

2 Sheets—Sheet 1.

## ROLL HOLDING, SEVERING, AND PRINTING APPARATUS.

Patented Feb. 18, 1890.



W. B. Benjamin  
Edison & Brickett

INVENTOR  
Jimmie Nagee  
BY Phillips Abbott  
his ATTORNEY

(No Model.)

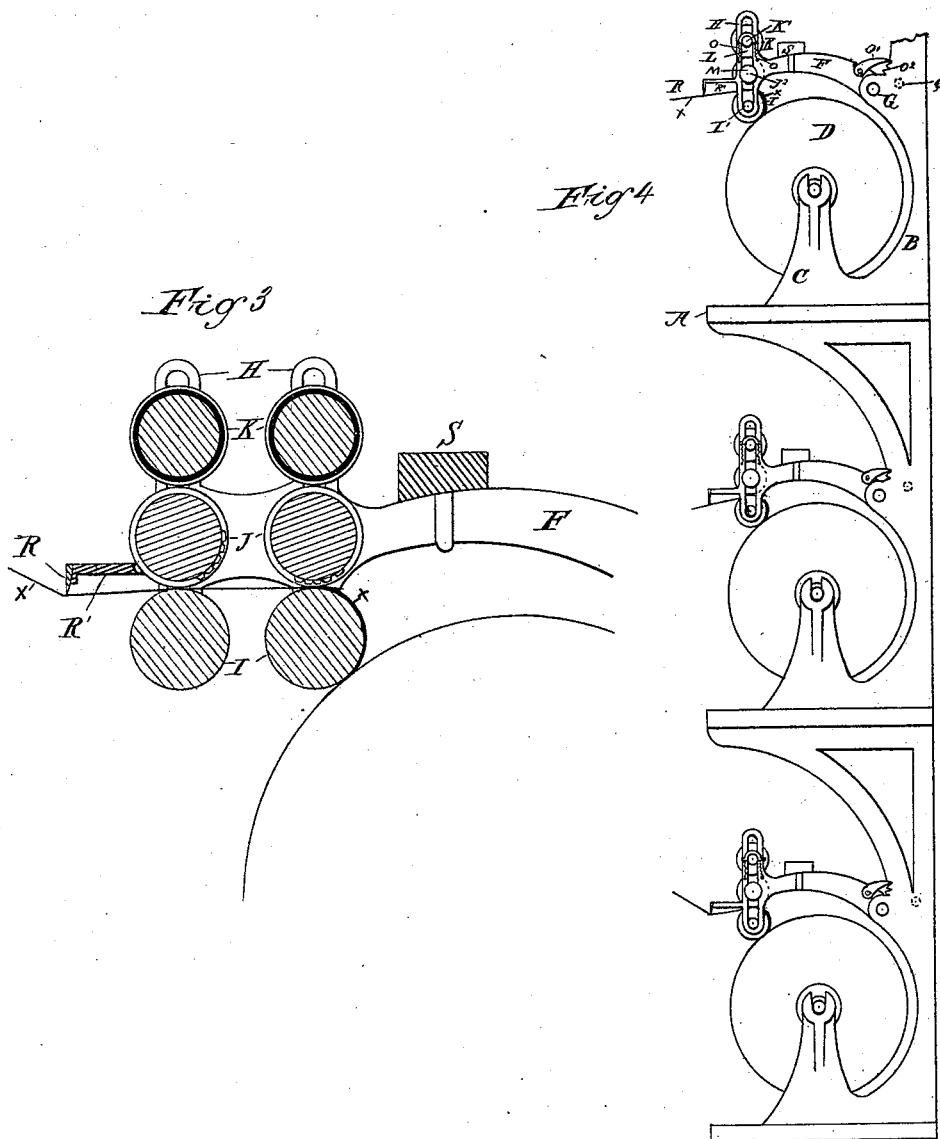
2 Sheets—Sheet 2.

J. NAGEL.

## ROLL HOLDING, SEVERING, AND PRINTING APPARATUS.

No. 421,749.

Patented Feb. 18, 1890.



