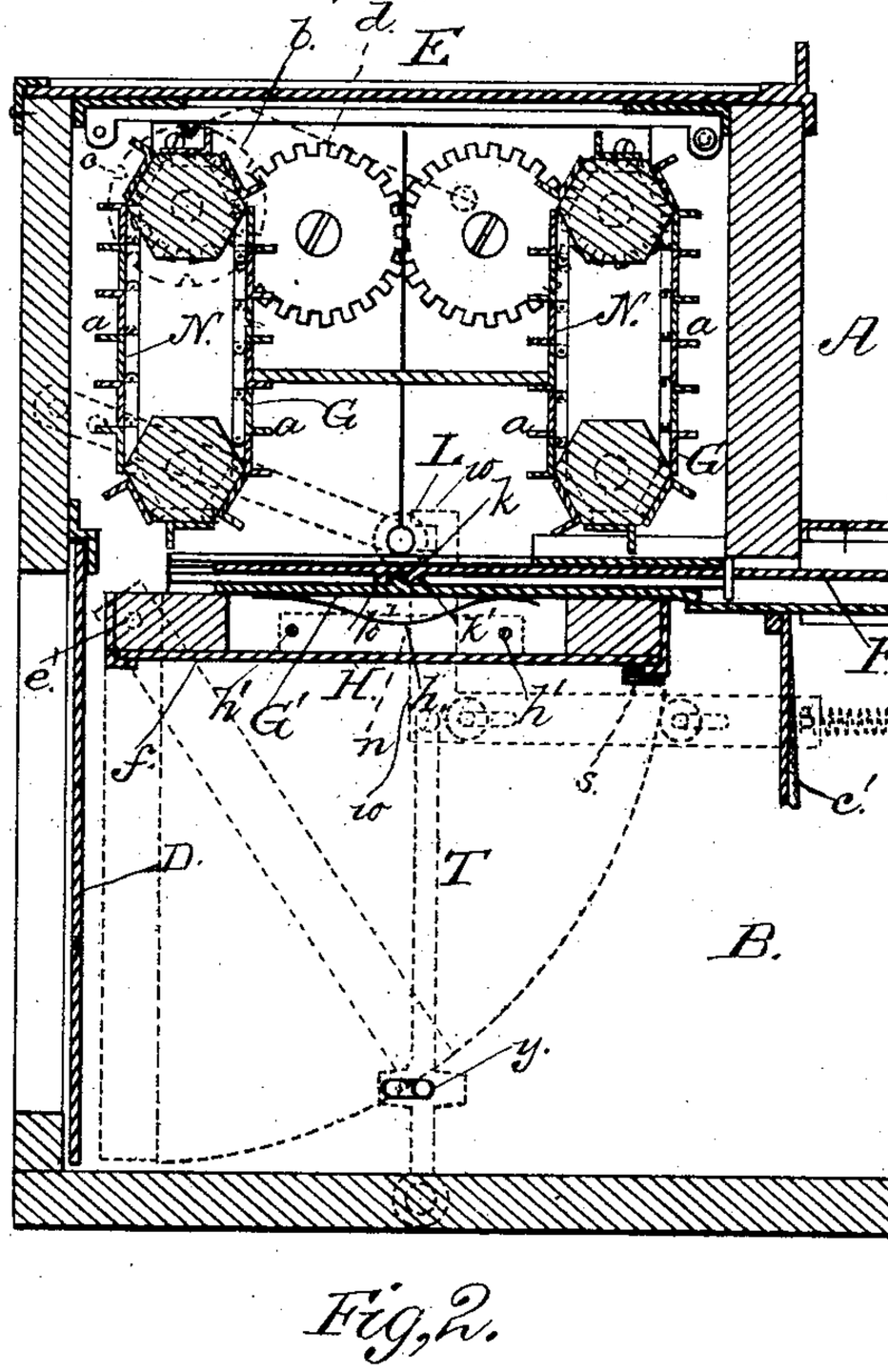
2 Sheets—Sheet 1.

