

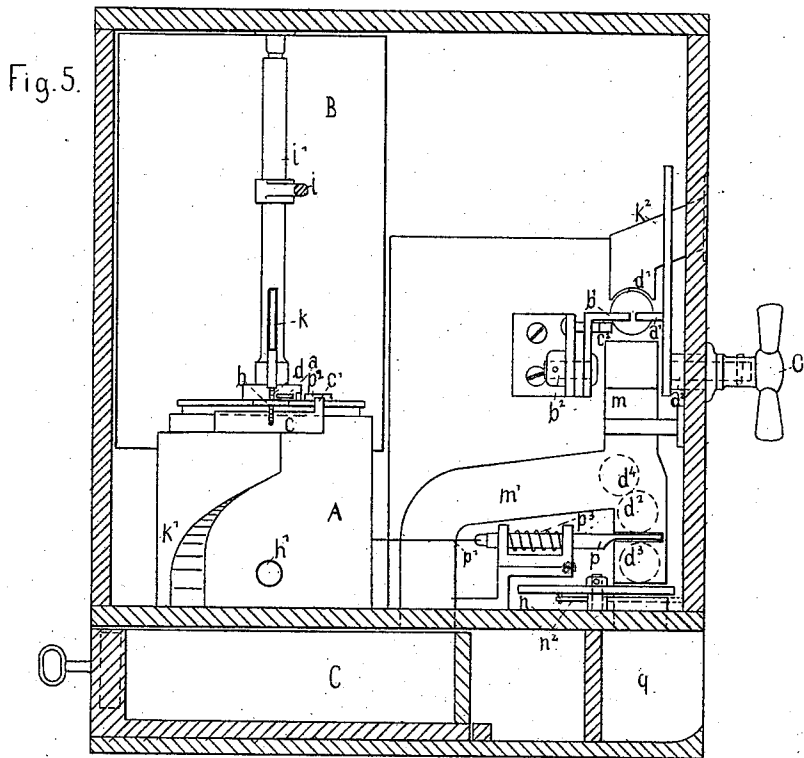
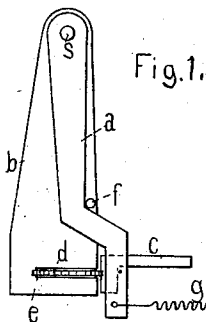
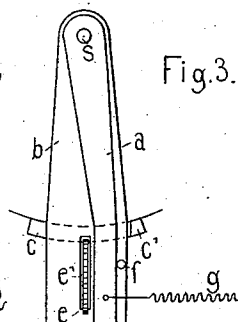
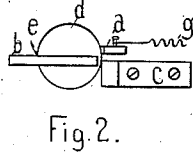
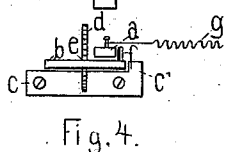
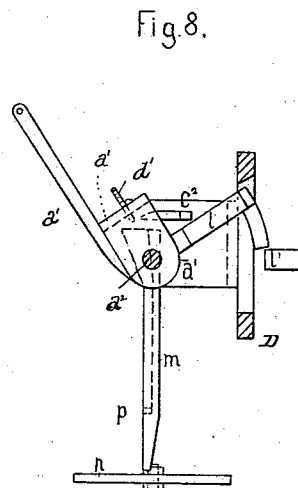
(No Model.)

3 Sheets—Sheet 1.

M. SIELAFF.
VENDING APPARATUS.

No. 378,982.

Patented Mar. 6, 1888.



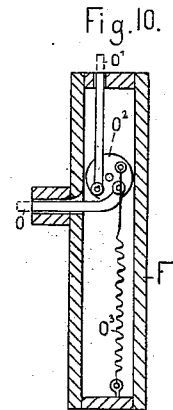
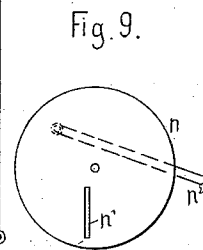
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by Marshall Bailey
his attorney.

M. SIELAFF.
VENDING APPARATUS.

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Patented Mar. 6, 1888.



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(No Model.)

3 Sheets—Sheet 3.

M. SIELAFF.

VENDING APPARATUS.

