

No. 618,487.

Patented Jan. 31, 1899.

H. G. VOIGHT.

PADLOCK.

(Application filed Aug. 1, 1898.)

(No Model.)

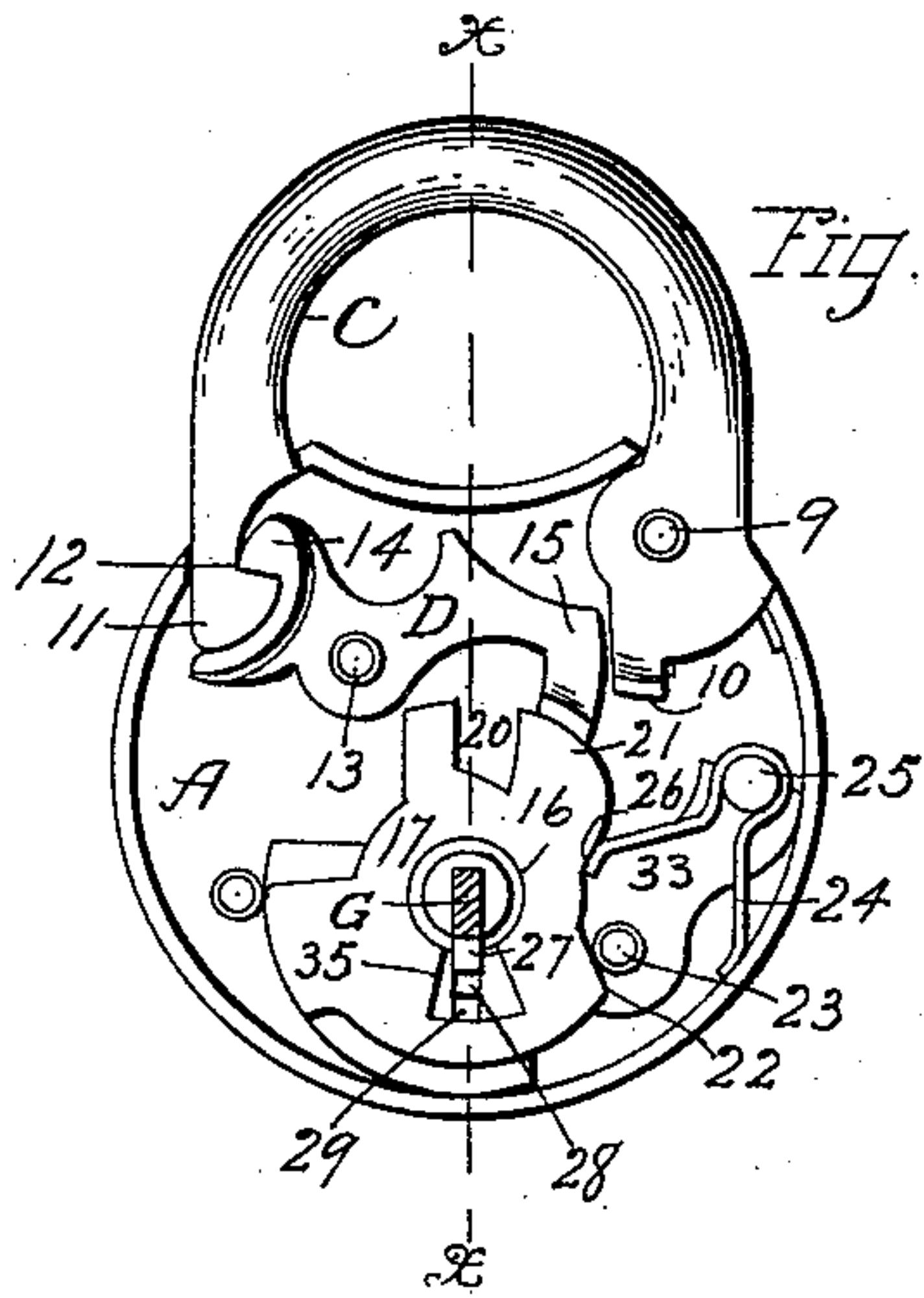


Fig. 1.