B. F. SPILMAN.

Photographic Plate-Holder.

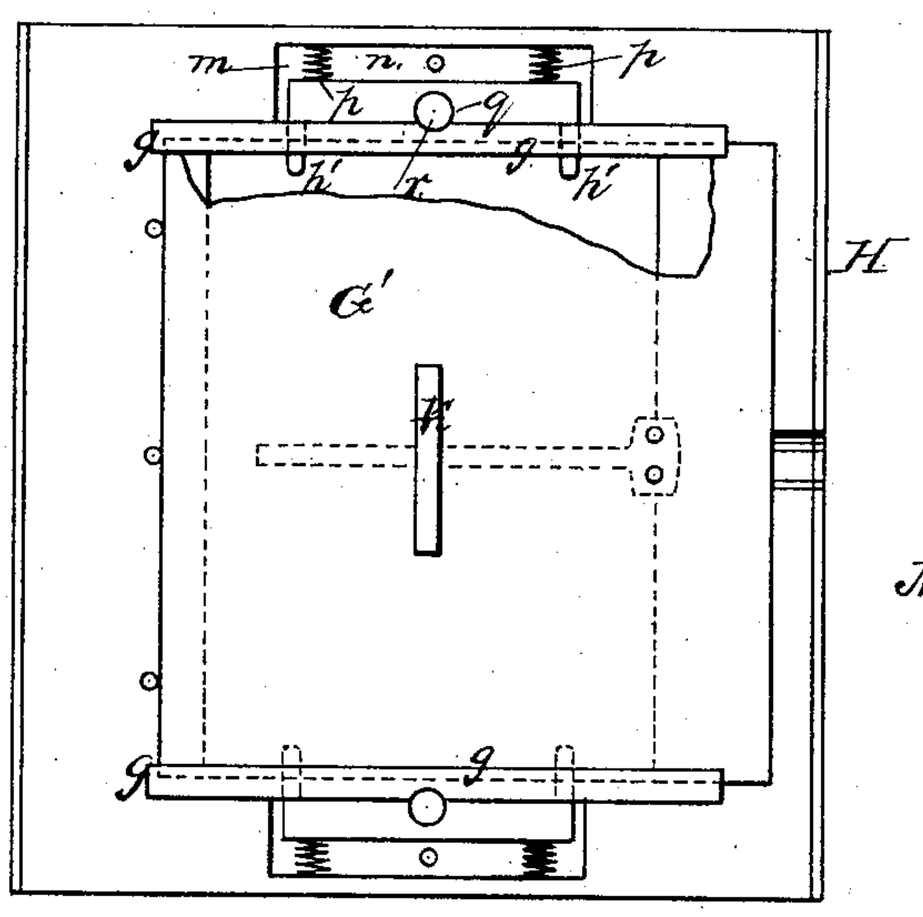
No. 228,134. **Patented May 25, 1880.**

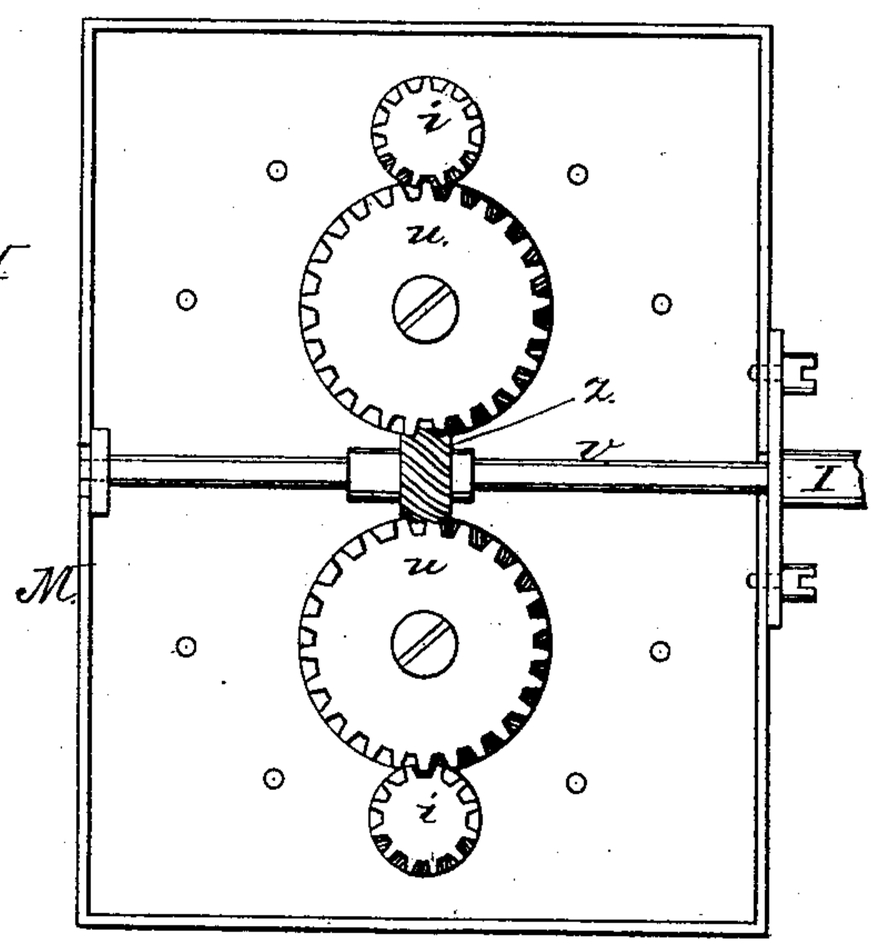


Fig, 1.

Fig, 2.

Fig, 3.





WITNESSES

Villette Anderson.

F. J. Masi.

INVENTOR

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his ATTORNEY

2 Sheets—Sheet 2.

B. F. SPILMAN.

Photographic Plate-Holder.

