

(No Model.)

2 Sheets—Sheet 1.

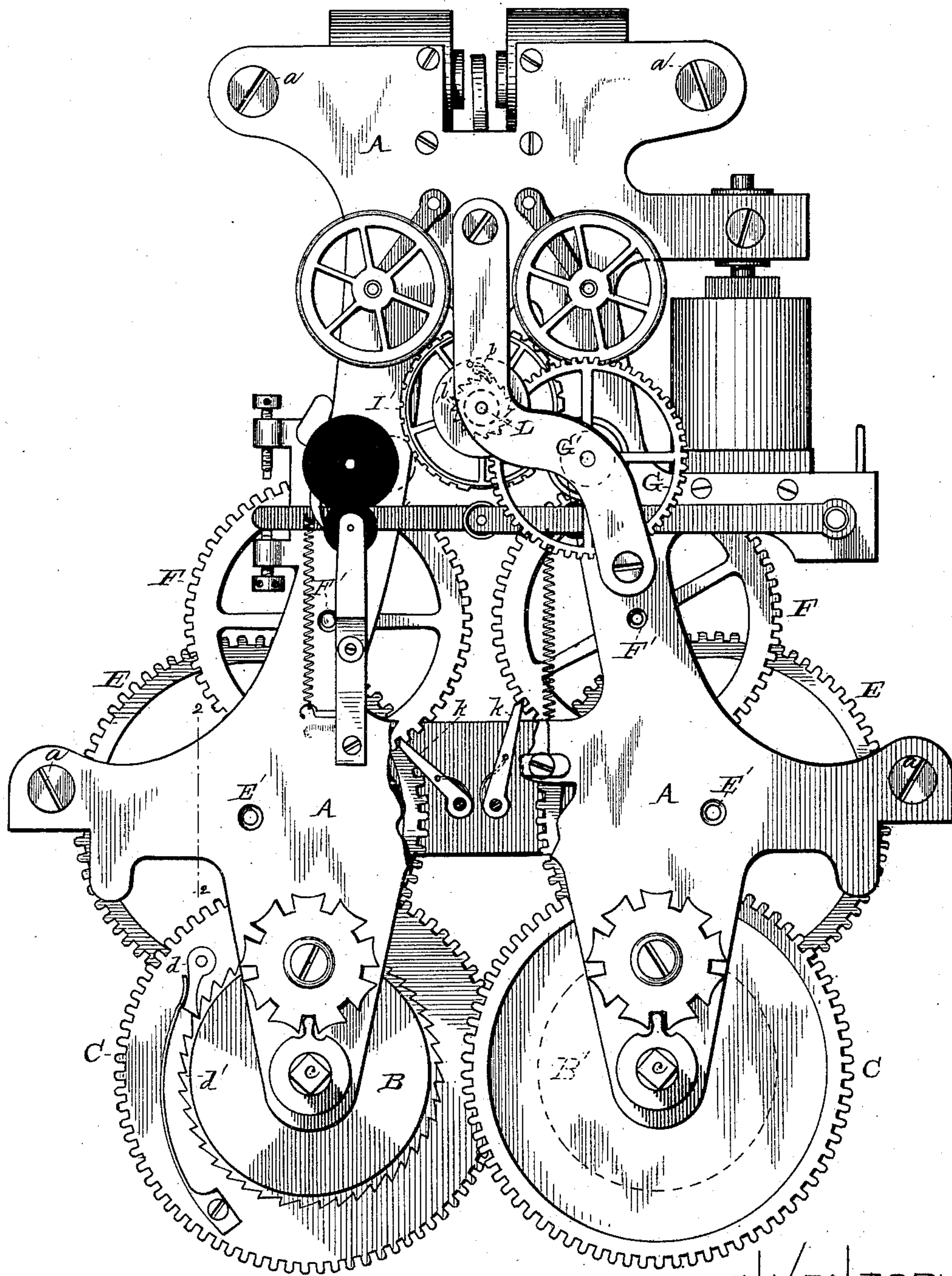
S. D. FIELD.

PRINTING TELEGRAPH.

No. 338,344.

Patented Mar. 23, 1886.

Fig 1.



ATTEST:

E. A. Rowland,
Att. Kiddle.

INVENTOR:

Stephen D. Field.
By Oyer & Seelig
Attys.

(No Model.)

2 Sheets—Sheet 2.

S. D. FIELD.
PRINTING TELEGRAPH.

No. 338,344.

Patented Mar. 23, 1886.

Fig 2.