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Fig. 11.

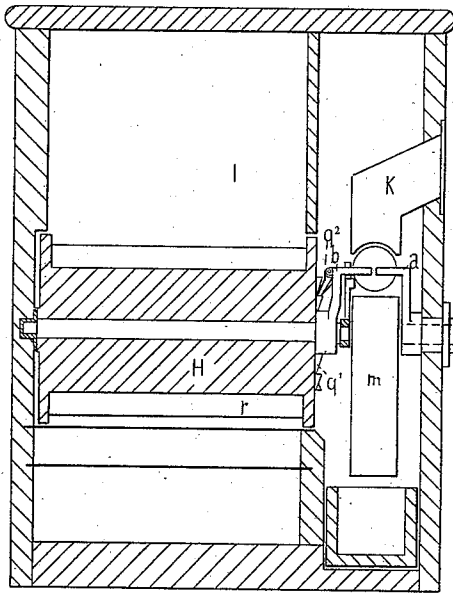


Fig.12.

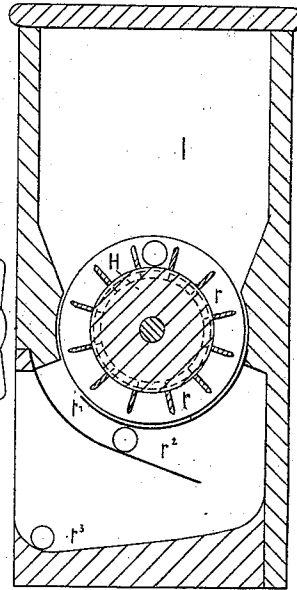


Fig. 13.

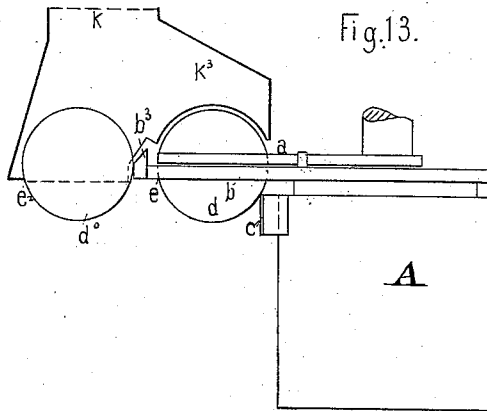
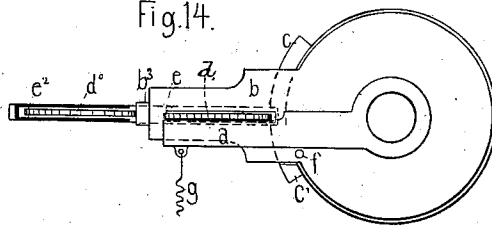


Fig.14.



Witnesses;
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UNITED STATES PATENT OFFICE.

MAX SIELAFF, OF BERLIN, GERMANY.

VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 378,982, dated March 6, 1888.

Application filed April 11, 1887. Serial No. 231,404. (No model.) Patented in Germany November 13, 1886, No. 40,452.

To all whom it may concern:

Be it known that I, MAX SIELAFF, a subject of the Emperor of Germany, and residing in Berlin, Kingdom of Prussia, Germany, have invented new and useful Improvements in Vending Apparatus, (for which German Letters Patent No. 40,452, dated November 13, 1886, have been granted on August 18, 1887,) whereof the following is a specification.

My invention relates to apparatuses containing a potable liquor or certain articles—such as cigars, newspapers, and others—and which can be put in operation by the introduction of a coin of determinate size and the subsequent movement of a handle, so as to deliver a measured quantity of the liquor or one of the articles contained in the apparatus.

The invention consists, first, in the construction of the mechanism serving to receive the coin and to transmit motion by means of the same, the mechanism comprising, essentially, two movable parts, *a b*, which, for convenience sake, I call "coin-grasping arms," having in one or partly in one and partly in the other of said arms a slot for receiving the coin, through which motion from one of the arms is transmitted to the other, and a stationary part or ledge, between which and the opposite end of the slot the coin is suspended in position to transmit movement from one arm to the other, the arrangement being such that when the motor-arm (that is, the arm the movement of which is to be transmitted to the other) is moved in the direction of the coin the latter will be grasped between the two arms which thus move together, while the coin itself by such movement will be carried away from the stationary ledge, remaining suspended between the two coin-grasping arms until, by a movement of a motor-arm in the opposite direction, the coin is released and allowed to drop.

