W. H. PHILLIPS.

CRANK-STOP.

No. 170,013. Patented Nov. 16, 1875.

Fig. 1.

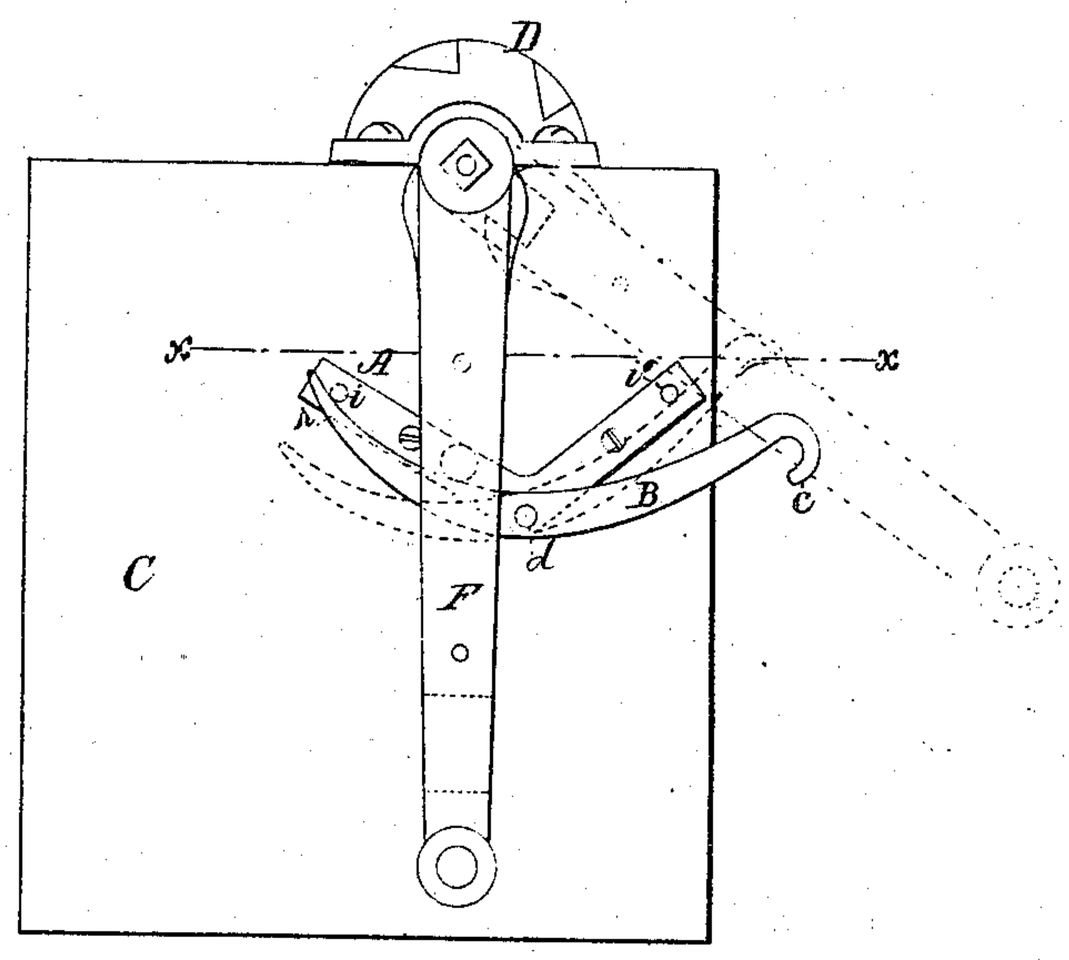


Fig. 2.

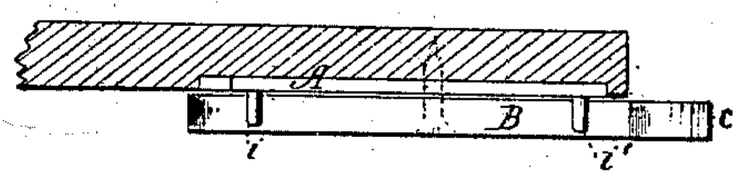


Fig. 3.

