

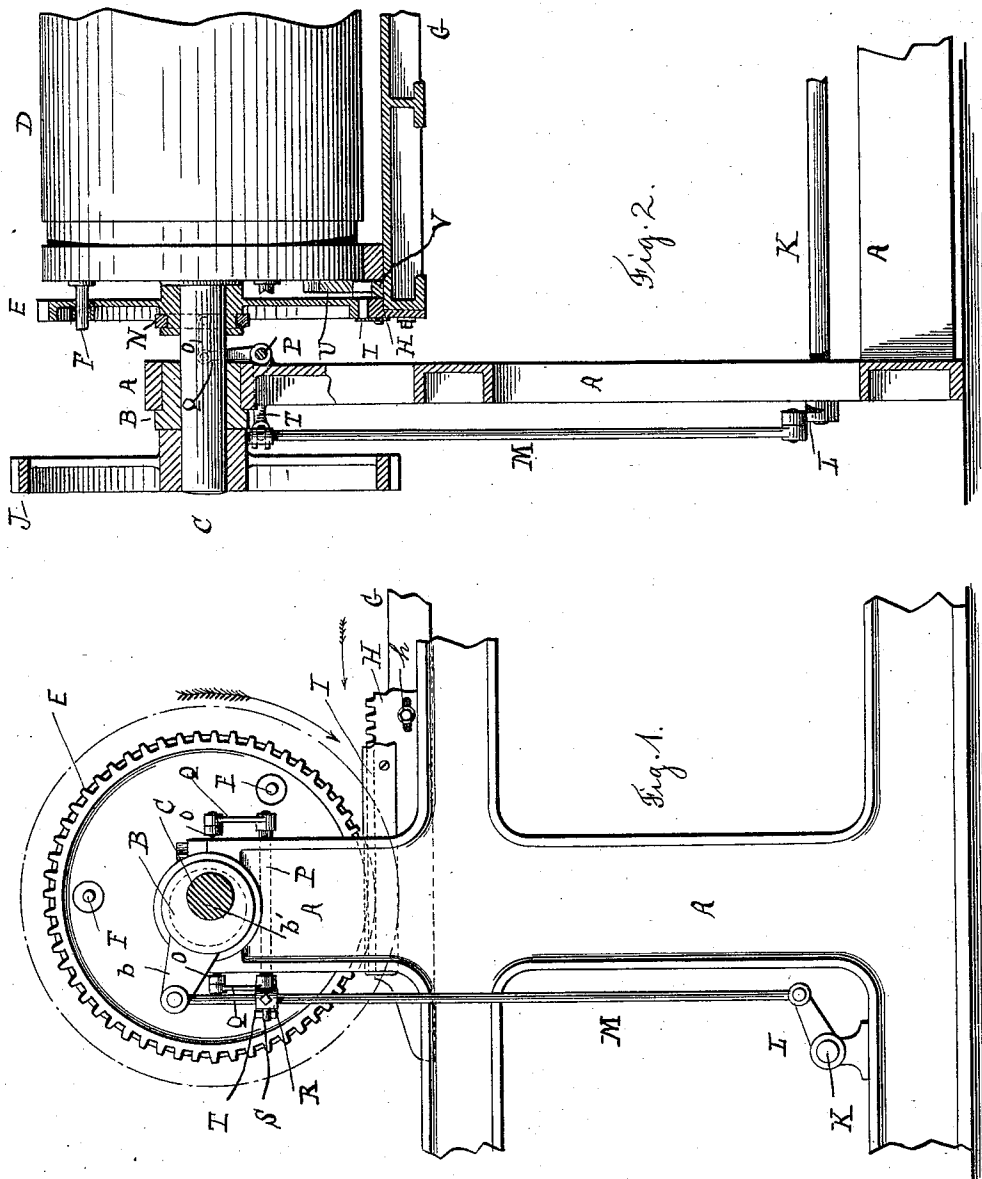
(No Model.)

W. S. HUSON.

REGISTERING MECHANISM FOR PRINTING PRESSES.

No. 577,555.

Patented Feb. 23, 1897.



Witnesses

Chas. F. Gundry
E. M. Healy

Inventor

W. S. Huson,

By his Attorney

Louis W. Southgate

UNITED STATES PATENT OFFICE.

WINFIELD S. HUSON, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO THE CAMPBELL PRINTING PRESS AND MANUFACTURING COMPANY, OF NEW YORK.

