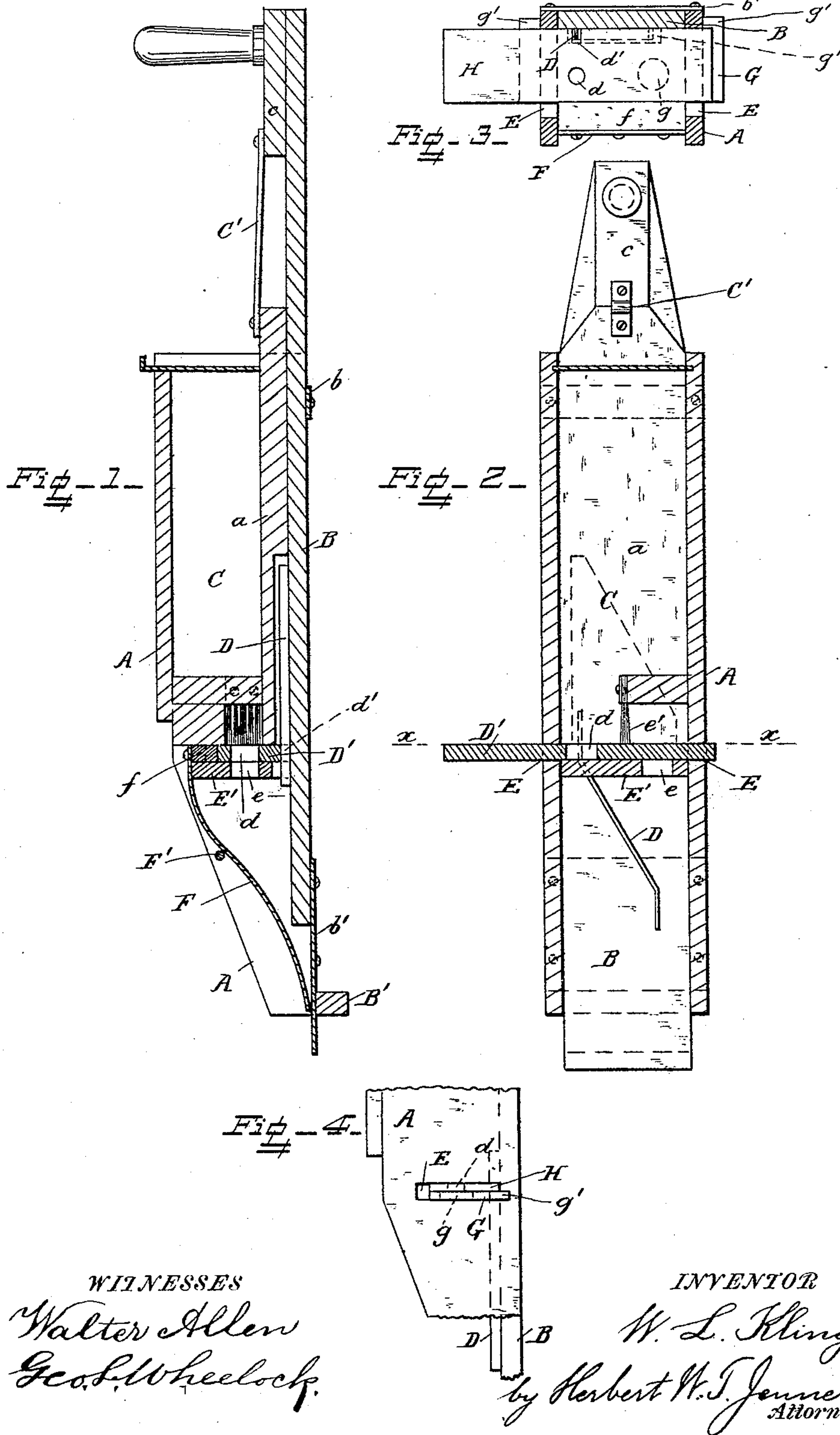


(No Model.)

W. L. KLING.
HAND SEED PLANTER.

No. 435,430.

Patented Sept. 2, 1890.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM L. KLING, OF ST. CLOUD, MINNESOTA.

HAND SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 435,430, dated September 2, 1890.

Application filed March 4, 1890. Serial No. 342,549. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. KLING, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Hand Seed-Planters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to hand seed-planters; and it consists in the novel construction and combination of the parts, hereinafter fully described and claimed.

