

(No Model.)

C. S. ELLIS & T. LANGBEIN.
SASH BALANCE.

No. 422,580.

Patented Mar. 4, 1890.

Fig. 1.

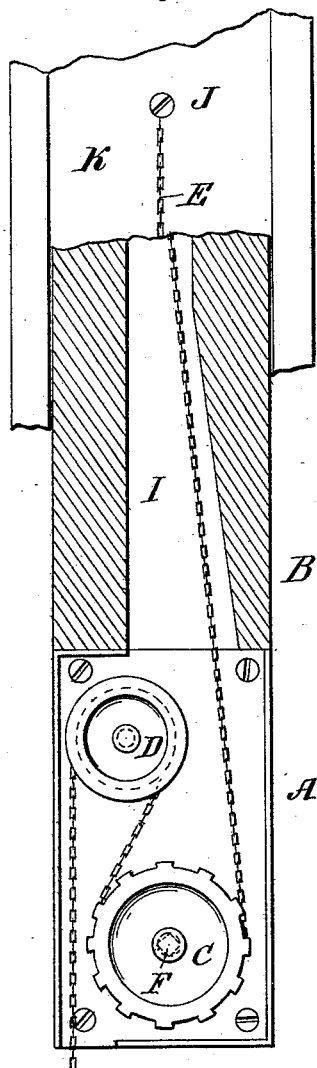
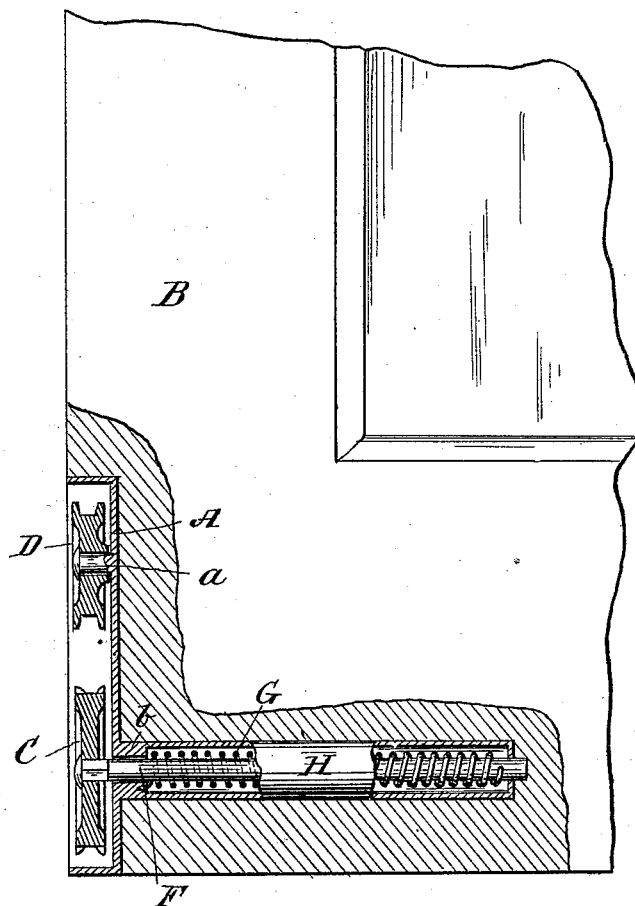


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE

CHARLES S. ELLIS AND THEODORE LANGBEIN, OF CHICAGO, ILLINOIS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 422,580, dated March 4, 1890.

Application filed January 2, 1890. Serial No. 335,648. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. ELLIS and THEODORE LANGBEIN, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Spring Window-Sash Balances; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to sash-balances, and aims to improve and simplify that class which employs springs instead of weights, whereby their usefulness and efficiency are increased.

The improvement consists of the novel features, which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a side view showing the application of the invention. Fig. 2 is a front view, parts being broken away, of the sash, showing the invention in section.

K represents the window-jamb, of ordinary construction, and B the sash having groove I in its edge for the chain E to work in, said chain being connected at its ends to the top and bottom of the jamb K, respectively. The case A, which is fitted in a recess in the side of the sash and held therein by suitable fastenings, is provided with the stud *a*, on which is journaled the pulley D, and with the tubular extension *b*, in which is journaled the outer end of the shaft F, the inner end of the shaft being journaled in the sash-frame, as shown in Fig. 2. The sprocket-wheel C, keyed on the end of the shaft F, is set to one side of the pulley D, and the chain E passes around it and the pulley D, as shown in Fig.

1. The counterbalancing spring G, placed on the shaft F, is secured at one end to the said shaft, and at its other end is fastened to the case A.

The operation of the invention is as follows: The spring G is wound sufficiently to counterbalance the sash when the latter is closed, and by reason of the chain passing around the pulley D and the wheel C the sash will be held from rising, and will be held at any located position.

Obviously the invention will be applied to each edge of the sash to prevent binding of the latter and facilitate the operation of the same. The shaft F, having spring G mounted thereon, will be inserted in an opening H in the sash.

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with the jamb, the chain secured at its ends to the jamb, and the sash, of the spring-controlled sprocket-wheel C, and the pulley D, the said chain passing around the wheel and pulley, substantially as and for the purpose set forth.

2. A sash-balancing device comprising a case which is provided with a stud *a* and with a tubular extension *b*, the pulley D, journaled on stud *a*, the shaft F, having a bearing in the said tubular extension, the spring G on the shaft, one end of the spring being secured to the case and the other end fastened to the shaft, and the sprocket-wheel keyed on the shaft F, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES S. ELLIS.
THEODORE LANGBEIN.

Witnesses:

PAT. BAILEY,
THEO. LEWANDOWSKI.