cams *g h* can be used in connection

with a toe, G, having straight recesses. By these means I not only avoid the noise, but I gain another advantage—viz., a correct registration.

5 What I claim as new, and desire to secure by Letters Patent, is—

1. The toe G, having at each end a recess interiorly curved in the manner described, in combination with the impression-cylinder C, the gripper-carrying shaft F, and the supporting-frame A, provided with the stationary studs *c'* and *o'*, substantially as and for the purpose specified.

15 2. The toe G, provided at one end with the stud *f*, and having each end constructed with a recess interiorly curved in the manner described, combined with the impression-cylinder C, the gripper-carrying shaft F, and the supporting-frame A, provided with the sta-

tionary cam *h* and studs *c'* and *o'*, substantially as and for the purpose specified. 20

3. The toe G, provided at one end with the roller-stud *f*, and having each end constructed with a recess interiorly curved in the manner described, combined with the impression-cylinder C, the gripper-carrying shaft F, the rod H, the spring I, and the supporting-frame A, provided with the two stationary stops *c'* and *o'* and two cams, *g* and *h*, substantially as and for the purpose described. 25 30

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

GEORGE P. FENNER. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.