(No Model.) 2 Sheets—Sheet 1.

H. MAHNKEN.

PRINTING TELEGRAPH RECEIVER.

No. 345,245. Patented July 6, 1886.

Fig. 1.

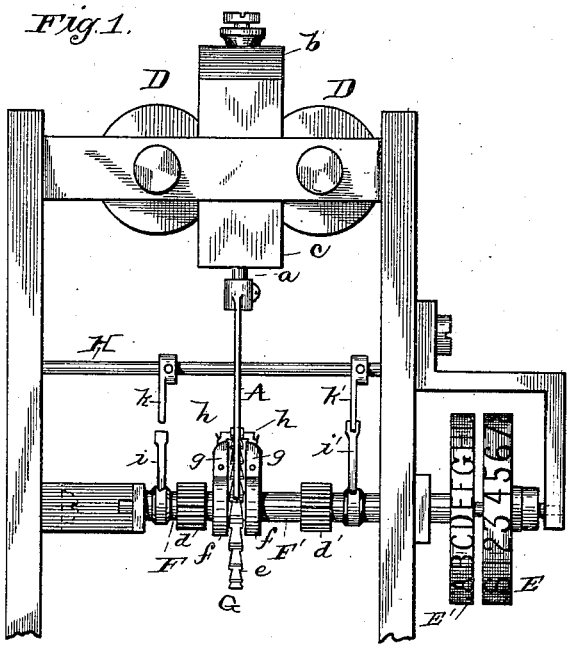


Fig 2

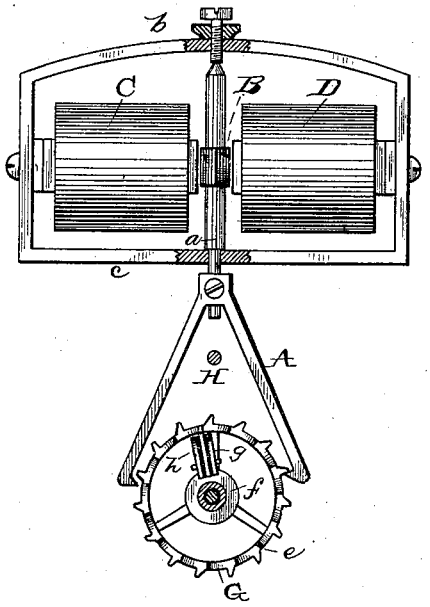
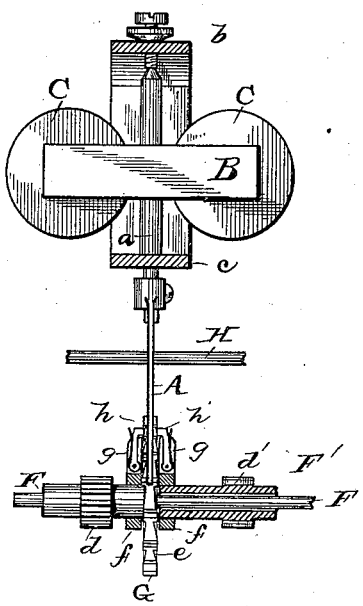


Fig. 3.



ATTEST:

E. C. Rowland

M. D. Fiddle

INVENTOR:

Henry Mahnken

By Dyer & Sherman

Attys

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

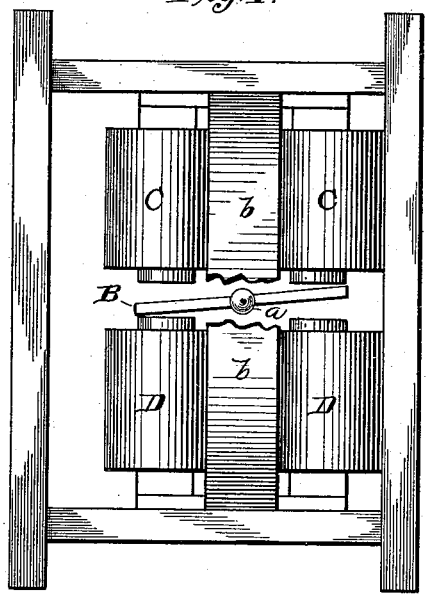


Fig. 5.

