

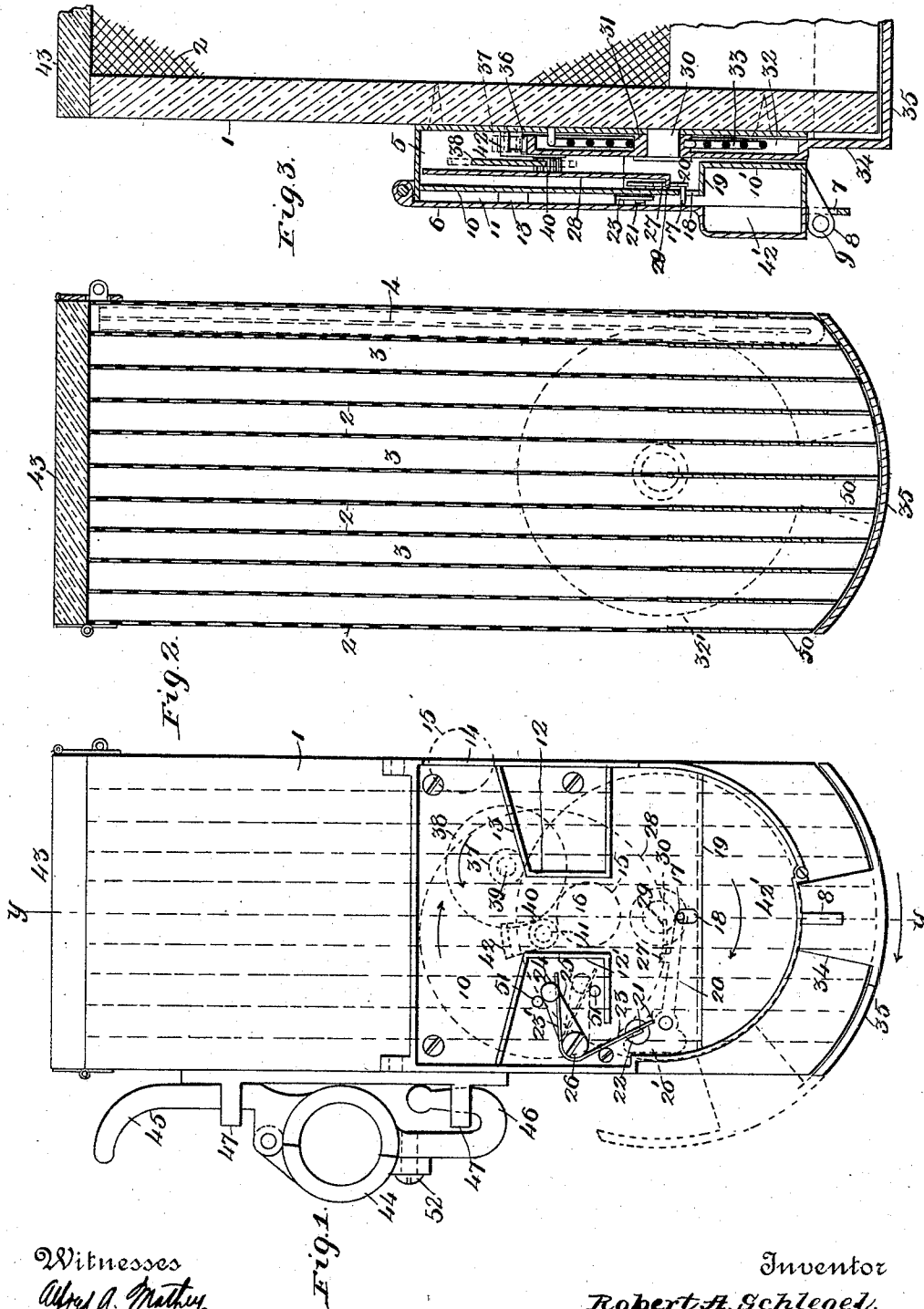
(No Model.)