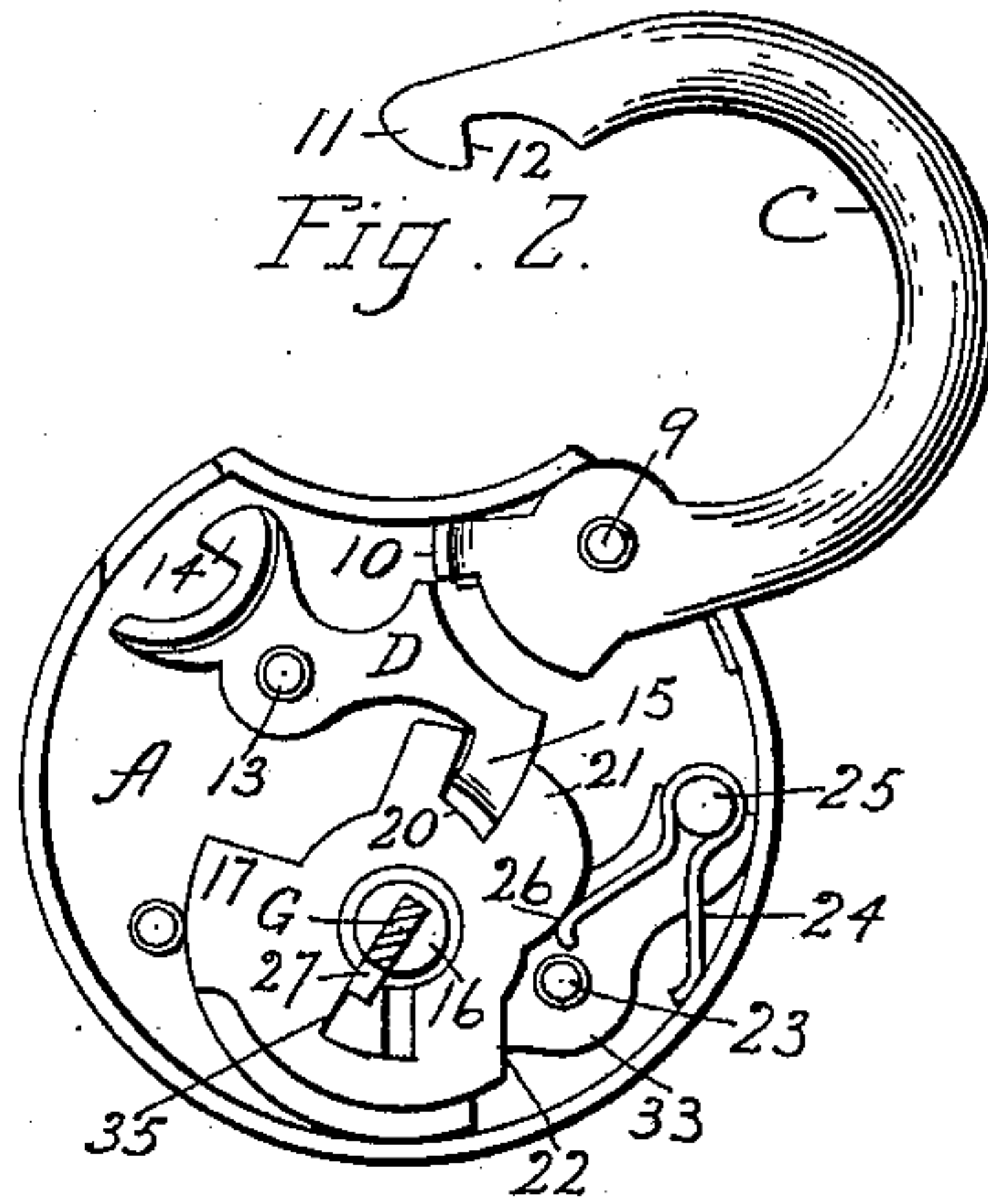


Fig. 2.

Fig. 3.

