

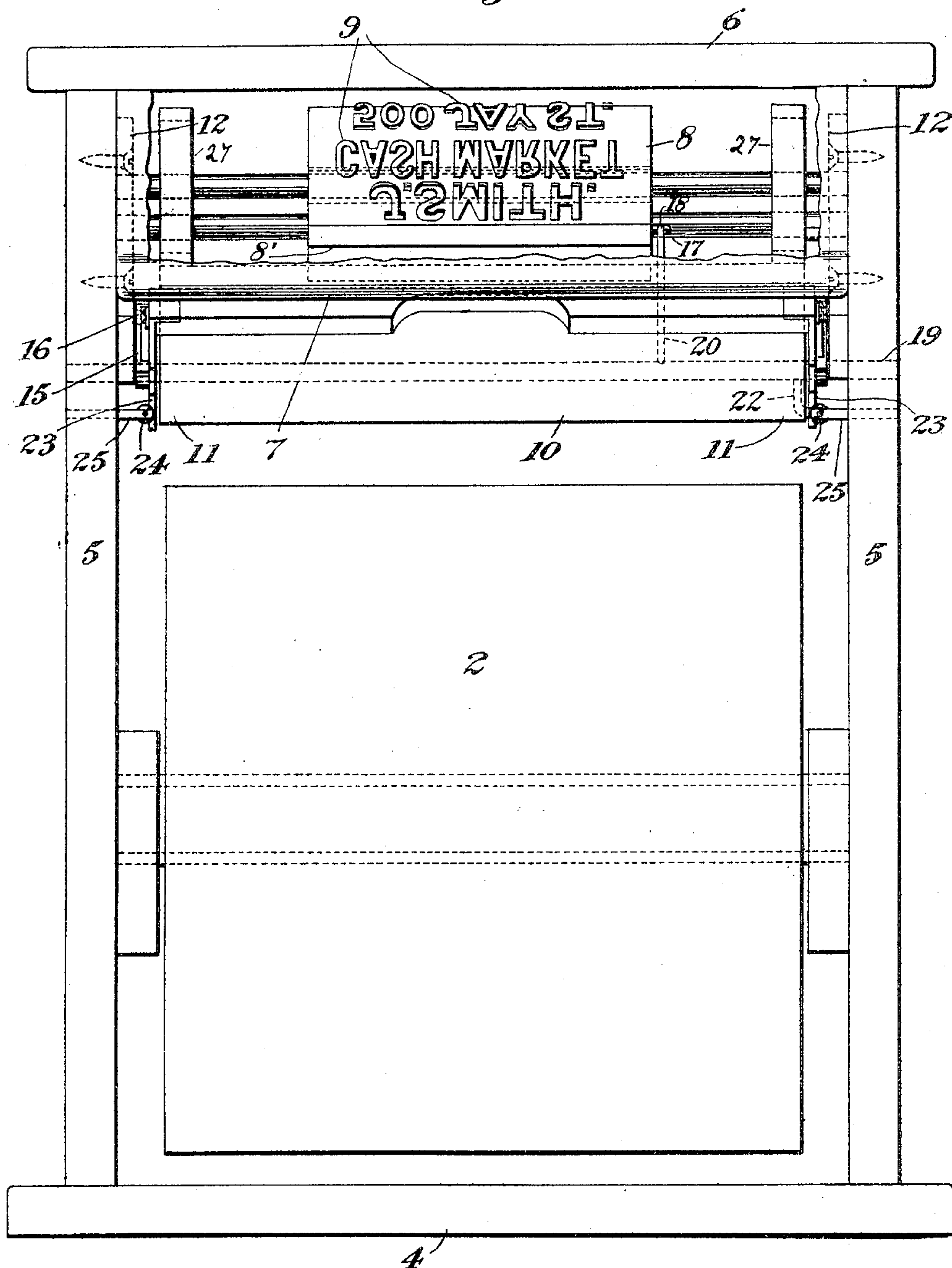
H. B. PALMER.

