

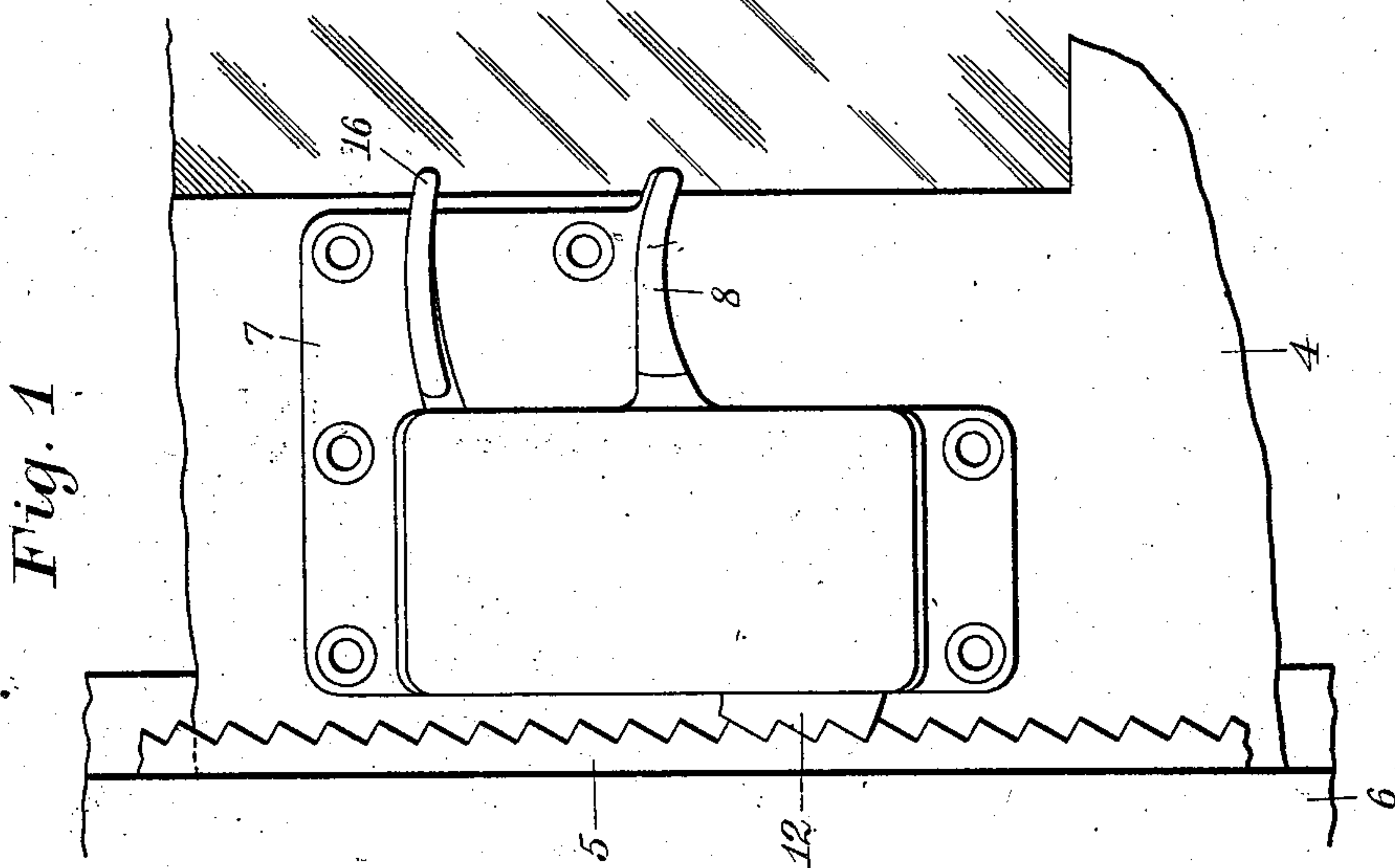
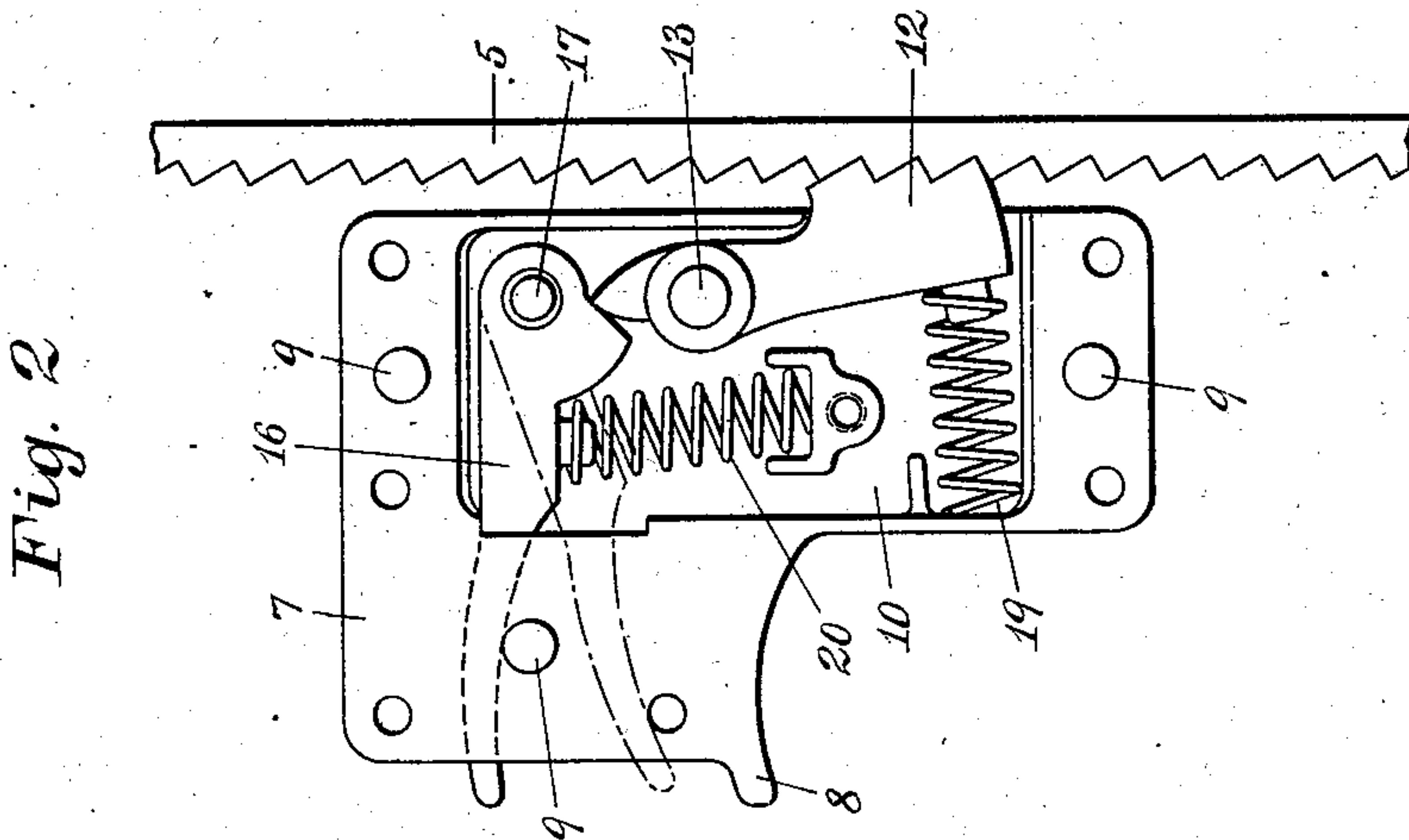