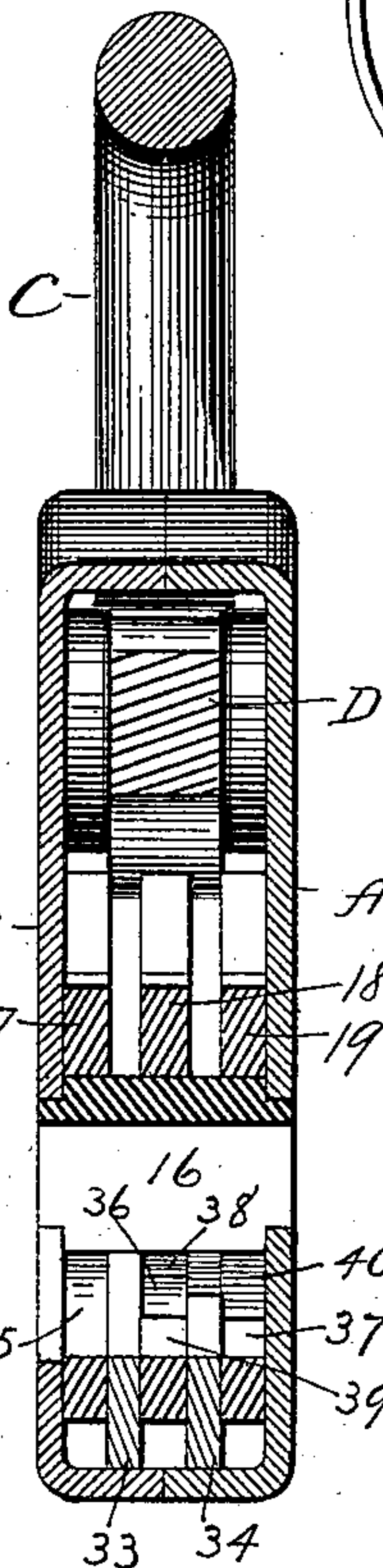


Fig. 4.

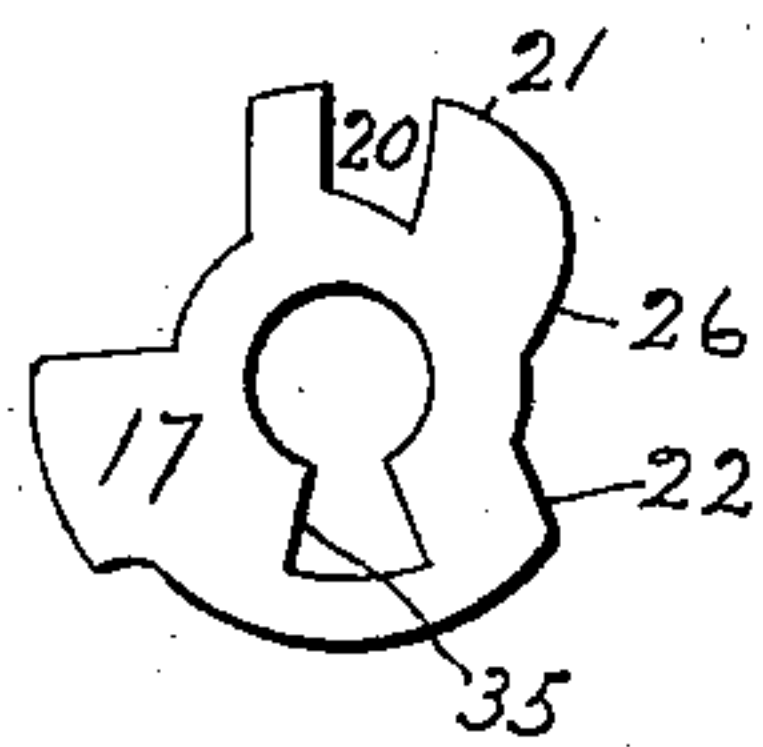


Fig. 5.

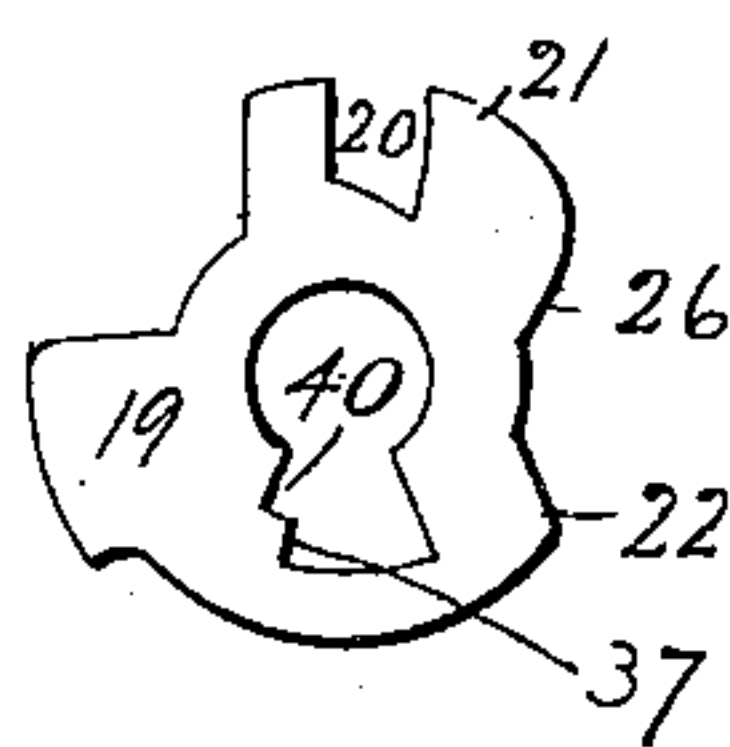


Fig. 6.