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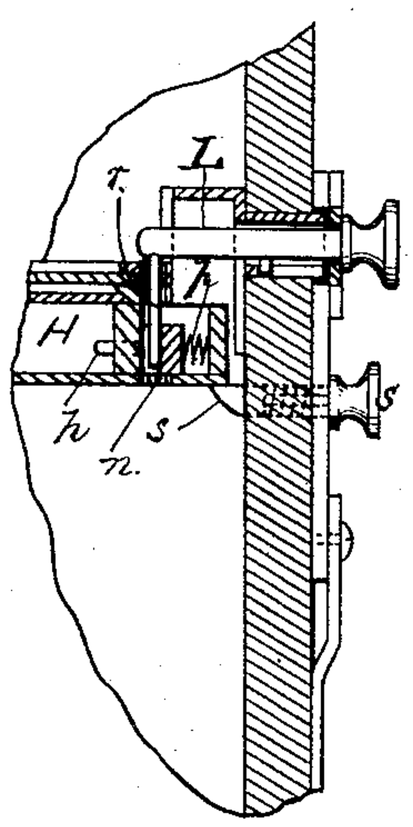
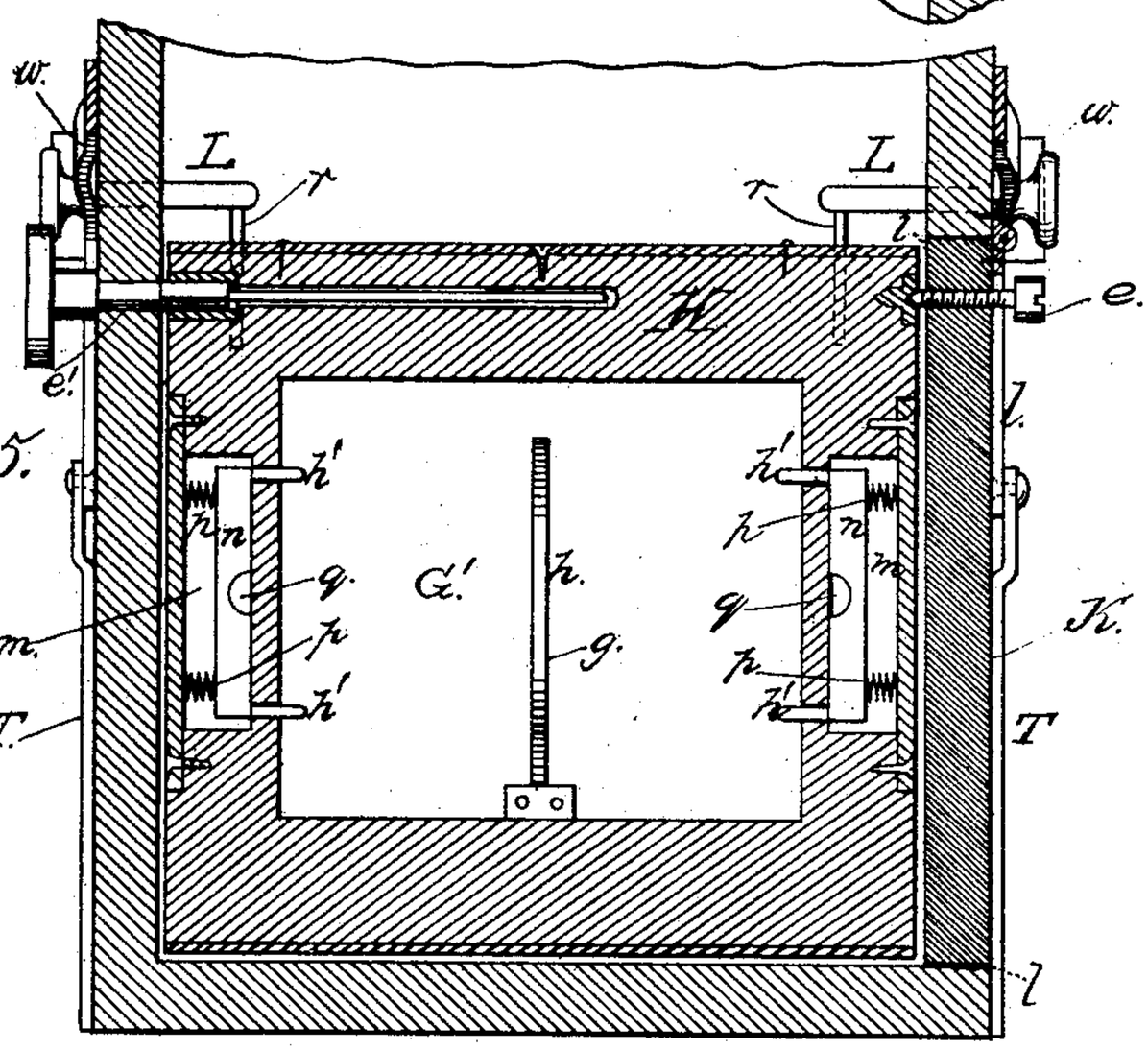
Fig, 4.



Fig, 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

BENJAMIN F. SPILMAN, OF HARRODSBURG, KENTUCKY.

PHOTOGRAPHIC-PLATE HOLDER.

SPECIFICATION forming part of Letters Patent No. 228,134, dated May 25, 1880.

Application filed February 27, 1880.

To all whom it may concern:

Be it known that I, BENJAMIN F. SPILMAN, of Harrodsburg, in the county of Mercer and State of Kentucky, have invented a new and valuable Improvement in Photographic-Plate Holders; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my improved photographic-plate holder. Figs. 2 and 3 are respectively detail views of the tablet and cage, and Figs. 4 and 5 are sectional details.

This invention has relation to dry-plate holders for photographers; and its object is to enable the dry-plate photographer to dispense with a dark-tent while at work in the field, and to make a larger number of pictures in a given time than can be made in the ordinary manner.

The invention consists in the construction and novel arrangement of the plate carrier and dropper in the upper chamber, the swinging or movable receiving-tablet in the lower chamber, the slide of said tablet, and the partition between the upper and lower chambers, the tablet-discharging devices, and the receiver to hold the plates as they fall from the tablet, all as hereinafter shown and described.

