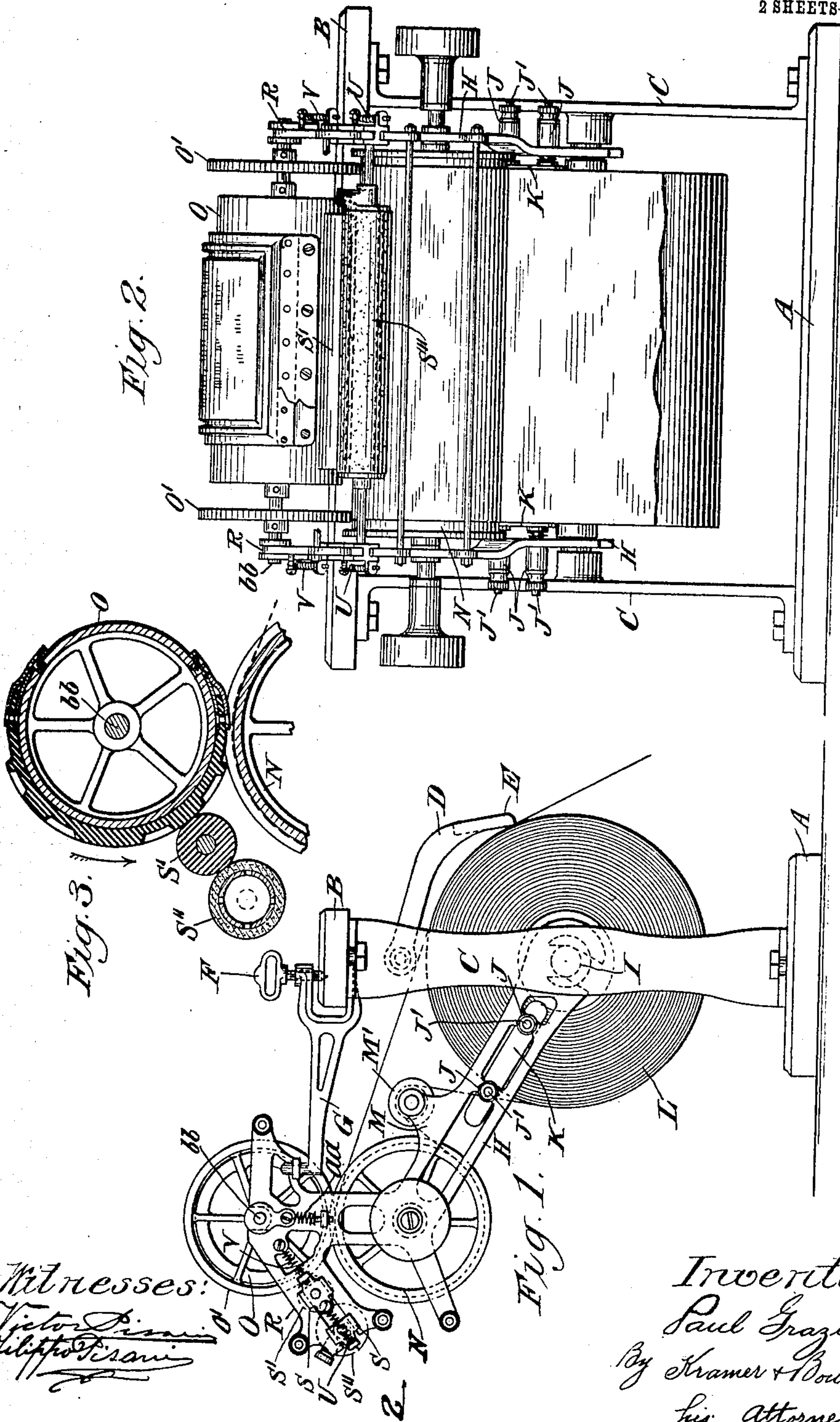


P. GRAZIOLI.
 AUTOMATIC PRINTING ATTACHMENT FOR WRAPPING PAPER REELS.
 APPLICATION FILED JAN. 15, 1909.

916,300.

Patented Mar. 23, 1909.

