

I. P. HAULENBECK.
Alarm-Recorder for Fire-Telegraphs.

No. 224,903.

Patented Feb. 24, 1880.

Fig. 1.

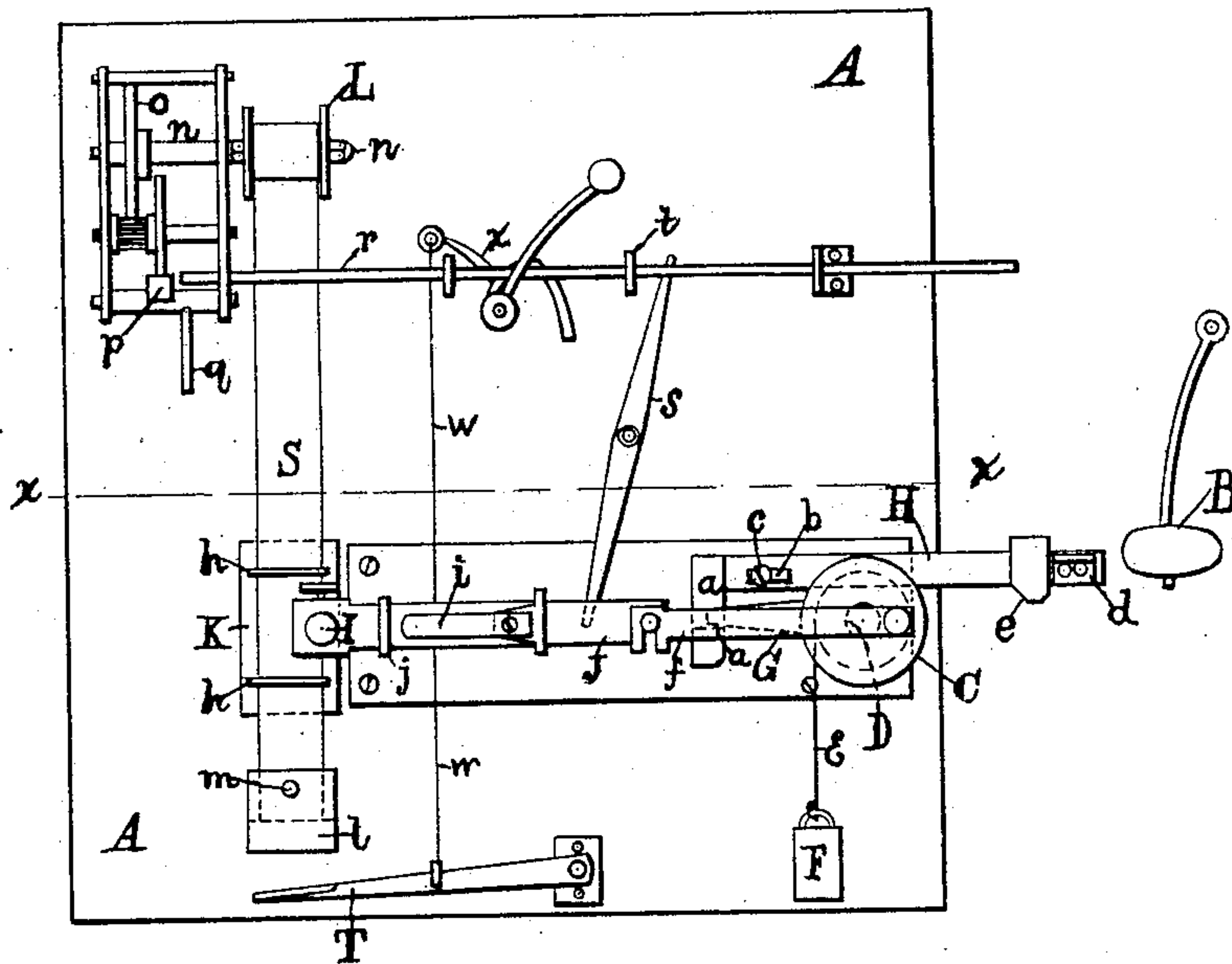


Fig. 2.