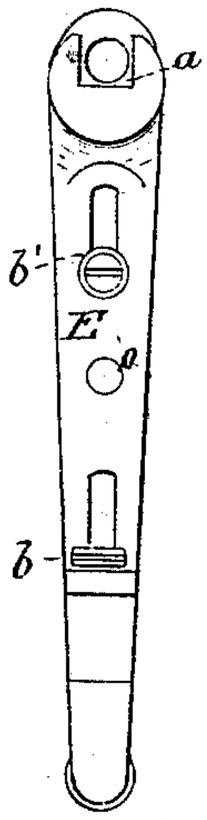
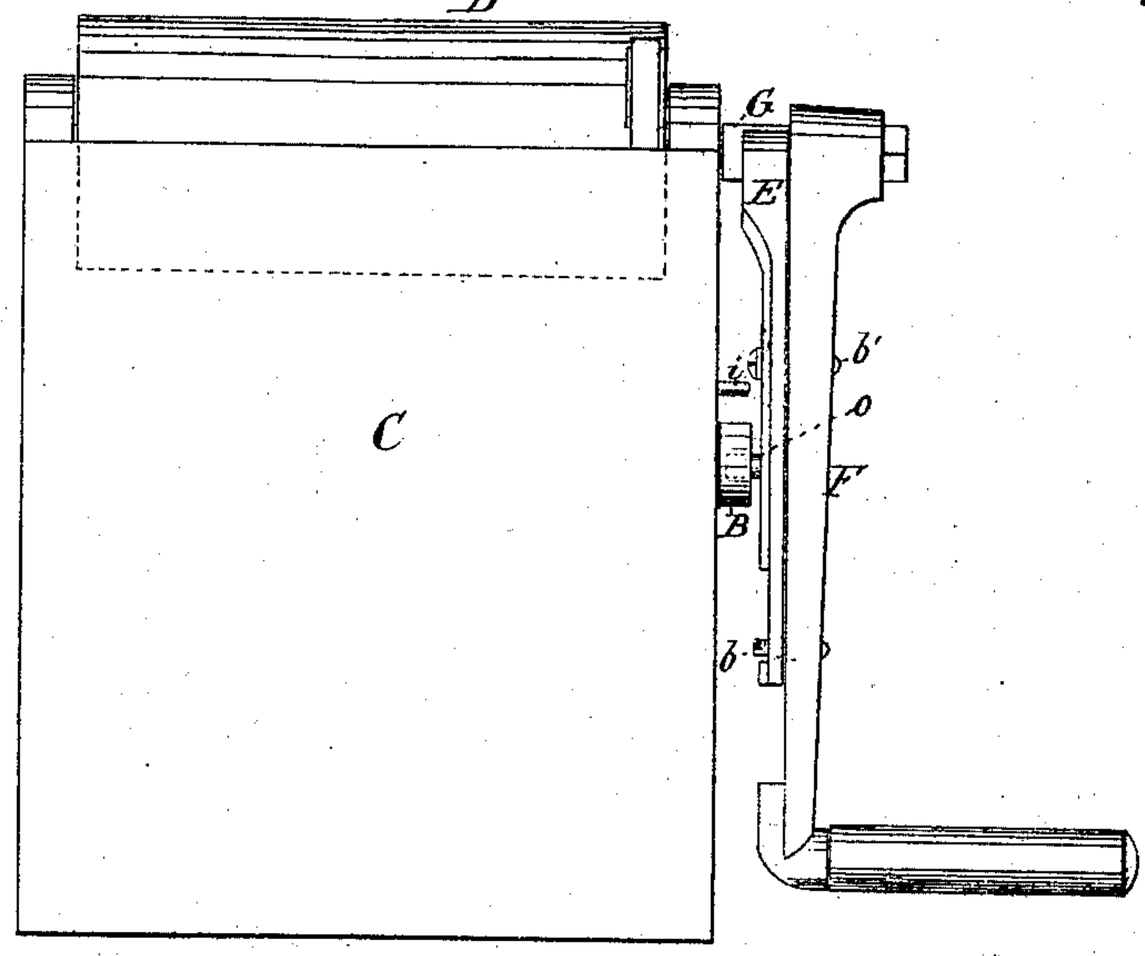


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. PHILLIPS, OF BRIDGETON, NEW JERSEY.