REGISTERING MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 577,555, dated February 23, 1897.

Application filed May 23, 1892. Serial No. 434,814. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. HUSON, a citizen of the United States, residing at Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Registering Mechanism for Printing-Presses, of which the following is a specification.

The aim of this invention is to produce a new and improved registering mechanism for printing-presses which will secure absolute and perfect register between the impression-cylinder and reciprocating bed of the printing-press.

The invention is especially designed and adapted for use in connection with the two or multi revolution single or multi cylinder printing-press, though of course the same may be adopted for use with any form of cylinder-press, and with this understanding I will further describe my invention as applied to the ordinary well-known two-revolution single-cylinder printing-press.

My invention consists of the device described in this specification and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of enough of a two-revolution single-cylinder printing-press to illustrate my invention. Fig. 2 is a sectional elevation at right angles to Fig. 1.

Referring to the drawings and in detail, A represents the usual framing of the printing-press, in which are journaled the usual eccentric bushings B, and in these eccentric bushings B is journaled or mounted the shaft C, upon which the impression-cylinder D is mounted. On the shaft C is loosely mounted the registering-gear E, as shown, and projecting from the side face of the cylinder D are pins or studs F, which fit in holes bored into bosses on the gear E, as shown. Thus it will be seen that impression-cylinder D and registering-gear E are tied together, but that the gear E may be shifted laterally on the shaft C. A keyway cut in the shaft C is equivalent to this construction, but the pins shown are preferred because they are stronger and more of them can be used, and by the use of the same the connection is brought as near to the teeth of the gear E as possible.

G represents the usual reciprocating bed. A registering-rack H is attached to the same by means of bolts *h*. Bolted to the side of the rack H is a guard I, the top of which projects slightly above the teeth of the rack.

The usual driving-gear J is mounted on the outside of the shaft C, and by means of the same the impression-cylinder D is rotated.

K represents the usual oscillating shaft, which is connected by arms or levers L and links or connections M to the arms *b* of the eccentric bushings B.

It will be seen that in the particular device under consideration the center *b'* of the bushings B is placed next to the rod M and that the center of the shaft C is placed on the other side of center *b'* from the links M. By this arrangement when links M are pulled down the impression-cylinder D will be raised, and when links M are pushed up the impression-cylinder D will be lowered.

Fastened to the hub of the gear E is a yoke N, which is fitted laterally on the gear E, but which is independent circumferentially of the gear, whereby the yoke N may remain stationary and the gear E revolve.

The yoke N is connected by two links O to the levers Q, which are mounted on a small transverse shaft P, which is journaled on the inside of the frame, as shown, and on one end of this shaft is attached the lever or arm T, which has an open mouth, as shown.

Fastened on one of the links M is block R, which has a projecting pin S, which engages the mouth of lever T.

A starter-segment U of the usual form is secured to the side of the impression-cylinder D inside of the registering-gear, as shown, and the same coöperates in the usual manner with the short starter-rack V to start the bed and impression-cylinder in proper register. This starter segment and rack are not necessary in all constructions, but may be used on some of the larger forms of presses.

The operation of my device is apparent and as follows: The parts are shown in the drawings with the bed commencing its forward or printing stroke, the impression-cylinder D lowered to coact with the bed, and the registering-gear moved in toward the cylinder D to

coöperate with the registering-rack H. Now when the bed has completed its forward stroke to the left the rack H will be beyond the gear E, so that the gear E may be shifted laterally. Now when the bed is at its extreme the shaft K is oscillated and the links M pulled down. This, as before described, will raise the impression-cylinder D, so that the same will clear the bed G as the bed makes its retrograde stroke; also, by means of the links and connections before described by the downward movement of the links M the gear E will be shifted laterally to disengage from the rack H, or out of the vertical plane of said rack. Then when the bed makes its retrograde movement the impression-cylinder D will be raised from the bed, and the gear E will be out of mesh with the rack H. When the bed has completed its retrograde movement, the links M will be raised and impression-cylinder D lowered and the registering-gear E moved in to engage the registering-rack H, or into the plane of said registering-rack. The bed has the usual amount of stroke, so that as the bed is at its extremes in either direction the rack H will be beyond the registering-gear E.

Thus it will be seen that I have invented a device by which the cylinder and bed may be nicely kept in absolute register on the printing stroke and by which the same are entirely independent on the retrograde stroke of the bed.

