

1,054,644.

Patented Feb. 25, 1913.

3 SHEETS—SHEET 1.

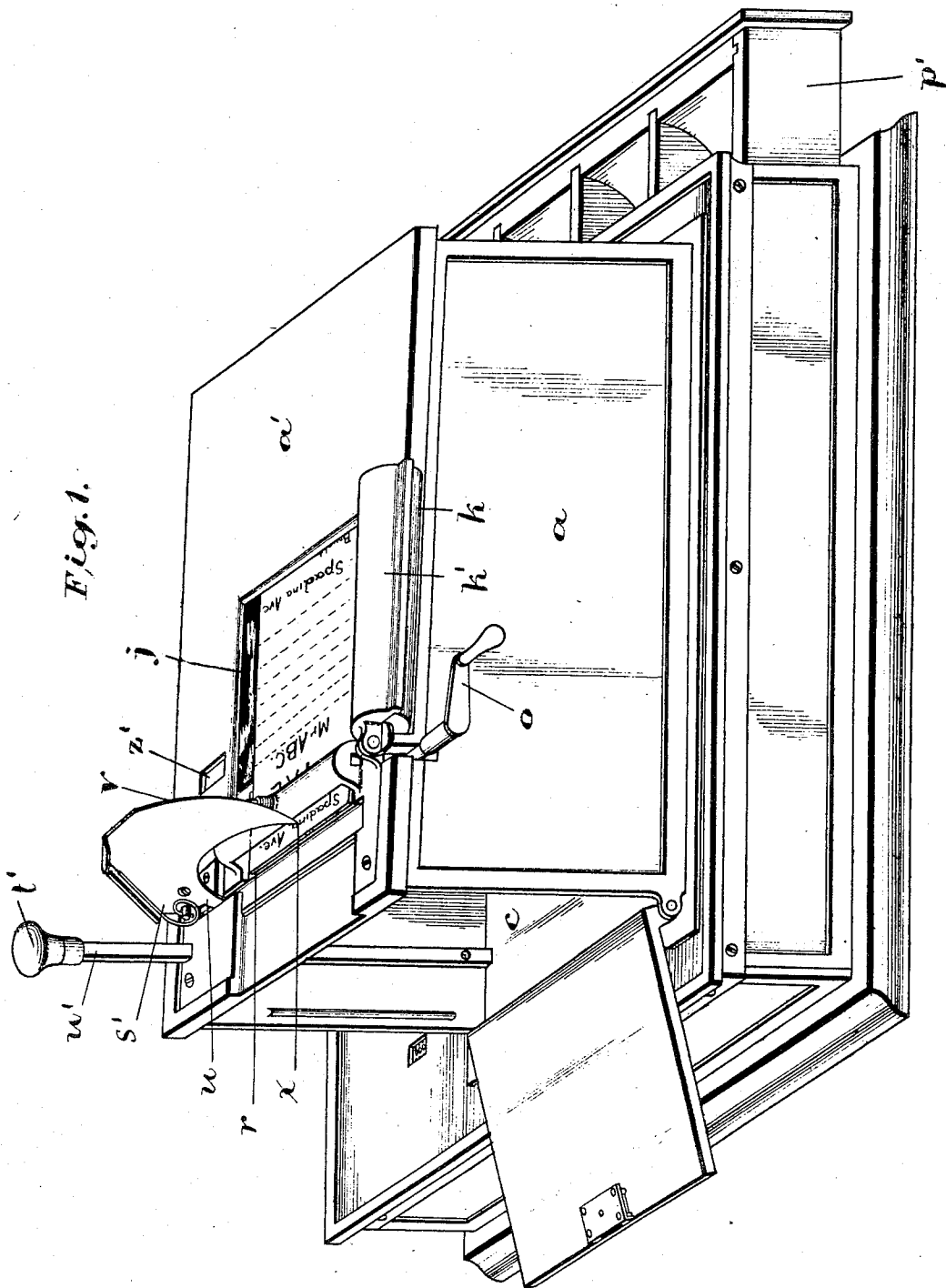


Fig. 1.