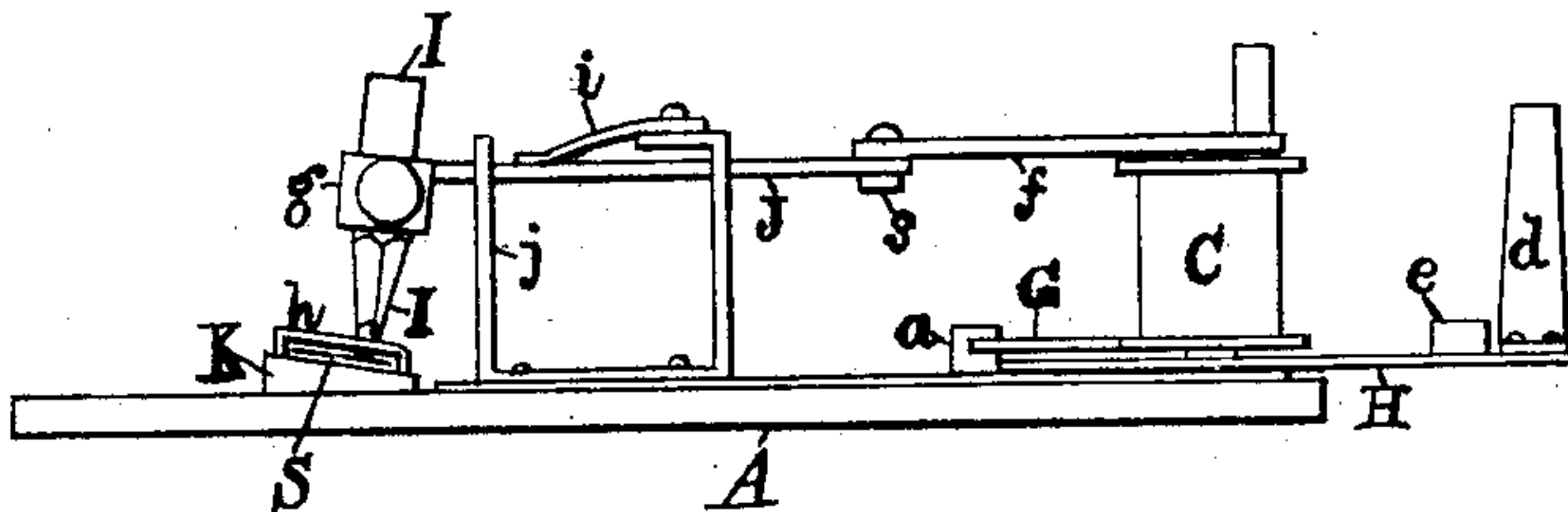
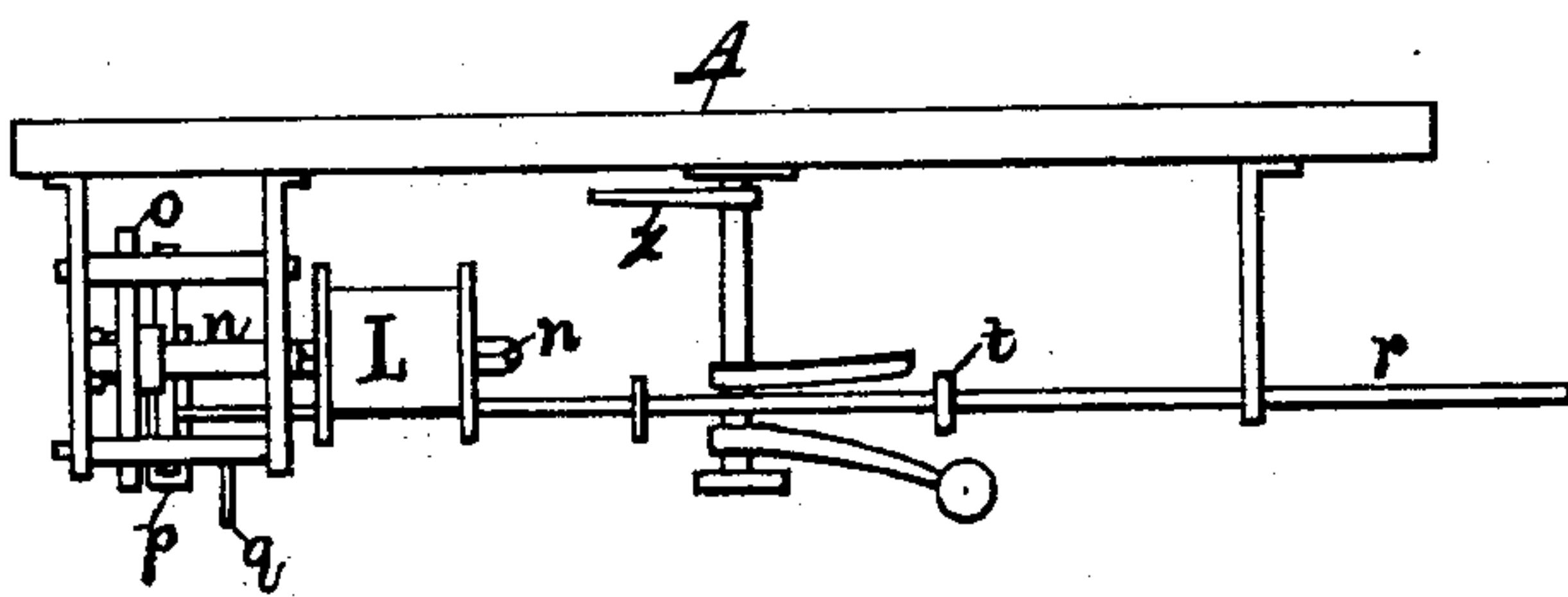


