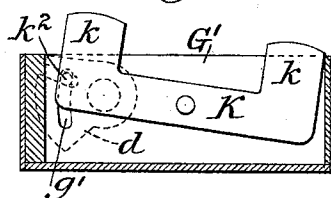
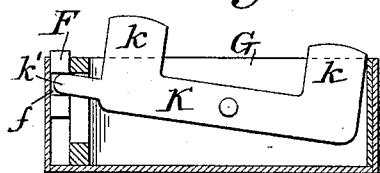
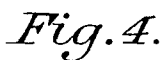
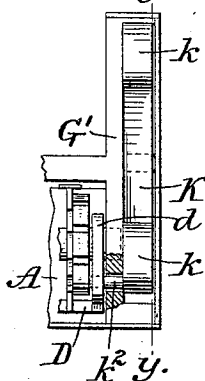
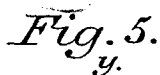
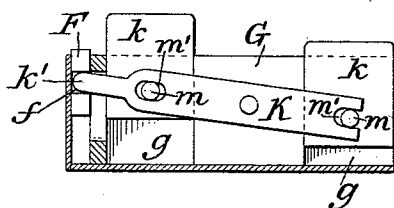
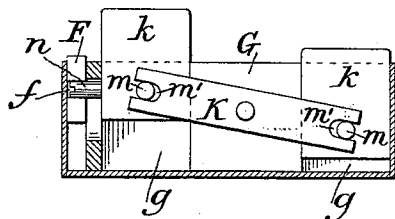
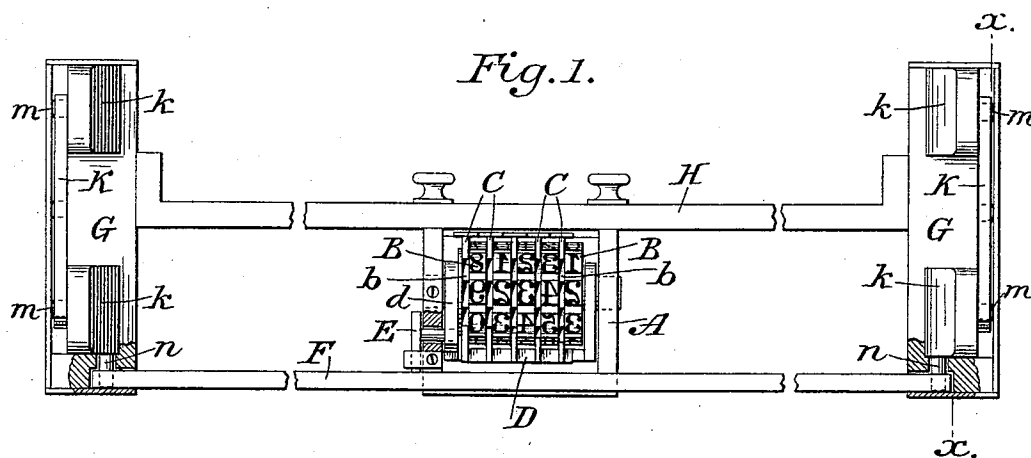


(No Model.)

F. SANDERS.
NUMBERING MACHINE.

No. 520,968.

Patented June 5, 1894.



Attest:

A. N. Jesbera.
A. K. Idider.

Inventor:

Frank Sanders
by William B. Greeley
Atty.

UNITED STATES PATENT OFFICE.

FRANK SANDERS, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOSEPH WETTER,
OF SAME PLACE.

NUMBERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 520,968, dated June 5, 1894.

Application filed July 11, 1893. Serial No. 480,128. (No model.)

To all whom it may concern:

Be it known that I, FRANK SANDERS, a subject of the Emperor of Germany, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Numbering-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to numbering machines which are adapted to be secured to the bed-plate or cylinder of a printing-press or to be locked in the form with the type.

Heretofore, so far as I am aware in numbering machines of this class, the plunger, which is operated as each impression is made by the press and, through suitable intermediate mechanism, advances the numbering-wheels, has been seated upon a spring or otherwise adapted to be returned to position by a spring after it has been operated. I have discovered that in presses in which there is a lateral or rolling motion of the impression surface with respect to the bed-plate, or vice versa, that is to say, in presses in which the type-carrier and the paper carrier do not move bodily toward and from each other, as, for example, in cylinder and rotary presses, the spring to return the plunger after operation may be dispensed with and the mechanism for actuating the numbering-head be thereby made more durable and less likely to be broken or put out of order. The device which I have substituted for the usual spring-seated plunger comprises essentially a rocking or tilting plunger having a contact point connected or attached to each end of the same, so that as the impression cylinder or other moving part of the press approaches and moves over the numbering mechanism it first strikes and depresses one side or end of the plunger, throwing the other upwardly or outwardly, and immediately thereafter strikes the second side or end, depressing that and throwing the first upwardly or outwardly. The rocking plunger may be connected in any suitable manner to the actuating mechanism

of the numbering-head and effects the advance of the wheels in the usual manner.