The invention consists, second, in the combination, with the said mechanism, of an additional stationary part and a coin-guiding tube arranged in respect to each other and to the aforesaid mechanism in such manner that two coins will be required to put the device into operative condition, the first coin, when introduced through the tube, being so conducted by the same as to be caught edgewise between the part *b* and the additional or second stationary

part, where it is out of reach of the part *a*, made of suitably limited length, while the second coin, dropping through the tube obliquely on the first coin, is thereby caused to pass in between the first stationary part and one of the parts *a b*.

The invention comprises, third, the combination of contrivances adapted to deliver a determinate quantity or number of certain wares or commodities, for instance, with a measuring-faucet or a cylinder having compartments on its periphery.

The fourth part of the invention consists in the combination, with a measuring-faucet arranged to be operated by the said mechanism, of a case containing a drinking-vessel and having a door which is also connected to a mechanism of the said construction, in view of enabling any person desirous of drawing off liquor through the faucet to open the door and obtain the drinking-vessel on deposit of a coin as security, means being provided, in combination with the door and the faucet, whereby the coin is restored to the depositor after the faucet has been turned, the vessel replaced, and the door closed.

On the annexed three sheets of drawings, Figures 1 to 4 represent two different arrangements of the improved mechanism operating through the medium of a single coin, Figs. 1 and 2 being respectively plan and end views of one arrangement and Figs. 3 and 4 corresponding views of the other. Figs. 5 and 6 are two sectional elevations at a right angle to each other; and Fig. 7, a sectional plan of an apparatus comprising a measuring-faucet, and the aforesaid case containing a drinking-vessel, both the faucet and the door of the case having the improved mechanism connected therewith. Fig. 8 shows the mechanism belonging to the door in the position for unlocking the same. Fig. 9 is a separate top view of a part to be described hereinafter. Fig. 10 is a vertical section through the aforesaid door. Figs. 11 and 12 are two sectional views of an apparatus for the automatic sale of cigars, operating by means of the improved mechanism. Fig. 13 is an elevation partly in section, and Fig. 14 a plan of the mechanism requiring two coins to put the mechanism into an operative state.

In the mechanism shown by Figs. 1 and 2

the two movable parts are formed by the arms a and b , pivoted on a fixed pin, s . c is the aforesaid stationary part, and d the coin. The arm a is drawn to the right by a spring, g , and it acts through a pin, f , integral with the arm b on the latter, so as to draw the arm b against a fixed stop formed in the present case by the part c . The arm b is provided with a slit, being a little wider than the coin is thick, and the edge e whereof is at such distance from the part c when the arm is in its normal position that a coin, d , having the required size and inserted into the slit, will just remain suspended between the edge e and the edge of the part c , whereas any smaller coin will drop through. For the purpose of inserting the coin a flat tube (not shown in these figures) is fixed above the slit in the arm b . If the coin d is not present, the arm a , on being moved to the left, does not act on the arm b ; but if a coin has been inserted between the said edges a movement of the arm a to the left is transmitted through the coin to the arm b , the coin being at the same time pushed away from the part c and remaining pinched between the arms a and b . The arm a , being thereupon liberated, is drawn back by the spring g , and the coin is released and drops down. The arm a then retracts the arm b by means of the pin f and returns it to its position of rest.

The arrangement of the mechanism shown by Figs. 3 and 4 differs from the foregoing mainly in this respect, that the two edges between which the coin has to be inserted are placed in a line at a right angle to the direction of motion of the arm a , whereas according to Figs. 1 and 2 their line of connection coincides with the said direction. The arm a consequently presses the coin with its side against the edge e' of the slit in the arm b . This arrangement requires the coin to be pushed along the part c , and it remains suspended between the edge e and the edge of part or ledge c until it has been pushed away over the end of the latter. The stop limiting the retrograde motion of the arm b is formed by the shoulder c' of the part c .