2 SHEETS-SHEET 1.



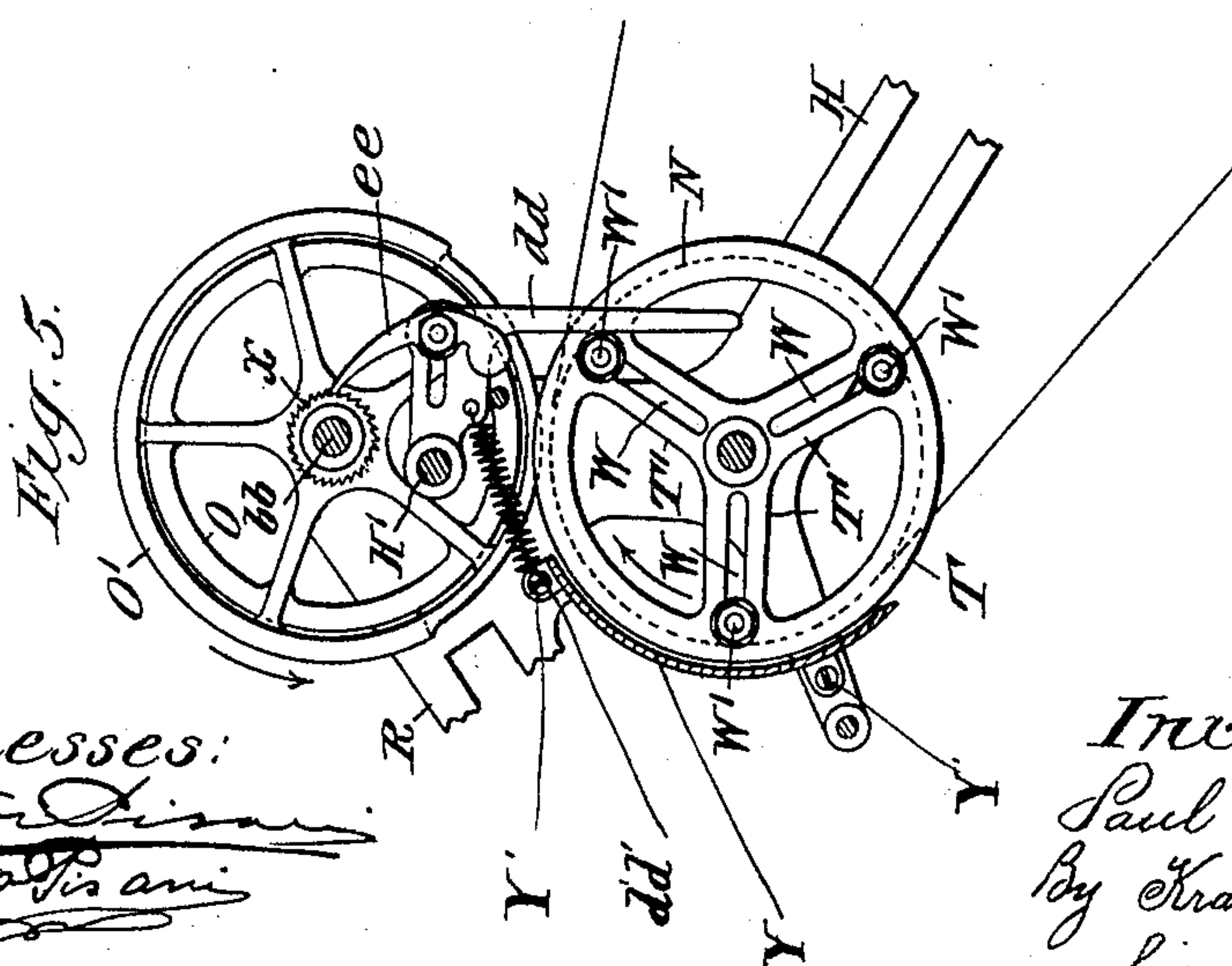
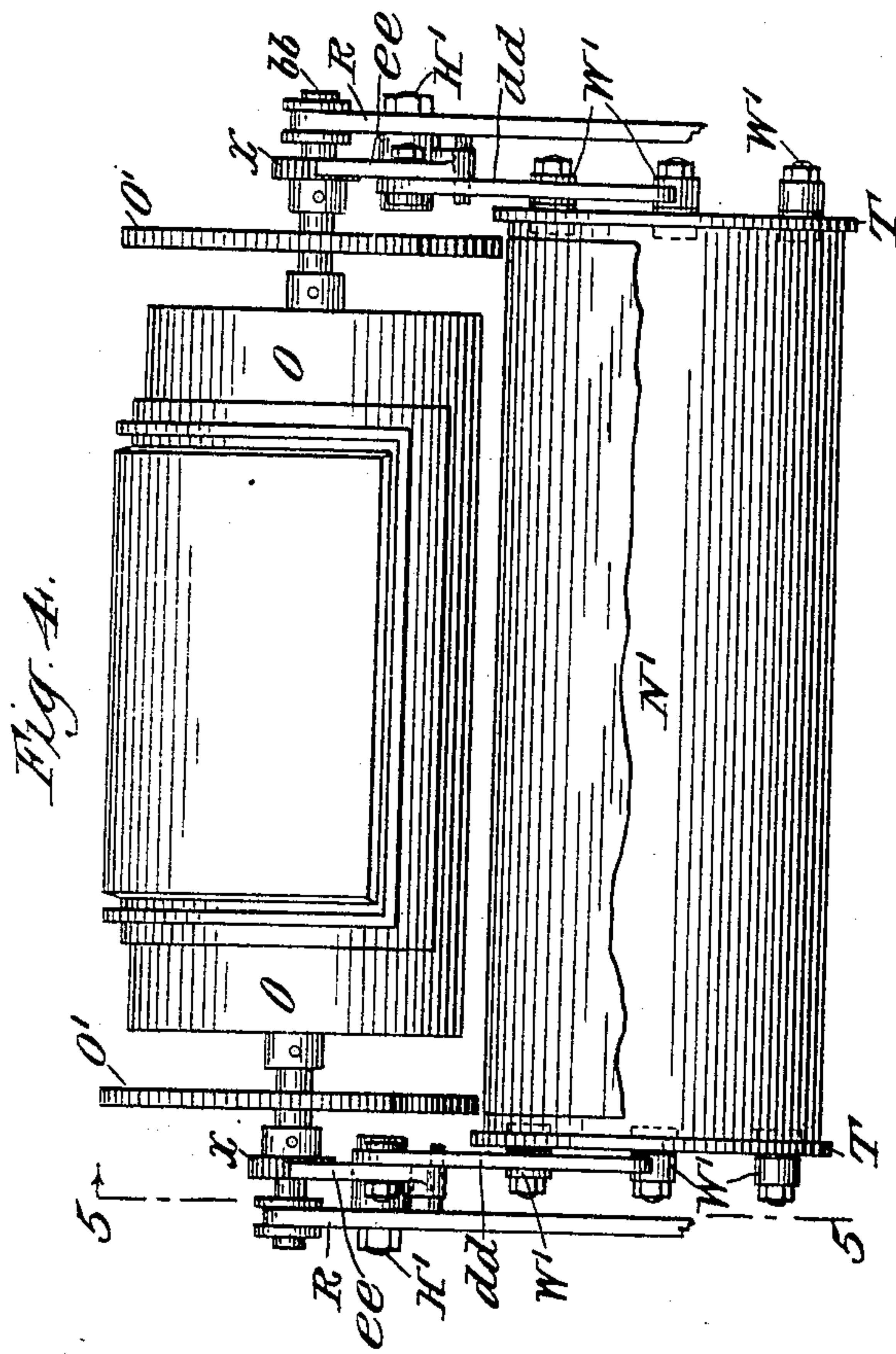
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Inventor:
 Paul Grazioli
 By Kramer & Bourke
 his Attorneys.

