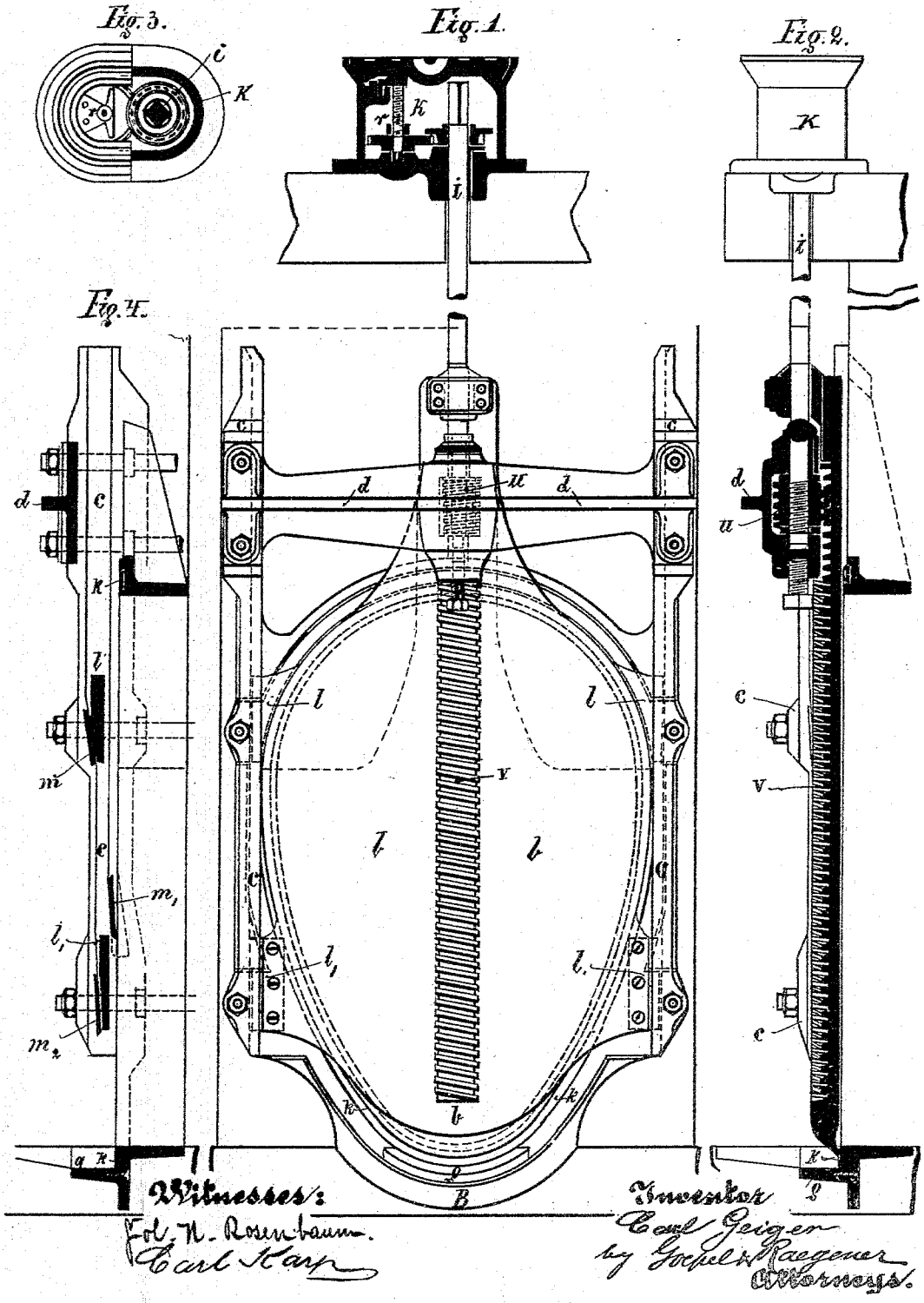
(No Model.) 2 Sheets—Sheet 1.

C. GEIGER.

SEWER GATE.

No. 356,758. Patented Feb. 1, 1887.



