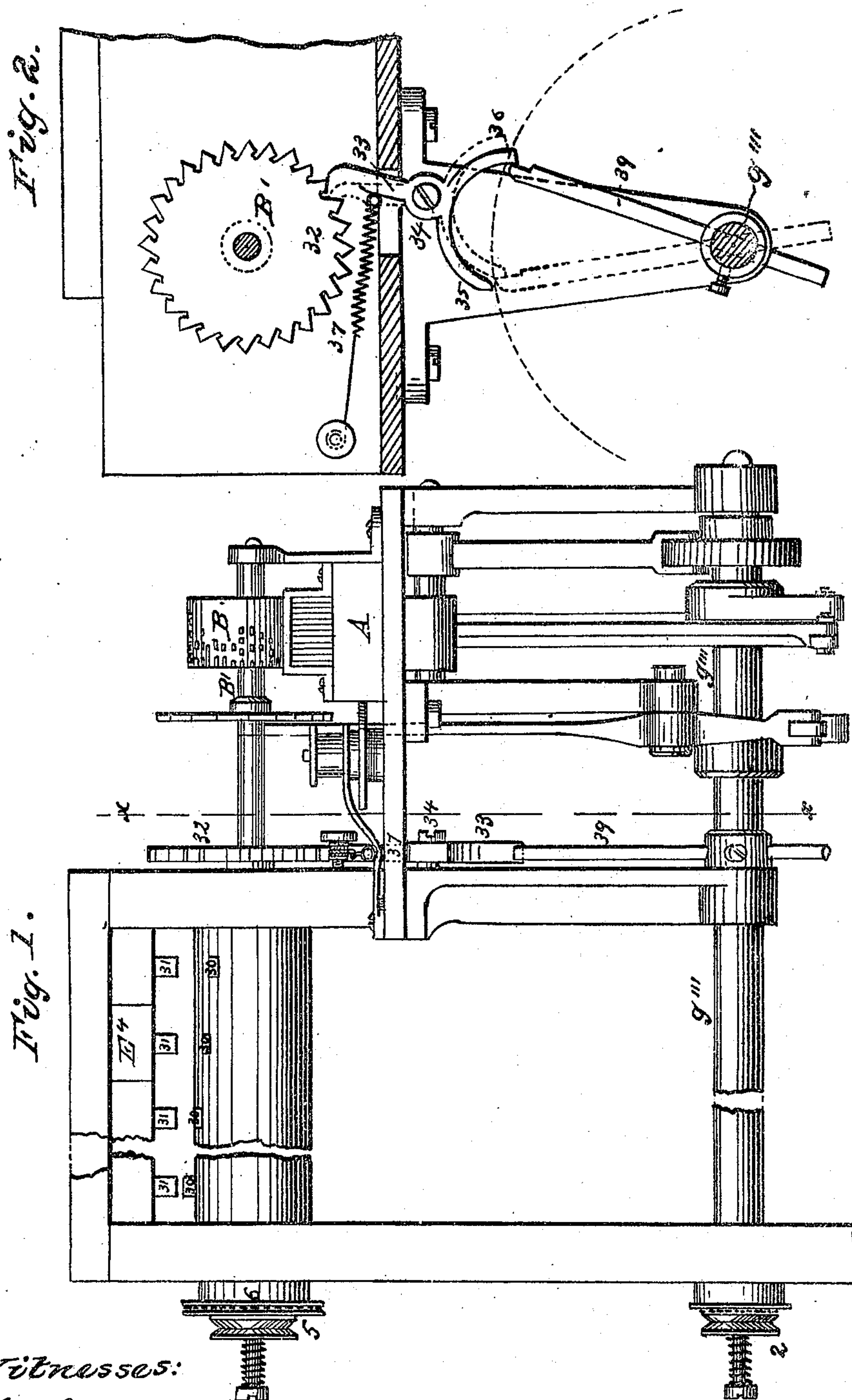


E. A. CALAHAN.

Telegraphic-Paper Perforator.

No. 55,056.

