

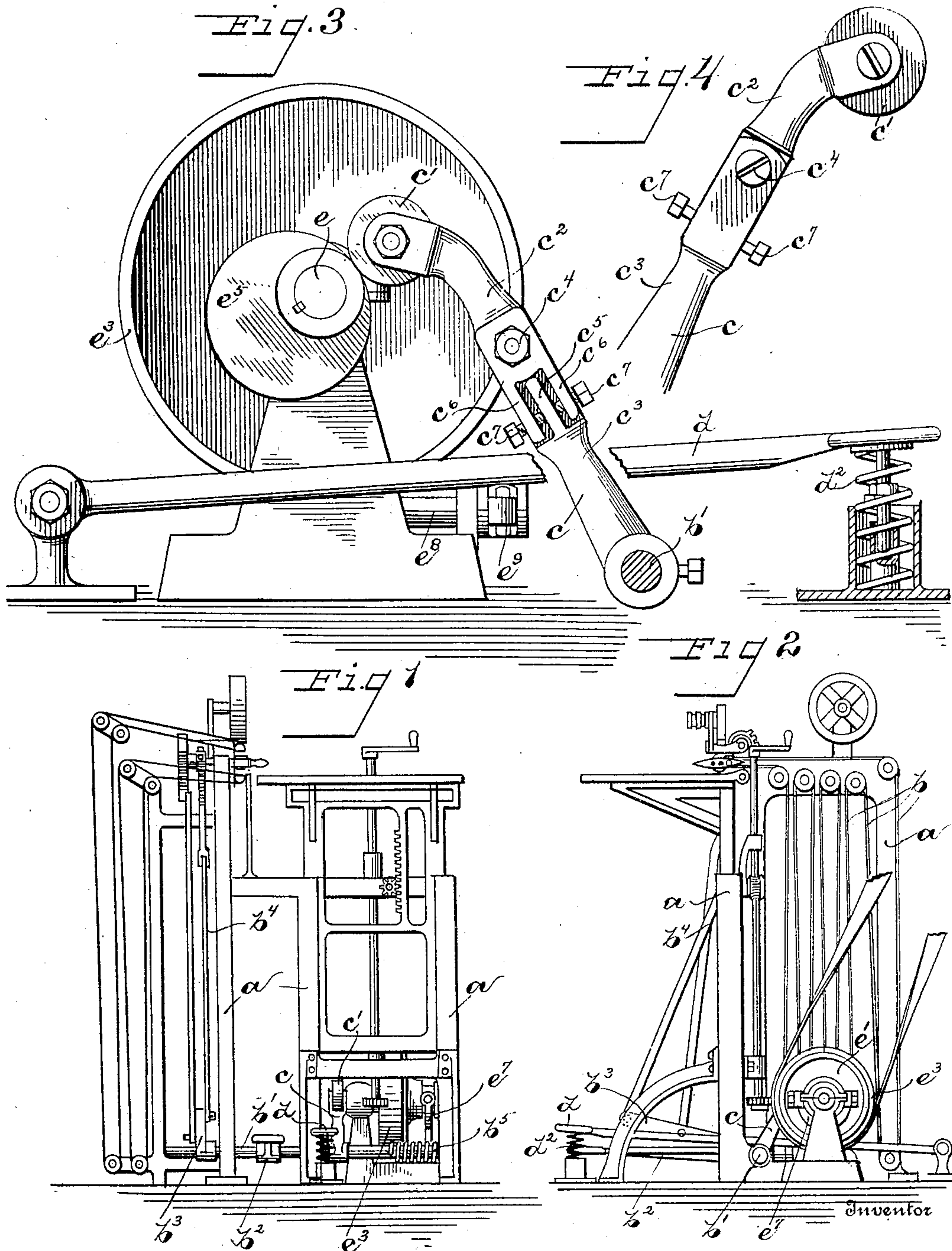
No. 810,577.

PATENTED JAN. 23, 1906.

G. STAHL.
PAGING MACHINE.

APPLICATION FILED DEC. 12, 1904.

