(No Model.)

G. W. KENDALL & C. KRUSE.

PRINTING MACHINE.

No. 287,383. Patented Oct. 23, 1883.

Fig. 2.

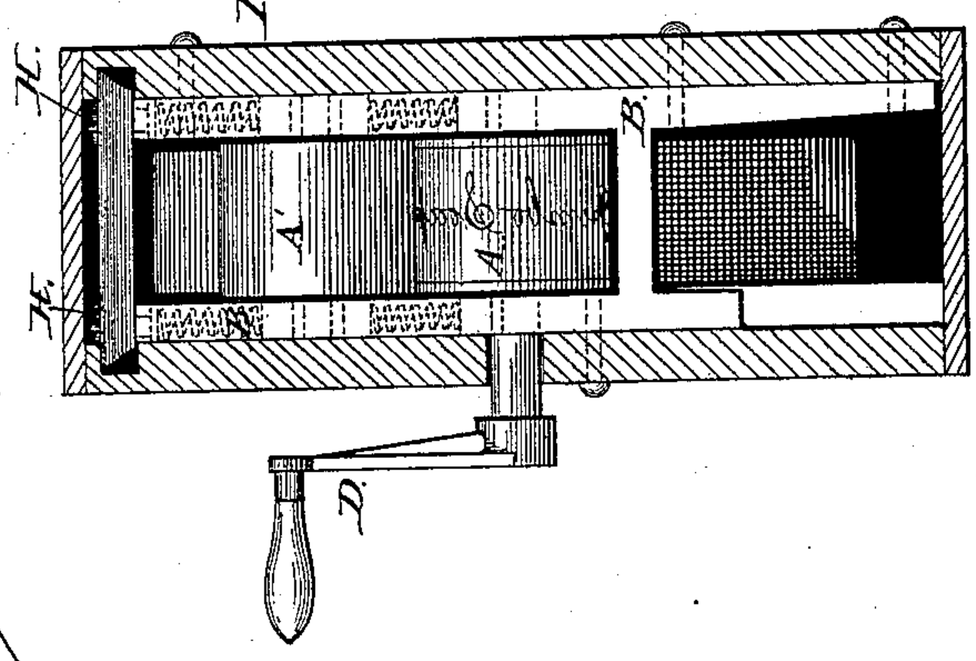


Fig. 3.

