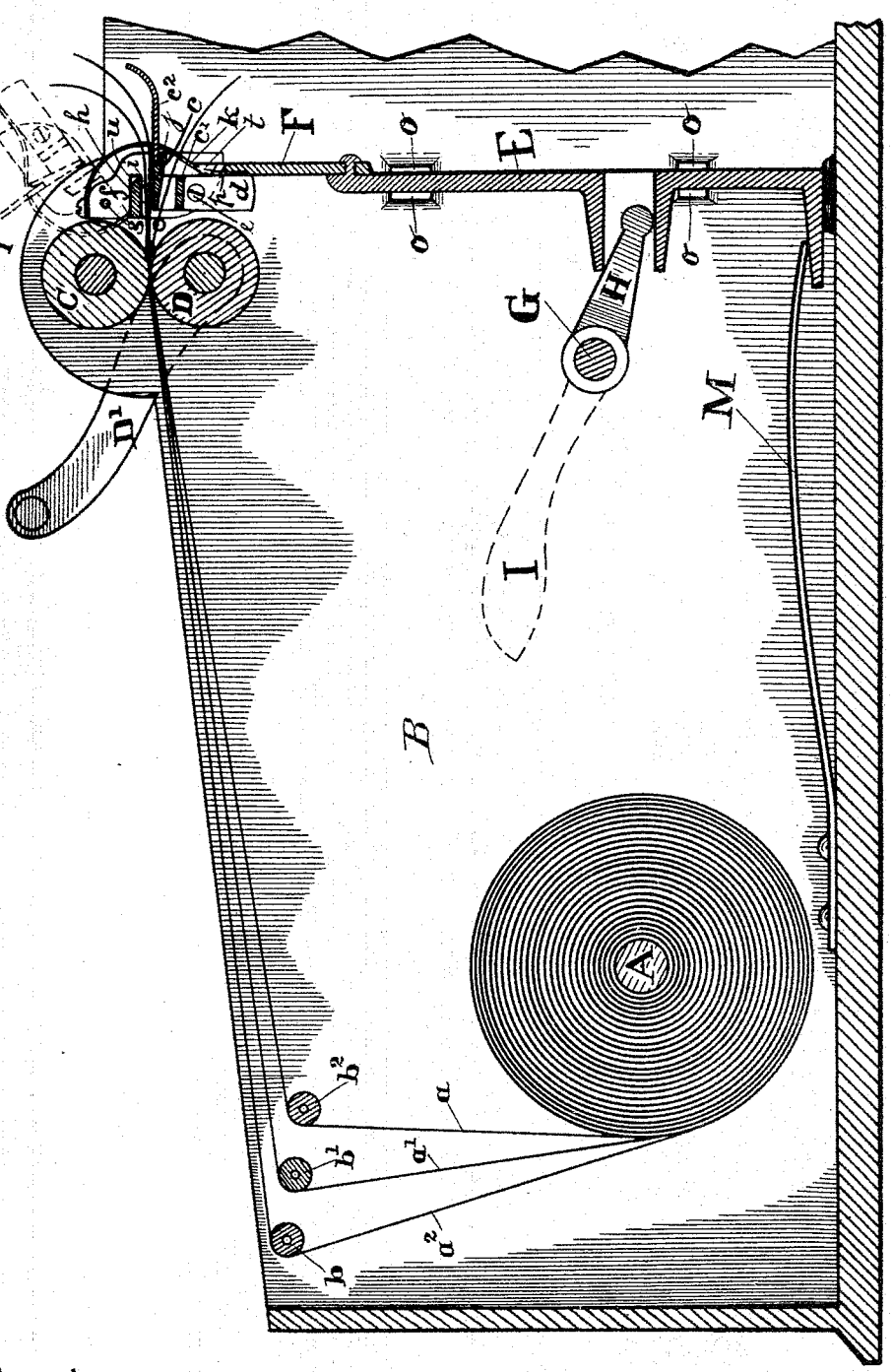
(No Model.) 2 Sheets—Sheet 1.

C. D. GRIMES & G. E. HARTER.

AUTOGRAPHIC REGISTER APPARATUS.

No. 491,348. Patented Feb. 7, 1893.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig 2.