APPARATUS FOR PRINTING WRAPPING PAPER.

APPLICATION FILED FEB. 8, 1905.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses:
Chas. D. King.
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Inventor:
Harry B. Palmer,
by *[Signature]*
Atty.

No. 797,976.

PATENTED AUG. 22, 1905.

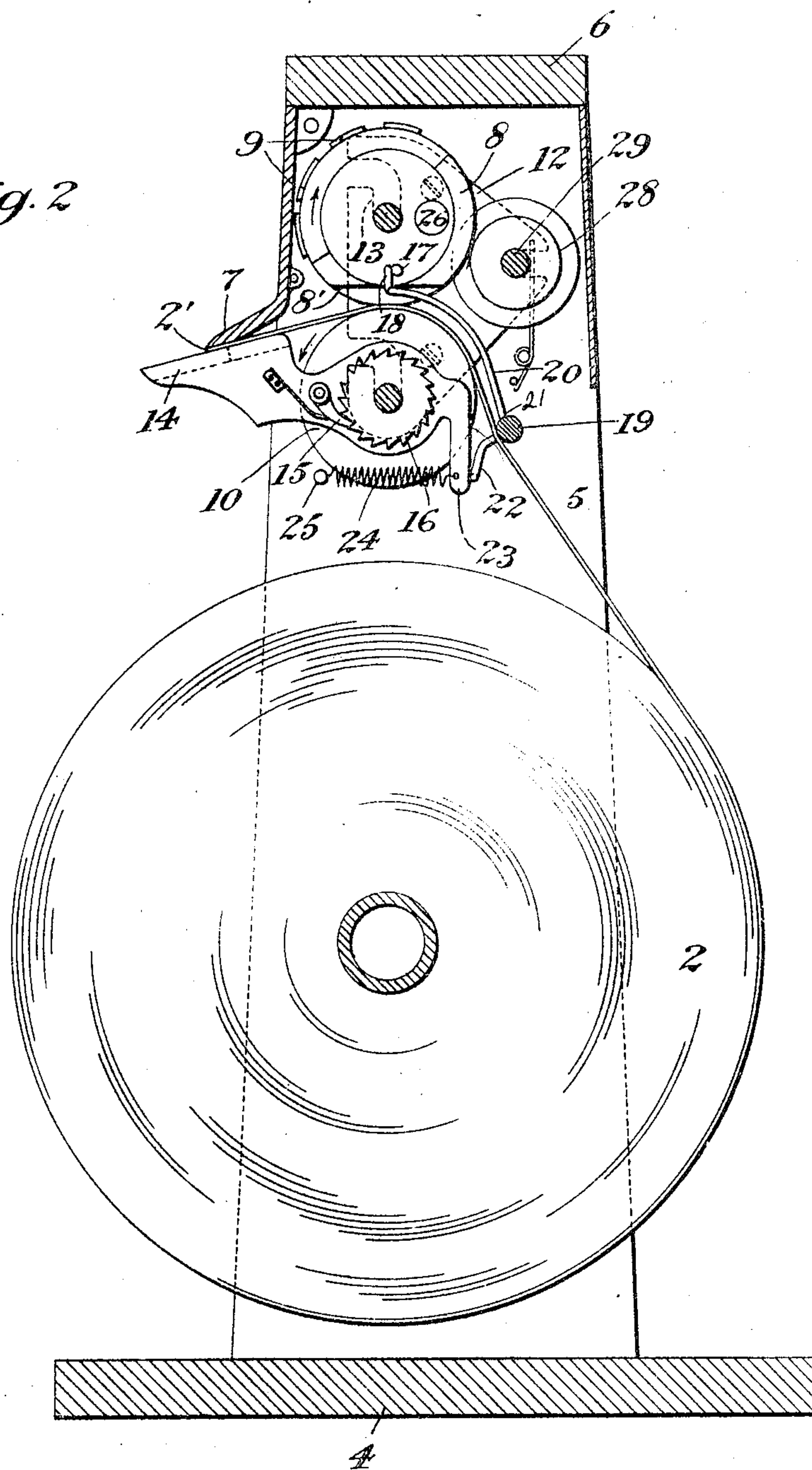
H. B. PALMER.