Fig. 3.



Attest:

Geo. H. Bodenschatz.
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Inventor.

Isaac P. Haulenbeck, per
Thos. J. Crane, Atty.

UNITED STATES PATENT OFFICE.

ISAAC P. HAULENBECK, OF NEWARK, NEW JERSEY.

ALARM-RECORDER FOR FIRE-TELEGRAPHS.

SPECIFICATION forming part of Letters Patent No. 224,903, dated February 24, 1880.

Application filed October 31, 1879.

To all whom it may concern:

Be it known that I, ISAAC P. HAULENBECK, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Alarm-Recorders, of which the following is a specification.

My invention relates to an improvement in automatic alarm-recorders; and it consists, first, in improved means for moving the marker at each stroke or signal of the alarm; second, in an improved marking device for making a pencil-mark across a moving slip of paper; third, in an improved device for letting off or starting the marker at each stroke of the alarm; fourth, in a self-setting stop for the marker-actuating device; fifth, in an improved device for letting off the paper strip at the beginning of each alarm; sixth, in a device for stopping the movement of the paper at any desired time; seventh, in means for applying a roll of paper on a drum to avoid winding up the regulating-escapement.

My invention is herein shown and described as applied to an alarm-gong, such as is usually fixed in an engine-house to transmit an alarm of fire by predetermined signals or blows upon the gong.

In the drawings annexed, Figure 1 is a front elevation of my recorder placed under the control of a gong or its hammer. Fig. 2 is a section on line *x x*, and Fig. 3 a plan of the fixtures above that line.

In Fig. 1, A is the bed-plate of the fixture, which is complete in itself, and is designed to be set up contiguous to the hammer B, or any mechanism moved when the signals are transmitted. C is a barrel mounted upon a stud, D, and having a cord and weight, E and F, applied to it, to set it in motion. An arm, G, being secured to the barrel, the movements of the latter are arrested when the arm is in contact with a stop, *a*, secured to a sliding bar, H, fitted behind the barrel, and constructed to move freely by its slots *b* upon the pins *c*. The outer end of the bar, projecting beyond the edge of the bed A, is provided with a lug, *d*, which receives an impulse from the hammer B upon its return after the first blow of the alarm. This moves the bar upon the pins *c* sufficiently to release the lever or arm G, and the barrel is then revolved by its

weight F, the passage of the arm G bringing it in contact with the inclined face of a dog, *e*, secured upon the bar H at such an angle that the bar is pushed back to its initial position, and the arm is therefore arrested after one revolution. This rotation of the barrel operates the marker I by a rod, *f*, connecting the barrel and the slide J, which carries the marker in a socket, *g*, attached to one end over the seat K, which is peculiarly constructed so that the marker may not rest upon the strip S continuously and form a connected or broken line. In Fig. 2 this seat is shown with its outer edge much higher than its inner, so that when the marker is retracted it may be free from contact with the inclined surface upon which the strip rests; and, in order that the same may make an even mark upon the strip thus arranged, the slide J is passed through a large opening in its forward guide, *j*, and a spring, *i*, is attached to the guides, and operates to press the slide and its socket *g* gently toward the bed A, the opening in the guide affording the necessary movement.