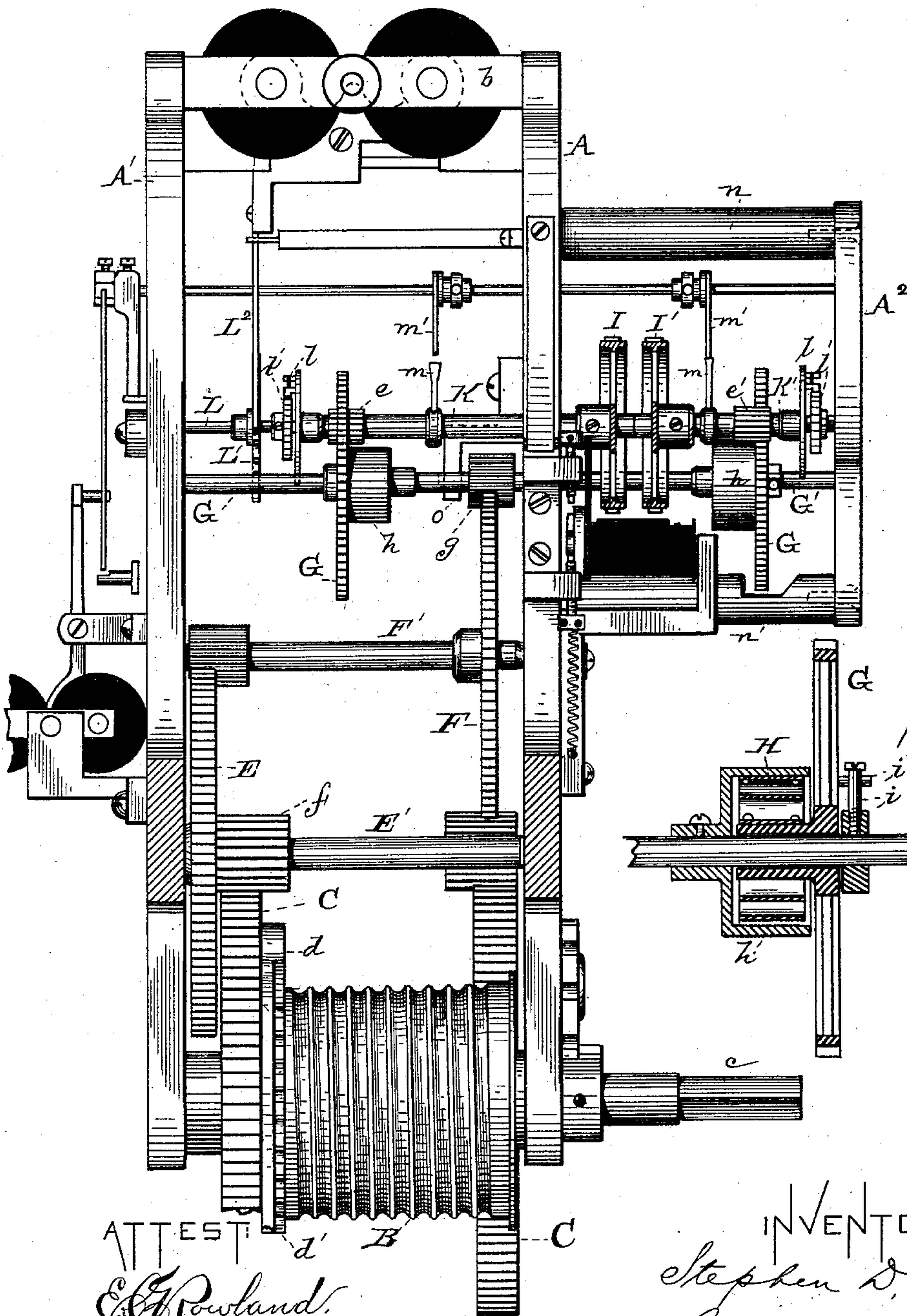
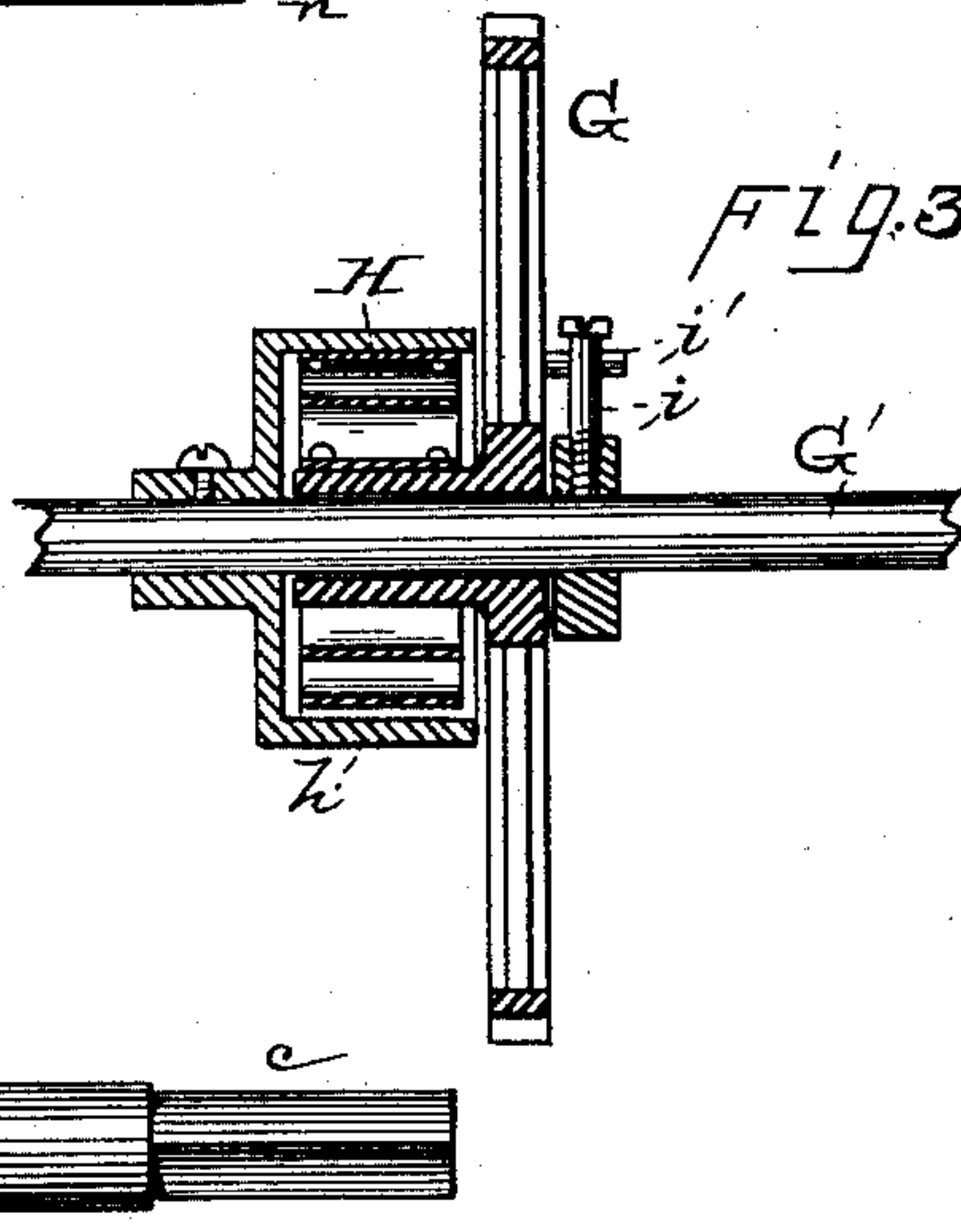