**WITNESSES:**

CMS Benjamin  
Edmund A. Brickner

Edmund A. Brickner

INVENTOR

INVENTOR  
*Junius Nagel*  
 BY *Phillips Abbott*  
 his ATTORNEY

BY

Phillips Abbott

hi

**ATTORNEY**

# UNITED STATES PATENT OFFICE.

JUNIUS NAGEL, OF NEW YORK, N. Y., ASSIGNOR TO ALBERT J. KLETZKER,  
OF ST. LOUIS, MISSOURI.

## ROLL HOLDING, SEVERING, AND PRINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 421,749, dated February 18, 1890.

Application filed December 26, 1888. Serial No. 294,652. (No model.)

*To all whom it may concern:*

Be it known that I, JUNIUS NAGEL, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improved Roll Holding, Severing, and Printing Apparatus, of which the following is a specification.

My invention relates to improvements in roll-paper holding, severing, and printing devices, intended principally for wrapping-paper in stores and similar places, but applicable also in whole or in part to other uses; and it consists in features of novelty herein-after described, and particularly pointed out in the claims.

The invention also relates to the employment of duplicate sets of inking and printing rollers in conjunction with which the strip of paper passes, whereby different-colored inks can be employed to print the paper.

It also consists in improved construction of the apparatus, whereby durability, convenience, and adjustability of the apparatus are secured.

In the drawings the same reference-letters indicate the same parts in all the figures.

Figure 1 illustrates a side plan view of the invention. Fig. 2 illustrates a front plan view of the invention. Fig. 3 illustrates a side plan view of the invention as adapted to print in different-colored inks, a part being broken away. Fig. 4 illustrates a side plan view of the invention, showing a series of paper-holding, printing, and severing devices, whereby the apparatus is adapted to furnish paper of different widths.

A is the base of the machine, and B are side uprights for the support of the printing and cutting apparatus.

C are uprights, in the upper end of which the shaft of the paper-roll turns.

D is the roll of paper. E is a shaft or axis on which it turns. It may turn with the paper, or the paper may turn on it, as preferred.

F F are arms pivoted at G to the uprights B, preferably by a rod crossing from one to the other of them.

H are slotted bars, one being at the free end of each arm F, and in the slots are supported and turn the axes of the rollers I, J,

and K. The roller I is a feed and pressure-resisting roller. It is rigidly supported against downward movement by reason of its axis I' resting against the bottom of the slot L in the bars H H. Immediately above it is the printing-roller J, which has upon its surface and projecting somewhat therefrom any suitable type J', (see Fig. 2,) preferably rubber type. This roller is supported on an axis J<sup>2</sup>, and to one or both of its ends I apply a small hand-wheel M, whereby the roller may be turned to feed the paper when desired.

K is the inking-roller. Its surface, or so much thereof as necessary, is covered with any suitable inking-pad, as now well understood, whereby ink may be continuously supplied to the type on the roller J. The inking-roller is supported by its axis K'.

N N are half-sleeves, which fit over the ends of the axis K' of the inking-roller, and to the ends of these sleeves are attached springs O O, which are fastened at their other ends to the sides of the slotted bars H H, whereby pressure is brought to bear on the axis of the inking-roller to force it against the face of the type on the printing-roller, whereby the proper inking of the type is secured, and the printing-roller in turn resting upon the lower roller I, and the latter being supported upon the roll of paper, the arms F are, through the medium of the springs O O and the said rollers, held aloof. Instead of these springs O O, any other form of pressure-giving device may be employed, or the inking-roller may be made of such material, wholly or partly, as that its own weight will be sufficient to secure the proper inking of the type. These weights will also serve to counteract the upward tendency of the arms F consequent on the tearing of the paper across the edge of the knife; but to absolutely prevent such upward movement I sometimes attach a pawl O' to the arms, which engages successively with teeth on a rack O<sup>2</sup> in the uprights B.

P P' are bands, preferably of rubber, which surround the rollers J and K near their ends, whereby contact between the surfaces of these rollers at points other than the bands is prevented, and the inking is thus confined to

the type and the impression therefrom is confined to the desired parts of the paper. The slot in the bars H H is extended upwardly sufficiently beyond the axis of the inking-roller as that it and the other rollers may be easily removed from the slot when necessary, the half-sleeves being first disengaged from the ends of the axis of the printing-roller.

Q is a stop whereby the arms F F and the parts carried by them may be supported when tipped back for the insertion of another roll of paper.