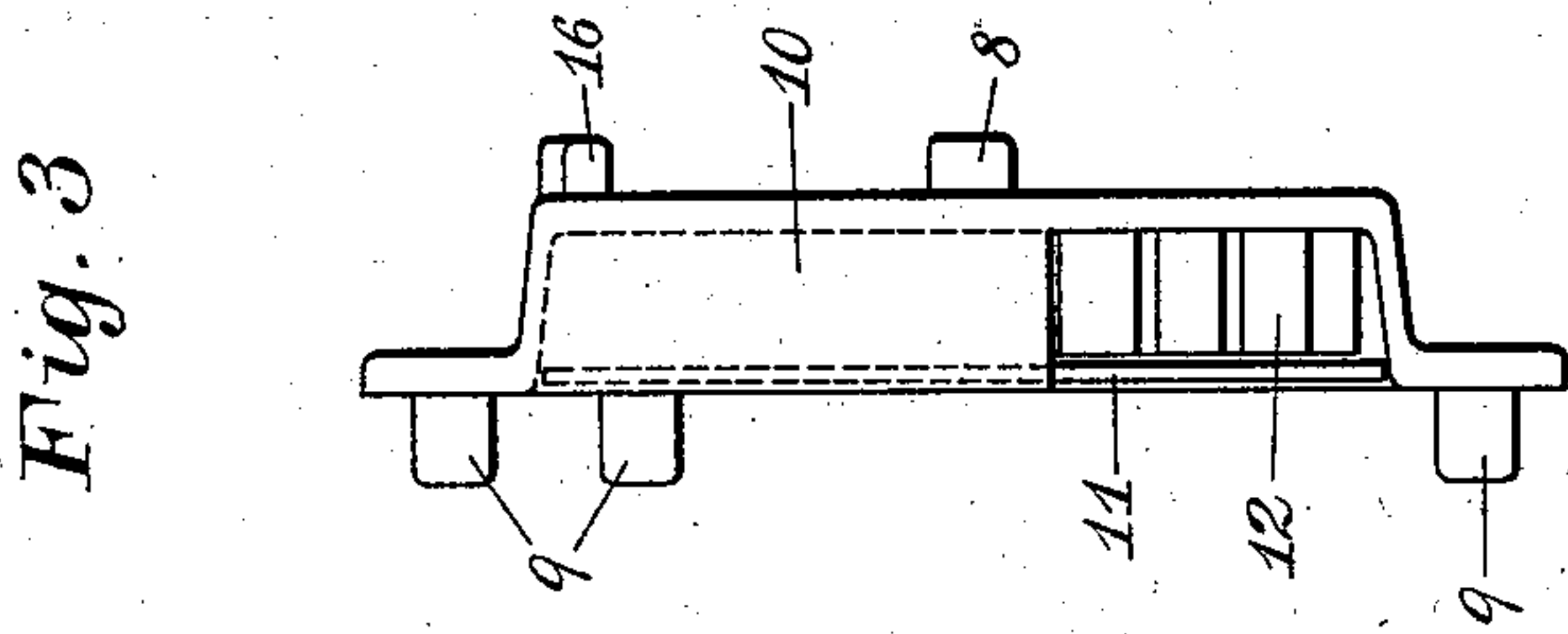
No. 724,701.