2 Sheets—Sheet 1.

R. A. SCHLEGEL.
PAPER VENDING MACHINE.

No. 581,944.

Patented May 4, 1897.



Witnesses
Alfred A. Mathew
C. H. Haas.

Inventor
Robert A. Schlegel.
By his Attorneys
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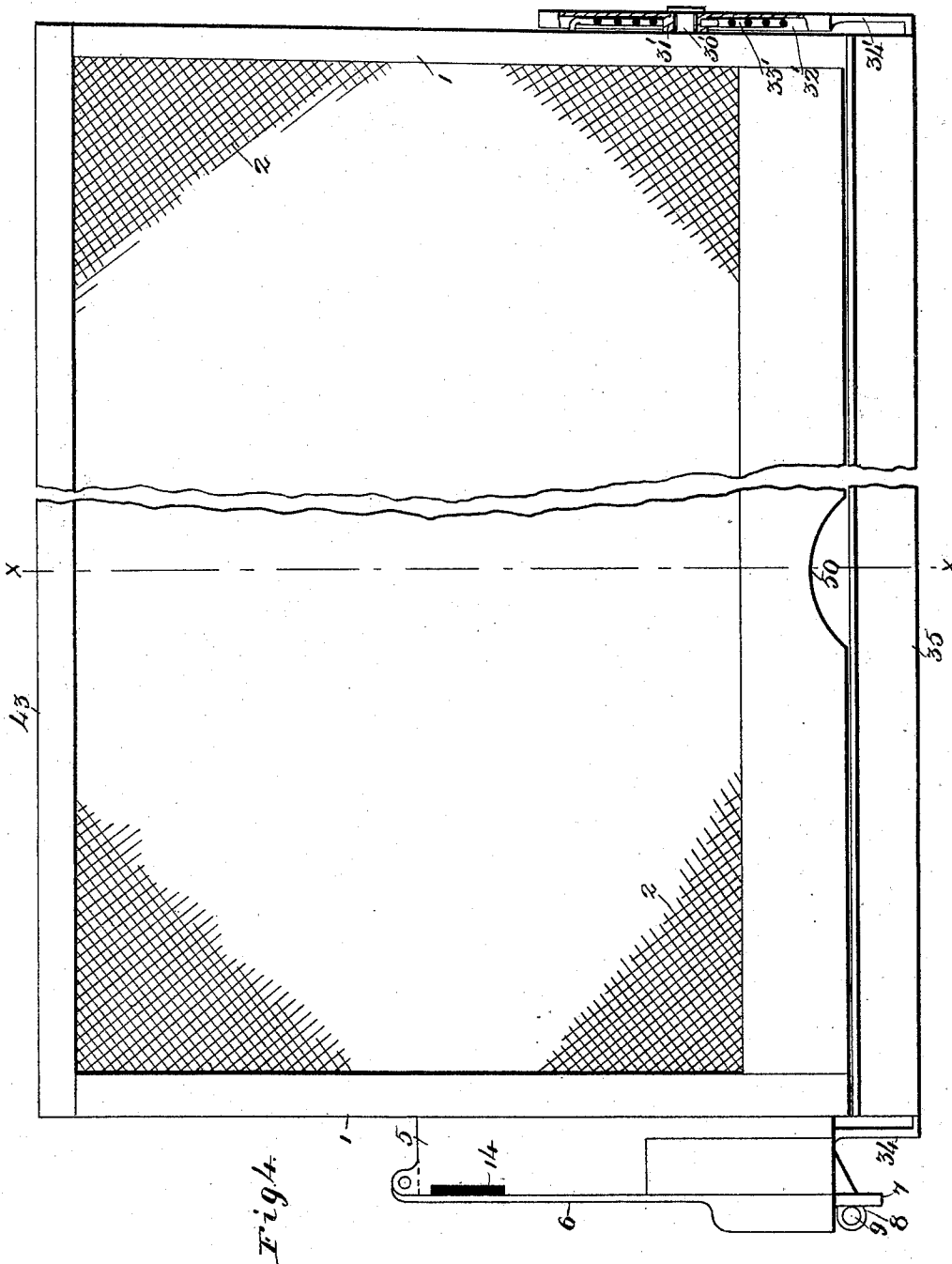
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UNITED STATES PATENT OFFICE.