2 SHEETS—SHEET 1.



Witnesses
H. L. Walker
Chas. D. Welch

George Stahl.
Staley & Bowman
Attorneys

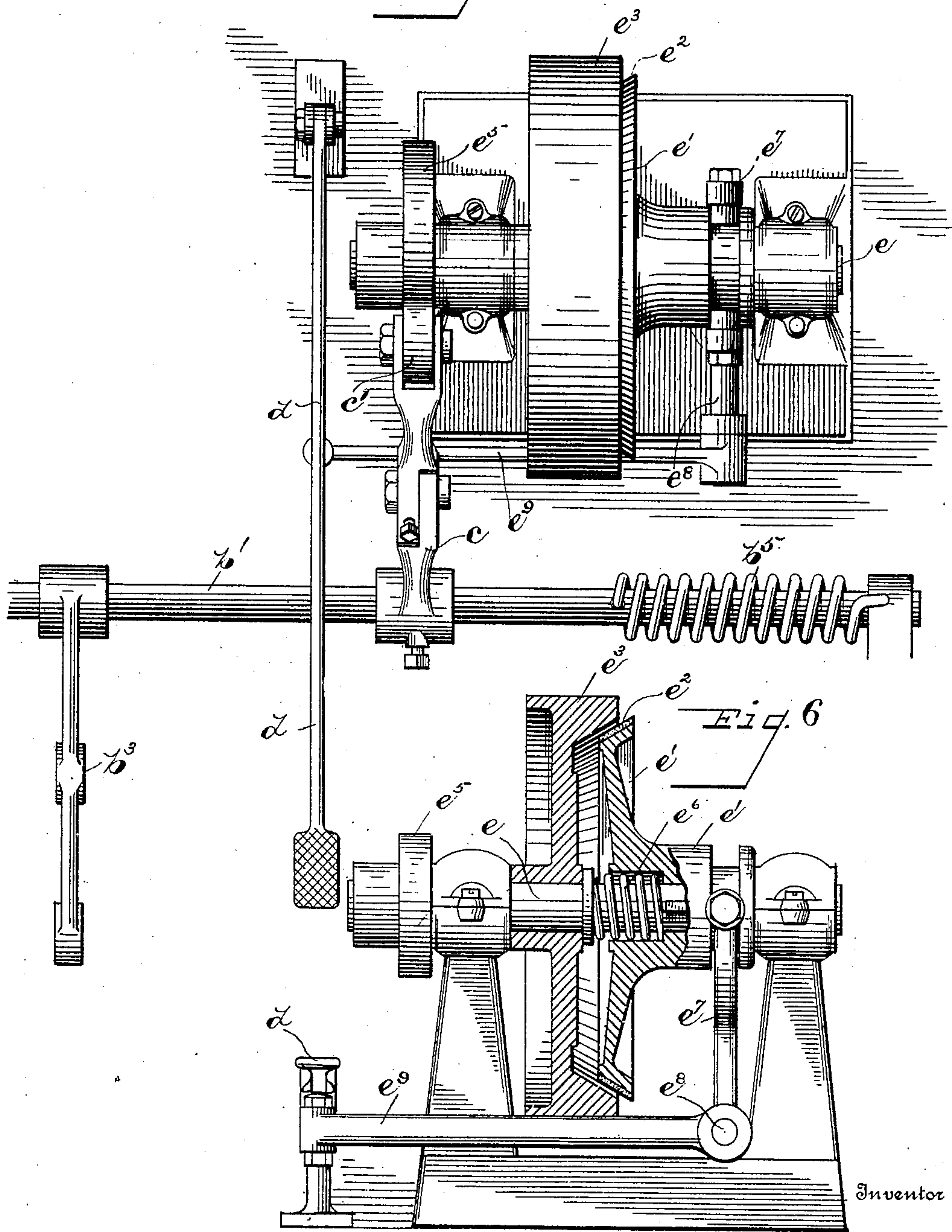
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Fig 5



Witnesses
Dwight Walker
Chas. J. Welch

By

George Stahl
Staley & Bowman
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE STAHL, OF DAYTON, OHIO, ASSIGNOR OF ONE-FOURTH TO
WILLIAM P. COFFMAN AND ONE-FOURTH TO JOHN I. COFFMAN,
OF DAYTON, OHIO.