In the accompanying drawings, the letter A designates the upper chamber, and B the lower chamber, of the case, which is provided with openings in front and rear and at the top, which are respectively closed by means of slides or doors C, D, and E.

Between the upper and lower chambers is arranged a horizontal slide, F, which, when closed, prevents light from the openings in the lower chamber entering into the upper chamber, in which the sensitized plates are kept. These plates are arranged one above another on the ledges or projections *a* of the moving carrier and dropper N in the upper chamber, which is usually constructed of parallel endless bands G, geared together so as to move uniformly and carry the opposite shelves or ledges *a* in true horizontal relation to each other.

The shaft of one of the endless bands is prolonged through the case-wall, and provided with a turning disk, *b*, which is notched at regular intervals, as indicated at *c*, for the engagement of a click-spring, *d*, which serves to register or note that a plate has been dropped from the carrier, and also as a check to prevent the carrier from dropping another plate until the disk has been purposely turned. The carrier will hold a number of these plates, which are laid separately on the ledges with the film side down. When the carrier is filled the top cover is put in place to keep out the light, which would injure the plates.

H represents the movable or adjustable tablet, which is arranged in this construction to swing from the vertical to a horizontal position and back to the vertical position, pivot-bearings *e e'* being provided on each side of the case for this purpose, as shown in the drawings. One of these pivots, *e*, is fixed in a hinged side door, K, which closes the lateral opening *l*, through which the tablet-cover *f* is introduced or withdrawn. The other pivot, *e'*, extends through the case-wall, and is provided with a milled head or handle, whereby it may be turned to throw the tablet into the horizontal position. This pivot *e'* is usually provided with a long bearing or extension, on which the tablet slides, so that the latter may be withdrawn through the opening *l* when necessary.

G' represents the back of the tablet, which is arranged in ways *g*, and is provided on its inside with a spring, *h*, which serves to keep the sensitized plate against the bearing-points *h'*, and on its back a bar or catch, *k*, is arranged.

In each side of the tablet a slot, *m*, serves to receive a bar, *n*, which carries two bearing-points, *h'*, which are pressed into the tablet, through suitable perforations, by means of springs *p*. Each bar *n* is provided with an opening or notch, *q*, to receive, when the tablet is revolved into the horizontal position, the downwardly-extending arm *r* of a lateral slide, L.

When the tablet is revolved upward into the horizontal position the catch *k* is designed to

engage with a catch, *k'*, on the back of the horizontal slide F, which catch is usually made by arranging two parallel bars so that they will receive the bar *n* between them. It is apparent that by reason of this engagement, if the slide F is now withdrawn, it will carry with it the sliding back G' of the tablet, leaving this open and ready to receive a plate from the dropper G in the upper chamber. Then by sliding the partition F back into place it will return the back of the tablet, and the latter can now be revolved down into the vertical position.

In order to hold the tablet up, a spring-catch, *s*, is provided on one side of the case, said catch having an exterior end or handle, whereby it can be manipulated. This catch is designed to have a beveled end, so that it will engage automatically with the tablet-edge when this is revolved upward. The plate being in the tablet and the latter in vertical position, the front plate, C, and cover *f* of the tablet can be withdrawn and the sensitized plate exposed, the case being in this arrangement attached to the back of the camera; or when the case is not so attached the tablet may be withdrawn through the side opening, *l*, the door K being opened and the exposure made in the camera, as in ordinary cases. After exposure the tablet, having its cover *f* withdrawn, is again revolved into the horizontal position, and the receiver or cage M is pushed forward in the lower chamber by means of its rod or handle I until it is under the tablet and in position to receive the plate therefrom.