PATENTED APR. 7, 1903.

C. P. HOWARD.
SASH LIFT.

APPLICATION FILED JAN. 21, 1903.

NO MODEL.



Witnesses:

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Inventor

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By W. H. Honiss, Atty.

UNITED STATES PATENT OFFICE.

CHARLES P. HOWARD, OF HARTFORD, CONNECTICUT.

SASH-LIFT.

SPECIFICATION forming part of Letters Patent No. 724,701, dated April 7, 1903.

Application filed January 21, 1903. Serial No. 139,926. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. HOWARD, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Sash-Lifters, of which the following is a full, clear, and exact specification.

This invention relates to improved devices for supporting window-sashes at different heights for enabling the sashes to be raised and lowered with ease and to remain securely latched in the position in which they are left.

The invention is particularly adapted for the windows of railway-coaches in which the constant jarring is liable to effect the security of all devices of this class and in which also it is desirable to have the greatest certainty of fastening, combined with greatest ease and simplicity of operation, in order to enable it to be comprehended and operated by unskilful persons.

Figure 1 of the drawings is a front view of one of the sash-holders applied in position. Fig. 2 is a rearward view of the parts shown in Fig. 1 with the cover-plate of the lock removed to show the interior mechanism. Fig. 3 is an edge view of the catch portion of the device looking from the left-hand side of Fig. 1.

