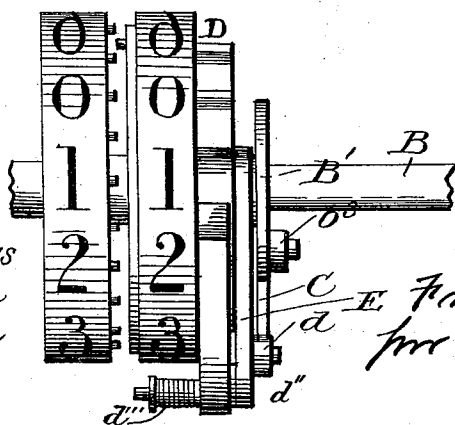
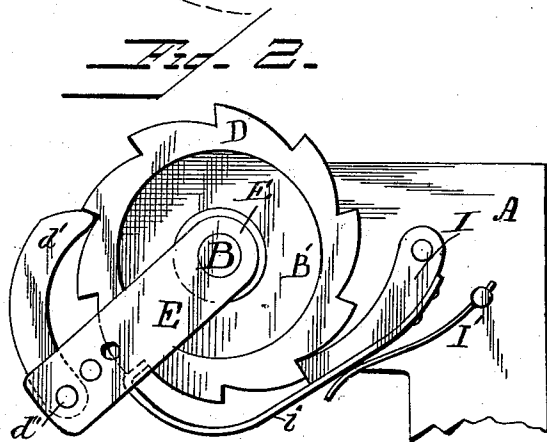
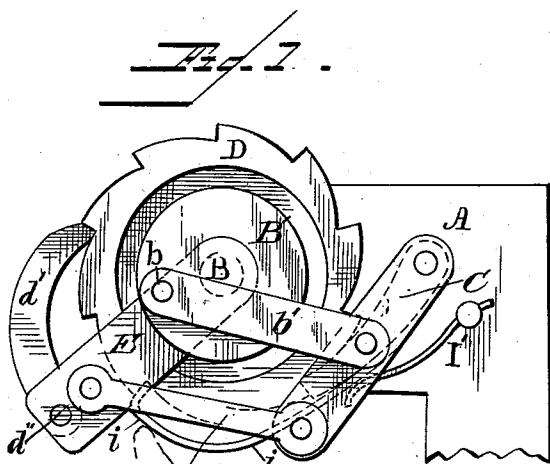


(No Model.)

F. L. WOLFE.
RATCHET WHEEL.

No. 549,698.

Patented Nov. 12, 1895.



WITNESSES
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FRANK LESLIE WOLFE, OF MEDFORD, ASSIGNOR TO THE CROSBY STEAM
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RATCHET-WHEEL.

SPECIFICATION forming part of Letters Patent No. 549,698, dated November 12, 1895.

Application filed March 15, 1895. Serial No. 541,899. (No model.)

To all whom it may concern:

Be it known that I, FRANK LESLIE WOLFE, a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Ratchet-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in ratchet-wheels, particularly to those which are used in connection with machinery operated by rotary or reciprocating motion, all of which will be hereinafter more particularly described.

In the accompanying drawings, forming part of this specification, Figure 1 is a view of one side of the device. Fig. 2 is also a view of the same side with several parts removed. Fig. 3 is a partial view of registering-wheels to which the device is applied.

A is part of the frame, in which are secured the various parts of the machine. B is a driving-shaft, at the end of which is a disk B', having on it a wrist-pin *b*. From the pin *b* extends a pitman *b'* to about the middle of a vibrating bar C, where it is pivoted. C is pivoted at one end to the frame A or to any convenient and suitable part of the machine. At the other end of vibrating bar C is pivoted a connecting-rod *d*, which rod at the other end is pivoted to a pawl-bar E, which bar E is attached at one end to the shaft B and revolves around it freely. At the other end of bar E is pivoted the pawl *d'*, having on an extension of the pivot *d''* a coiled spring *d'''*, which keeps the pawl in place when the machine is being operated. All of these parts form the subject-matter in an application filed

of even date herewith and are not claimed in this application; but what I do claim herein as an improvement I will now describe.

It is well known that in many rotating and reciprocating machines where the ratchet and pawl are employed for any purpose, and particularly in registering-instruments, where great accuracy is required in all parts, the ordinary pawl may not fall into the proper notch, but sometimes will connect with the wrong one. To prevent this and to force the pawl to take its proper notch, I use instead of one retaining-pawl an additional pawl, which will now be described.

I is the usual retaining or check pawl pivoted to the frame A, and on its back edge is a thin strap of steel *i*, curved, as shown, and having its outer end bent to catch behind the notches, thus making two retaining-pawls. A spring I' is placed behind the strap to keep the pawl I and strap *i* in place. Whenever by rotation of the shaft B the pawl *d'* is moved backward, the end of the pawl rides over the strap *i*, and on its return it can only engage the next notch beyond the end of the guard.

I claim—

In a ratchet wheel attachment, a retaining pawl, a subsidiary strap attached thereto extending in advance and bent so as to serve as a secondary retaining pawl, and a spring holding both of said retaining pawls in engagement with the teeth, in combination with the operating pawl and the ratchet wheel.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK LESLIE WOLFE.

Witnesses:

JOSHUA MILLETT,
ARTHUR L. BOWKER.