ROBERT A. SCHLEGEL, OF ST. LOUIS, MISSOURI.

PAPER-VENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,944, dated May 4, 1897.

Application filed February 15, 1897. Serial No. 623,481. (No model.)

To all whom it may concern:

Be it known that I, ROBERT A. SCHLEGEL, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Paper-Vending Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in coin-controlled newspaper-vending machines; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is an elevation of one end of the machine with the lid of the outer casing thereof removed. Fig. 2 is a transverse section on line *xx* of Fig. 4. Fig. 3 is a section of the end containing the driving mechanism, said section being on the line *yy* of Fig. 1; and Fig. 4 is a front elevation of the machine.

The object of my invention is to construct a coin-controlled newspaper-vending machine for street-cars, news-stands, &c., whereby a passenger upon entering a car can purchase a paper by dropping the proper coin into the slot of the machine, the paper being automatically delivered to him by the mechanism controlled by such coin. Under such an arrangement the danger to life and limb of newsboys who have a habit of boarding cars while in motion can be entirely eliminated, since the boys can be absolutely prohibited from boarding the cars at such times. The present machine, too, has the advantage in enabling a passenger to secure a paper when, from the frequent overcrowded condition of a car, a newsboy cannot make his way through the crowd to reach such passenger without undesirable delay and annoyance to the remaining passengers. The present device, too, has an advantage in that it offers for sale clean papers at all times, cleanliness being a condition not altogether to be relied upon in the case of a newsboy.

The invention may in detail be described as follows:

Referring to the drawings, 1 represents a box or receptacle divided by means of perforated wire-netting or transparent partitions 2

(whereby the contents of the same are always visible) into a series of vertical compartments 3, each designed to receive a single newspaper 4. Secured to one of the end walls of the box is a casing 5, within which the principal portion of the operating parts of the machine are confined, said casing having a door 6 hinged along the front edge of the upper wall of the casing, and provided at its lower end with a slit 7, adapted to pass over a staple 8, carried along the lower wall of the casing, the staple being provided with an opening 9 for the insertion of a padlock (not shown) to securely lock the parts. Located directly behind the door and forming the front wall of the casing is a wall 10, between which and the door (when closed) is formed a space 11, within which is disposed a casting or ledge 12, having an inclined upper surface 13, leading from a slot 14, formed in one of the end walls of the casing for the reception of the coin 15, the said casting being secured to the wall 10 or cast integral therewith. A similar ledge 12' is located along the opposite side of the casing, also secured to the wall 10, a sufficient space 16 being left between the adjacent vertical edges of the ledges to allow for the free vertical fall of the coin as it rolls down the inclined edge or guideway 13 of the ledge 12.

The object of the ledge 12' is to properly direct the coin in its vertical fall through the space 16 should the momentum of the coin rolling down the incline 13 carry it too far or beyond the space 16. As the coin 15 drops it strikes, at a point below the lower edges of the ledges 12 12', the lateral pin 17, projecting into the space 11, through the slot 18, located at the lower edge of the wall 10, adjacent to the offset 19, from which the wall 10 is continued downwardly, as 10', (see Fig. 3,) the said pin 17 being carried at the free end of a tripping lever 20, pivoted within the casing along the rear surface of the wall 10. The tripping lever has a short weighted arm 20', (to normally balance the lever,) provided with a laterally-projecting arm 21, passing through an opening 22 in the wall 10, said arm 21 having bearing against it one member or arm 23 of a resilient V-shaped spring, the pressure being exerted, as seen by the arrow in Fig. 1, in a direction to keep the long arm 20 of the