In the drawings, Figure 1 is a sectional side view of the seed-planter with the plunger raised. Fig. 2 is a sectional front view of the planter with the plunger depressed. Fig. 3 is a cross-section on line $x x$ in Fig. 2, showing the additional slides for small seed, and Fig. 4 is a side view of said slides.

A is the case, provided with the back piece a , and B is the plunger, which slides up and down between the back piece and the guide-plates $b b'$.

B' is the stop which determines the depth of planting.

C is the seed-reservoir, and c is a block on the plunger, which strikes against the top of the back piece a when the plunger reaches its lowest point.

C' is a band of flexible material—such as leather—attached to the back piece and to the block c , for limiting the upward movement of the plunger.

D is an inclined projection on the lower part of the plunger for working the seed-slide.

D' is the seed-slide provided with the hole or pocket d , and with the notch d' engaging with the projection D. This slide projects through the slots E in the sides of the case between the bottom of the seed-reservoir and the plate E', which is provided with the hole e for the seed to drop through. The slide D' is reciprocated back and forth by the plunger, and the seeds contained in the hole d are transferred from the bottom of the reservoir and discharged down hole e at each stroke. A brush e' is provided for wiping off the surplus seeds. The slots E are made wider than

the slide, in order that the said slide may be removed, the width of the slots permitting the slide to be drawn back, so that its notch will clear the inclined projection.

F is a curved spring-plate, the bottom edge of which bears against plate b' when the plunger is raised. The seeds fall to the bottom of this spring-plate, and are planted by the plunger, which presses back the lower end of the spring-plate and pushes them out of the planter-case into the ground. The upper end of the spring-plate F is secured to the bar f , which is inserted between the bottom of the reservoir and plate E' and bears against the front side of the seed-slide, so as to keep its notch d' in engagement with the inclined projection on the plunger.

F' is a rod which is slid through the lower part of the planter-case to hold the spring-plate in place. When the slide is to be changed, the rod F' is slid out and the spring-plate and bar f are removed bodily. This permits the seed-slide to be freed from the inclined projection and slid endwise out of the planter. Another similar slide with a larger or smaller seed-hole may then be substituted for the slide D'.

In order to adapt the device for planting very small seeds, the attachment shown in Figs. 3 and 4 is provided. This consists of a thin plate G and a thin slide H. The plate G is provided with the seed-hole g , the lugs g' , adapted to engage with the sides of the case A, and the long notch G', permitting the free passage of the projection of the plunger. The thin slide H is provided with the seed-hole d and notch d' , the same as the slide D', and the plate G and slide H together are of the same thickness as said slide D'. As the slide H is thin and its seed-hole is of small size, it is adapted to plant very small seeds, which would be planted in too great numbers if the thick slide were used. The thin slide and its plate are removable, and are held in position in exactly the same manner as slide D'.

What I claim is—

1. In a hand seed-planter, the combination, with the case provided with slots in its sides, of the plunger provided with the inclined projection on its face, the seed-slide of less width than said slots and reciprocating there-

in, the spring-plate provided with a bar at its upper end for holding the seed-slide in engagement with the said projection, and the transverse rod for keeping the spring-plate 5 and its bar in position, substantially as and for the purpose set forth.

2. In a hand-planter, the combination, with the case provided with slots in its sides, and the plunger provided with the inclined projection on its face, of the thin plate provided 10 with lugs for engaging with the case-sides, a long notch for clearing the said projection, a thin seed-slide reciprocated above the said thin plate by the said projection, said 15 plate and slide being removable and of less width than the slots in the case, and a removable bar for holding the said plate and slide in their working positions, substantially as set forth.

20 3. In a hand seed-planter, the combination, with a case provided with a back piece, a

seed-reservoir at its upper part, and slots in its sides below said reservoir, of the plunger behind the back piece, the guide-plates behind the plunger, the removable seed-slide reciprocating in said slots in the case, the plate 25 below the seed-slide, the inclined projection on the plunger for reciprocating the seed-slide, the spring-plate provided with a bar at its upper end for retaining the removable 30 seed-slide in gear with the said projection, and the transverse rod for holding the spring-plate in position with its lower edge pressing against the lower guide-plate below the raised plunger, substantially as and for the purpose 35 set forth.

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

WILLIAM L. KLING.

Witnesses:

ROGER J. BELL,
WILL LINDLEY.