In the accompanying drawings I have represented several different embodiments of my invention and it will be understood readily that many other different forms might be devised without departing from the spirit of my invention.

In the said drawings: Figure 1 is a plan view, partly in section, of a numbering mechanism to which my present improvements are applied. Fig. 2 is a section on the irregular line $x-x$ of Fig. 1. Fig. 3 is a view similar to Fig. 2 but showing a different mode of connecting the plungers to the numbering-head. Fig. 4 is also a view similar to Fig. 2 but showing a slightly modified form. Fig. 5 is a plan view illustrating still another form of my improvement. Fig. 6 is a section on the line $y-y$ of Fig. 5.

In Fig. 1 of the drawings I have shown a numbering mechanism which, except so far as concerns my present improvement, is substantially the same as that shown in Letters Patent of the United States, No. 497,729, granted to me May 16, 1893, and to which reference may be had for a description of the numbering-head. It will be understood, however, that my invention is entirely independent of the particular construction or arrangement of the numbering-head and that, as my improvement takes the place of the usual spring-seated plunger, the connection between the improved device and the actuating mechanism of the numbering-head may be made in any desired manner.

Referring to the construction shown in Figs. 1 and 2, a numbering-head is represented at A in Fig. 1 as having the usual numbering-wheels B, B, mounted upon a fixed axis, ratchet-wheels b, b , stop-pawls C, C, and swinging pawl-frame D. The latter is represented, as in my said patent, as adapted to be actuated by a finger E which projects from the vertically movable bar F. The latter is guided at its ends in the blocks or frames G, G, which are adapted to be secured to the bed-plate and to which are fixed the ends of the supporting-bar H of the numbering-head.

In the construction shown in my said patent

ent, the block G supports and guides the spring-seated plunger, so, in the present case, it forms the support for the double rocking plunger. The latter may be arranged in many different ways but for convenience I have represented it in the several figures of the drawings as composed of a bar K which is pivoted at its middle to the block G and has connected or attached to its ends or formed thereon two single plungers or contact points k, k . The bar K and the contact points k, k , are so disposed and proportioned that as the impression cylinder moves over or with respect to them the bar will be rocked first in one direction and then in the other. This motion may be transmitted in any desired way to the actuating mechanism of the numbering-head and so effect the proper advance of the numbering-wheels as each impression is made by the press.

As represented in Figs. 1 and 2, each single plunger or contact point k moves vertically in a recess g formed in the side of the block G and is connected to the corresponding end of the bar K by a pin and slot connection m, m' . One of the single plungers or contact points k is represented as having a pin n , which engages a notch f in the corresponding end of the bar F which, in this case may be taken as representing the actuating mechanism of the numbering-head. In Fig. 3 the single plungers or contact points k, k , are represented as connected to the rocking-bar K in a similar manner but the bar K itself is shown as having a finger or extension k' which engages the notch f in the end of the bar F in place of the pin n shown in Fig. 2. In Fig. 4 the plungers or contact points k, k , are shown as formed in one piece with the bar K while the latter, as in Fig. 3, has a finger or projection k' to engage the actuating mechanism of the numbering-head.

In Figs. 5 and 6 I have illustrated the application of my improvement to a single numbering-head, the several parts being supported by a single frame or casing G' . In this instance the double rocking-plunger engages directly with the pawl-frame D, as by means of a pin k^2 which projects from the side of the bar K through a slot g' in the frame or casing G' and enters a slot or notch in one of the arms d of the pawl-frame.

In the several figures of the drawings I have shown the single plungers or contact points k, k , as connected directly to the rock-

ing-bar K, but it will be obvious that one of said points might be formed upon or connected to some part of the actuating mechanism of a numbering-head as, for instance, the swinging frame D, or the bar F. It will also be obvious that the nature of the immediate actuating mechanism of the numbering-wheels does not affect the application of my invention and that in place of the pawl-frame the spur gears sometimes used might be employed to transmit the movement of each wheel to the next.

It will readily be appreciated in view of the foregoing that many different forms and arrangements of my improvement might be devised and therefore, although I have herein shown and described certain specific arrangements, I do not wish to be understood to limit my invention thereby to any particular form or arrangement.

I claim as my invention—

1. The combination with a numbering-head, of a rocking plunger, contact points for said plunger on opposite sides of its pivot and means to transmit the movement of the plunger to the wheels of the numbering-head, substantially as shown and described.

2. The combination with a numbering-head, of a pivoted rocking-bar, contact points connected to said bar on opposite sides of the pivot and means to transmit the movement of the rocking-bar to the wheels of the numbering-head, substantially as shown and described.

3. The combination with a series of numbering-wheels and actuating mechanism therefor, of a rocking plunger, contact points for said plunger on opposite sides of its pivot and means to transmit the movement of said plunger to said actuating mechanism, substantially as shown and described.

4. The combination with a series of numbering-wheels and actuating mechanism therefor, of a rocking-bar, contact points connected to said bar on opposite sides of its pivot, and means to transmit the movement of the bar to said actuating mechanism, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK SANDERS.

Witnesses:

WILLIAM WENZ,
A. N. JESBERA.