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Witnesses:
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UNITED STATES PATENT OFFICE.

PAUL GRAZIOLI, OF NEW YORK, N. Y., ASSIGNOR TO MAX BACHE AND ISAAC MEISTER, BOTH OF BROOKLYN, NEW YORK.

AUTOMATIC PRINTING ATTACHMENT FOR WRAPPING-PAPER REELS.

No. 916,300.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed January 15, 1909. Serial No. 472,477.

To all whom it may concern:

Be it known that I, PAUL GRAZIOLI, residing at the borough of Manhattan, New York city, county and State of New York, have invented certain new and useful Improvements in Automatic Printing Attachments for Wrapping-Paper Reels, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to provide an attachment for wrapping-paper reels, which automatically prints upon the paper as it is withdrawn from the reel for use the design or wording desired, which printing apparatus is provided with an attachment regulating the distance between printed impressions, as may be required by the length of the sheet to be drawn.

The improvement or attachment consists of a novel arrangement of parts as fully set forth and described in the following specification and pointed out in the claims.

Figure 1 is a side elevation of the attachment in operation; Fig. 2 is a rear elevation of the same; Fig. 3 is a sectional view of the printing, impression, inking and ink feeding rollers constituting the attachment proper; Fig. 4 is a front elevation showing the printing and impression rollers together with the distance-regulating-impression regulators attached to the ends of said rollers; Fig. 5 is side elevation of printing and impression rollers showing distance-regulating-impression attachment in detail.

Referring to Fig. 1: A. represents the base, B. the cross head, and C. the roll-supporting posts of a frame such as is commonly used for supporting rolls of wrapping-paper, as shown at point I., and which frame is provided with the usual spring or weight-arm D. for holding the usual blade-edge E. which clamps and holds the free end of the paper strip and also serves as a shear against which the paper is brought to sever it from the roll-strip after the portion desired for use is drawn from the roll. As a means of supporting the paper-roll in said frame a rod is placed through its core, or its core provided with trunnions, as represented at I.

The printing attachment proper is supported by rigidly fixed horizontal arms G., secured to cross-head B. by thumb-screws F., and also supported and braced by arm H. resting on axle of reel at point I. Arm H. is provided with two screw cores J. through which pass adjusting screws J'. These adjusting screws J' are attached to and adjust metallic spring K.

K. is a metallic flat or plate-spring adjusted to arm H., as above described, on each side of paper-roll L. and serves to guide and maintain in position the paper leaving the reel and passing into the printing attachment. An extension of arm H. at M forms an axle groove in which is fitted axle roller M'. This roller M' serves to guide and maintain at uniform tension the paper leaving reel and passing into printing attachment.

The printing attachment proper consists of:

(1) A paper-carrying roller N. arranged in position to engage with raised surface of printing roller O. Attached to axle of carrying-roller N. (as shown in Fig. 4) at each end is wheel T. one of which, or both, are provided with three broad spokes T', equidistant apart (as shown in Fig. 5). These spokes T' are each provided with a longitudinal groove W. in each of which is placed a fixed sliding screw pin W'.

(2) A printing roller O. arranged in position to engage raised or type surface with the surface of roller N. A vertical extension of arm H. is provided with an axle socket in which is fitted axle *b b.* of printing roller O. Axle *b b.* is provided with a coil tension spring *a a.* which is also attached to arm H. This spring *a a.* serves to maintain at proper tension engaging surface of rollers N. and O. Attached to axle of roller O. at each end is a milled edged wheel O' (as shown in Fig. 4) engaging surfaces of roller N.

The surface of printing-roller O. is depressed for a distance of one third of the circumference (as shown in Figs. 4 and 5), corresponding in circumferential distance with a depression of the periphery of both wheels O'. (See Figs. 4 and 5.) The pur-

pose of the depression of roller O. and of periphery of O' is to completely release and disengage, after printing, surfaces of rollers N. and O. (as shown in Fig. 4). The printing surface of roller O. is again brought into engagement with surface of roller N. by means of action of lever *d d.* (as shown in Fig. 5), attached to vertical extension of arm H. as shown at H'—(operation herein-
 10 after described).

For the purpose of regulating the distance between printed impressions on the sheet as it is withdrawn from the reel and simultaneously causing the impression to be printed in the center of the sheet, an adjustment of pins W' is required. As shown in Fig. 5, roller N. being rotated from right to left by the withdrawal of the required sheet of paper, causes adjusting pin W' to come in
 15 contact with and force the power arm of lever *d d.* in the direction of the rotated wheel. The weight-arm of lever *d d.* is thereby displaced causing dog *e e.* to engage with ratchet X. and as weight arm is further
 20 displaced, dog *e e.* engages ratchet and causes roller O. to rotate in the direction of the displaced weight-arm a pre-determined fractional distance or portion of its circumference. Lever *d d.* is returned to normal
 25 position by action of coil spring *d d.*, as shown in Fig. 5.