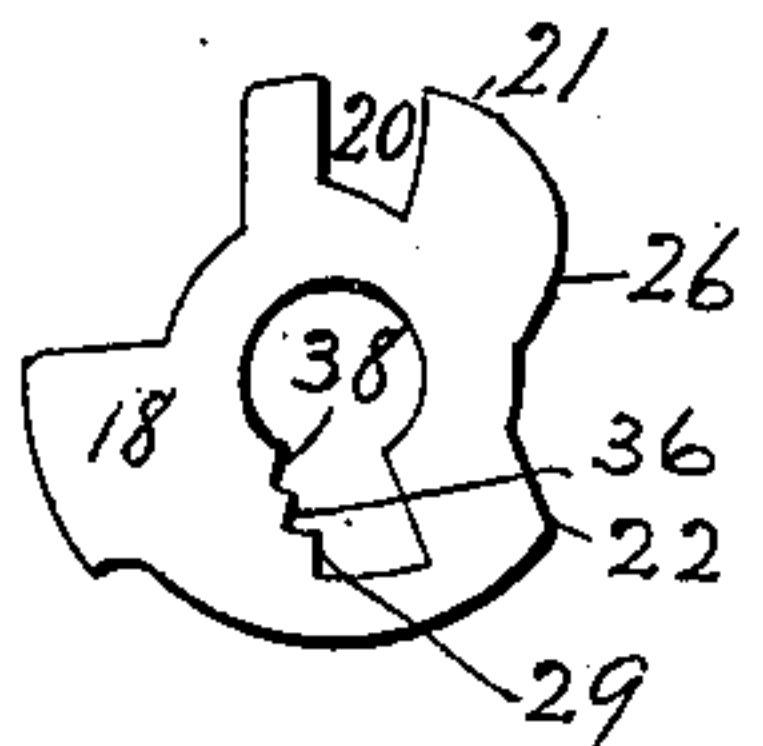


Fig. 7.

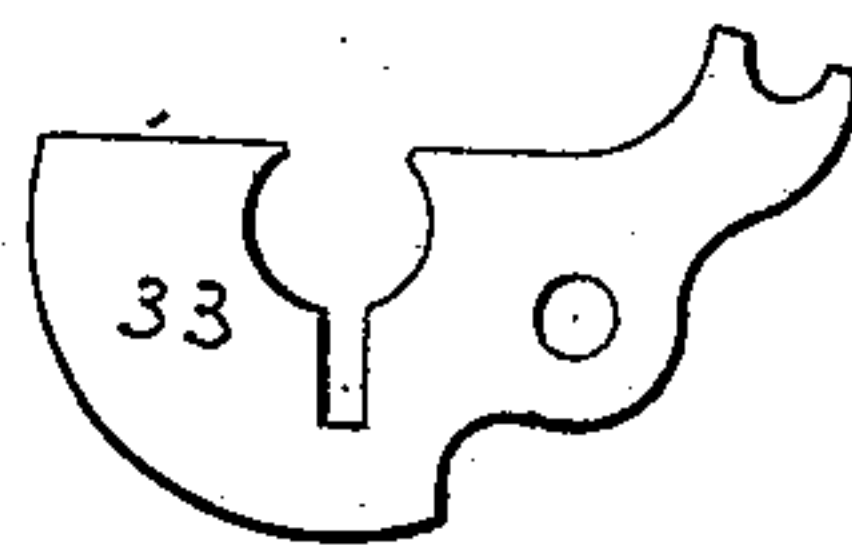


Fig. 8.

