

A. HANSEN.
VALVE.

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Fig. 4.

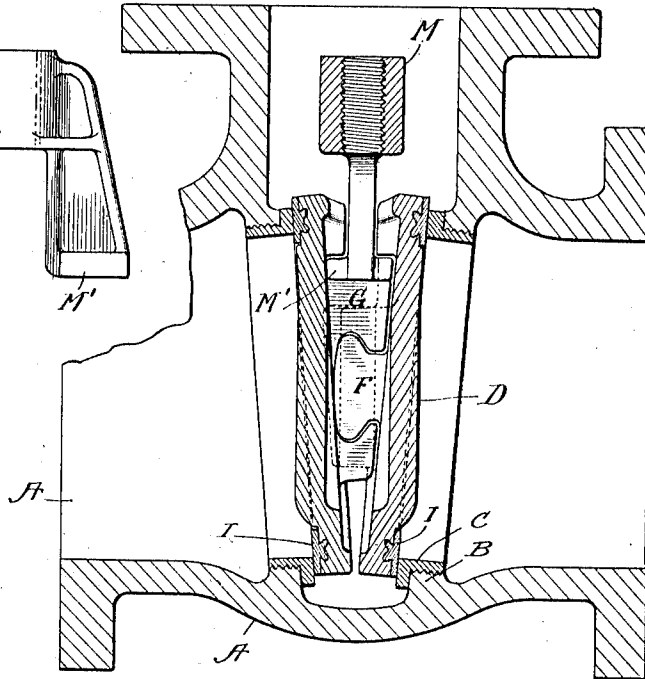
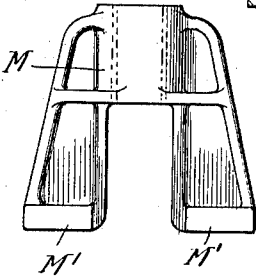


Fig. 1.

Fig. 2.

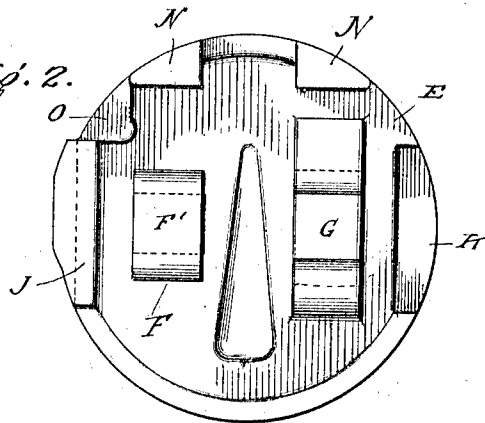


Fig. 5.

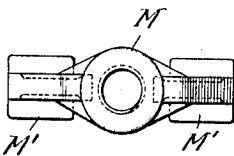
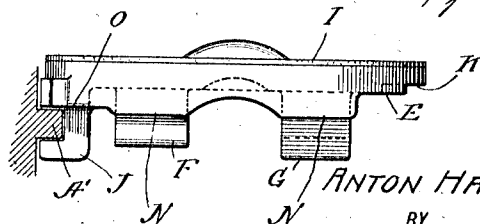


Fig. 3.



WITNESSES:

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VALVE.

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To all whom it may concern:

Be it known that I, ANTON HANSEN, a citizen of the United States, residing at Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Improvement in Valves, of which the following is a specification.

This invention relates to valves and particularly to gate valves and the valve disks therefor. It has for its primary objects: the provision in a valve of the character specified, of improved interlocking disks of simple and inexpensive construction which may be readily assembled and taken apart and which when placed in locked operative position, will remain in said position when removed from the valve casing; the provision of a simple arrangement of interlocking means for the disks whereby disks, which are duplicates may be utilized; the provision of improved means for guiding the disks during movement in the valve casing; and the provision of a simple and secure locking means in a valve of the character described wherein provision is made for accurate seating of the disks. These together with such objects as may hereinafter appear or are incidental to my invention I attain by means of a construction illustrated in preferred form in the accompanying drawings, wherein—

Figure 1 is a vertical section through my improved valve; Figure 2 is a plan view of one of the disks through which the valve proper is formed; Figure 3 is a top view of one of the disks showing the guide lug of the casing arranged within the guide member of the disk; Fig. 4 is a side elevation of a disk nut; and Figure 5 is a plan view of the same.