The guard I, mounted on the side of the rack H, is useful and important in that it prevents gear E, when in mesh with the rack H, from sliding out of mesh, and also in that it prevents gear E, when the same is out of mesh, from accidentally moving inwardly to engage the rack I, and thus breaking the teeth of the registering mechanism.

The details and arrangements of parts herein shown and described may be varied by a skilled mechanic without departing from the scope of my invention as expressed in the claims.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a cylinder printing-press, the combination of the impression-cylinder having a registering-gear connected to turn the same, the reciprocating bed, having a registering-rack adapted to coact with said registering-gear, and means for shifting said gear laterally so that the rack and gear will be in mesh on one stroke and out of mesh on the other stroke of the bed, substantially as described.

2. In a cylinder printing-press, the combination of the impression-cylinder, having a registering-gear connected to turn with the same, the reciprocating bed having a registering-rack mounted on the same, means for moving said gear laterally so that the same will alternately engage and disengage with said registering-rack, and a guard as I secured to the side of said rack, substantially as described.

3. The combination in a cylinder printing-press, of the impression-cylinder having a registering-gear connected to turn with the same, the reciprocating bed having a registering-rack mounted on the same, means for moving one of these registering instrumentalities laterally so that the same will alternately be in and out of mesh, and a starter-segment and rack secured to said cylinder and bed respectively, substantially as described.

4. The combination in a cylinder printing-press of the impression-cylinder having a registering-gear, the reciprocating bed having a registering-rack mounted on the same, means for moving the registering-gear laterally so that the registering mechanism will be alternately in and out of mesh, and a starter-segment and rack secured to said cylinder and bed respectively, substantially as described.

5. The combination in a cylinder printing-press of the shaft C having the impression-cylinder D mounted on the same, the registering-gear E loosely mounted on said shaft C, pins F projecting from the side of the cylinder D and passing through holes in the registering-gear E, means for shifting said registering-gear laterally, and the reciprocating bed G having the coöperating registering-rack H substantially as described.

6. In a cylinder printing-press the combination of the impression-cylinder D having a registering-gear E connected to turn with the same, the yoke N mounted on the hub of said gear E, connections to said yoke N adapted to shift the gear E laterally, and the reciprocating bed G having the coöperating registering-rack H mounted on the same, substantially as described.

7. The combination in a cylinder printing-press of the impression-cylinder, and a mechanism for raising and lowering the same, the registering-gear connected to turn with the impression-cylinder, but capable of a lateral movement, connections from the impression-cylinder raising and lowering mechanism to the registering-gear, whereby said registering-gear will be synchronously laterally shifted as the impression-cylinder is raised and lowered, and the reciprocating bed, having a registering-rack secured to the same, adapted to coact with said registering-gear, substantially as described.

8. In a cylinder printing-press, the combination of the impression-cylinder having a registering-gear connected to turn with the same, a reciprocating bed having a registering-rack adapted to coact with said registering-gear, one of these registering mechanisms being adjustable, and means for shifting one of the registering mechanisms laterally so that the registering mechanism will be in mesh on one stroke, and out of mesh on the other stroke of the bed, substantially as described.

9. In a cylinder printing-press, the combination of the impression-cylinder having a registering-gear connected to turn with the same, the reciprocating bed carrying a longitudinal

nally-adjustable registering-rack adapted to
coact with said registering-gear, and means
for shifting one of said registering mechan-
isms laterally so that the registering mech-
anism will be in mesh on one stroke, and out
of mesh on the other stroke of the bed, sub-
stantially as described.

10 In a cylinder printing-press, the com-
bination of the impression-cylinder having a
registering-gear, the reciprocating bed carry-
ing a longitudinally-adjustable registering-
rack, and means for shifting said gear lat-

erally so that the rack and gear will be in
mesh on one stroke, and out of mesh on the
other stroke of the bed, substantially as de- 15
scribed.

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

WINFIELD S. HUSON.

Witnesses:

LOUIS W. SOUTHGATE,
E. M. HEALY.

It is hereby certified that in Letters Patent No. 577,555, granted February 23, 1897, upon the application of Winfield S. Huson, of Taunton, Massachusetts, for an improvement in "Registering Mechanism for Printing Presses," an error appears in the printed specification requiring correction as follows: On page 2, line 52, after the word "turn" the word *with* should be inserted; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 6th day of April, A. D., 1897.

[SEAL.]

JNO M. REYNOLDS,
Assistant Secretary of the Interior.

Countersigned:

S. T. FISHER,
Acting Commissioner of Patents.