The distance of rotary movement of ratchet X. will be constant and determined by the number of pins employed and their
 35 point of adjustment. The purpose of the lever and ratchet attachment is to carry printing-roller O. over depressed non-engaging surface of that roller (hereinbefore described) at a slower speed rate than the
 40 printing roller O. would travel if its entire surface were to engage surface of roller N. So that by means of a regulation of the adjusting pins, actuating the lever and thus the dog and ratchet, the printing roller while
 45 not engaged with surface of roller N. can be made to travel at the rate of speed required and so permit the withdrawal of a pre-determined sheet-length of paper with but one printed impression.

Projection R. of arm H. is provided with axle sockets or grooves at S. and S'. to receive axles of inking roller S'. and ink-feeding roller S''. The surfaces of inking roller S' and ink-feeding roller S'' are
 55 engaged and held at proper tension by means of coil tension springs connecting their respective axles at each end, as indicated at U. in Fig. 1. Ink-feeding roller S'. is provided with suitable opening for
 60 filling hollow ink-retaining chamber which feeds and moistens porous surface. Inking-roller S'. engages type-surface of roller O. and is held at proper tension by means of coil spring attached at each axle end and

to arm H. as indicated at V. in Fig. 1. For the purpose of starting and guiding the paper between rolls N. and O. and preventing contact with the ink roller surfaces a guard is provided, attached to arm H. at points Y', as shown in Fig. 5.

The operation of the attachment in connection with the paper-reel is as follows: The desired length of paper having been determined, the pins W' are so adjusted as to cause the printing surface to come into
 75 contact at a point central to the paper length. The withdrawal of and printed impression upon the sheet are simultaneous, the printing attachment being automatically actuated by the withdrawal of the sheet. The paper leaves the reel passing over tension roller M'; thence downward and around paper carrying or impression roller N., receiving the imprint at the point of contact of roller N. and printing roller O; thence
 85 returning to and passing over the reel under the knife edge E. where it is severed when desired sheet length is withdrawn from the roll.

What the undersigned claims as his invention and desires to secure by Letters Patent is as follows:

1. The combination of an automatic printing attachment with a paper roll consisting of frame roller-carrying bracket; of extensions on said bracket; of a system of inking and ink-feeding rollers; of coil springs attached to the axles of said rollers; of an impression roller; of frame-spoked wheel rigidly attached to the sides of said roller; of longitudinal grooves provided in the spoke frames of said wheel; of adjustable pins set in said grooves; of a pivotally-hung ratchet lever; of a bracket extension arm for holding said lever; of a printing roller the surface of which is partially depressed and non-engaging; of a milled-edged wheel attached to the sides of said printing roller, the periphery of said wheel being depressed to correspond with the depressed surface of the printing roller and which engages the surface of the impression roller; of a fixed ratchet wheel secured to the axle of said milled-edged wheel, substantially as described.

2. The combination of an automatic printing attachment with a paper roll consisting of frame roller-carrying bracket and extensions; of a system of rollers; of a tension-guiding roller; of grooves and sockets in said bracket frames for receiving the axles of said rollers; of a printing roller; of an impression roller secured in position to engage said printing roller; of a coil spring attached to the axle of said roller; of a metallic guard rigidly attached to the bracket frame to prevent a contact of the paper and the ink rollers; of a metallic

flat or plate paper-reel-guiding spring; of
a ratchet wheel; of a lever and dog for en-
gagement therewith; of projecting adjust-
able pins for actuating said lever; of a
5 spring for disengaging said dog from the
ratchet and returning the lever to position,
substantially as described.

In testimony whereof, I have hereunto
set my hand, in the presence of two subscrib-
ing witnesses.

PAUL GRAZIOLI.

Witnesses:-

VICTOR SIRONI,
GILIPPO PISANI.