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 Oliver Ballman

INVENTOR:
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 by Charles Riches
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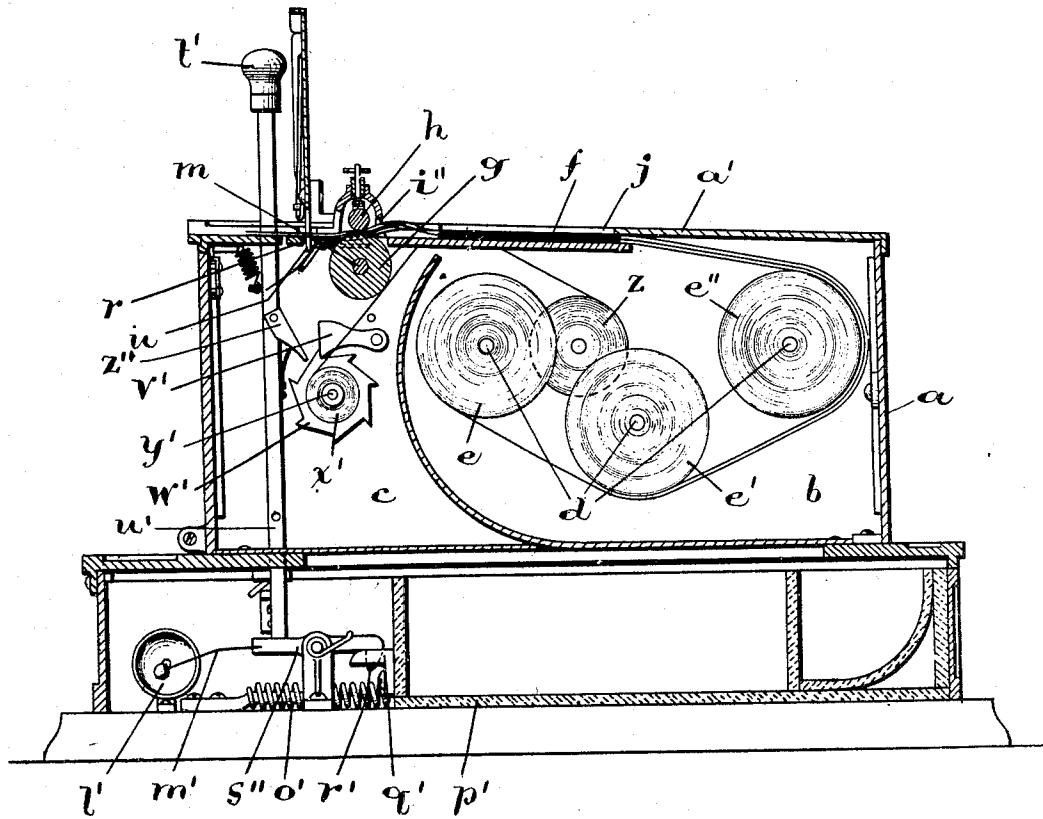


Fig. 2.

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3 SHEETS—SHEET 3.

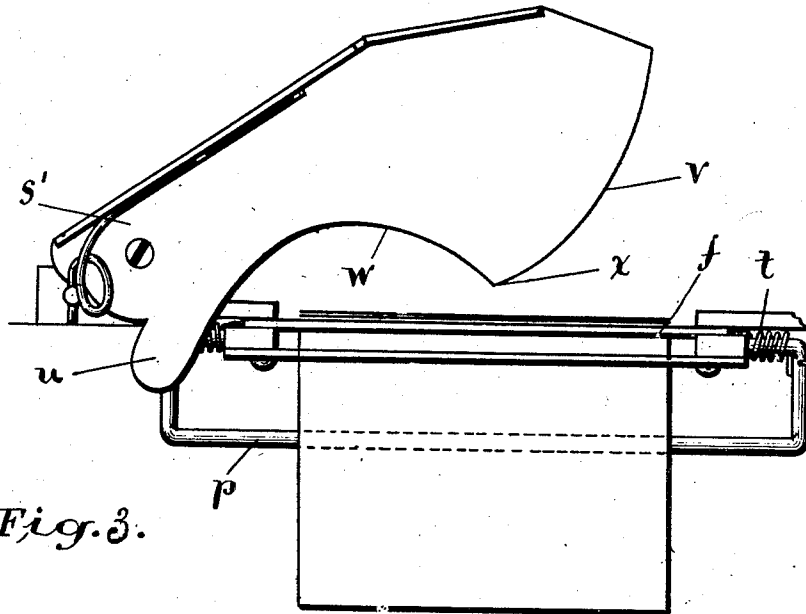


Fig. 3.