R is the cutter, which is supported on the forward ends of two arms R' R', extending from the bars H H'. The cutter may, however, be supported in such other manner as may be preferred. It is made of such length as that it will sever the widest paper usable on the machine. It may have a serrated edge or be smooth and sharpened, or may be a tightly-stretched fine wire, or any other suitable device for severing the paper may be employed.

S S are weights, which may be used on the arms F F to secure the needful pressure of the type against the paper.

The operation of the apparatus as thus far described is as follows: The roll of paper supported on its axis is placed in position on the uprights C C and the end of the paper is passed between the printing-roller and the feed and pressure roller, the hand-wheel being turned to facilitate the introduction of the end of the paper between the two rollers. The free and projecting end of the paper (seen at X) is then taken hold of and pulled forward. This revolves all the rollers and brings the inked type on the printing-roller in contact with the paper as it passes over the feed and pressure roller, whereby advertising or other matter is printed on the paper. The revolution of the inking-roller continuously inks the type on the printing-roller. When sufficient paper has been pulled off, the operator lifts the strip against the cutting device, and by a sidewise and upward or other suitable movement, as now well understood, he severs the paper across the edge of the cutter. The pressure-roller, as seen, rests on the surface of the roll of paper, and as it gradually decreases in size the arms F F turn on their pivot or shaft, thus maintaining contact between the pressure-roller and the surface of the paper. The pressure of the roller serves two purposes—first, it tends to smooth the paper, and, secondly, it gives friction to the rotation of the paper, whereby the action of the apparatus is made smooth and even, and sufficient stability is given to the roll of paper to withstand the slight jerk consequent on severing the paper. The inertia of the roll itself, when it has become quite small, might not be sufficient for this purpose. The weights S S may be used to regulate the pressure of the roller I against the paper by moving them nearer or farther from the free end of the arms F F.

In Fig. 3 I illustrate an arrangement of my invention in which different-colored inks may be employed to print upon the same paper. It consists in duplicating on the arms F F the apparatus just described, and which need not be repeated. The paper passes first between the first set of devices—in other words, those nearest the pivoted end of the arms F—and thence through the second set, and is severed by the cutter as before. The pressure and feed roller I of the first set is shown as the one which presses on the paper. This is not material. The roll of paper may be so located as that the pressure and feed roller of the second set shall press upon it.

In Fig. 4 I illustrate an arrangement of my invention in which several strips of paper, all of different widths and kinds, may be supplied from the same apparatus and all of them be printed upon and severed, as described. It consists in arranging one above the other a series of my devices, each holding successively papers of differing and preferably lessening widths.

It is obvious that a third set of my printing appliances may be arranged on the arms F F substantially as the two sets are, as shown in Fig. 3, and thus three different colors of ink be printed. In the use of my apparatus with more than one set of printing devices care must be observed in locating the type and spacing the different sets of rolls as that succeeding impressions shall not be made on top of preceding ones.

It will be obvious to those who are familiar with such subjects that many changes may be made in my apparatus and still the substance of my invention, in whole or in part, be employed—as, for example, the weight may be dispensed with, provided the gravity of the printing-rolls, &c., be sufficient to secure proper printing of the type impressions; also, springs may be employed instead of the weights to pull the arms F F down toward the paper.

I claim—

1. In combination with a shaft for the support of a rotatable roll of paper, a superposed vertically-movable pressure-roller resting on the roll of paper, type and inking rollers located above the pressure-roller and vertically movable therewith, and a cutter in advance of said rollers, substantially as set forth.

2. In combination with a shaft for the support of a rotatable roll of paper, two vertically-movable rollers so located that the paper may pass between them, the lower one supported on the roll of paper, and a cutter in front of said rollers, substantially as set forth.

3. In combination with a shaft for the support of a rotatable roll of paper, a plurality of sets of printing and inking rollers set above the roll of paper and in advance of each other, whereby different-colored inks may be used to print on the paper, and a cut-

ter located in advance of the foremost set of rollers, substantially as set forth.

4. The combination, with the frame and the roll for paper, of a printing and cutting device adapted to rest against said roll, pivoted arms in which said printing and cutting device is mounted, and a pawl for restricting the movement of said arms, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 24th day of December, A. D. 1888.

JUNIUS NAGEL.

Witnesses:

PHILLIPS ABBOTT,  
FRANK J. WALSH.