PAGING-MACHINE.

No. 810,577.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Application filed December 12, 1904. Serial No. 236,454.

To all whom it may concern:

Be it known that I, GEORGE STAHL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Paging-Machines, of which the following is a specification.

My invention relates to improvements in paging-machines, and it relates in its nature to a power attachment for paging-machines by means of which impressions may be given at the proper uniform pressure from any convenient source of motive power.

Paging-machines generally are adapted to run by manual effort applied by the operator through a foot-lever. By my invention I provide means by which power can be applied from a continuously-rotating part and the machine operated in substantially the same manner as though the power was applied by the foot of the operator, the control of the power mechanism being regulated by a foot-treadle in much the same way as the power is furnished in manually-operated machines, but without the manual effort required.

My invention consists in the construction and combinations of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a paging-machine to which my invention is applied. Fig. 2 is a side elevation of same. Fig. 3 is a side elevation of the power devices detached and partly broken away and sectioned for clearness. Fig. 4 is a detail of the same. Fig. 5 is a plan view of the power attachment, and Fig. 6 a sectional elevation of one of the operating parts.

Like parts are represented by similar letters of reference in the several views.

In the drawings, *a* represent the main frame of a paging-machine, which may be of the usual construction having the numbers arranged on endless belts *b* and adapted to be moved at each stroke of the main operating-shaft *b'* in the usual manner. This shaft *b'* is adapted to be operated by a foot-treadle *b²* in the usual manner and operates a crank-arm *b³* and connection *b⁴*. The inking, printing, and changing of the consecutive-numbering devices are effected in the usual way and need no further description.

To provide for operating this machine by power, I place upon the main shaft *b'* an adjustable arm *c*. Adjacent to the shaft *c* and to the frame of the machine I provide a counter-shaft *e*, having thereon a sliding friction collar or disk *e'*, the outer periphery of which is formed with a tapering surface *e²*, adapted to fit in a similar-shaped recess in the side of a loose pulley *e³*. Power is supplied to this loose pulley from any convenient source so that it runs continuously. On the shaft *e* is also mounted a cam *e⁵*, and the adjustable arm *c* is provided with a roller *c'*, which bears against said cam. The oscillating shaft *b'* is provided with a stiff spring *b⁵*, which presses the arm *c* and the roller *c'* firmly against the cam and by reason of the shape of said cam *e⁵* will force the shaft *e* to turn to a position determined by the lowest point of the cam, when the shaft is free to move independent of the loose pulley *e³*. The clutch-collar *e'* is provided with means for shifting it back and forth on the shaft *e*, a splined connection being preferably employed. A spring *e⁶* presses the collar away from the loose pulley, and a bifurcated arm *e⁷*, operating in a groove in the clutch-collar *e'*, will when moved against said collar force the same into engagement with the pulley. This bifurcated arm *e⁷* is mounted on a short shaft *e⁸*, which is suitably journaled in the frame which supports the shaft *e* and extends at right angles to the arm *e⁷*, and is provided also with an extended arm or lever *e⁹*, which makes with the said shaft a bifurcated-arm and bell-crank arrangement. This arm *e⁹* is extended downwardly and rests under a foot-treadle *d*, which is adapted to contact therewith. This foot-treadle *d* at its outer end is preferably provided with a supporting-spring *d²* and is independent of the usual foot-treadle *b²* of the paging-machine. The application of pressure to the foot-treadle *d* will cause the clutch-collar *e'* to impinge in the pulley, and thus rotate the shaft *e*. The moment the pressure is relieved the spring *e⁶* will force the collar out of engagement and the shaft *e* will be disconnected from the pulley. The spring *b⁵*, acting through the arm *c* on the cam *c'*, will, however, cause said shaft to rotate until the cam reaches its lowest point, or substantially so, as shown in Fig. 3, when it will be held at rest so that the shaft *e'* will always be