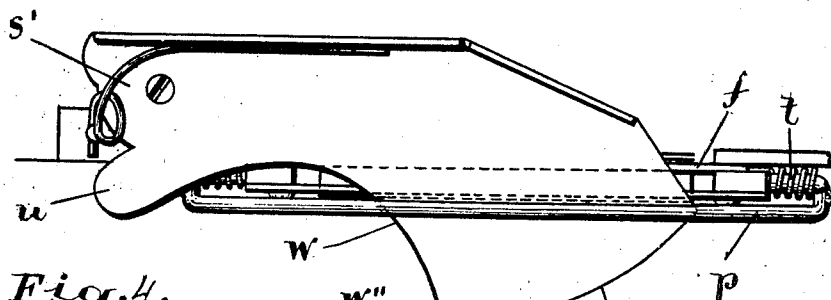


Fig. 4.

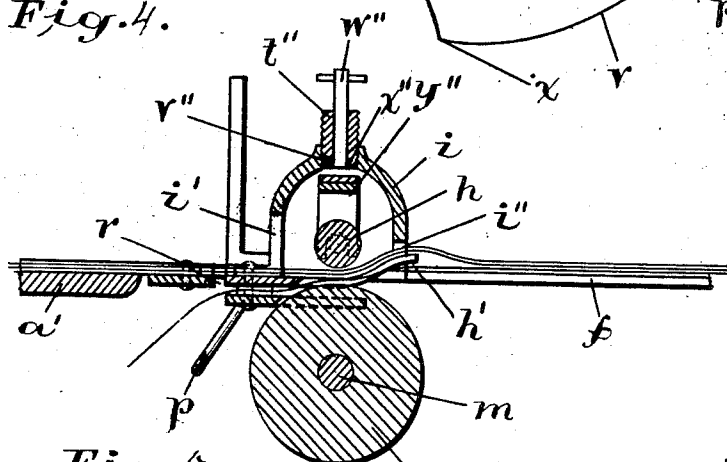


Fig. 5.

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UNITED STATES PATENT OFFICE.

WHITFIELD HAINER, OF TORONTO, ONTARIO, CANADA.

AUTOGRAPHIC REGISTER.

1,054,644.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed April 2, 1910. Serial No. 553,061.

To all whom it may concern:

Be it known that I, WHITFIELD HAINER, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Autographic Registers; and I hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to an autographic register which will produce an original copy and as many impression copies as may be required of the record of each transaction the object of my invention being to sever the material and retain one or more copies of the recorded matter for reference or checking purposes, within a locked record chamber, and to deliver the remaining copies exteriorly of the register for the use of the dealer and customer.

The ribbons of material, with carbon sheets between them to record the transactions, are unwound from webs contained within a magazine chamber and passed over a writing plate disposed below an opening in the register top, and then between feed rolls which with the assistance of the webs keep the ribbons stretched for writing purposes, the ribbons for the original and a preselected number of impression copies being delivered exteriorly, and the ribbon or ribbons for the retained copy or copies being delivered interiorly, of the register. The matter recorded on the overlying ribbon as the material passes over the writing plate is recorded, by carbon sheets on the underlying ribbons, and these copies are advanced to carry the recorded matter beyond the feed rolls where it can be severed. The copies delivered exteriorly of the register could be severed by a cutter bar such as certain types of autographic registers are now provided with, but those copies delivered interiorly of the register could not be severed by such means, and especially in that class of autographic registers in which the retained copies are delivered into a record chamber. To simultaneously sever the exteriorly and interiorly delivered copies, I use a knife having a concavo-convex cutting edge with a sharp piercing point at the junction of the curved surfaces to penetrate the several ribbons of material before the concavo-convex parts of the edge come into contact with them, the piercing point penetrating the material between its side edges, the cut formed by it then being simultane-

ously continued in both directions by the curved parts of the blade.