The modified arrangement in which two coins are required to put the mechanism into operative condition, and which is represented by Figs. 13 and 14, is constructed as follows: The arms a b and part c are substantially like those shown in Figs. 3 and 4; but opposite to the end of the arm b is arranged another stationary part, c^2 , being at such distance from the end of the said arm that a coin, d^2 , of like size as the coin d , dropping in between the end of arm b and the part c^2 , will remain suspended between them. The part c^2 may be formed on the tube through which the coins are introduced. (Shown in these figures and marked by the letter k .) The said tube is fixed in such position that the coin d^2 thrown in first will have to deviate somewhat to the left in order to pass in between the end of the arm b and the part c^2 , where it is maintained in upright position by the walls of the tube extending

sufficiently far down. For the purpose of conducting the coin d^2 into its place, the arm b may be provided with a beveled nose, b^2 . The second coin, d , on dropping in through the tube k will then strike obliquely on the coin d^2 and pass within the extension k^2 of the tube k to the right, so as to become engaged between the part or ledge c and the edge e of the slit in the arm b . Finally the arm a is made of such limited length that it extends across the coin d only. If both coins, d^2 and d , are present, and if the arm a is pressed against the coin d , and consequently d against the arm b , so that the latter is moved, the coin d^2 first loses its support and drops down, whereas the coin d is liberated, as in the first arrangement, after it has passed away over the part or ledge c and the pressure of the arm a has ceased. With the coin d^2 alone no effect can be obtained, as it is out of reach of the arm a . On the other hand, the coin d cannot come into its place unless the coin d^2 is present.

The combination, with the described mechanism operating through the medium of a single coin, of a measuring-faucet is shown on the left-hand side of Figs. 5, 6, and 7. The faucet A consists of a shell in communication by the pipe h with the reservoir B (which in practice would have to be made larger in comparison to the faucet than shown in the drawings) and of the hollow plug A' , having two orifices, the one (not appearing in the drawings) registering with the pipe h when the plug is in its normal position, whereas the other one, h^2 , Fig. 6, registers with the spout h' when the plug has been turned by a certain angle. Moreover, in this position of the plug a small hole, h^3 , drilled into the same near the top, registers with a hole, h^4 , of the shell for the purpose of letting in air while the liquid runs out. The plug has an arm, b , corresponding to the like arm of the mechanism shown by Figs. 3 and 4, while the arm a is keyed on an axle, i' , journaled at its bottom end on a pivot projecting from the plug A' , and having another arm, i , passing through a slit in the box inclosing the apparatus, and provided at its outer end with a handle, G . The part c is screwed to the shell of the faucet. Above the slit of the arm b is fixed the flat tube k , extending with an inclined portion through the wall of the aforesaid box and having such size that a coin larger than the one required for the operation of the mechanism will not pass in. g , Fig. 7, is the spring which retracts the movable parts to their normal position.

A coin of the proper size having been thrown into the tube k and caught between the edge of the part or ledge c and the outer edge of the slit in the arm b , as hereinbefore described, the arm i is turned by means of the handle G until the hole h^2 registers with the spout h' and allows the liquid contained in the plug to run out. Before the plug has come into this position the coin has been pushed away over the end of the part or ledge c , so

that when the arm *a* is released its pressure against the coin ceases, and the coin drops through the funnel *k* into the locked drawer C. Any coin too small in diameter is not caught between the aforesaid edges, and passes at once through the funnel *k* into the drawer. The measuring-faucet described in the foregoing does not, however, form a part of my invention, and may be replaced by any other measuring-faucet of suitable construction.

The contrivance serving to enable any person desirous of drawing off liquor through the faucet to obtain a drinking-vessel on deposit of a coin as security, and represented on the right-hand sides of Figs. 5, 6, and 7, is mainly composed of the case D, with door F, having the spring-bolt *l'* and the latch *l*, engaging with the said bolt and connected to the mechanism operating through the medium of the coin. The parts of the said mechanism are, however, in this case formed differently from those hereinbefore described, the two movable parts being constituted by angular arms *a'* and *b'*, placed with their outer or bent portions opposite to each other, as may be seen to best advantage in Fig. 5, each part or arm containing a portion of the slit serving to receive the coin and the edge *e*, co-operating with the stationary part to support the coin, being at the end of the slit in the arm *a'*. The arm *a'* is connected by the axle *a''* to the handle *G'*, and is drawn by the spring *g'* against the projection *f'*, formed upon the arm *b'*, whereas the arm *b'*, pivoted on a pin, *b''*, is pressed by the arm *a'* against a stop formed by the stationary part, consisting in a small angular bar, *c''*.