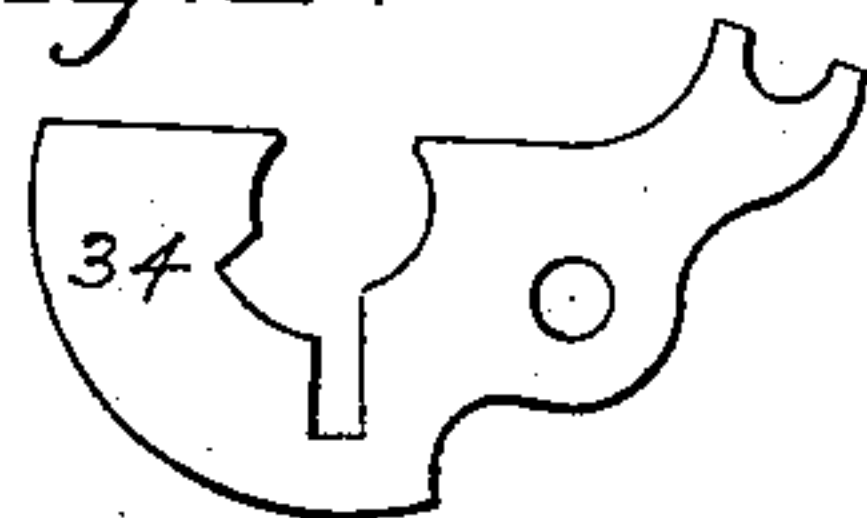
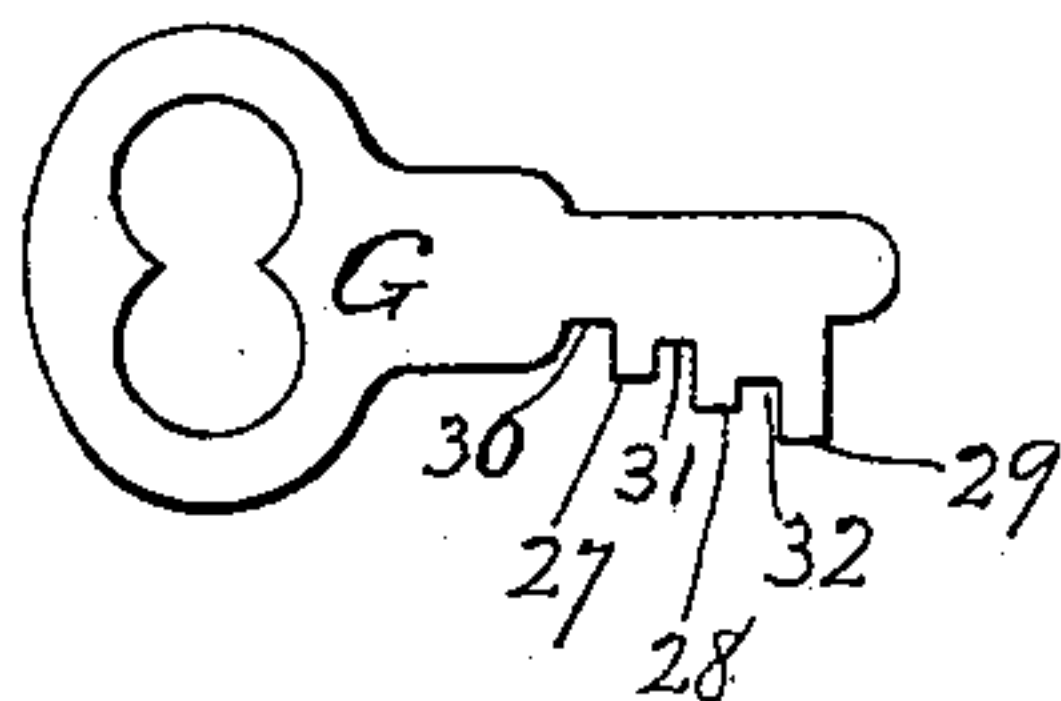


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

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PADLOCK.

SPECIFICATION forming part of Letters Patent No. 618,487, dated January 31, 1899.

Application filed August 1, 1898. Serial No. 687,397. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Padlocks, of which the following is a specification.

My invention relates to improvements in padlocks; and the objects of my improvement are simplicity and economy in construction and efficiency in use, particularly with reference to giving the tumblers a quick motion relatively to the movement of the key.

In the accompanying drawings, Figure 1 is a front elevation of my padlock, together with a transverse section of the key, the front portion of the case being removed and the shackle locked. Fig. 2 is a like view of the same with the shackle unlocked. Fig. 3 is an enlarged sectional view of my padlock on the line $x-x$ of Fig. 1. Figs. 4, 5, and 6 are detached views of the several tumblers. Figs. 7 and 8 are detached views of the two ward-plates, and Fig. 9 is a side view of the key.