The rack 5 is secured by screws or in any other convenient way upon the window-casing 6, while the catch-frame 7 is secured by screws or in any convenient or desired way to the window-sash 4, the frame being preferably provided with dowel-like projections 9 to seat the catch-frame more firmly in place. The catch-frame is provided with a projecting lifting-piece 8, suitable for receiving two or more fingers of the operator in raising the sash. The interior catch mechanism is contained in the box-like interior 10 of the frame 7 and is covered and held in place by means of a plate 11 or in any other convenient way familiar to locksmiths. The downwardly-extending pawl 12 is pivotally mounted at 13 in the frame and is provided with teeth upon its side, preferably two or three in number, which match the teeth of the rack 5 when the pawl is in engagement therewith, as shown in Figs. 1 and 2. The upper faces of the rack-teeth and the corresponding end faces of the

pawl-teeth are approximately perpendicular to a line drawn from those teeth to the pivot-axis of the pawl 12, so as to avoid any tendency for the pawl to slip off the rack by the weight of the sash, while still enabling the pawl to be readily retracted from the rack when desired.

The thumb-lever 16 is pivotally mounted at 17 upon the frame 7 and engages with the upper end of the pawl 12 in a direction to withdraw the pawl from the rack-teeth by the downward movement of the thumb-lever toward the lifting-piece 8, these parts being so placed that while the sash is being lifted by the fingers applied under the lifting-piece 8 the thumb of the operator may be applied directly upon the thumb-lever 16. Thus the operator may control the lifting of the sash solely by means of his fingers while operating the latch independently of the lifting motion by means of his thumb. This is particularly desirable where one of these latches is employed on each side of the window, as is usually the case, thus requiring both hands of the operator to raise or lower and fasten the sash.

Spring-pressure devices are employed for pressing the pawl 12 outwardly toward the rack and for lifting the thumb-piece upwardly, and these pressure devices are preferably in the form of two independent springs 19 and 20, which are supported in suitable seats or pockets in the catch-frame and bear against the pawl 12 and the thumb-lever 16, respectively. Thus the strength and expansibility of each spring may be exactly adapted to the requirements of the parts which they respectively operate, and the employment of two independent springs lessens the danger of disabling the lock by the breakage of springs.

The catch and rack herein shown and described is applied to the left-hand side of the window-sash and may therefore be termed a "left-handed" catch. It is obvious, however, that a mated right-hand catch may be employed upon the opposite or right-hand side of the sash instead of or in addition to the left-handed catch herein shown.

In many of the sash-holders employed for this purpose the catch-pawl or latch is so disposed as to be operated by the action of lifting the sash, the upward pressure of lifting

the sash serving to withdraw the pawl from its supporting-rack. One of the difficulties in this form of sash-holder was that a free-running sash would follow the downward movement of the fingers intended to apply the pawl, it being necessary in such cases to support the sash at some other point in order to allow the latch to engage with the rack, this being particularly objectionable where a catch was employed upon each side of the window-sash, requiring both hands of the operator to manipulate the catches, it being necessary in such cases to let go of one of the catches with one hand in order to support the sash with that hand. This and other objections of such sash-holders are overcome by the improvement herein shown and described.

An important requirement in devices of this class, especially when employed for railway service, is that they shall be entirely free from rattling or jarring noises, and yet be easy enough in their movement to be operated readily with moderate exertion. These requirements are satisfied to a high degree by this device.

The parts are simple in construction and require no careful or exact fitting, all lost motion being taken up by the spring-pressure device, so as to avoid rattling, while also making the action firm, free, and elastic.

I claim as my invention—

The combination in a sash-holder, of a rack having upwardly-facing teeth, a catch therefor comprising a lifting-piece, a downwardly-projecting pivotally-supported toothed pawl mounted to swing into and out of the rack-teeth, a thumb-lever pivotally mounted adjacent to the pawl, and engaging therewith to retract the pawl from the rack-teeth by the downwardly-swinging movement of the thumb-lever toward the lifting-piece, and a spring-pressure device for pressing the thumb-lever upwardly and the pawl outwardly toward the rack.

Signed this 20th day of January, 1903.

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Witnesses:

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