k' is the tube through which the coin is to be thrown in. If there is no coin present, the arm *a'*, on being turned to the left by the handle *G'*, will not cause any operation; but if the coin *d'* has been inserted and caught between the edge of the bar *c''* and the edge at the end of the slit in the arm *a'* the movement of the arm *a'* is transmitted through the coin to the arm *b'*, and the latch *l* is raised, so that the bolt *l'* becomes free from the latch. (See Fig. 8.) The door F then opens by the action of the spring *t*, and the vessel E, previously placed in the case D, may be taken out and used. When the handle *G'* is released, the coin, having passed away over the end of the bar *c''* before the door opens, becomes free and drops into the tube *m*, the upper end whereof is funnel-shaped.

In the tube *m* the coin is retained by a slide, *p*, until the plug *A'* of the measuring-faucet has been turned and liquor drawn off. (The coin is shown in this position by dotted lines and marked *d''*.) For the purpose of causing the coin to be released by the operation of the plug, the slide is connected by means of a string, *p'*, running over two guide-pulleys to a sector, *p''*, fixed to the plug, so that when the plug is turned in the manner and by the means hereinbefore described the slide will be drawn back, the coin then dropping on a disk, *n*, arranged below the tube *m*. Upon the plug be-

ing turned backward by the spring *g* the slide is returned to its normal position by the spring *p''*. The said disk *n*, which is rotative on a pin, has a slit, *n'*, and it is so connected by a rod, *n''*, to the door F that when the door is closed the slit *n'* registers with the end of the tube *m*. Thus, so long as the door is open, the coin marked *d''* will be retained by the full part of the disk. Moreover, the door is provided with means for preventing it from being closed unless the vessel E has been replaced into the case. These means consist of two pins, *o* and *o'*, Fig. 10, pivoted to a rotative disk, *o''*, which is so acted upon by a spring, *o'''*, that the pin *o* will be caused to project from the door toward the vessel E, or the place which it has to occupy, while the pin *o'* projects from the top of the door. If the vessel E is not in its place, the pin *o'* will prevent the door from being closed as it strikes against the jamb of the door. The slit *n'* is consequently not brought into register with the tube *m*, and the user of the vessel does not receive the deposited coin back. A purloining or breakage of the vessel thus causes a loss of the coin; but if the vessel has been replaced before an attempt is made to close the door the pin *o*, on touching the vessel, will be pushed back into the door and retract the pin *o'*, which then no more prevents the door from being closed. At the moment the door is completely closed the spring-bolt *l'* catches behind the latch *l* and locks the door. Simultaneously the slit *n'* of the disk *n* is brought into register with the tube *m*, so that the coin *d''* then drops into the open compartment *q*, whence it may be taken back by the depositor.

The tube *m* is made with a division-wall extending down to the aforesaid slide *p* and shown in Fig. 8 by a dotted line. By means of the right-hand portion of the tube thus separated off any coin not having been caught by the parts *a'* and *c* on account of its being too small is directly conducted past the slide *p* and through the slit *n'* to the compartment *q*. For preventing the apparatus from becoming choked by a coin thrown in while there is still a coin, *d''*, on the slide *p*, a tube, *m'*, conducting to the drawer C, is branched off from the tube *m*, and the latter is slightly bent in the opposite direction, so that the additional coin (marked *d''*) will strike obliquely on the coin *d''* and be deflected by the same into the tube *m'*, whence it passes to the drawer.