Fig 3.



ATTEST
E. Rowland.
W. H. Fiddler.

INVENTOR:
Stephen D. Field,
By Dyer & Seely
Attys.

UNITED STATES PATENT OFFICE.

STEPHEN DUDLEY FIELD, OF NEW YORK, N. Y., ASSIGNOR TO THE COMMERCIAL TELEGRAM COMPANY, OF SAME PLACE.

PRINTING-TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 338,344, dated March 23, 1886.

Application filed November 27, 1885. Serial No. 184,008. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN DUDLEY FIELD, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Printing-Telegraphs, of which the following is a specification.

My invention relates to that class of printing-telegraph receivers wherein two type-wheels are operated by separate weight-trains and are controlled by a single magnet-armature.

The object I have in view is to produce a simple mechanism for operating and controlling the type-wheels which will combine the features of a single scape-wheel and pallet with that of applying the power of the weight-trains to opposite sides of the type-wheels, the type-wheels being both located outside the main frame on one side, while the weight-trains are located within the main frame.

A further object is to simplify and make more efficient the maintaining-springs and connecting parts.

In the accompanying drawings, forming a part hereof, Figure 1 is a side elevation of the machine with part of the main frame broken away to show dogs assisting maintaining-springs; Fig. 2, an end view of machine with frame broken away on line 2 2 in Fig. 1, and Fig. 3 a sectional view of one of the maintaining-springs.

The main frame of my printing-telegraph receivers is composed of two upright side plates or frames, A A', connected by cross-pieces held by screws *a*, Fig. 1. One of these cross-pieces, *b*, is shown in Fig. 2. Between the side plates, A A', are located the weight-trains. These are composed of the weight-drums B B', with winding-stems *c*. Each weight-drum is connected, as usual, by a pawl and ratchet, *d d'*, with a gear-wheel, C, which is connected with pinions *e e'* on the type-wheel shafts through a sufficient number of intermediate wheels and pinions to increase the speed to the desired extent.