The plate is discharged from the tablet by withdrawing the sliding bearing-points *h'* by means of the lateral slides L, which are engaged with the bars *n* through the arms *r;* or wedge-shaped slides *w* may be connected to levers T, having projections *y* extending within the case and arranged to receive the impact of the cage or receiver when pushed forward, thereby forcing the wedges under the slide-heads, and thus operating the slides automatically by the action of the cage itself. Usually this receiver is provided with an elevating-platform, R, above a base, T', and carried on vertical screws J, which engage with threaded apertures in said platform. These screws have pinion-heads *i*, engaging with bevel-wheels *u*, pivoted to the base, which, in turn, engage with a small worm, *z*, on the rotating shaft *v* in the hollow sheath of the rod I. This shaft is provided with a milled head and a spring-click, *s'*, which, when said head is turned, serves to indicate how much the platform is raised or lowered.

To receive the first plate the platform is raised nearly to the top of the cage. The platform is then depressed sufficiently to receive the next plate without shock, and this is continued until all the plates have been exposed and dropped into the receiver. Each plate may have a drop of sealing-wax under each corner on its back. The case is then carried into the dark-room, where the plates are to be developed, and the receiver being removed therefrom, the platform can be elevated by a reverse motion of the shaft *v*, so that the plates can be successively removed without injury.

In order to prevent light from the front of the lower compartment entering the receiver in the rear portion thereof and injuring the plates contained therein, a short curtain, *c'*, is attached transversely to the top of said compartment, so as to hang in front of the cage or receiver, which will readily lift it and pass under it when pushed forward. The sides of the receiver are also incased.

This dry-plate holder is designed to save the landscape-photographer the greatest part of his load, as he is not required to carry a dark-tent or chemicals for developing the plates. He can place in the holder a sufficient number of plates to last all day, and at night he can develop them; and, therefore, much time is saved to the operator, and he can make three or four times as many pictures in a day with the holder as he could without it.

The tablet used in this holder can be used in the camera without the holder or case, if desired, and will be found to serve an excellent purpose, its sliding spring-back serving to hold the plate steadily, and at the same time presenting a means for readily discharging it.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a plate-holder having an upper and a lower chamber, of an endless-band plate carrier and dropper in the upper chamber, a partition-slide between these chambers, and in the lower chamber a swinging receiving-tablet having discharging devices and a receiver to hold the plates as they fall from the tablet, substantially as specified.

2. A dry-plate holder having an endless-band plate carrier and dropper for the sensitized plates, a receiver for the exposed plates, and a receiving and discharging tablet to receive and expose the sensitized plates and discharge them into the receiver, substantially as specified.

3. The tablet having the sliding front cover, *f*, the sliding back G', and the spring *h*, attached to the sliding back, the withdrawing bearing-points *h'*, and the springs *p*, substantially as specified.

4. In a plate-holder, the combination, with a lower compartment having a swinging receiving-tablet, H, of a closed upper chamber having endless bands carrying ledges or shelves arranged in opposite horizontal relation, substantially as specified.

5. The combination, with the swinging tablet and the horizontal partition-slide having the catch *k*, of the back plate of said tablet, having a catch, *k'*, to engage with the catch of said slide, as specified.

6. The combination, with the swinging tab-

let H, having the back sliding plate and the horizontal partition-slide, of the automatic catches *k k'*, substantially as specified.

7. The combination, with the swinging tablet having the bearing-points *h'*, movable bars *n*, and springs *p*, of the lateral slides L, having the arms *r* and the spring-catches, substantially as specified.

8. The combination, with the swinging tablet, its sliding bearing-points, movable bars *n*, and springs *p*, of the lateral slides L, having the arms *r* and the discharging-wedges *w* and their lever devices, substantially as specified.

9. The combination, with the swinging tablet, of the plate-holder having the extended pivot *e'*, the opening *l*, and the door K, having the pivot *e*, substantially as specified.

10. In combination with a camera, the plate-receiver M, having the base T', elevating-platform R, screws J, bevel-wheels *i u*, worm *z*, and shaft *v*, substantially as specified.

11. In a plate-holder having a swinging tablet for dry plates in the front portion thereof and a sliding plate-receiver in the rear, a transverse curtain, *c'*, hanging from the upper wall between the front and rear portions, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

B. F. SPILMAN.

Witnesses:
GEO. BOHON,
J. M. CURD.