APPARATUS FOR PRINTING WRAPPING PAPER.

APPLICATION FILED FEB. 8, 1905.

2 SHEETS—SHEET 2.

Fig. 2



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UNITED STATES PATENT OFFICE.

HARRY B. PALMER, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO NATIONAL SELF ADVERTISER COMPANY, A CORPORATION OF NEW YORK.

APPARATUS FOR PRINTING WRAPPING-PAPER.

No. 797,976.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed February 8, 1905. Serial No. 244,688.

To all whom it may concern:

Be it known that I, HARRY B. PALMER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Printing Wrapping-Paper, of which the following is a specification.

The principal object of this invention is to provide means for printing a sheet or web of wrapping-paper, and particularly for printing the name and address of a business-house upon each sheet of wrapping-paper as such sheet is removed from the paper-carrier. The principal application of this invention is to the printing of such addresses upon sheets of paper cut from a paper-roll mounted upon a suitable carrier and adapted to turn to unwind the web from the roll. As ordinarily used these rolls of wrapping-paper are mounted on a suitable carrier or stand and a cutter is associated therewith and placed in such a position as to permit a single sheet of any desired length to be severed from the continuous web forming the paper-roll. This movement of a sheet or web of wrapping-paper is utilized by me to impart movement to a printing-form, such movement of the sheet or web serving to shift the printing-form into and out of engagement with the sheet or web and to print on such sheet or web the name of the business-house using such wrapping-paper. In order to accomplish this result, suitable means are employed for inking the printing-form prior to impression—that is, prior to the moment when the form comes into engagement with the sheet or web which is being moved or unwound.

In order to accomplish the desired result, I prefer to associate with the sheet or web of paper a feed-roller which carries the printing-form and is positively engaged and turned by the sheet or web when the wrapping-paper is drawn off from its supporting carrier or stand. Moreover, the printing-form will also be inked by means operated by the movement of such sheet or web of wrapping-paper, the preferred means employed for the purpose being an inking-roller which is adapted to be frictionally engaged by the printing-form and turned thereby each time that the feed-roller is turned on the withdrawal of a sheet or section of the web from the paper-carrier.

In the drawings accompanying this specification and forming part of the present application, Figure 1 is a front elevation of a printing apparatus embodying this invention and adapted to print the name of a business-house on the wrapping-paper used by it. Fig. 2 is a sectional end elevation of the same.

In carrying this invention into effect I make use of any suitable paper-carrier containing a supply of sheets of wrapping-paper; but usually these sheets will be in the form of a continuous web or paper-roll, and the paper-roll will be mounted upon a carrier in such a manner as to be free to turn. Such a paper-roll is shown at 2. This roll is mounted in substantially the usual manner on a stand or carrier, which may be of any suitable type. Here this carrier or stand consists of a base 4, from which rise side arms or uprights 5, these uprights being connected in turn at their upper ends by a cross-bar 6.

For the purpose of severing into sheet lengths the web of paper which constitutes the roll 2 a straight-edge or cutter 7 is preferably associated therewith, this cutter being a long substantially U-shaped bar secured to the paper-roll carrier. The printing means employed by me for printing the name of the business-house or other matter upon a sheet or web of paper may be of any suitable type, provided that it is capable of operating by the movement of the wrapping sheet or web itself. The movement of such sheet or web as it is drawn from the paper-roll 2 or other source of supply is made use of to operate a feed device, preferably a feed-roller, which carries the printing-form containing the matter intended to be printed. As the roll of paper is unwound by pulling the loose end of the web projecting from the paper-roll 2 this feed device or feed-roller (which is designated generally by 8) is positively turned by frictional engagement with such sheet or web, and this turning movement continues until the printing-form is presented to the wrapping-paper and an impression made. The printing-form is indicated at 9 and is preferably carried directly by the feed device or feed-roller 8 in order that the printing-form may be operated as positively as the feed-roller. In this case the feed-roller 8 is normally out of contact with the paper, but is adapted to be brought into engagement therewith every time a