Referring to the drawing, it will be seen that I employ a valve casing A of usual form which has an inlet and outlet port and a pair of annular shoulder portions B threaded to receive the seat bushings C which are preferably composed of a soft metal. The valve D is inserted in the casing through the usual opening in the upper portion thereof and is composed of two valve disks E which interlock and embrace the disk nut M. The disks E are duplicates, each disk comprising a substantially flat body portion having an outwardly projecting T-head lug F and a rib G which is recessed to receive the T-head lug. The corners and the surface F' of the T-heads are

rounded to provide a slight relative rocking motion between the disks in order that the disks may take proper seat on the bushings C. From the foregoing it will be seen that the disks are interlocked by relative cross-wise movement, and that when so interlocked, they are held against movement apart on the line of their axis, though there is a small amount of relative rocking movement as above described.

The disk nut M is provided with two feet, M', having flanged bottoms and is held in position between the disks by means of the lugs N—N and O—O which engage the flange portions of the feet and by the ribs G which abut the bottom of the flanges. This arrangement of parts prevents relative lateral and vertical movement between the disks and the disk nut when the disks are locked together. The disks are guided in the opening and closing movement of the valve by means of hook members J which engage ribs A' cast on the valve casing A. One such hook, J, is provided adjacent an edge of a disk and it will be apparent when two disks are locked with faces toward each other that there will be a hook on each side of the assembled valve engaging a rib A' thereby insuring proper guidance of the valve when it is moved. The outer face of each disk is provided with an annular insert I preferably composed of soft metal which contacts with the seat bushings C. A recess K is provided on each disk which is adapted to receive the hook member J of the other disk of the valve and permit the proper assembling of the disks.

It will be apparent that a suitable valve stem for operating the valve is threaded into the disk nut M.

By the above described arrangement of parts it will be seen that the disks may be readily assembled and locked together in operative position and that when so locked, they will remain in operative position even after being removed from the casing. The locking means is simple and dispenses with the provision of any third members, and are of such a character that the disks may be exact duplicates of each other; that is, made from the same pattern, thus greatly reducing the cost of manufacture and the labor in assembling. At the same time, provision is made for guiding the disks, for securing proper seating of the disks and for securing the disk nut in the valve. Other advan-

tages will occur to those familiar with the art. It will be apparent that if desired, the T-head lugs may be provided on one disk and the recessed ribs on the other disk.

5 Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. In a device of the character described,
10 a pair of disks provided with interlocking members interfitting relatively loosely to permit a relative rocking movement and adapted to lock the disks against movement apart on the line of their axis, said members being
15 adapted to lock and be unlocked by relative movement transverse the axis of the disks.

2. In a device of the character described, a pair of disks provided with fixed locking members formed so as to permit of a relative
20 rocking movement of the disks and adapted to lock the disks against movement apart on the line of their axis, the said members being locked on relative movement between the disks transverse their axis.

3. In a device of the character described, a pair of disks provided with locking members comprising a T-head member, and a member recessed to receive the T-head, the
25 said members locking the disks against movement apart on the line of their axis and being locked and unlocked by relative movement of the disks transverse the line of their axis.

4. In a device of the character described,
35 a pair of disks provided with locking members comprising a pair of T-head members, and a pair of members recessed to receive one of the T-head members, the said members locking the disks against movement
40 apart on the line of their axis and being locked and unlocked by relative movement of the disks transverse the line of their axis.

5. In a device of the character described, a pair of disks provided with locking members comprising a pair of T-head members,
45 and a pair of members recessed to receive

one of the T-head members, the said members locking the disks against movement apart on the line of their axis and being locked and unlocked by relative movement
50 of the disks transverse the line of their axis, and the said T-head members having their outer surfaces slightly rounded to permit of relative rocking motion between the disks.

6. In a gate valve, the combination of a
55 casing, a valve seat therein, a pair of interlocking disks which are duplicates of each other and a movable element adapted to seat the disks against the valve seat.

7. In a gate valve, the combination of a
60 casing, a valve seat therein, a pair of interlocking disks which are duplicates of each other and a movable element adapted to seat the disks against the valve seat, the said disks locking against movement apart on
65 the line of their axis.

8. In a gate valve, the combination of a casing, a valve seat therein, a pair of interlocking disks which are duplicates of each other and a movable element adapted
70 to seat the disks against the valve seat, the said disks locking against movement apart on the line of their axis, and being locked and unlocked by relative movement transverse the line of their axis.

9. In a valve of the character described, the combination of a valve casing provided with a valve seat, a pair of disks provided with interlocking members adapted to lock
80 the disks against movement apart on the line of their axis, and a movable element adapted to carry the disks when they are interlocked and seat them on the valve seat, the said disks being locked and unlocked by relative movement of the disks transverse
85 their axis, the connection being such as to permit of a slight rocking movement between the disks.

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Witnesses:

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