Patented May



Witnesses:
Hodge & Co.
Chas. Smith

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Eder

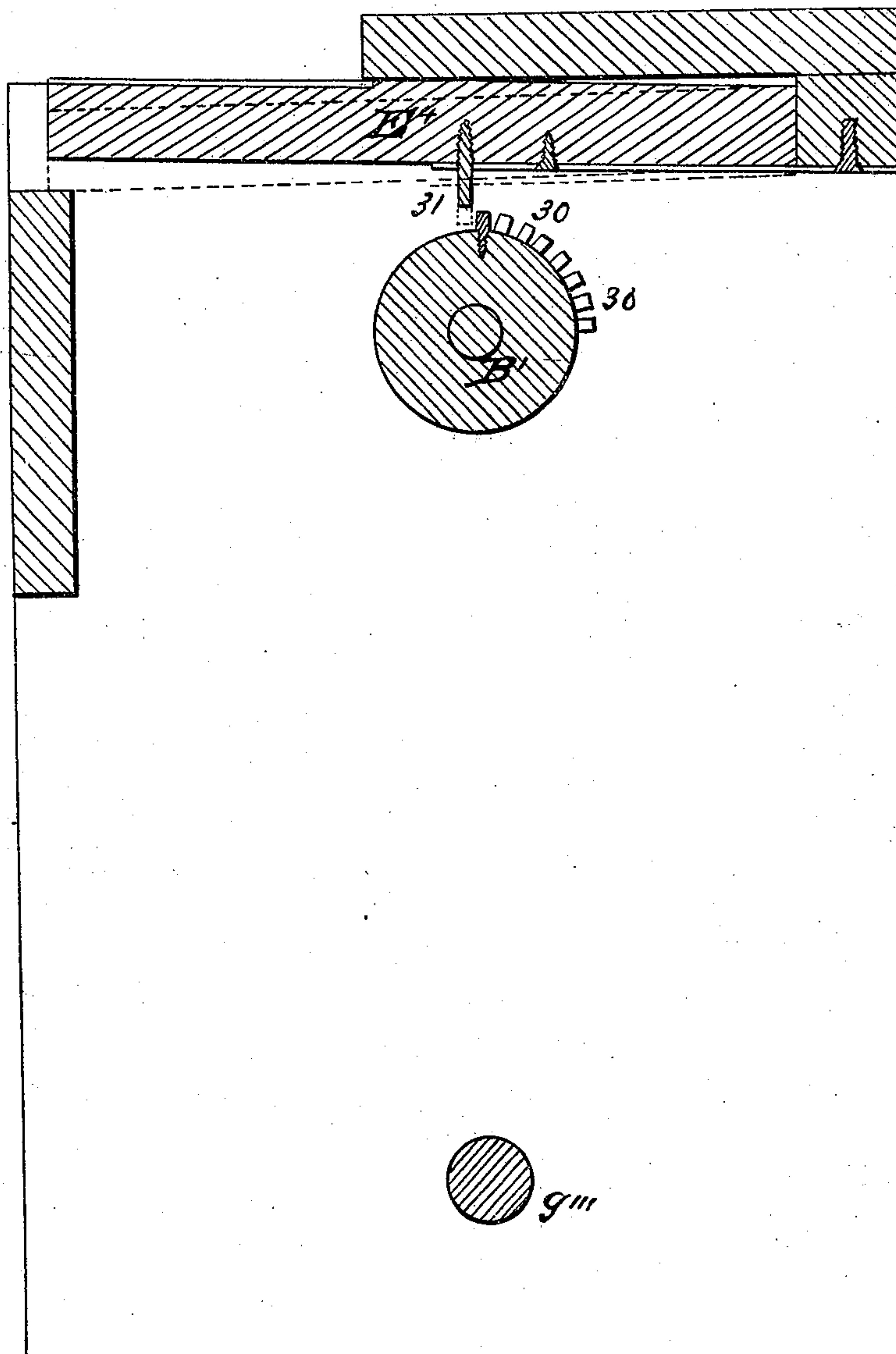
E. A. CALAHAN.

Telegraphic-Paper Pertorator.

No. 55,056.

Patented May 29, 1866.

Fig. 3.



Witnesses:

Thos Geo Hawley
Chas A Smith

Inventor:

Edw. A. Calahan

UNITED STATES PATENT OFFICE.

EDWD. A. CALAHAN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR PUNCHING PAPER FOR TELEGRAPHS.

Specification forming part of Letters Patent No. 55,056, dated May 29, 1866.

To all whom it may concern:

Be it known that I, EDWARD A. CALAHAN, of Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Means for Punching Paper for Telegraphic Purposes; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is an elevation of my improved apparatus. Fig. 2 is a cross-section at the line *x*, showing the escapement and shaft, and Fig. 3 is a section of the key and stopping-cylinder.

Similar marks of reference denote the same parts.