length of wrapping-paper is drawn from the roll. Owing to the fact that the paper-roll 2 is at first of large diameter and that its diameter is greatly diminished after a large quantity of paper has been withdrawn therefrom, it is desirable to carry the paper at the printing-point over a fixed member or platen in order that the sheet of paper to be printed may always be located in the same position with respect to the printing-form. In this case I have shown at 10 a roller or platen mounted in fixed bearings on the carrier, and over this roller the paper from the roll 2 passes to the cutter 7. In order to facilitate insertion and removal of this roller 10, the bearings in which it is mounted are preferably open-sided and formed in a pair of brackets 12, secured to the respective uprights 5. The feed-roller 8 is also preferably mounted in open-sided bearings 13 in said brackets for the same purpose. The platen 10 and the feed-roller 8 are so mounted as to be capable of operating as a pair of feed-rollers for feeding the paper forward. The platen is also preferably capable of feeding the paper forward independently of the feed-roller 8 for the purpose of bringing a sufficient length of paper at the free cut end 2' into position to be grasped preparatory to drawing a full length or sheet of paper between the two feed-rollers for the purpose of printing such sheet. In order to effect this preliminary feeding of the paper, I prefer to make use of a swinging frame, (designated generally by 13 and embodying a paper-shelf 14 adjacent to the cutter 7.) This swinging frame 13 has the same axis of movement as the platen 10 and also has means for turning said platen. The means shown herein consists of a spring-pressed pawl 15 on the swinging frame and a ratchet-wheel 16, secured to the end of the platen. On depressing the forward end of said frame 13 the platen 10 is rotated, by means of the pawl and ratchet, a considerable distance in the direction of feed of the paper, and a sufficient length of paper is thus fed into position to present a free end 2' long enough to be properly grasped.

The means just described for feeding a short length of paper into position to be grasped preparatory to feeding and printing a full length or sheet of paper will also preferably bring the feed-roller 8 into position to cooperate with the platen. As here shown, the roller 8 has a flat face 8' normally out of contact with the platen. In order to retain the roller 8 in this position, a stop, such as a pin 17, thereon is normally engaged by a latch, such as 18, which here forms part of a lever pivoted at 19 on one of the uprights 5. The long arm 20 of this lever is connected to the hub 21, and the short arm 22, also connected to said hub, depends therefrom into position to be operated by one of a pair of arms 23, forming parts of the end pieces of the swinging

frame 13. Springs, such as 24, connecting the depending arms 23 with fixed points, such as the stops 25, serve to hold the swinging frame normally in the position shown in Fig. 2, in which the shelf 14, forming the main element of and extending from end to end of said frame and connecting the end pieces thereof, presses the free end of the paper against the under side of the cutter-bar 7. When said swinging frame is depressed at its forward side, not only is the roller 10 turned, as before described, to present a free end 2' of sufficient length to be grasped, but at the same time the free end 22 of the lever just described is pushed back by the depending arm 23 of the frame 13, and the long arm 20 is tilted forward and outward a sufficient distance to swing the latch 18 out of the path of movement of the stop-pin 17 on the feed-roller 8, whereupon said roller is free to turn to bring the periphery thereof into engagement with the paper and into feeding relation with the complementary feed-roller 10.