N. PETERS, Photo-Lithographer, Washington, D. C.

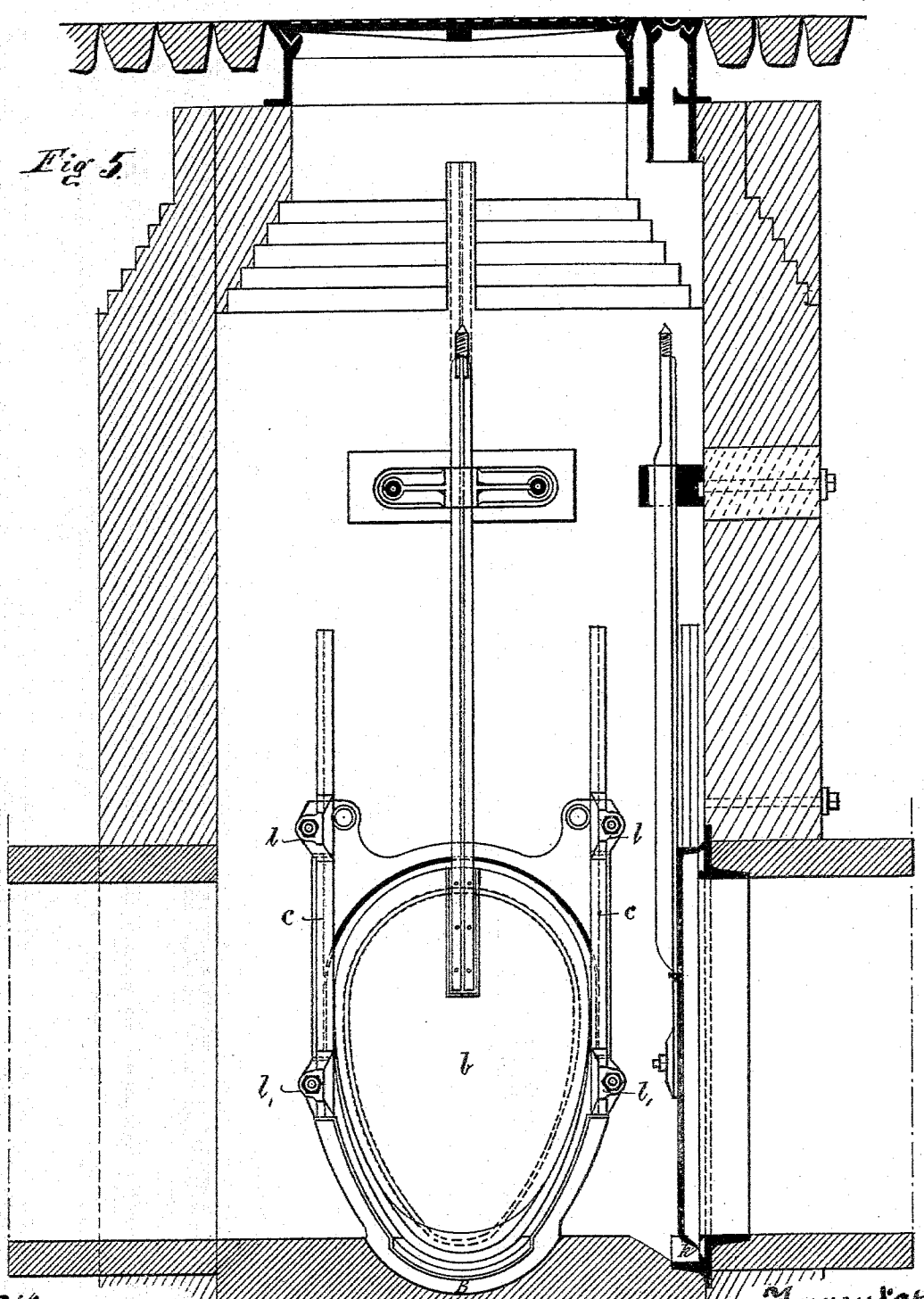
(No Model.) 2 Sheets—Sheet 2.

C. GEIGER.

SEWER GATE.

No. 356,758. Patented Feb. 1, 1887.

Fig 5.



Witnesses:
F. L. N. Rosenbaum.
Carl Kapp

Inventor:
Carl Geiger
by Goepel & Wagener
Attorneys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

CARL GEIGER, OF CARLSRUHE, BADEN, GERMANY.

SEWER-GATE.

SPECIFICATION forming part of Letters Patent No. 356,758, dated February 1, 1887.

Application filed January 11, 1886. Serial No. 188,187. (No model.) Patented in Austria-Hungary May 13, 1885; in Italy May 19, 1885, No. 18,410; in Belgium May 30, 1885, No. 69,071, and in France June 8, 1885, No. 169,420.

To all whom it may concern:

Be it known that I, CARL GEIGER, of Carlsruhe, in the Grand Duchy of Baden and Empire of Germany, have invented certain new and useful Improvements in Sewer-Gates, of which the following is a specification.

The main defects of the sewer-gates used heretofore are that they do not close tightly, and thereby the water is drained off from the mud, sediment, &c., at the gate, thus necessitating the removal of said deposits of sediment, mud, &c., quite frequently.

The object of my invention is to provide a new and improved sewer-gate which is devoid of those defects, closes tightly, permits no water to pass and drain off from the sediment, and which gate is simple in construction and effective in use, and not apt to get out of order.