In the apparatus for the automatic sale of cigars shown by Figs. 11 and 12 the arm *b* of the mechanism transmitting motion through a coin is arranged to actuate a cylinder, H, having on its periphery longitudinal compartments *r*, adapted to contain a single cigar each, the said cylinder extending with its upper portion into a receptacle, *l*, designed to be filled with cigars, while the remaining portion of the cylinder is inclosed in a casing provided with a slit, *r'*, the size whereof corresponds to that of a cigar. On the end of the cylinder opposite to the arm *b* ratchet-teeth *q'* are ar-

ranged, with which engages a pawl, q^2 , pivoted to the arm b , the said teeth being so disposed and the range of motion of the arm b so limited that each full oscillation of the arm b fetches another compartment r opposite to the slit r . Provided the receptacle l has been supplied with cigars, these will be received one by one by the upper compartments r as the cylinder is rotated, whereas the cigar, having been brought opposite to the slit r , will fall through the same and the channel r^2 into the open tray r^2 .

This apparatus may be adapted to the automatic sale of newspapers by suitably altering the size of the cylinder and the compartments, so that a newspaper may be deposited in each of the latter, and by inclosing the cylinder in a shell having a slit at the bottom.

I claim as my invention—

1. In a mechanism for transmitting motion by means of a coin, d , of determinate size, the combination of the movable coin-grasping arms having a coin-receiving slot or slit, through the medium of a coin held in which slot or slit motion can be transmitted from one to the other of said arms, with the stationary ledge c , bounding one end of said slot or slit, the arrangement being such that the coin when dropped edgewise into the slot or slit will be suspended in that position between one end of the slot and the stationary ledge c at the opposite end, substantially as and for the purposes hereinbefore set forth.

2. The combination, with the movable coin-grasping arms having a coin-receiving slot and the stationary ledge c , between which and the opposite end of the slot the coin when inserted edgewise in said slot is supported, of a second stationary ledge, c^2 , between which and the free end of the movable arm to which motion is transmitted through the coin is a second coin-receiving slot, and the coin-guiding tube k , having extension k^2 , these parts being arranged for joint operation substantially as and for the purposes hereinbefore set forth.

3. The combination, with the coin-guiding tube k and the mechanism for delivering a determinate supply of any ware, of the movable coin-grasping arms having a coin-receiving slot and the stationary ledge c , between which and the opposite end of the slot the coin is suspended in edgewise position, that one of the movable arms to which movement is transmitted through the coin being connected to and adapted to operate the said delivering mechanism, substantially as and for the purposes hereinbefore set forth.

4. The combination, with the coin-guiding tube k , having extension k^2 , and the mechanism for delivering a determinate supply of ware, of the movable coin-grasping arms having a coin-receiving slit, the coin-supporting stationary ledge c , and the second stationary coin-supporting ledge c^2 , bounding one end of second coin-receiving slot, the other end of which is bounded by the free end of the movable arm, to which motion is transmitted through the coin, the combination being and acting substantially as hereinbefore set forth.

5. An apparatus comprising the movable coin-grasping arms having a coin-receiving slot, the stationary coin-supporting ledge c , bounding one end of said slot or slit in such manner that a coin dropped edgewise into the slit will be suspended between one end of the slot and the ledge c at the opposite end, a measuring-faucet, A , the plug whereof is fixed to that one of the movable arms to which motion is transmitted through the coin, a reservoir, B , connected to the faucet, and the coin-guiding tube k , substantially as and for the purposes hereinbefore set forth.

6. An apparatus comprising the movable coin grasping arms having a coin-receiving slot, the stationary coin-supporting ledges c and c^2 , arranged to operate in connection with said arms, as described, the coin-guiding tube k , having extension k^2 , a measuring-faucet, A , the plug A' whereof is fixed to that one of the movable arms to which motion is transmitted through the coin, and a reservoir connected to the faucet, all substantially as hereinbefore set forth.

7. An apparatus comprising the movable parts a b , having a coin-receiving slot, the stationary ledge c , the coin-guiding tube k , a measuring-faucet, A , whose plug A' is connected to and operated by the part b , the reservoir B , the movable parts a' b' , the stationary ledge c^2 , the coin-guiding tube k^2 , latch l , fixed to the part b^2 , tube m , slide p , means for retracting the slide p by the plug A' and for returning it to its normal position, case D , door F , rotative disk n , having slit n' , and means of connection between the disk n and the door F , all substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

MAX SIELAFF.

Witnesses:

HENRY SPRINGMANN,
B. ROl.