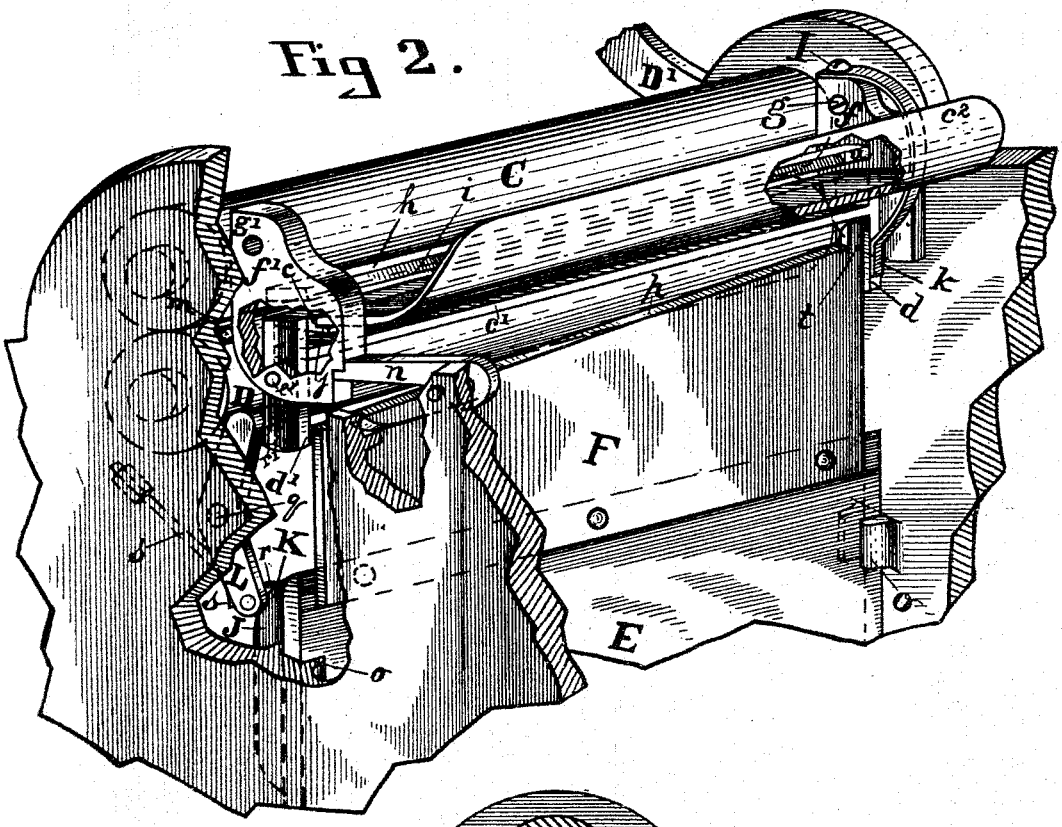
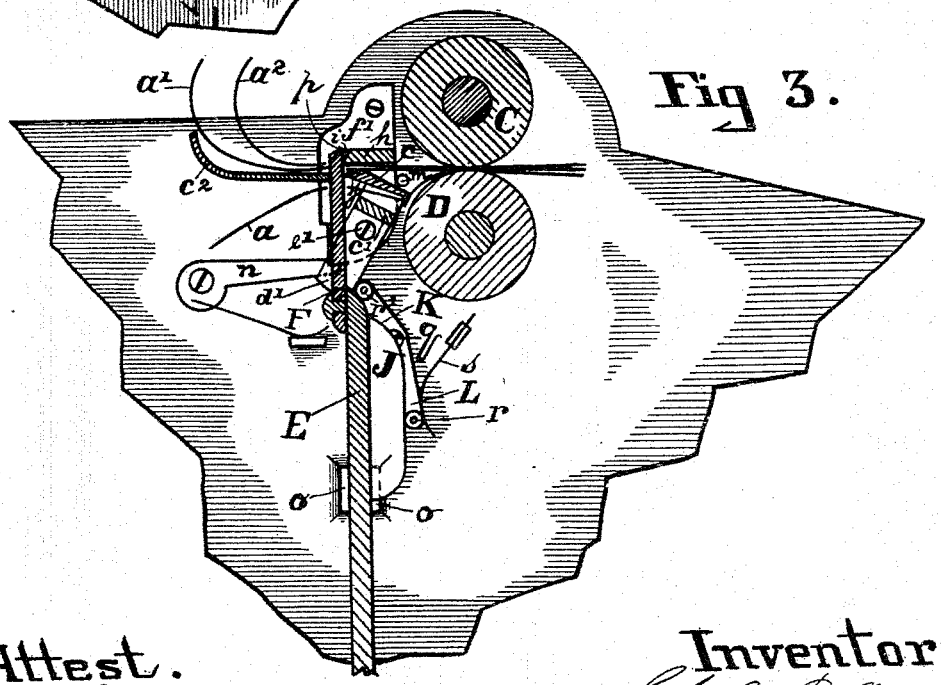


Fig 3.



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UNITED STATES PATENT OFFICE.