In the accompanying drawings, Figure 1 is a face view of my improved sewer-gate, the parts for actuating the gate being shown in section. Fig. 2 is a cross-sectional view of the gate, the same being closed. Fig. 3 is a top view of the casing in which the mechanism for shifting the gate is located, parts being broken out and others in section. Fig. 4 is a side view of one of the gates, the seat for the gate and parts of the guides for the same being in section. Fig. 5 is a face view of my improved gate, showing a modified construction of said gate, also showing one of said guides in cross-section.

Similar letters of reference indicate corresponding parts.

The gate B is made in any well-known manner, and is provided with side lugs, *l* and *l'*, which are mounted to slide in the vertically-grooved guides *c*, which are united at their upper ends by a cross-piece, *d*, and at their lower ends by a curved cross-piece, B', thus forming a tight and rigid frame, the piece B' being shaped the same as the bottom edge of the sliding gate B, so as to form a seat against which said gate can fit snugly. The cross-piece B' is also provided with an outwardly-projecting flange, *g*. The lugs *l* and *l'* are slightly beveled, as is shown in Fig. 4, and adjacent to said lugs the guide-pieces *m m' m²* are provided. The guide-pieces *m* and *m²* face the beveled sides of the lugs *l* and *l'*, and the beveled side of the guide-piece *m'* faces the straight face of the lug *l'*.

When the gate is moved downward, the bevels of the lugs *l* and *l'* work on the bevels of the guide-pieces *m* and *m²*, respectively, whereby the lower part of the gate is pressed snugly and firmly against the cross-piece forming the seat.

The cross-piece B' and the seat-frame of the same and the lower parts of the gate should be made of brass or any other suitable metal that is not attacked or destroyed by the liquids in the sewers. The lug *l'* serves to move the gate outward while the same is being raised, so as to avoid undue friction.

The gate is provided at its lower end with a strong cutting-edge, *k*, which is beveled toward the seat formed on the cross-piece B', as shown in Fig. 2, so that when the gate is lowered the beveled part of the cutting-edge can strike obstructions and move them to one side or the other or sever them, so as not to interfere with closing the gate completely. The flange *g*, previously mentioned, is below said cutting-edge. From the top of the flange *g* a slight incline extends to the bottom of the sewer. As soon as the gate begins to rise the bottom lugs, *l'*, strike the beveled sides of the guide-pieces *m'*, whereby the edges of the gate are slightly moved from the seat, thus preventing the edges or sides that form the tight joint from sliding on each other.

An ordinary worm or screw mechanism is used for shifting the gate. The worm or screw *u* is journaled in the cross-piece *d* and engages with a rack, *v*, formed or secured on the sliding gate. The worm *u* is screwed or otherwise secured on the shaft *i*, which projects upward, and has its upper end squared for receiving a key, by means of which the shaft can be turned, said squared end being located in a casing, K, embedded in the pavement in the usual manner, so that the position of the gate can readily be determined. An indicating apparatus is provided in the casing K, and consists of the screw *r*, mounted in the casing and driven from the shaft *i* by means of two cog-wheels. A pointer is screwed on the screw *r*, and as the screw *r* is revolved the pointer is moved upward or downward, and this indi-

cates or shows the relative position of the gate. The worm wheel or screw *u* is contained in a suitable casing of the cross-piece *d*, for the purpose of preventing the worm being clogged up by dirt or sediment or other deposits which are likely to occur within the sewer.

Smaller gates—such, for example, as shown in Fig. 5—can be operated directly by hand without the interposition of the screw device. The gates are provided with upwardly-projecting rods, with which chains, levers, or other devices for lifting the gates can be connected.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a sewer-gate, the combination, with the two grooved guides and a gate sliding between them, of cross-pieces uniting the guides at the top and bottom, a flange on the bottom of the cross-piece, and a beveled cutting-edge at the bottom part of the gate, substantially as set forth.

2. In a sewer-gate, the combination, with the guides *c c*, having beveled guide-pieces *m' m²*, of a gate mounted to slide between grooved guides and provided with beveled lugs *l l'*, substantially as shown and described.

3. The combination, with grooved upright guides having the beveled guide-pieces *m m' m²*, the guide-pieces *m m²* being at the same side, the guide *c* and the guide-piece *m'* at the opposite side, of a gate mounted to slide between the guides *c* and having the beveled lugs *l l'*, the bevels of the lugs *l l'* facing the bevels of the guide-pieces *m m²*, and the bevel of the guide-piece *m'* facing the straight side of the lug *l'*, substantially as set forth.

4. The combination, with a vertically-guided sewer-gate, of a screw for moving the same and a screw-indicator operated by the shaft for moving the gate, substantially as set forth.

5. The combination, with a vertically-guided sewer-gate, of a screw for operating the same, a shaft for turning the screw, an indicator mounted on the screw adjacent to the upper part of the shaft, and a gearing for operating said indicator-screw from the shaft, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CARL GEIGER.

Witnesses:

JOHANN STIEFVATER,

HEINRICH NAGEL.