

(No Model.)

F. A. HEISS.
REGISTER FOR DUPLICATING APPARATUS.

No. 445,761.

Patented Feb. 3, 1891.

Fig. 1.

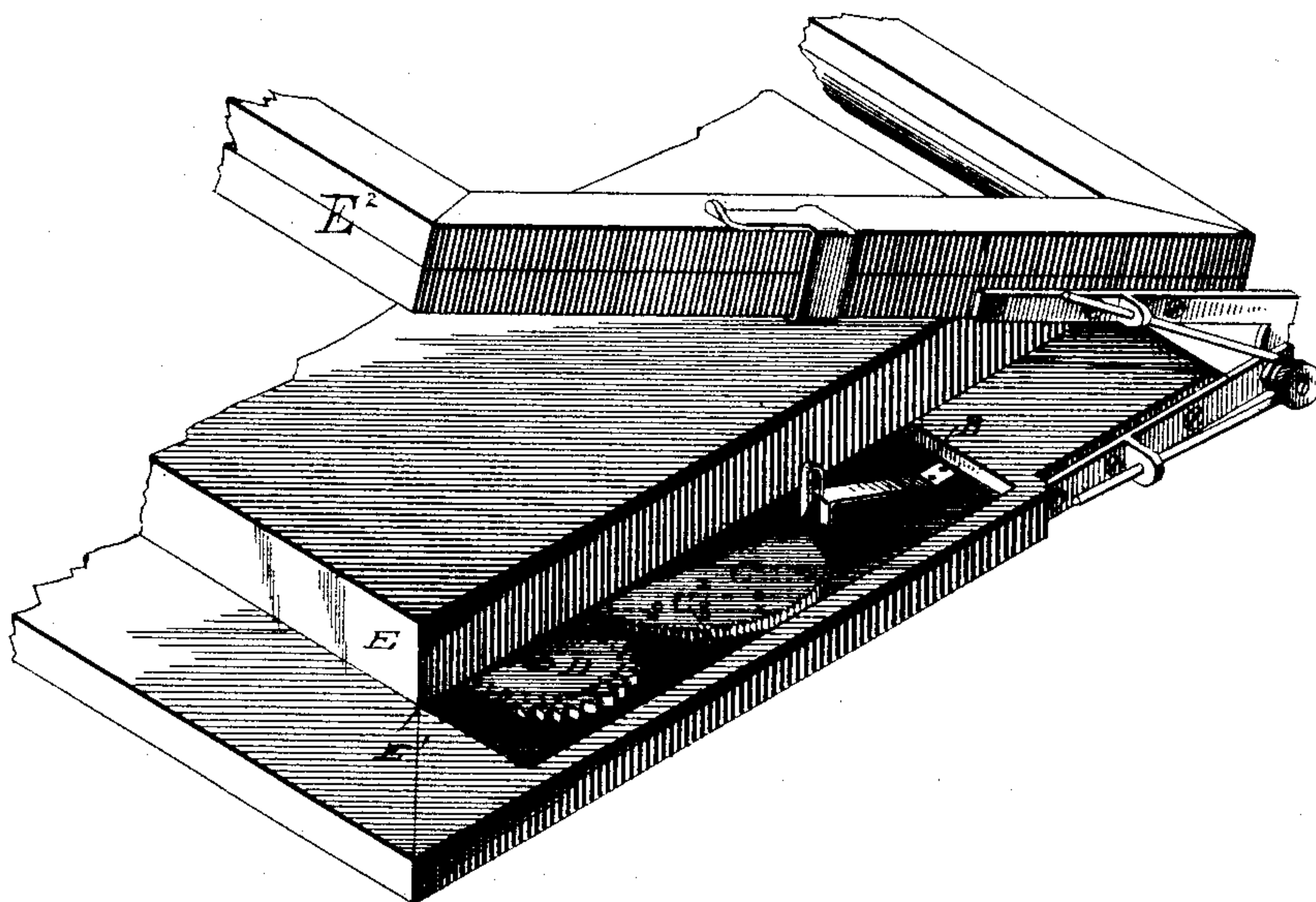


Fig. 2.