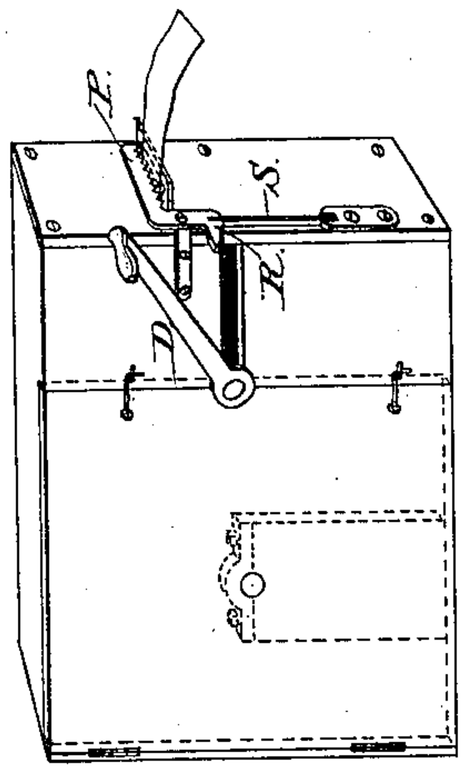
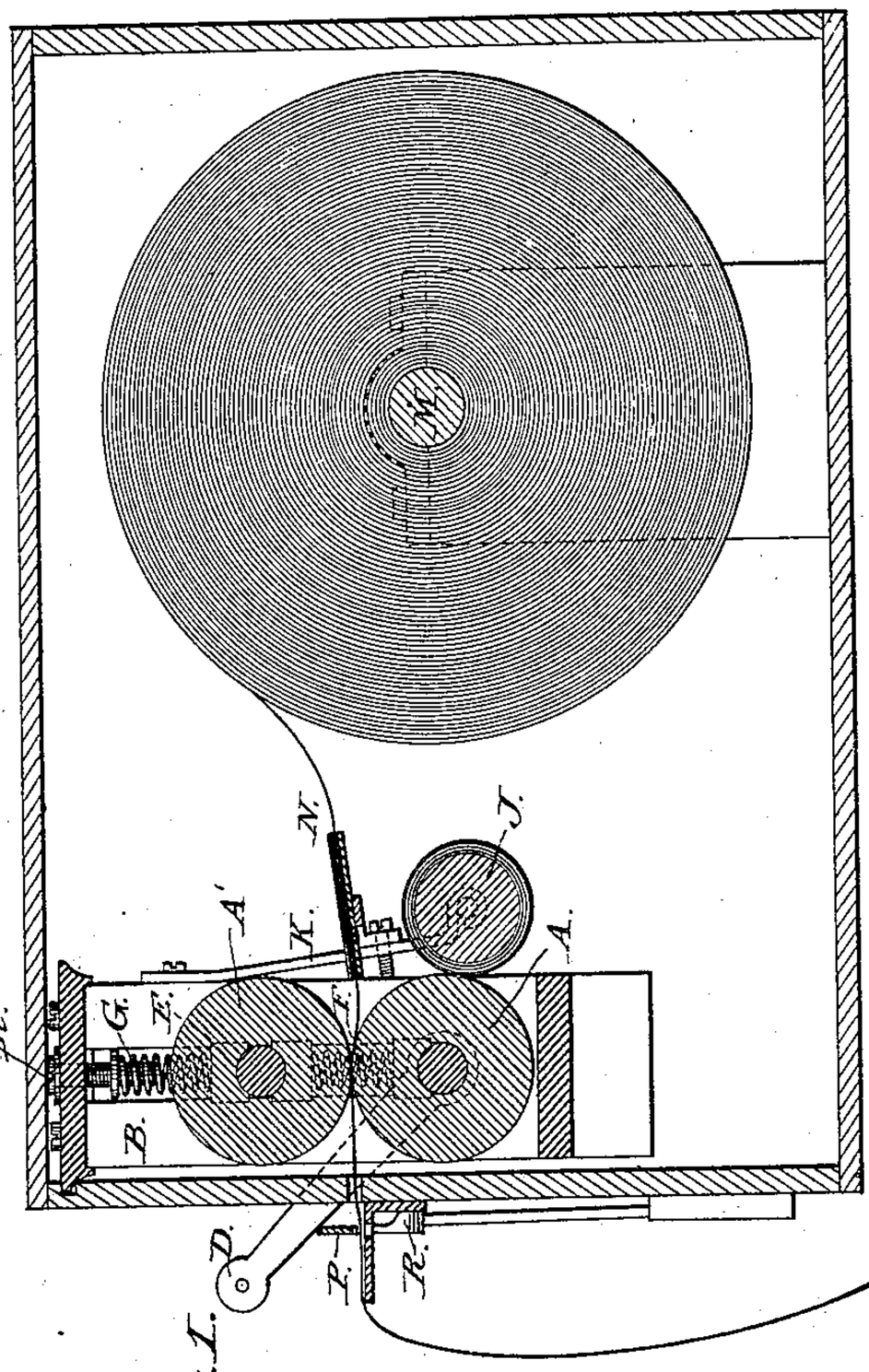


Fig. 4.

Fig. 1.



Witnesses:

John A. Ellis.

J. C. Ecker

Inventors:

George W. Kendall

and Charles Kruse

By David A. Burr

Attorney.

UNITED STATES PATENT OFFICE.

GEORGE W. KENDALL AND CHARLES KRUSE, OF NEW YORK, N. Y.; SAID KENDALL ASSIGNOR TO SAID KRUSE.

PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 287,383, dated October 23, 1883.

Application filed November 20, 1882. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. KENDALL and CHARLES KRUSE, both of the city, county, and State of New York, have invented a new and useful Improvement in Printing-Machines; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

Our invention relates to rotary printing-machines, and more particularly to that class of small and portable machines in which a continuous band or roll of paper is, by the rotation of the type and impression rollers, automatically fed forward and printed as it moves, and thereafter indented or cut into cards or leaves as it passes out from the machine.

It consists in the use of an improved inking-roller for color-printing, constructed in sections divided by flexible partitions, of tin-foil or its equivalent, which, while operating to separate the different-colored inks, will, from their pliable nature, pass over the type to be inked without injury thereto, and of a spring-actuated pivoted blade fitted with an arm adapted to be struck by the crank operating the type-roller, so that the crank shall at each revolution thereof cause the blade to indent or cut the printed strip, as hereinafter fully described.

The object of our invention is to produce a light, portable machine, capable of being carried and operated by a boy or unskilled person, and which shall automatically print and deliver with great rapidity, in a continuous band or strip, or in a series of cards or leaves, and, if desired, in a variety of colors, a repetition of any desired advertisement, whereby the operator is enabled, with but very little effort and while simply walking along a street at an ordinary gait, to produce and distribute freely and widely large numbers of the advertisement in question.

In the accompanying drawings, Figure 1 is a central longitudinal section, and Fig. 2 a transverse section, partly in elevation, of our advertising-machine; Fig. 3, a view in perspective of the exterior thereof. Fig. 4 is an elevation of the inking-roller detached.