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AUTOGRAPHIC REGISTER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 491,348, dated February 7, 1893.

Application filed September 23, 1892. Serial No. 446,652. (No model.)

To all whom it may concern:

Be it known that we, CHARLES D. GRIMES, residing at Dayton, in the county of Montgomery, and GEORGE E. HARTER, residing at Springfield, in the county of Clark, State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Autographic Register Apparatus, of which the following is a specification.

Our invention relates to a class of registers which are intended to preserve duplicate copies of written documents and in which mechanism is employed to feed strips of paper from rolls or otherwise, over a writting tablet to a cutting device where the strips are severed and the several portions disposed of in various ways.

The object of our invention is to provide improved means for dividing and severing the paper strips employed in such machines, and consists in an improved device hereinafter designated as the dividing medium, for dividing a plurality of paper strips as they approach the knife or shears by which the paper is severed, so that the under strip will be guided into a suitable storing compartment, and the upper strip or strips to without the machine.

Our invention further consists in an improved cutting device for such machines, together with certain details hereinafter more clearly defined and pointed out in the claims.

The invention will be first fully described in connection with the accompanying drawings, in which corresponding parts are indicated by similar letters of reference wherever they occur throughout the various figures.

Figure 1, is a longitudinal section through the center of so much of the register as is necessary to show our invention, the dotted lines representing the dividing medium swung up in position for loading the paper. Fig. 2, is an enlarged broken perspective view of that portion of a register to which our invention belongs. Fig. 3, is an enlarged section through the center of the dividing medium, feeding and cutting devices showing the opposite side to Fig. 1, the several parts being shown in their respective positions after the paper has been severed, and prior to being released.

A represents a roller mounted within the case B, and upon which are wound in this instance, three strips of paper, a, a', a^2, which pass over guide rods b, b', b^2, thence over a writing tablet (not shown), to a pair of feed rolls C, D, which by turning a handle D′ feeds the paper through the machine in the usual way, manifold material being employed to produce an impression on the under strips of writing done on the top strip, as in other machines of this character.

The dividing medium is composed of two transversely arranged bars c, c', connected at each end to end pieces d, d', which are pivoted at e, e', to plates f, f', and these plates are pivoted at g, g', to the sides of the register, a bar c^2, and a cutter blade h, having a cutting edge i, are connected at their ends to the plates f, f', the bar c is cut away at j, and projects beyond the inner edge of the bar c^2, which is curved to direct the course of the upper strips of paper upwardly as shown: when the dividing medium is in its normal position the top sides of bars c and c^2, are flush with each other, while the under side of bar c, projecting as it does under bar c^2, presents a smooth continuous surface to the end of the paper, and prevents the possibility of its being obstructed by the edge of the bar c^2, in which case it would be liable to fold back into the main body of the register and it would then be necessary to rearrange the paper before another operation could be performed, and this feature of our invention overcomes a serious defect in existing registers. The end pieces d, d', with bars c, c', attached, are returned to and held in position by the free end of a spring k, the opposite end of which is secured to the plate f, as shown at I. The plates f, f', are held rigidly in working position by a stop m, and a spring actuated pawl n.

The loading or arranging of the paper can more easily be performed when the dividing medium is swung up into the position shown by dotted lines in Fig. 1, which can be done by first releasing the pawl n.

E, represents a reciprocating frame carrying a blade F, provided with a cutting edge *p*, and a safety guide *t*, located to one side of, and projecting above the blade, the function of the latter being to prevent the blade F, from striking the under side of the stationary blade *h*, in case of any irregularity in the mounting of the two blades, the inside edge of the guide *t* being beveled will first strike a flat surface *u*, of the blade *h*, as blade F, is raised should the latter be inclined to strike the under side of blade *h*, and thus protect the cutting edges of the two blades: by this means we are enabled to so locate the blades as to insure close contact with each other while the paper is being severed, without liability to injury to either of them. The frame E, travels in guides or ways formed by studs *o*, on the sides of the register, and is operated by means of a shaft G, journaled in the sides of the register. An arm H, is rigidly mounted on this shaft, preferably in the center of the register, and engages a tooth formed on the back of the frame E, as clearly shown in Fig. 1. To one end of the shaft G, on the outside of the register case is attached a lever I, shown by dotted lines in Fig. 1, by which means the shaft can be rotated and the frame together with the blade F, raised sufficiently for its cutting edge to clear the cutting edge *i*, of the blade *h*, and thus sever the paper.

It will be apparent from the foregoing description that before the blade F can be operated, bar *c* of the dividing medium must be removed from its path as it is located directly over the blade and to accomplish its removal at the proper time, we provide one side of the frame E, with a lug J, having an incline K.