A designates the rear portion of the case, B the front portion, and C the shackle. The shackle is pivoted at 9 to the case and is forced open by an ordinary spring. (Not shown.) The heel of the shackle is provided with a wing 10 for coaction with the swinging dog D. The other end of the shackle C is provided with a beveled nose 11 and locking-shoulder 12. The swinging dog D is pivoted at 13 and is provided with a shouldered head 14 for engaging the locking-shoulder and beveled nose of the shackle, while its opposite end is provided with an arm 15 for engagement with the tumblers.

The case is provided with an ordinary slotted hub 16, upon which the tumblers 17, 18, and 19 are mounted. Each of the said tumblers is provided with a slot 20 to receive the arm 15 of the dog D, and also with a concentric edge 21 by the side of said slot for holding the dog in engagement with the shackle when the said arm is withdrawn from the slots in the tumblers. Said tumblers are also provided with stop-shoulders 22 for acting upon the pin or post 23 and limiting the move-

ment of said tumblers in one direction. Said tumblers when free are held with their stop-shoulders against the post 23 by means of springs 24, placed on the stud 25, with one arm pressing against a face 26 on the tumblers and the other arm pressing against the case. Leading from the central hole in each tumbler there is a radial slot having on one side a face for the key to act upon, while some of the tumblers may have false faces adjacent to said active face. The key G is a flat key, and instead of acting on the tumblers by its edge the flat side of the key engages the tumblers to drive them. As shown, the key is divided into three wings 27, 28, and 29, with three notches 30, 31, and 32 between said wings. The notch 30 is to permit the key to pass the front part B of the case, the notch 31 is to pass the ward-plate 33, and the notch 32 is to pass the ward-plate 34. The flat side of the key-wing 27 is for acting on the face 35 of the tumbler 17, the wing 28 for the active face 36 of the tumbler 18, which has two false faces 38 and 39, and the wing 29 for the acting face 37 of the tumbler 19, which has one false face 40. The ward-plates lie between the tumblers and are held in place partly by the post 23 and partly by the stud 25.

With the parts in the position shown in Fig. 1 the lower end of the arm 15 rests upon the concentric portion 21 of the tumblers and prevents the dog from being moved in a direction to release the shackle. Turning the key G in a right-hand direction brings the flat side of the several wings 27, 28, and 29 against the active faces 35, 36, and 37 of the respective tumblers and brings all of the slots 20 immediately under the arm 15 of the dog D, so that said dog may swing on its pivot 13 and release the shackle C, all as shown in Fig. 2. By a comparison of the position of the key in Fig. 1 with its position in Fig. 2 it will be seen that the key has been moved but a short distance, not more than one-eighth of a revolution, in the act of setting the tumblers. This makes the lock very sensitive, because the periphery of the tumblers adjacent to their slot 20, by being on a greater radius than the key and moving the same fraction of a

revolution, moves a much greater distance than does the bit of the key. In case an attempt is made to use any but the proper key and said key should pass the wards and engage either one of the false faces of the tumblers the tumblers will not be properly set.

It is apparent that some changes from the specific construction herein disclosed may be made, and therefore I do not wish to be understood as limiting myself to the precise form of construction shown and described, but desire the liberty to make such changes in working my invention as may fairly come within the spirit and scope of the same; but I am aware that prior patents show padlocks having in combination a pivoted shackle, tumblers, and dog, locking the shackle at the nose only, and that a prior German patent shows a padlock having similar parts in combination with the dog locking the shackle by its heel only, the tumblers in each of said prior patents being acted upon by the edge of an eccentric key moving differently from the tumblers, so as to necessarily slip thereon, in contradistinction to tumblers acted upon only by the flat side of a concentric key and mov-

ing therewith. All of said prior art is hereby disclaimed.

I claim as my invention—

The combination of the pivoted shackle C having the locking-shoulder 12 on its nose 11, and the wing 10, on its heel; with the dog D pivoted between its ends as at 13, provided at one end with a shouldered head 14 for engaging the locking-shoulder 12 on the nose of the said shackle, and at its other end with the arm 15 for the double purpose of engaging the tumblers and being engaged by the wing 10 on the heel of said shackle, a slotted key-hub, and the tumblers mounted concentrically on the axis of said key-hub, each tumbler having the peripheral slot 20, adjacent portion 21 concentric to said key-hub, and the radial slot with an active face for being engaged by the flat side of the key and to move with the key when so engaged, substantially as described.

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