A A′ are rollers of equal diameter, mounted and superimposed to revolve in contact within a suitable frame, B B, which is secured within one end of an outer case, C. The journal at one end of one of said rollers, A, is extended to project outwardly through the case, and is fitted with a crank, D, by which it is rotated, and the periphery of said roller is adapted to receive and carry rubber or other form of type, secured concentrically thereon by means of cement, or by the use of other appliances for said purpose. The journals of the second superimposed roller, A′, are supported in bearings E, (see dotted lines, Fig. 1,) which are fitted in suitable ways formed in the frame B B.

A set of springs, F, (see dotted lines, Fig. 1,) are interposed between the bearings or journal-boxes of the rollers A A′, and a second set of springs, G, are superimposed upon the journal-boxes E of the upper roller, and are adjusted as to tension by means of set-screws H, working through the upper bar of the frame, as shown in Fig. 1. This double set of springs serves to produce an equable elastic bearing and tension of the upper roller against the lower type-bearing roller which admits of nice adjustment.

A third roller, J, is suspended from and between elastic arms K K, on the rear of the frame B B, to bear against the face of the lower printing-roller on a line at or below its axis. The roller J may be readily removed from its bearings in the arms K and as readily replaced. It is lined with cloth or other suitable absorbent material adapted to absorb and retain a charge of ink and deliver it properly to the face of the type upon the printing-roller A, and where it is desired to print in colors it is divided transversely into two or more sections, J′ J′, by means of transverse disks R, of tin-foil, paraffined paper, or other equivalent flexible, yet impervious, material or fabric adapted to prevent effectually a flow of ink from one section to the other, and which, from its yielding elastic nature, cannot injure the type if brought to bear thereon. Each section may then be charged with a different color of ink, so that the colors may thereby be applied to the type simultaneously, and the paper will be printed therefrom in the various

colors at one operation. The arms K, in which the roller is journaled, are secured at their upper ends to the frame, and serve, by their elasticity, to produce the required pressure of the inking-roller against the face of the printing-roller.

In the rear of the case a paper-carrying roller, M, is mounted. The bearings of said roller admit of its ready detachment and replacement, so that when the band or ribbon of paper is exhausted from one roller another full roll may be readily substituted therefor. The paper is led from the roll over a guide-plate, N, projecting rearwardly from the frame, in the plane of the intersection of the printing and impression rollers A A′, or slightly above it. The edges are bent over to guide the paper to the rollers, and the plate serves also to keep the paper from contact with the inking-roller. From the plate N the paper strip passes between the rollers, whose pressure is not only sufficient to imprint clearly thereon an impression of the type, but also to feed it forward and deliver it out from the case through an orifice left therein for the purpose. Thus by simply turning the crank D the roll of paper is unwound, fed forward, printed, and delivered in a continuous strip, which, as an advertisement, may be rapidly deposited along the street or sidewalk by an operator walking along, carrying the machine under his arm and turning the crank as he walks.

The machine is completed and adapted for the rapid delivery of a series of independent detachable or detached cards or leaves by the combination therewith of a blade, P, formed with either a sharp cutting or a serrated indenting edge. This blade is pivoted at one end to the edge of the front of the case, in line with the aperture through which the printed strip is delivered from the rollers, so as to vibrate across said aperture. To said pivoted end of the blade a bent lever, R, is secured to project out beyond the edge of the case far enough to be struck by the crank D in its rotation. The arm R is forced downward and inward by the crank, and thereby operates to lift the blade P; but as soon as the arm becomes disengaged the blade will drop upon the paper to indent or sever it. The upper end of a straight spring, S, engages the arm R, in manner as shown in Fig. 3, and is so drawn over and bent thereby when the arm is forced down as that when the arm is released it will tend to throw it back with sufficient force to carry it beyond its normal position and cause the blade to properly indent or sever the paper, while its reaction will thereupon operate to restore it to said normal position and uplift the blade and leave the paper free to pass under it.

The blade may be thrown up to clear the crank entirely when it is desired to deliver a continuous printed strip from the machine, or, being dropped to be operated by the crank, will produce at each rotation of the crank either an indentation or a complete severance of the strip, as required.

We claim as our invention—

1. The combination, with the type-roller A, impression-roller A′, and crank D, operating the same, and with a cutting or indenting blade, P, pivoted at one end to vibrate in front of the rollers, of an arm, R, projecting beyond the pivot, to be struck by the crank at each revolution thereof, and a spring, S, bearing against said arm, substantially in the manner and for the purpose herein set forth.

2. The combination, with the absorbent covering upon an inking-roller, of one or more flexible or yielding impervious membranes, dividing the covering transversely into two or more separate yet contiguous sections, substantially in the manner and for the purpose herein set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE W. KENDALL.
CHAS. KRUSE.

Witnesses:
DANIEL R. GARDEN,
DAVID A. BURR.