On one side of the register case we mount an arm L, which oscillates on a pivot *q*, and is provided with friction rollers *r*, *r'*. The roller *r*, traversing the incline K, as the latter is raised causes the arm L to rotate on its pivot and as the roller *r'*, bears against the back edge of the end piece *d'* the latter is caused to rotate in an opposite direction, and thus the bar *c*, is automatically moved out of the path of the cutter. A spring *s*, serves to retain the arm L, in its normal position and the frame E, is returned to its normal position by the aid of a spring M, as shown in Fig. 1, the blade F, and carrier E may be formed in one piece if desired but we consider it preferable to attach the blade to the carrier as shown.

We are familiar with the construction of the autographic register shown and described in United States Letters Patent No. 455,445 and disclaim such construction.

Various changes may be made in the details of construction of our invention without departing from its scope, and therefore we do not limit ourselves to the exact construction shown, nor do we limit our invention to a dividing medium automatically movable out of the path of the cutter by the operation of the movable blade thereof, as it may be arranged to be so moved by an independent operation, but we consider the construction shown and described herein to be preferable.

We claim

1. In an autographic register, in which a plurality of strips of paper are employed, a paper cutter, a paper dividing medium, and means for operating the latter whereby it is moved out of the path of the cutter to permit the paper to be severed.

2. In an autographic register in which a plurality of strips of paper are employed, a paper cutter, a paper dividing medium, and means for operating the latter whereby it is moved out of the path of the cutter simultaneously with the operation of the latter.

3. In an autographic register in which a plurality of strips of paper are employed, a paper cutter, a feeding device for propelling the paper to the cutter and a dividing medium for separating the paper, the dividing medium being located within the path of the cutter, in combination with means for moving the dividing medium out of the path of the cutter to permit the paper to be severed.

4. In an autographic register in which a plurality of strips of paper are employed, a paper cutter, a feeding device for propelling the paper to the cutter, and a dividing medium located within the path of the cutter, in combination with means for moving the dividing medium out of the path of the cutter simultaneously with the operation of the latter.

5. In an autographic register, a cutter blade rigid when in its cutting position, and a vertically movable blade provided with means for protecting the edges of the cutter blades, in combination with ways in which the movable blade slides and a dividing medium for directing the paper in different paths.

6. In an autographic register in which a plurality of strips of paper are employed, a paper cutter, a dividing medium for directing the paper in different directions, the same being located within the path of the cutter, in combination with means for operating the dividing medium whereby it may be moved in one direction out of said path, to permit the operation of the cutter and in another direction to a convenient position for arranging the paper.

7. In an autographic register in which a plurality of strips of paper are employed, a paper cutter and dividing medium for directing the paper in different directions, same being located within the path of the cutter, and automatically movable in one direction out of said path, and movable in another direction to a position convenient for arranging the paper.

8. In an autographic register in which a plurality of strips of paper and a paper cut-

ter are employed, a dividing medium for separating and directing the paper in different paths, said dividing medium being composed of one or more bars arranged transversely of the register and in the path of travel of the movable blade of the cutter and extending beyond the cutter, mechanism for moving said bar or bars out of the path of the cutter while the paper is being severed, after which said bar or bars are returnable to place and will then direct the paper in its forward movement beyond the cutter and other obstruction in combination with means for propelling the paper.

9. In an autographic register in which a plurality of strips of paper are employed, the combination of a paper cutter consisting of a blade as *h*, held rigid when in its cutting position, and movable out of said position for convenience in arranging the paper, said blade being provided with a cutting edge as *i*, blade as F, provided with a cutting edge as *p*, and vertically movable in ways, a dividing medium for directing the paper in different paths, a feeding device for feeding the paper through the dividing medium to and past the cutter, and a suitable guide for directing and protecting the edges of the cutter blades.

10. In an autographic register in which a plurality of strips of paper and means for propelling the same are employed. The combination of a paper cutter consisting of a blade as *h*, provided with a cutting edge as *i*, and connected with pivoted end plates as *f f'*: and a reciprocating blade as F, having a cutting edge as *p* and a safety guide as *t*, a dividing medium consisting of two bars as *c c'*, connected with pivoted end pieces as *d*, *d'*, and curved bar as c^2, connected with the pivoted end plates *f*, *f'*. A pivoted spring actuated arm as L, adapted to be operated by a reciprocating blade carrier as E, and thereby simultaneously move the dividing medium out of the path of travel of the cutter. A spring actuated pawl as *n*, stop as *m*, and spring as *k* the whole adapted to operate in a manner substantially as set forth.

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Witnesses:
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