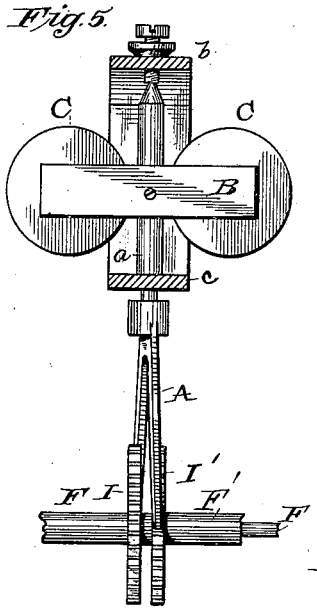


Fig. 7

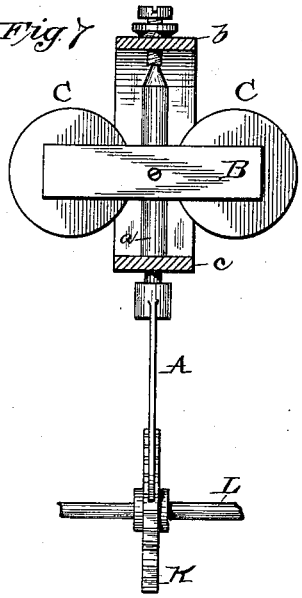
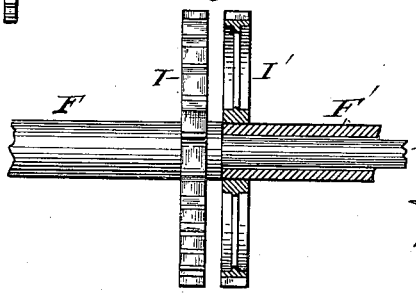


Fig. 6.



ATTEST

E. C. Rowland

A. W. Fiddle.

INVENTOR:

Henry Mahnken

By Dyer & Duell

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UNITED STATES PATENT OFFICE.

HENRY MAHNKEN, OF NEW YORK, N. Y.

PRINTING-TELEGRAPH RECEIVER.

SPECIFICATION forming part of Letters Patent No. 345,245, dated July 6, 1886.

Application filed February 9, 1886. Serial No. 191,292. (No model.)

To all whom it may concern:

Be it known that I, HENRY MAHNKEN, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Printing-Telegraph Receivers, of which the following is a specification.

The object I have in view is, principally, to produce an escapement for printing-telegraph receivers which will be more rapid and powerful in movement than those heretofore employed, and will at the same time be simple and durable in construction. This I accomplish by connecting a pallet directly with the armature of the type-wheel magnet, and pivoting the armature and pallet longitudinally of the pallet and transversely with reference to the armature, so that the pallet will swing laterally across the periphery of the scape-wheel. This laterally-swinging pallet can be used in connection with one scape-wheel fixed rigidly to a type-wheel shaft carrying one or two type-wheels, as in well-known types of printers; or it can work across two scape-wheels arranged side by side and fixed upon separate type-wheel shafts, one of which is a sleeve upon the other; or it can be employed to control a single scape-wheel connected to two type-wheel shafts by pawls and ratchets.

My invention further relates to specific improvements in the type of printer last above referred to, to which my laterally-swinging pallet is preferably applied. These improvements relate to the construction of the pawls and ratchets connecting the scape-wheel with the separate type-wheel shafts, whereby the durability of these parts under the strain of use will be increased, and the cutting of the ratchet-teeth so as to register with the teeth of scape-wheel will be simplified and cheapened.

In the accompanying drawings, forming a part hereof, Figure 1 is an elevation showing parts of a printer embodying my invention; Fig. 2, an elevation, partly in section, showing escapement from a position at right angles to view in Fig. 1; Fig. 3, a vertical section of escapement, showing type-wheel armature lengthwise in elevation; Fig. 4, a top view of type-wheel magnets with pivot-supporting strap broken away; Fig. 5, a vertical section and partial elevation of escapement, showing two scape-wheels; Fig. 6, an elevation and partial section, on exaggerated scale, of type-wheel shafts and two scape-wheels; and Fig. 7, a view similar to Fig. 5, with one scape-wheel fixed to a type-wheel shaft.