stopped in substantially the same place and will thus produce, if desired, a single stroke of the paging apparatus while the pulley continues to rotate. In order to secure the proper pressure at the point where the impression is made, the arm *c* is provided with an adjustment—that is to say, said arm *c* is made in two parts *c*² and *c*³, hinged together at *c*⁴. One of the parts *c*³ is provided with a web *c*⁵, which extends between two projecting wings *c*⁶ of the other part, and set-screws *c*⁷ are provided on each side of said web *c*⁵, so that the parts *c*² and *c*³ may set at an angle one to the other, and thus change the movement of the shaft *b*' and adjust the pressure to be applied to the platen or type in making the paging impression.

It will be seen that as thus described the device is capable of being attached to any paging-machine and in such a manner as not to interfere with the operation of the machine wholly by manual power, if desired. At the same time the application of power to the printing parts can be secured by a movement which to the operator is substantially the same as when operating it by manual power.

The friction parts between the collar and the continuously-running pulley are preferably made of a conical shape with a strong taper, so that they will be readily disconnected, at the same time being held sufficiently tight to cause the revolution of the cam the moment the pressure is applied thereto.

Having thus described my invention, I claim—

1. In a paging-machine, the combination with the printing mechanism, an arm for operating the same, a continuously-rotating part, a normally stationary cam, means for connecting said rotary part to said cam, and an adjustable cam-arm connected with the actuating-arm of the printing mechanism, substantially as and for the purpose set forth.

2. The combination of the printing mechanism with the actuating-arm, of an oscillating shaft, a spring on said shaft, a cam-arm

also on said shaft, a cam contacting with said cam-arm, a rotating part, and a friction device between said rotating part and cam, substantially as specified.

3. In a paging-machine, the combination with printing mechanism, of a cam, driving mechanism, a shaft to be oscillated, a cam-arm connected to said shaft and contacting said cam, means for intermittently connecting said driving mechanism and said cam to give an initial movement to said cam, and means to complete the revolution of said cam by the pressure of said cam-arm on said cam, substantially as specified.

4. The combination of the printing device with a rotating pulley having a cone-shaped recess, a cone-shaped friction-clutch adapted to engage the same spring-pressed away from said pulley, a bell-crank connection to operate said friction-clutch, a foot-lever to operate said bell-crank connection, a cam connected to said clutch, a cam-arm adapted to engage the same, said cam-arm being mounted on a spring-actuated oscillating shaft, and a connection from said oscillating shaft to the printer, substantially as specified.

5. In a paging-machine, the combination with a printing device of a support, a horizontal shaft supported in bearings therein, a cam carried by said shaft, a driving member on said shaft, a clutch between said driving member and said shaft, means for normally holding said clutch in its inoperative position, a lever engaging the movable part of said clutch to operate same, a shaft forming the main operating device of the machine to be operated, a cam-arm on said shaft contacting the cam on said horizontal shaft, and a spring to yieldingly hold said cam-arm in contact with said cam, substantially as specified.

In testimony whereof I have hereunto set my hand this 8th day of December, A. D. 1904.

GEORGE STAHL.

Witnesses:

CHARLES E. DENNY,
DANIEL W. KNEISLY.

It is hereby certified that in Letters Patent No. 810,577, granted January 23, 1906, upon the application of George Stahl, of Dayton, Ohio, for an improvement in "Paging-Machines," errors appear requiring correction, as follows: In the grant and in the printed head of the specification it is stated that said applicant had assigned "one-fourth to William P. Coffman and one-fourth to John I. Coffman," whereas it should have been stated that said applicant had assigned *one-third to William P. Coffman and one-third to John I. Coffman*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of February, A. D., 1906.

[SEAL.]

F. I. ALLEN,
Commissioner of Patents.