The present invention is an improvement upon that for which Letters Patent were granted to John P. Humaston, September 8, A. D. 1857, and a reference is hereby made to the said patent for a more complete description of any of the parts that may be shown in the drawings, and also for a more complete description of the operation of the machine in punching or perforating the strip of paper by the mechanism set forth in said Letters Patent, and which, forming no part of my present invention, is not herein set forth.

In the machine of the said Humaston a type-wheel, B, was provided having projections operating upon the cutters that punch the paper. This type-wheel was arrested in its rotation by pins projected by springs, when cords connecting said pins were slackened by the depression of a given key. These cords were constantly liable to be broken, and frequently required careful adjustment, and there was a risk that the type-wheel would not be stopped at the proper place.

The nature of my said invention consists in stops arranged around the shaft of the type or letter wheel, or a prolongation of the same, in combination with stops upon or operated by the keys, so that the type-wheel may be continuously revolved by a friction driving-pulley, (as in Letters Patent allowed to Marshall Lefferts, September 30, 1865,) until one of the keys is depressed, when its stop, taking the stop on the type-wheel shaft, arrests the type-wheel at the proper place for the corresponding letter of the type-wheel to control the action of the punches in perforating the paper. The stop-

ping of the rotation of the type-wheel causes the mechanism that actuates the punches to operate, and then the parts remain quiescent until the releasing of the key allows the type-wheel to again revolve.

In the drawings, B is the type-wheel on the shaft B'; A, the box containing the cutters for perforating the fillet of paper. These and the rollers for drawing the paper along are the same as in the aforesaid Humaston patent, and the friction-pulley 5, that is loose on the shaft B', and is pressed to the disk 6 with the force necessary to revolve the shaft B' when the keys are not depressed, but to allow said shaft to be arrested by the keys when depressed, the disk 5 still continuing to revolve, is the same as in the said Lefferts' patent.

The shaft B' is prolonged sufficiently to reach across the key-board E⁴, or coupled to a shaft passing across the same, and upon this shaft stops 30 are provided, either in the form of pins or arms, or as studs set in a cylinder. I have shown the last named. These studs or stops are placed around the shaft B' spirally, or in a position adapted to the location of the given key of the key-board and the types on the wheel B.

The keys E⁴ are each provided with a stop, 31, in such a position that when the key is depressed the stop 31 will take the corresponding stop 30, and stop the type-wheel from revolving, while the cutters, controlled by the given type of the wheel B, perforate the fillet of paper.

It will be evident that the keys E⁴ may be arranged in one or more ranges and be above the type-wheel shaft with the stops 31 on their under side; or they may be placed as levers of the first order below the type-wheel shaft, with the stops at the top near their back ends.

The shaft *g'''* is to turn once for each letter punched in the paper, as in the said Lefferts patent, and is to be rotated by a friction pulley or wheel 2 at the time the type-wheel is stationary, and is to be stopped while the type-wheel revolves. To effect this I employ the ratchet-wheel 32 and escapement 33 on the fulcrum 34, with a spring, 37, to keep the end of 33 toward the teeth of 32. 35 and 36 are arms to this escapement, taking the stopping-bar 39 of *g'''*.

When the shaft B' and wheel 32 are revolving the teeth of 32 pass so rapidly by the end of 33 that the spring 37 does not act fast enough

to draw 33 into the ratchet-teeth; hence the arm 36 is retained in such a position that the stopping-bar 39 of g''' cannot pass; but so soon as the type-wheel B and ratchet-wheel 32 stop by depressing a key the end 33 is drawn into the ratchet-teeth, and the bar 39 and shaft g''' are rotated once, effecting the movements of punching, &c., and the bar 39 is stopped by the arm 35, and so remains while the key is depressed. As soon as the key is released the type-wheel shaft revolves again, the stopping-bar slips off 35 and is held again by the arm 36, as before.

I do not claim a revolving cylinder stopped by the keys.

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

1. A type-wheel revolved by friction, in combination with revolving stops and keys and an apparatus, substantially as specified, for punching fillets of paper for composing telegraphic messages, as set forth.

2. The stopping-bar 39, escapement 33, and ratchet-wheel, in combination with the shafts B' and g''' , as and for the purposes specified.

In witness whereof I have hereunto set my signature this 2d day of December, 1865.

EDWD. A. CALAHAN.

Witnesses:

LEMUEL W. SERRELL,
CHAS. H. SMITH.