Any suitable means may be employed for effecting this initial movement of the roller 8. In the construction shown said roller is weighted at one side of its axis of rotation and when released tends to gravitate and bring the periphery of the roller into engagement with the periphery of the roller 10. The weight shown herein for effecting this movement is designated by 26. When the roller 8 is brought to this position, the further rotation for the purpose of feeding a full length or sheet of paper between the feed-rollers will be positively effected by the engagement of the coacting surfaces. The feed of the paper will always be positively effected by rubber-covered friction-rollers, such as 27, or equivalent devices, placed at opposite ends of the roller 10 for the purpose of obtaining a firm hold on the moving web of paper and preventing slipping thereof. It will be noticed that the feed-roller 8 is considerably shorter than the roller 10, it being in this case only of sufficient length to carry the printing-form and cooperate properly with the inking means. In this construction the principal element of the inking means is an inking-roller 28, so mounted as to coact with the printing-form 9 on the roller 8 and be turned by said form. This inking-roller is also preferably mounted in bearings in the brackets 12, the axis of said inking-roller being indicated at 29. The surface of the inking-roller 9 will usually be made of absorbent material capable of holding a considerable quantity of the inking medium. The surface of this roller will normally be just out of contact with the circular portion of the periphery of the feed-roller 8, but will be in position to be engaged and turned by the printing-form when the first portion of such form comes opposite the inking-roller. As

the form and the inking-roller thus turn in contact with each other the surface of the form will of course be inked by the roller.

The printing-form may be formed in various ways and applied to the feed-roller in various manners. Here, however, it consists of types, which may be made from rubber, metal, or other material, which types may be pinned to the surface of the feed-roller or fastened in a groove or grooves in the surface thereof, if desired.

When it is desired to print a sheet of paper and withdraw the same from the paper-roll 2, the forward side of the swinging frame 13 will first be depressed in order to feed forward a sufficient amount of paper to present a free end 2' of sufficient length to be grasped readily. The manner in which this feed movement is accomplished by the platen 10 has been hereinbefore described. Before this feed movement has been completed the pin 17 will have been released by the latch 18, and the weight 26 will have turned the feed-roller 8 into position to bring the right-hand end of the flat face 8' in Fig. 2 into contact with the paper resting on the complementary feed roller or platen 10, the latch 18 meanwhile returning to the position shown. As soon as the roller 8 is in this position the free end 2' of the paper may be grasped and drawn forward. This movement causes the two rollers 8 and 10 to rotate in unison in the direction of the arrows and also causes the first line of the printing-form to approach the inking-roller 28. As soon as the face of the printing-form and the inking-roller are in contact said inking-roller will also begin to rotate and will ink the face of the form. The rotation of the three rollers will continue until the rear end of the printing-form passes beyond the periphery of the inking-roller 28, when said roller will stop turning. Shortly thereafter the pin 17 will strike the stop-face of the latch 18 and will be stopped and held thereby. The feed movement of the paper may be stopped immediately, if desired, or an additional length drawn forward, after which the sheet may be severed in the usual manner along the edge of the cutter 7. At each such operation it will be evident that the sheet of paper so severed from the roll will have the desired printed matter placed thereon by the printing-form, after which the form will move away from the paper by a movement in the same direction, the printing-form making one impression at each rotation thereof and of the roller 10.

The details of construction of the various parts of the devices for turning and inking and printing a form and the means for withdrawing the paper from the roll 2 may be varied so long as the essential feature of the apparatus is retained and the printing-form is moved into and out of engagement with the web of paper by the action of the paper itself as it is unwound.

What I claim is—

1. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, means operable by the paper drawn from said paper-roll for moving said printing-form into engagement with the paper, a cutter in fixed relation with the printing-point for all conditions of the paper-roll, and means for normally stopping the drawing off of the paper after a sheet of predetermined length has been drawn from the paper-roll.

2. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a feed-roller carrying said form and rotatable by frictional engagement with said paper for moving said printing-form into and out of engagement with said paper-roll, a cutter in fixed relation with the printing-point for all conditions of the paper-roll, and means for normally stopping the drawing off of the paper after a sheet of predetermined length has been drawn from the paper-roll.

3. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, paper-feeding means operating directly upon the paper for feeding off a length of paper, and means operable by paper manually drawn off from the paper-roll for moving said printing-form into position for impressing said paper.

4. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, paper-feeding means for drawing off a short length of paper, and means operable by a full length of paper drawn off from said paper-roll for moving said printing-form into position for impressing said paper.

5. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a platen over which the paper is drawn off from the paper-roll, means operable by paper manually drawn from said paper-roll for moving said printing-form into engagement with the paper on said platen, a cutter in fixed relation with the platen, and means for normally stopping the drawing off of the paper after a sheet of predetermined length has been drawn from the paper-roll.

6. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a rotary platen over which the paper is drawn off from the paper-roll, means operable by paper manually drawn from said paper-roll for moving said printing-form into engagement with the paper on said platen, a cutter in fixed relation with the axis of said platen, and means for normally stopping the drawing off of the paper after a sheet of predetermined length has been drawn from the paper-roll.

7. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for

inking said form, a feed-roller carrying said form, a rotary platen over which the paper is drawn off from the paper-roll and operable by said paper for rotating said feed-roller and moving the printing-form into engagement with the paper on said platen, and means for permitting the platen to be rotated independently of said feed-roller.

8. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable by the paper drawn off from the paper-roll, one of which feed-rollers carries the printing-form and the other of which constitutes a rotary platen, and means for permitting the platen to be rotated independently of said first feed-roller.

9. The combination with a paper-roll, of a paper-roll carrier, a printing-form normally held out of action, means for inking said form, means rotatable independently of the paper drawn from the paper-roll for shifting said printing-form to an operative position, and means operable by the paper drawn from the paper-roll for continuing the working movement of said printing-form and making an impression.

10. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable by the paper drawn off from the paper-roll, one of which feed-rollers carries a printing-form and is normally out of engagement with the other, and the other of which feed-rollers constitutes a rotary platen, and means for shifting said first feed-roller into engagement with the other.

11. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable by the paper drawn off from the paper-roll, one of which feed-rollers carries the printing-form and is normally out of engagement with the other, and the other of which feed-rollers constitutes a rotary platen, and means for turning said platen to draw off a length of paper and for shifting said first feed-roller into engagement with the platen.

12. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable by the paper drawn off from the paper-roll, one of which feed-rollers carries the printing-form and is normally out of engagement with the other and is weighted to

permit it when released to move into engagement with the other, and the other of which feed-rollers constitutes a rotary platen, and means for turning said platen to draw off a length of paper and for releasing said first feed-roller.

13. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable in unison by the paper drawn off from the paper-roll, one of which feed-rollers carries the printing-form, and the other of which constitutes a rotary platen, and means for turning said platen independently of the other feed-roller to draw off a length of paper.

14. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable in unison by the paper drawn off from the paper-roll, one of which feed-rollers carries the printing-form, and the other of which constitutes a rotary platen, a swinging frame embodying a paper-shelf, and means carried by said frame for turning said platen independently of the other feed-roller to draw off a length of paper.

15. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a pair of associated feed-rollers rotatable in unison by the paper drawn off from the paper-roll, one of which feed-rollers carries the printing-form, and the other of which constitutes a rotary platen, a cutter, a swinging frame embodying a paper-shelf normally adjacent to said cutter, and means operated by said frame for turning said platen independently of the other feed-roller to draw off a length of paper.

16. The combination with a paper-roll, of a paper-roll carrier, a printing-form, means for inking said form, a feed-roller carrying said form and rotatable by the paper drawn off from the paper-roll, and means mounted independently of the feed-roller for positively stopping said feed-roller in the same position at the end of each printing operation.

Signed at New York, in the county of New York and State of New York, this 6th day of February, A. D. 1905.

HARRY B. PALMER.

Witnesses:

T. O. BLETCHER,
C. CHAMPION.