The escapement-pallet A is of ordinary construction, and is secured to or formed in one piece with a vertical spindle, *a*, to which is fixed the polarized armature B, located between the type-wheel magnets C D. The magnets C D are supported by the frame of the printer, and straps *b c*, connecting their yokes above and below the magnets, form supports for the spindle *a*, which is pivoted between the straps, as shown. The polarized armature, it will be seen, is thus pivoted vertically at its center, and oscillates back and forth as attracted and repelled by the magnets, giving the pallet a laterally-swinging movement.

E E′ are type-wheels mounted upon shafts F F′, shaft F′ being a sleeve surrounding shaft F. These type-wheels are driven by separate weight-trains, as will be well understood, which terminate in pinions *d d′* on such shafts. A scape-wheel, G, is mounted loosely upon shaft F, at the inner end of F′, and laterally across the periphery of this scape-wheel swings the pallet A, engaging first a tooth on one side of the scape-wheel and then one on the other side. The scape-wheel is connected with the type-wheel shafts by pawls and ratchets, so that when one type-wheel is held at unison the shaft of the other will turn the scape-wheel.

To form the ratchets, the rim of the scape-wheel is cut with ratchet-teeth *e* on its sides, equal in number to the scape-teeth.

Upon shafts F F′ are secured collars *f*, which have projecting radially from them cheeks or jaws *g*, of steel, between which are pivoted steel dogs *h*, pressed forward by light springs, and forming pawls engaging ratchet-teeth *e*. The cheeks *g* are extended beyond the pivots of the dogs quite to their ends, so as to form lateral supports for the dogs and take the strain from the pivots. This construction prevents the dogs from working loose under the strain to which they are subjected in use, and limits the free lateral play of the dogs, so that they will engage the ratchet-teeth with certainty at the proper points.

The type-wheel shafts F F′ have the usual unison-pins, *i i′*, which are arrested alternately by arms *k k′* on a rock-shaft, H, as will be understood.

The laterally-swinging pallet will also operate in connection with two scape-wheels, I I′, fixed to shafts F F′, as shown in Figs. 5 and 6, or with one scape-wheel, K, fixed to a single type-wheel shaft, L, as shown in Fig. 7.

What I claim is—

1. In a printing-telegraph receiver, the combination, with a scape wheel or wheels, of a pallet and magnet-armature secured together and pivoted longitudinally of the pallet, whereby the said pallet will swing laterally across the scape wheel or wheels, substantially as set forth.

2. In a printing-telegraph receiver, the combination, with two independent type-wheel shafts driven by separate power-connections, of a single scape-wheel connected with the type-wheel shafts by pawls and ratchets and a laterally-swinging pallet vibrated by the type-wheel magnets and engaging said scape-wheel, substantially as set forth.

3. In a printing-telegraph receiver, the combination, with two independent type-wheel shafts driven by separate power-connections, of a single scape-wheel connected with the type-wheel shafts by pawls and ratchets, a laterally-swinging pallet vibrated by the type-wheel magnets and engaging said scape-wheel, and means for stopping and holding the type-wheels alternately at unision, substantially as set forth.

4. In a printing-telegraph receiver, the combination, with two independently-revolving type-wheel shafts, of a single scape-wheel having ratchet-teeth located on the sides of its rim and projecting at right angles to the scape-teeth, and pawls carried by said type-wheel shafts and engaging said ratchet-teeth, substantially as set forth.

5. In a printing-telegraph receiver, the combination, with two independently-revolving type-wheel shafts, of a single scape-wheel having ratchet-teeth on its sides, the radial pawls carried by the type-wheel shafts and engaging such ratchet-teeth, and the checks supporting the pawls laterally, substantially as set forth.

This specification signed and witnessed this 2d day of February, 1886.

HENRY MAHNKEN.

Witnesses:
DAN. S. ROBESON,
WM. B. HERBERT.