

(No Model.)

F. SANDERS.
CONSECUTIVE NUMBERING HEAD.

No. 488,577.

Patented Dec. 27, 1892.

Fig. 1.

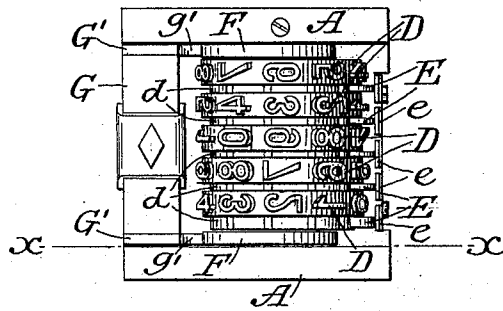


Fig. 2.

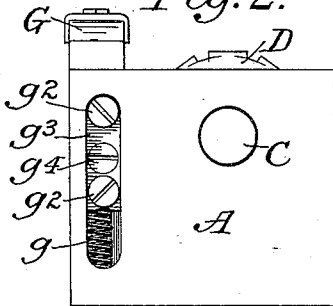
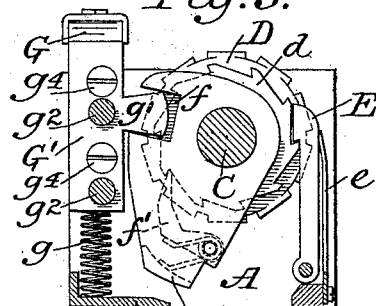
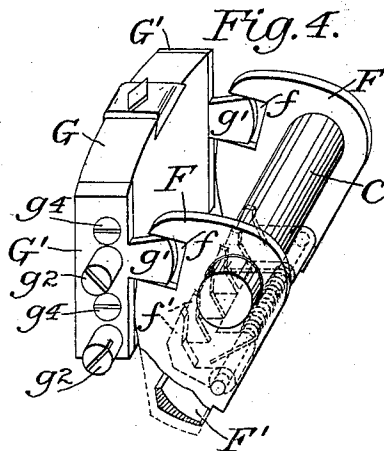


Fig. 3.



G' Fig. 4. B F'



Witnesses
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UNITED STATES PATENT OFFICE.

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CONSECUTIVE-NUMBERING HEAD.

SPECIFICATION forming part of Letters Patent No. 488,577, dated December 27, 1892.

Application filed June 27, 1892. Serial No. 438,081. (No model.)

To all whom it may concern:

Be it known that I, FRANK SANDERS, a subject of the Emperor of Germany, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Consecutive-Numbering Heads; 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.

My invention relates to numbering-heads of the general character of that shown in Letters Patent of the United States granted to F. W. Wicht October 16, 1888, and numbered 391,289.

My objects are to make a very compact head, that is, one which shall occupy, when locked in the frame, a smaller space than is usual relative to the space occupied by the numbering-wheels, and to reduce the number of parts in the operating mechanism of the head so as to render the machine less expensive in manufacture and less liable to be broken than any numbering-head now known to me. These objects are accomplished by the construction hereinafter described and claimed.

In the accompanying drawings: Figure 1 is a plan view of a numbering-head constructed in accordance with my invention: Fig. 2 is an end elevation of the same: Fig. 3 is a vertical section on the line $x-x$ of Fig. 1: Fig. 4 is a perspective view of the operating mechanism of the head.

The casing of the head consists of a simple U-shaped frame having ends A, A, united by a bottom piece B. Fixed in the ends A, A, is a shaft C upon which are mounted to rotate the usual numbering-wheels D, D, with their respective ratchet-wheels d, d . The usual stop-pawls E, E, with their springs e , may be supported by the casing to co-operate with the ratchet-wheels. A pawl-frame is mounted to swing on the shaft C and is composed of cheek pieces F, F, connected by a cross-bar F'. The pawls f, f , shown in dotted lines in Figs. 3 and 4, which act as usual to advance the numbering-wheels step by step and in the proper order, are supported by the pawl-frame in the usual manner. The plunger G, which is adapted to be depressed by the platen of the press and to be returned to position by the

springs g upon which it is seated, is placed in a plane parallel with the axis of the shaft C and in close proximity to the faces of the numbering-wheels. It is formed for direct engagement with the swinging pawl-frame to actuate the latter, and for this purpose it is provided at each end with a lug or ear g' which enters a notch f cut in the edge of the corresponding cheek of the pawl-frame. Consequently as the plunger is reciprocated it imparts to the pawl-frame a reciprocatory swinging motion on its axis, and as the plunger engages at both ends with the pawl-frame the movement of both is easy and there is no tendency for either to bind. The plunger is guided in its movements by pins g^2 which project from its ends into slots g^3 cut in the ends A, A, of the casing. For convenience in manufacture I prefer to form the ears g' upon plates G' and to affix the pins g^2 to the same plates which in turn are secured to the ends of the plunger G by screws g^4 . This construction enables me to replace readily and at small cost the pins g^2 and the ears g' when necessary.

I am aware that heretofore numbering-heads have been constructed with the plunger parallel with the axis of the numbering-wheels as well as at the end of the shaft, but so far as I am aware in such cases the plunger has been connected to the head through levers which are placed intermediate the plunger and the pawl-frame. These levers are not only liable to be broken but take up more or less space in the head, both of which objections I have avoided altogether. The arrangement of the plunger at the end of the shaft is also objectionable because it can be connected to but one end of the pawl-frame and also in some cases because it necessitates the separation of the printed figures too far from the matter which precedes or follows them. My improved numbering-head is free from all of these objections and is extremely simple and compact in construction, inexpensive to manufacture and not liable to be broken or to get out of order.

It is obvious that the ears on the plunger and the notches in the cheeks of the pawl-frame might be transposed and that, if desired, the guide-pins for the plunger might be

fixed to the casing and made to enter slots in the plunger itself, without departing from the spirit of my invention.

I claim as my invention:—

- 5 1. In a numbering-head, the combination of a pawl-frame swinging on the shaft of the numbering-wheels and composed of cheek-pieces and a cross-bar, said cheek-pieces having notches formed therein, and a plunger
- 10 parallel with the axis of said shaft and having ears to enter the notches in said cheek-pieces, substantially as shown and described.
2. In a numbering-head, the combination of a pawl-frame mounted to swing on the shaft
- 15 of the numbering-wheels and composed of cheek-pieces and a cross-bar, said cheek-pieces having notches formed therein, a U-shaped casing having slotted ends, and a plunger having ears to engage the notches in said cheek-

pieces and having guide-pins to enter the slots 20 in the casing, substantially as shown and described.

3. In a numbering-head, the combination of a U-shaped casing having slotted ends, a 25 swinging pawl-frame composed of cheek-pieces and a cross-bar, a plunger, and plates secured to the ends of said plunger, said plates having ears to enter the notches in the cheek-pieces of the pawl-frame and having 30 guide-pins to enter the slots in the ends of said casing, 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.