To guide the strip in its descent over the seat K, two wires, *h*, are placed over the strip like staples, and the pencil I makes its mark between them.

The force of the weight F is such that the barrel C and marker perform their single movement instantly, and a single plain mark is thus made across the strip S, which is wound upon a drum, L, and has a weight, *l*, attached to its lower end by a clamp-screw, *m*, the weight serving to operate the regulating-escapement.

The drum L is connected with a gear-shaft, *n*, and the wheel *o* with an escapement, *p*, the pallets operating a wire pendulum, *q*, which suffices to regulate the movement without any pendulum. By cutting off a bit of this wire the motion of the regulator may be increased and the space between the marks on the strip regulated at pleasure.

The escapement being made to work freely in either direction, the paper may be wound upon the drum by turning the drum and shaft *n* backward; or the shaft may be made square, and the drum be fitted to it and slid thereon after the paper is wound upon it. The weight *l* thus serves to draw the strip across the seat K

at a suitable speed to receive the marks of the pencil I; but the escapement is blocked by a rod, *r*, previous to any alarm, and a lever, *s*, is therefore provided to transmit the first movement of the bar H to the collar *t* on the rod *r*, that the strip may begin to descend after the first signal is recorded on the paper.

To arrest the descent of the strip after the signals have been recorded one or more times, as may be desired, a small treadle, T, is secured at a suitable distance below the marker I, and the contact of the weight with the treadle throws the rod *r* into the escapement at the proper time through the agency of a cord or wire, *w*, attached to the treadle and to a weighted cam-lever, *x*, the cam upon which acts to slide the rod *r* in the contrary direction to that in which it was moved by the lever *s*.

It will thus be seen that the whole mechanism is self-acting, and that whenever an alarm is transmitted to the gong a complete record of the signals will be received by the strip S one or more times, depending upon the distance of the treadle T below the marker.

While the alarm-recorders previously made were liable to fail in their action by reason of the clock-movement running down, it is obvious that so long as the paper lasts upon the drum L the regulator will operate properly, and the appearance of the strip itself is an indication that the instrument is in order.

As the drum will hold a sufficient supply of paper to last a year, and as the marker makes a clear straight line across the strip for each signal received, I consider my device superior to those requiring to be frequently wound up, and which make a curved, broken, or continuous mark as their record. The inclined face K enables the pencil to clear the strip at each movement, and a clear straight mark is the result.

I therefore claim my invention as follows:

1. The device for moving the marker, consisting of the barrel C, operated by weight F, in combination with its stud D and the connection *f* and suitable means for letting off the same at each stroke of the alarm.

2. The device for marking, consisting of the slide J, spring *i*, marker I, and inclined seat K, operating in combination with the strip S and suitable moving mechanism, substantially as herein set forth.

3. The device for starting or letting off the marking apparatus, consisting of the bar H, provided with the stops or lugs *a d*, operated in combination with the barrel C and hammer B, substantially as set forth.

4. The combination of the barrel C, arranged to operate the marker I, substantially as set forth, with the arm G and self-setting stop *a*, for checking the action of the marker at the end of each stroke or movement.

5. The device for starting the strip S at the first stroke of the hammer, consisting of the rod *r*, lever *s*, and their connection with the bar H, to secure the withdrawal of the rod *r* from the escapement controlling the movement of the strip S.

6. The device for checking the descent of the strip S, consisting of the treadle T, connection *w*, and cam-lever *x*, operating upon the rod *r* when moved by the weight *l*, substantially as set forth.

7. The device for applying a drum of paper to the regulating-escapement, consisting of the square shaft *n*, or its equivalent, as a flat or keyed shaft, and the combination of the drum with a strip, S, and weight *l*, and an escapement having no driving mechanism to be wound up, substantially as and for the purpose set forth.

8. In an alarm recorder or register, the combination of a marker, I, with an inclined seat, K, and a strip, S, moving thereon, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereto set my hand this 16th day of October, 1879, in the presence of two witnesses.

I. P. HAULENBECK.

Witnesses:

THOS. S. CRANE,
WM. L. FISH.