tripping lever in its highest position—that is, as high as the limit of the slit 17, through which pin 18 passes, will permit. The opposite member or arm 23' of the spring bears
 5 against the under surface of the terminal lateral knob 24 of a tension-adjusting lever 25, whose pivotal end is secured to the wall 10 by a screw 26, about whose head the meeting portion of the arms 23 23' passes. By swing-
 10 ing the lever 25 (which, by the way, is limited by the pins 51) to the dotted position indicated in Fig. 1 it is obvious that the tension of the spring members 23 23' will be proportionately increased, causing the arm 23 to
 15 bear more forcibly against the arm 21, carried by the weighted end or short arm 20' of the tripping lever. To accommodate the several parts, the lower edge of the ledge 12' is cut away, as best seen in Fig. 1.

20 Projecting from the upper edge of the tripping lever 20, at a point adjacent to the free end thereof, is a lug 27, designed, when the lever is in its normal position, to intercept the rotation of a controlling-disk 28 by coming in
 25 contact with an outwardly-deflected peripheral finger 29 thereof, said controlling-disk forming the last element of a suitable spring-actuated driving mechanism to be now described.

30 Carried about a cylindrical shaft or spindle 30, projecting into the casing 5 from the end wall to which said casing is secured, is the hub 31 of a rotatable or swinging cup 32, opening toward the inner wall of the casing, a
 35 coiled actuating or driving spring 33 being confined within the cup and having one end secured to the hub and the opposite end to the inner wall of the casing. The lower peripheral edge of the cup is provided with an
 40 arm 34, to which one end of the oscillating bottom or cover 35 of the box is secured, the opposite end of said cover being secured to a similar arm 34', forming a part of a similar spring-actuated cup 32', mounted in a similar
 45 manner on a similar spindle 30' and provided with a similar hub 31' and spring 33'. By swinging the oscillating cover or bottom 35 to a position so as to close the lower delivery ends of all the compartments 3 the
 50 springs 33 33' will be "wound up," after which their tendency, by their resilient action against the cups, will be to swing said cups and the cover carried between them to an open position—that is, to force the cover to
 55 the dotted position indicated in Fig. 1, thus opening the delivery or discharge ends of the compartments 3, and permit the ready withdrawal of the folded papers in the compartments. This withdrawal is facilitated by
 60 providing the lower edges of the walls 2 with cut-away portions 50, whereby the paper may be better seized by the purchaser.

In the actual operation of the machine—that is, upon the introduction of the proper
 65 coin—it is essential, of course, that for each coin deposited the cover or bottom 35 shall swing only far enough to uncover one com-

partment, or so much space as to allow for the discharge of the paper paid for. This is permitted by the controlling-disk 28 and tripping lever 20, as will presently appear. The
 70 upper portion of the peripheral edge of the cup 32 is provided with a toothed arc 36, meshing with the teeth of pinion 37, forming part of or secured to a gear-wheel 38, mounted
 75 on a spindle or stud 39, projecting from the inner wall of the casing 5, the gear-wheel 38 in turn meshing with a smaller pinion 40, forming part of the controlling-disk 28 already referred to. The spindle 41 of the disk 28 and
 80 pinion 40, secured thereto, is supported by a bracket 42, mounted in the casing.