In the machine shown each train has, in addition to gear-wheel C on weight-drum shaft and pinion *e* or *e'* on type-wheel shaft, three intermediate wheels, E F G, and two pin-

ions, *f g*, these wheels and pinions being carried by shafts E' F' G'.

In printing-telegraph receivers it is necessary and usual to introduce in trains for running the type-wheels springs for maintaining uniform speed of type-wheels while the weights are being wound up, and also to compensate for any irregularities in the running of the trains. These maintaining-springs have heretofore been located at the drum end of train, and have required special ratchets for preventing a reverse movement. In my machine I locate the maintaining-springs at the type-wheel end of trains, and secure a freer movement, since the springs drive a smaller number of parts with less weight and friction. This location also enables me to use a spring-dog for each train, engaging one of the train-wheels, in place of the special ratchet heretofore employed.

Each maintaining-spring H, Fig. 3, is placed around the last shaft, G', of train, being attached at its outer end to an inclosing-shell, *h*, secured to such shaft. Its inner end is secured to the extended hub of wheel G, which is sleeved loosely on shaft G' and projects into the shell *h*, the movement of train communicated from shaft G' to spring H winding up such spring, and from the spring to wheel G. A pin, *i*, on shaft G', engaging a pin, *i'*, on wheel G, prevents the weight-train from winding up the spring more than one revolution of shaft G' while wheel G is held at rest, as it is when the type-wheel is at unison.

A spring-dog, *k*, engages the wheel F of train to assume the action of spring in a forward direction upon the type-wheel, instead of in a reverse direction on train, while the weight is being wound up.

I I' are the type-wheels, mounted side by side upon the adjoining ends of shafts K K', and adapted to print two lines upon the tape. The shafts K K' carry the pinions *e e'*, before referred to, and are themselves sleeves mounted upon a third shaft, L, and connected therewith by pawls and ratchets *l l'*. Shaft L has scape-wheel L' fixed thereon and engaging pallet L². The type-wheel shafts K K' have pins *m*, alternately engaging the unison-stop *m'*.

The escapement-movement is not of my in-

vention, and its operation will be understood without further description. The shaft L extends through both of the side plates, A A', of main frame, and beyond the side plate A into a bracket-plate, A², supported by horizontal studs from plate A. The sleeved type-wheel shaft K extends from near the scape-wheel L' (which is between A and A') through A, while K' is sleeved on L wholly between A and A', and thus both type-wheels are brought together outside the main frame and between the side plate A of main frame and the bracket-plate A². The final shaft G' of the train from drum B, which drives shaft K and type-wheel I, extends from side to side of main frame, and the pinion e' being between A and A' the wheel G of train is also between A and A'. The final shaft G' of train from drum B', however, extends from a bracket, o, just within side plate A, through such side plate A to bracket-plate A', and this shaft G' carries its wheel G outside of A in the space between A and A', and this wheel engages pinion e of type-wheel shaft K', which is located in the space between A and A'.

By the means described the type-wheels are driven from opposite sides by trains located on the same side of the type-wheels, thus bringing the type-wheels together outside of main frame on one side, while both weight-trains are located within such frame.

What I claim is—

1. In a printing-telegraph receiver, the combination, with the main frame, of two power-trains located within such main frame, two type-wheels located together outside the main frame on one side thereof, and connections from such power-trains to the outer sides of the type-wheels, substantially as set forth.

2. In a printing-telegraph receiver, the com-

bination, with the main frame, of two power-trains located within such main frame, and two type-wheels located together outside such main frame and between a side plate of said main frame and a bracket-plate supported therefrom, the shaft of one type-wheel extending into the space within main frame and connected with one train therein, and the final shaft of the other train extending outwardly to bracket-plate across both type-wheels and connected with shaft of outer type-wheel outside main frame, substantially as set forth.

3. In a printing-telegraph receiver, the combination, with the main frame, of two power-trains located within main frame, two type-wheels located together outside main frame on one side thereof, and carried by shafts sleeved on an escapement-shaft and connected therewith by pawls and ratchets, and connections from such power-trains to the type-wheel shafts outside of type-wheels, substantially as set forth.

4. In a printing-telegraph receiver, the combination, with a power-train and a type-wheel driven thereby, of a maintaining-spring interpolated in the train at the type-wheel end thereof, substantially as set forth.

5. In a printing-telegraph receiver, the combination, with a power-train and a type-wheel driven thereby, of a maintaining-spring interpolated in the train at the type-wheel end thereof, and a dog engaging the cog-teeth of one of the intermediate train-wheels, substantially as set forth.

This specification signed and witnessed this 24th day of November, 1885.

STEPHEN DUDLEY FIELD.

Witnesses:

CORNELIUS BLAUVELT,
W. B. HERBERT.