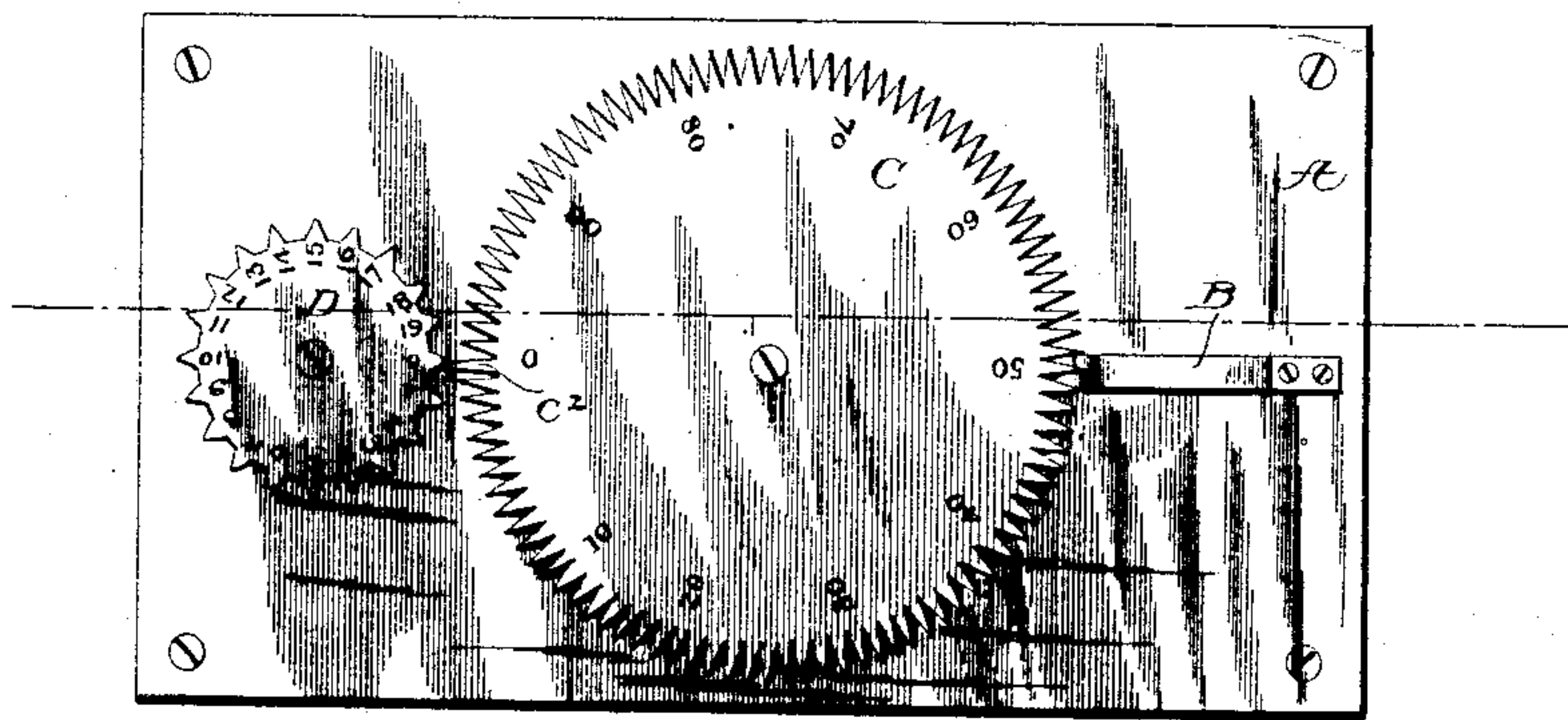
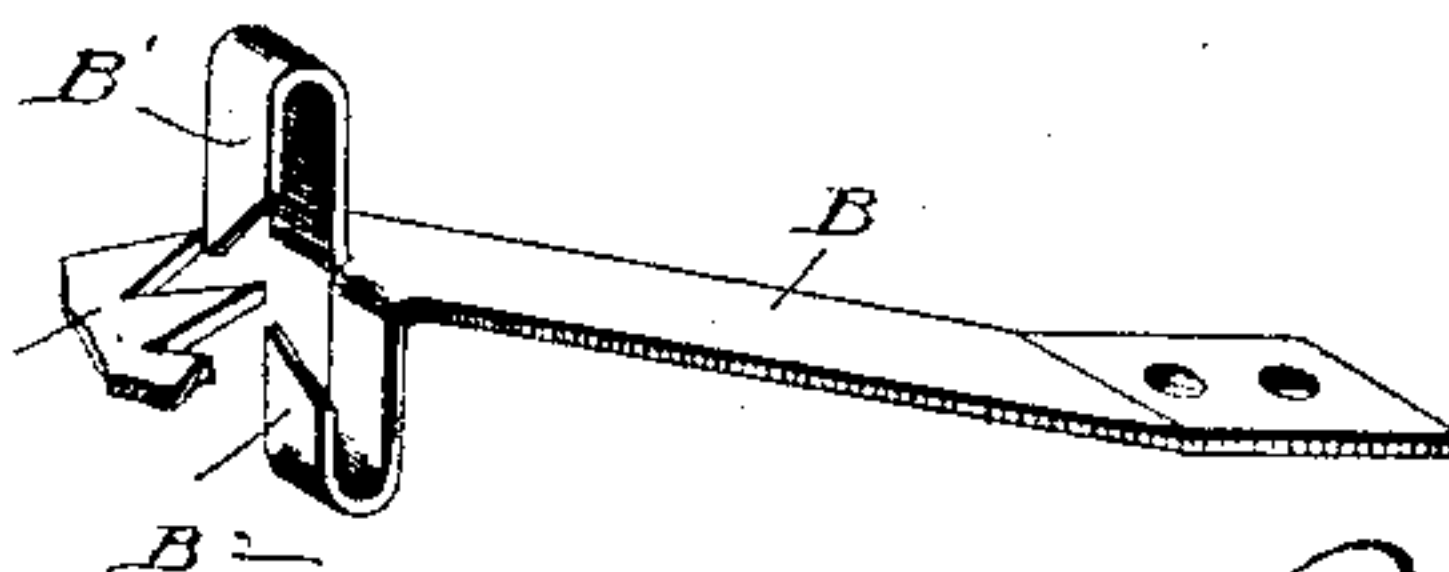