The operation of the device will now be apparent from the description. Upon dropping a coin through the slot 14 the same rolls
 85 down the incline 13, drops through the space 16, and strikes the projecting pin 17 at the free end of the tripping lever 20, the weight of the coin tilting the lever against the tension of the spring member 23 sufficiently to
 90 disengage the lug 27 from the finger 29 of the controlling-disk 28, permitting the latter to make one revolution, when it is again intercepted by the lug 27 of the lever 20, which the coin releases as it drops to the money-
 95 compartment 42' to allow the lever to resume its normal position. The single revolution of the disk 28 is of course imparted to it under the action of the springs 33 33'. The springs oscillate the cups 32 32' to swing the
 100 cover or bottom 35, carried by them, sufficiently to uncover one of the compartments 3 of the box, the oscillation of the cup 32 imparting rotation to the gear-wheel 38 through the medium of the pinion 37, meshing with
 105 the toothed arc 36. The gear 38 imparts a still speedier rotation to the pinion 40, carried by the controlling-disk 28, the parts being so proportioned that an oscillation of the cover
 110 35 just sufficient to uncover one compartment 3 will impart an entire revolution to the disk 28, at the end of which revolution it is intercepted by the lug 27 until a second coin is introduced into the machine. The present
 115 box shows ten compartments, so that after ten consecutive coins of proper denomination have been delivered to the machine the entire series of compartments will be uncovered, the cover 35 by that time assuming the position indicated by dotted lines in Fig. 1.
 120 To refill the box, the hinged top 43 is opened and the folded sheets preferably inserted from the top, inserting the folded edge first, so that the sheet may be freely inserted as well as freely delivered or withdrawn when a pur-
 125 chase is made.

For Sunday papers, when a heavier coin and of greater denomination—*e. g.*, a nickel—is required for purchasing a paper, provision
 130 must be made whereby, should an unscrupulous person drop only a penny or cent piece into the machine, no paper would be delivered. This danger is avoided as follows, viz: by swinging the tension-adjusting lever 25 to the

dotted position indicated in Fig. 1, in which instance the tension of the spring-arms 23 23' will be increased, requiring a heavier coin to trip the lever 20. It is thus apparent that a cent piece would not trip the lever under the circumstances, and hence no purchase could be made unless a coin of proper weight and denomination was delivered to the machine.

The present device is generally suspended by means of a clamp 44 from the hand or strap rail of a car, the clamp being provided with arms 45 46, over which the loops 47 of the box can be passed.

It is apparent that minor changes might be made in the machine without departing from the spirit of my invention. For example, I do not limit myself to the number of compartments, nor to the number of sheets that any compartment is to hold, since the compartments may be increased or diminished at will, according to the design of the machine.

It is apparent that the machine is not limited to selling papers, but may vend other articles, if desired.

As seen from Fig. 1, the clamp 44 has a pivoted member that may be made to directly embrace the hand-rail, the free end of such pivoted member being subsequently secured by a screw 52. The arm 46 curves upwardly in the shape of a U, the base of said arm serving to directly support the lower loop 47 of the box. By this arrangement there is little or no danger of the box being accidentally knocked off by any person in the car.

What is here designated as the "controlling-disk" may, as is obvious, find a substitute in a revolving arm provided with a projecting finger similar to the finger 29, forming a part of the disk.

Having described my invention, what I claim is—

1. In a paper-vending machine, a suitable box, a series of compartments in the same for holding folded papers, a swinging cover or bottom normally covering the discharge ends of the compartments, suitable driving mechanism for oscillating the cover with each deposit of coin into the machine, a controlling-disk forming a part of the driving mechanism for the cover, a tripping lever adapted to normally intercept the controlling-disk against the action of the driving mechanism, means for varying the resistance offered by the tripping lever to the impact of coins of variable denomination, means for holding the tripping lever in its normal position, the free end of said lever being adapted to be struck by the coin and tilted from its normal position thus permitting the free rotation of the controlling-disk, the cover being adapted to oscillate a distance sufficient to uncover the discharge end of each compartment with each introduction of coin, substantially as set forth.

2. In a paper-vending machine, a suitable box, a series of compartments for the reception of folded papers, a delivery end for each

compartment, a pivoted swinging cover normally closing the discharge or delivery end of each compartment, and suitable coin-controlled mechanism operated by the gravitating action of the coin for shifting the cover sufficiently to permit the withdrawal or discharge of the folded paper, from the compartment, substantially as set forth.