For an understanding of the invention reference is to be had to the following description and to the accompanying drawings in which:

Figure 1, is a perspective view of the autographic register. Fig. 2, is a longitudinal section of the same. Fig. 3, is a detail view of the knife and clamp showing them in their inoperative position. Fig. 4, is a detail view of the same parts shown in Fig. 3, with the knife and clamp in their operative position. Fig. 5, is a section, showing the course of the material between the feed rolls.

Like characters of reference refer to like parts throughout the specification and drawings.

Within the register casing *a* is a magazine chamber *b*, a record chamber *c*, and three spindles *d* for the webs *e e' e''* extending transversely across the magazine chamber *b*, the web *e* providing the material for the original copy, and the webs *e' e''* providing the material respectively for the first and second impression copies. The material from these webs passes across the top of the writing plate *f* disposed below an opening *j* in the top *a'*, then between the feed rolls *g* and *h*, the feed roll *g* having mandrels *m* journaled in the sides of the register casing, and the feed roll *h* having mandrels journaled in the ends of a housing *i* forming part of the top *a'*.

At the side of the writing plate *f* is the carbon holder *k*. The carbon sheets are contained in the carbon holder and pass across the writing plate between the material from the webs *e e' e''* so that the entries made on the original copy will be simultaneously recorded on the impression copies. In the sides of the housing *i* are slots *i' i''* for the passage of the material between the feed rolls, the material from the webs *e e'* passing between the feed rolls above the exterior surface of the top *a'*, and the material from the web *e''* passing through a slot *h'* in the top *a'* in front of the housing *i* and then between the feed rolls below the interior surface of the top *a'* into the record chamber *c*.

One of the mandrels *m* of the feed roll *g* extends beyond the outer surface of the register casing *a* and is fitted with a crank *o* by which the feed rolls are revolved to ad-

vance the material when the entries are made thereon. The material from the webs c, c' advances along the exterior surface of the top a' and the material from the web c'' passes over the clamp p as it enters the record chamber. The clamp is journaled at one side of the slot r formed through the top a' and is arranged to swing across the slot and securely hold the material from the web c'' against the inner surface of the top a' , while the knife severs the several ribbons, the clamp p being provided with springs t which automatically move it to engage the material as the knife descends. The knife is pivoted at one end s' so that its free end can move through the slot r when severing the material, and when returning to its normal position. The pivoted end s' is provided with an arm u engaging the clamp p when the knife is in its raised or inoperative position counteracting the springs t and moving the clamp away from the inner surface of the top a' as shown in Figs. 2 and 3, so that the material can pass freely across it. As the knife descends, the arm u releases the clamp p and then the spring t raises the clamp into an operative position to bind the material against the top a' while the knife severs it. The cutting edge of the knife consists of a convex part v and a concave part w forming at their junction a point x . The point x , when the knife descends, penetrates the material midway between its side edges and then the convex and concave parts of the edge enter the cut made by the point and simultaneously sever the material in both directions toward its side edges, two copies from the material being delivered exteriorly of the register, the third copy being retained within the record chamber. The number of webs however can be increased or decreased, and the number of copies delivered exte-

riorly and interiorly of the register can be correspondingly varied.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. An autographic register and a knife comprising a blade, pivoted at one end to the register, having a concave cutting edge adjoining the pivoted end, a convex cutting edge adjoining the free end, and a piercing point at the junction of the concave and convex cutting edges to penetrate the material and enable the concave convex cutting edges to simultaneously cut in both directions from the piercing point.

2. An autographic register, a knife comprising a blade, pivoted at one end to the register, having a concave cutting edge adjoining the pivoted end, a convex cutting edge adjoining the free end, and a piercing point at the junction of the concave and convex cutting edges to penetrate the material and enable the concave convex cutting edges to simultaneously cut in both directions from the piercing point, and a clamp pivoted to the register cooperating with the knife to hold the material while being severed.

3. In an autographic register, a knife comprising a blade pivoted at one end to the register, and having a cutting edge consisting of a concave part adjoining the pivoted end, and a convex part adjoining the free end, of the blade, a piercing point at the junction of the concave and convex parts, and a spring pressed clamp hinged to the register and engaged by the knife.

Toronto, March 30th, 1910.

WHITFIELD HAINER.

Signed in the presence of--

CHAS. H. RICHES,
H. L. TRIMBLE.