Fig. 3.

Witnesses:

W. H. Mortimer
G. H. Davis



Inventor:

F. A. Heiss,
By Davis & Co
Attys.

UNITED STATES PATENT OFFICE.

FRANK A. HEISS, OF PORT JERVIS, ASSIGNOR TO AUGUSTUS D. KLABER, OF
NEW YORK, N. Y.

REGISTER FOR DUPLICATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 445,761, dated February 3, 1891.

Application filed June 12, 1890. Serial No. 355,207. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. HEISS, a citizen of the United States, residing at Port Jervis, in the county of Orange and State of New York, have invented a certain new, useful, and valuable Improvement in Counting-Machines, of which the following is a full, clear, and exact description.

My invention relates to counting-machines; and my improvement has for its object to provide a most simple, inexpensive, and practical device which can readily be placed on any printing-machine, duplicating apparatus, or other machinery where it is desirable to know the exact number of copies which have been printed or otherwise operated upon, and when so placed my device serves as a counter and shows exactly the number of impressions taken.

I attain the object of my invention by means of the mechanism shown in the annexed drawings, in which—

Figure 1 represents a perspective view of a portion of a neostyle duplicating apparatus with my improvement applied thereto. Fig. 2 is a plan view of my device, showing more fully the location and construction of the various parts of my counter. Fig. 3 is an enlarged detail view showing my double pawl.

In the following description similar letters indicate like parts appearing in the several views.

A represents a plate, to which is attached the double pawl B, the toothed wheel C, and the second wheel D. The double pawl B is constructed with two oppositely-arranged teeth B' and B² of the shape shown.

The operation of my improvement is as follows: Upon the double pawl B being pressed down by the closing of the printing-frame E², the upper tooth B' engages one of the teeth of the wheel C, and on account of the inclined end of the said tooth B' the wheel is caused to revolve slightly, so that when the pawl raises again the under tooth B² thereof engages the same tooth on the wheel which was struck by the downward movement of tooth B' and causes the wheel C to again revolve slightly, thus throwing the next tooth in position to be engaged by the next movement of the pawl. In other words, the downward movement of the tooth B' moves a tooth on the wheel C far enough for the under tooth B² to engage it, and the

under tooth B' in raising revolves the wheel so as to allow the upper tooth B' to engage the next spoke or tooth on the wheel. After the pawl has been pressed down ninety-nine times the succeeding or one-hundredth movement causes the elongated tooth C² on the wheel C to turn the wheel D one point and brings the figure 1 to the position where the 0 formerly stood and indicates that one hundred impressions have been taken, and by reading directly across where the two wheels meet the exact number of impressions can be known. As appears at Fig. 1, the counter shows that eighteen hundred and eighty copies have been taken.

The wheels C and D are prevented from revolving too freely by making their bearing-screws sufficiently tight to cause friction or by arranging delicate pawls to engage them.

In the case of duplicating apparatus I prefer to arrange my device so that the wheels project within the bed E, Fig. 1, so that the under edge E' is on a line with the figures, which are to be read on the counter, as shown.

Instead of having the wheels set side by side, as shown, I may set the second wheel on top of the first one, and in this arrangement a projection on the under wheel would operate the top wheel in any suitable manner.

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

1. The combination, with a duplicating apparatus such as described, of a counting-machine adapted to be operated by the raising and closing of the printing-frame of said duplicating apparatus, said counting device consisting of a double pawl having two oppositely-arranged teeth shaped and arranged as shown and a wheel or wheels adapted to be revolved horizontally by the vertical movement of the pawl.

2. The combination, with a duplicating apparatus, of a counting-machine consisting of a pawl made of a single piece of spring metal, shaped as shown, and a toothed wheel or wheels adapted to be revolved horizontally by the vertical movement of said pawl.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK A. HEISS.

Witnesses:

S. HENRY,
CHAS. W. MYER.