3. In a paper-vending machine, a suitable box, a series of adjacent compartments having perforate or otherwise transparent division-walls for observing the contents of the same as each paper is successively withdrawn, a cover for normally closing the delivery or discharge end of each compartment, and suitable coin-controlled mechanism for shifting the cover sufficiently to permit the withdrawal of the folded paper from the compartments consecutively, or with each introduction of a coin, substantially as set forth.

4. In a paper-vending machine, a suitable box, a series of compartments in the same for the reception of folded sheets of paper, a swinging cover or bottom normally covering the discharge ends of the compartments, suitable driving mechanism for oscillating the cover with each insertion into the machine of a suitable coin, a tripping lever normally holding the driving mechanism at rest, adapted to be struck by the coin and momentarily release the driving mechanism, means for restoring the tripping lever to its normal position after it has been released by the coin, the cover being adapted to be oscillated by said mechanism a distance sufficient to uncover a compartment for the withdrawal of the paper confined therein, and means for varying the resistance offered by the tripping lever to the impact of coins of variable denominations, substantially as set forth.

5. In a paper-vending machine, a suitable box, a series of compartments in the same for holding folded papers, a swinging cover or bottom normally covering the discharge ends of the compartments, suitable driving mechanism for oscillating the cover with each deposit of coin into the machine, a controlling-disk forming a part of the driving mechanism for the cover, a tripping lever adapted to normally intercept the controlling-disk against the action of the driving mechanism, a spring for holding the tripping lever in its normal position, the free end of the tripping lever being adapted to be struck by the coin and tilted against the action of the spring and permit the free rotation of the controlling-disk, the cover being adapted to oscillate a distance sufficient to uncover the discharge end of each compartment with each revolution of the controlling-disk, and the spring restoring the tripping lever at the end of each oscillation of the cover and restore the parts to their normal position to be again operated by any succeeding coin, substantially as set forth.

6. In a paper-vending machine, a suitable box, a casing carried at one end of the same,

a series of compartments in the box for the reception of papers, a rotatable or oscillating cup mounted within the casing, a spring confined within the cup and adapted to actuate
 5 the same, a second cup carried at the opposite end of the machine, a similar spring for simultaneously actuating said second cup, an oscillating cover connected to said cups and adapted to normally cover the discharge ends
 10 of the several compartments of the box, a toothed band carried by the peripheral edge of the cup, a controlling-disk mounted in the casing, a pinion secured to or carried by said disk, intermediate gearing between the con-
 15 trolling-disk and the cup in the casing, a finger carried by the periphery of the controlling-disk, a tripping lever pivoted to the wall of the casing adjacent to the controlling-disk, a lug carried by the free end of the tripping
 20 lever and adapted to normally engage the finger of the controlling-disk, a pin at the end of the arm carrying the lug, said pin projecting outwardly through a suitable opening formed in the wall of the casing, an arm pro-
 25 jecting laterally from the opposite arm of the tripping lever and projecting through an opening formed in the wall of the casing, a spring carried by the wall of the casing adjacent to the projecting end of the arm carried
 30 by the short arm of the tripping lever, said spring bearing normally against said arm and

tending or serving to hold the tripping lever in its normal position, the casing having a suitable slot for the insertion of the coin, an inclined guideway for the coin, the said coin
 35 being adapted to strike the pin projecting at the end of the long arm of the tripping lever, the parts operating substantially as and for the purpose set forth.

7. In a paper-vending machine, a suitable
 40 box, compartments in the same for holding papers, a tripping lever adapted to be tilted in one direction by the coin, a spring having two members, one of said members controlling the tripping lever in a direction reverse
 45 to that in which it is actuated by the coin, a tension-adjusting lever or arm having a projection or knob against which the free end of the second member of the spring is adapted
 50 to bear, a screw for pivotally securing one end of the tension-adjusting lever, the meeting-point of the spring members passing over said screw, whereby upon rotation of the lever the tension of the spring members is varied, substantially as set forth.
 55

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT A. SCHLEGEL.

Witnesses:

EMIL STAREK,
 ALFRED A. MATHEY.