IMPROVEMENT IN CRANK-STOPS.

Specification forming part of Letters Patent No. **170,013,** dated November 16, 1875; application filed May 28, 1875.

To all whom it may concern:

Be it known that I, WILLIAM H. PHILLIPS, of Bridgeton, in the county of Cumberland and State of New Jersey, have invented a new and Improved Crank-Stop, of which the following is a specification:

The cranks of windlass and other shafts have been heretofore disconnected by the backward rotation of said shafts, but the shafts required to rotate several times in order to effect such result.

The object of my invention is to effect the disconnection at the first backward rotation of the shaft, and to this end I provide a pivoted catch, which engages a sliding piece that locks the crank to the shaft, as hereinafter fully described.

In the drawing, Figure 1 is an elevation showing my improved catch applied to a well-curb, in connection with a crank and windlass; Fig. 2, a side elevation of the same; Fig. 3, a view of the inner side of the crank; Fig. 4, a section of Fig. 1 on line *x x*, showing the catch in plan.

In the drawing, C is the curb, D the windlass, F the crank, B the catch, and E a shaft-locking slide attached to the crank.

The windlass-shaft has a square or polygonal portion, G, contiguous to the cylindrical portion on which the crank F is mounted loose. The crank is locked to the shaft by means of the sliding piece E, having a square notch, *a*, in its upper end, to receive the corresponding portion G of the windlass-shaft, and is provided with a projecting stud, *o*, the function of which is hereinafter set forth. Said piece E is attached to the inner side of the crank-arm by means of screws *b b'*, which pass through slots in said piece, as shown. When the windlass is to be rotated, the slide E is moved up to engage or lock the crank with the shaft, as shown in Figs. 1 and 2, and the screws *b* turned to clamp it by slight pressure.

The catch B is a curved bar, having a hook, *c*, at one end, and pivoted near its middle to the angle of an elbow-shaped piece, A, inserted in a recess or groove in the side of the curb. Studs *i i'* are fixed in the respective ends of piece A.

The hooked end *c* of catch B overbalances the other, *r*, and stud *i* acts as a stop, preventing the catch turning too far on its pivot—that is to say, maintaining it in the position necessary to its operation, as shown in full lines, Fig. 1.

The function of stud *i'* is to arrest the upward movement of the other or hooked end of catch B, when engaged or locked with the pin *o* of sliding piece E of the crank, as shown in dotted lines, Fig. 1.

The operation is as follows: The crank having been locked to the shaft by adjusting-piece E in the manner above described, the windlass may be rotated in the usual way. In such case, when the crank reaches the vertical position shown in full lines, Fig. 2—that is to say, when stud *o* of locking-slide E has passed the pivotal point of catch B, it comes in contact with the upwardly-curved end *r* of catch B, and necessarily depresses it, as shown in dotted lines, Fig. 1, and full lines, Fig. 2. Such depression (which is in effect tilting the catch on its pivot *d*) allows the stud to pass over the upturned end of the catch B, and the rotation of the crank to be continued indefinitely. But in case the windlass rotates backward, either through accident or design, the crank rotating with it, the stud *o* of lock-piece E will pass beneath instead of above the upturned end *r* of catch B, and ride along its convex side.

The stud *i* prevents the upward movement of said upturned end of catch B, and the effect is that the momentum of the crank overcomes the slight friction due to the pressure of clamp-screw *b* on slide E, and causes the latter to move downward on the crank, thus disconnecting it from the squared portion G of the windlass-shaft, and allowing the windlass to continue its rotation unobstructed. But the crank is arrested by the hook *c* catching over stud *o*, as shown in Fig. 1, and danger of accident or injury from its complete rotation thereby obviated.

What I claim is—

The combination, with windlass-shaft, having contiguous squared and cylindrical portions, of the crank F, slotted sliding locking piece E, having stud *o*, and the pivoted hooked catch B, and fixed studs *i i'*, all constructed and arranged as shown and described, to operate as specified.

WM. H. PHILLIPS.

Witnesses:

DANIEL SHARP,

EDWARD WHITE.