

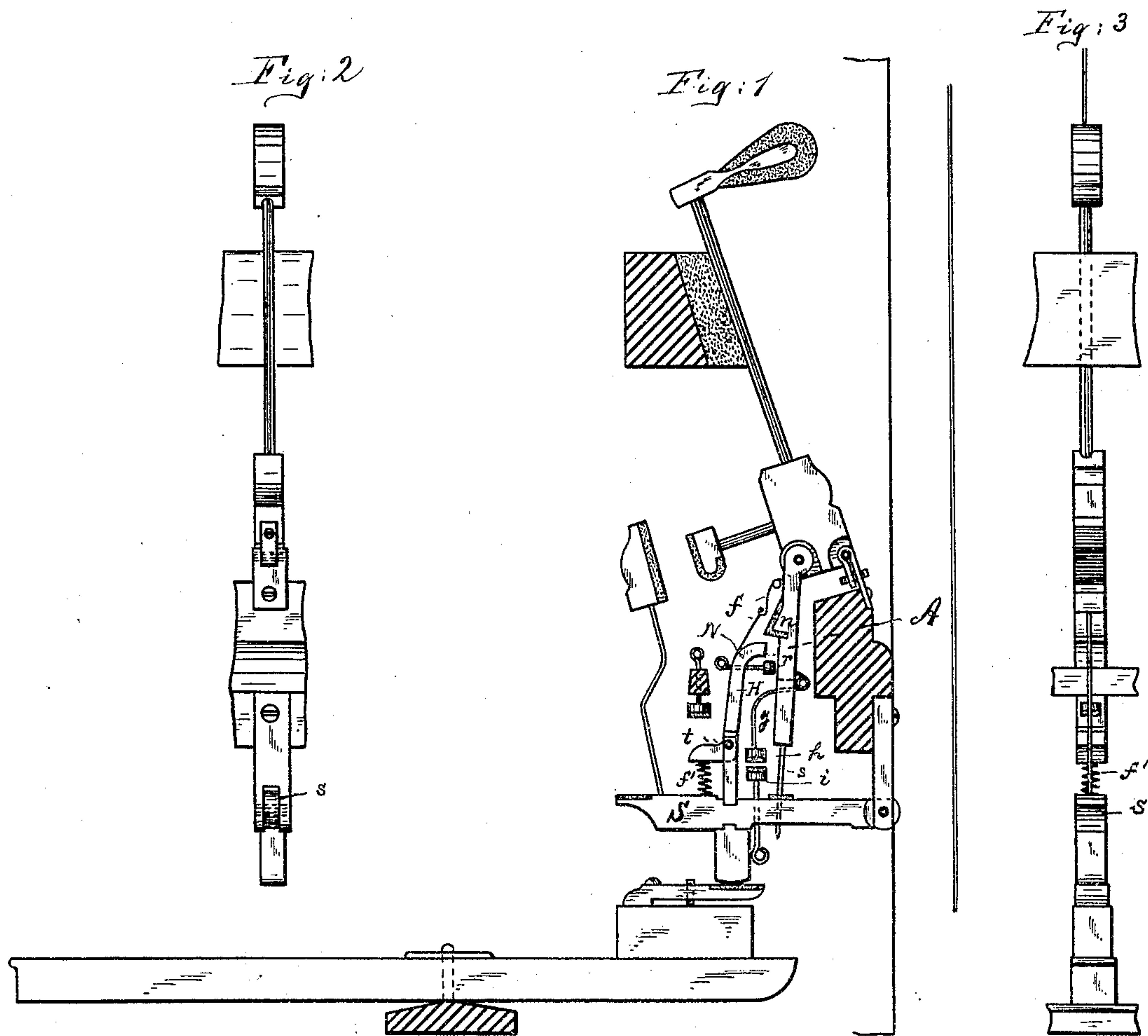
(No Model.)

2 Sheets—Sheet 1.

J. BLÜTHNER.
PIANO ACTION.

No. 543,371.

Patented July 23, 1895.



Witnesses:
w^m E. Scholl
E. Scholls.

Inventor:
Julius Blüthner
by his attorneys
Roeder & Briesen

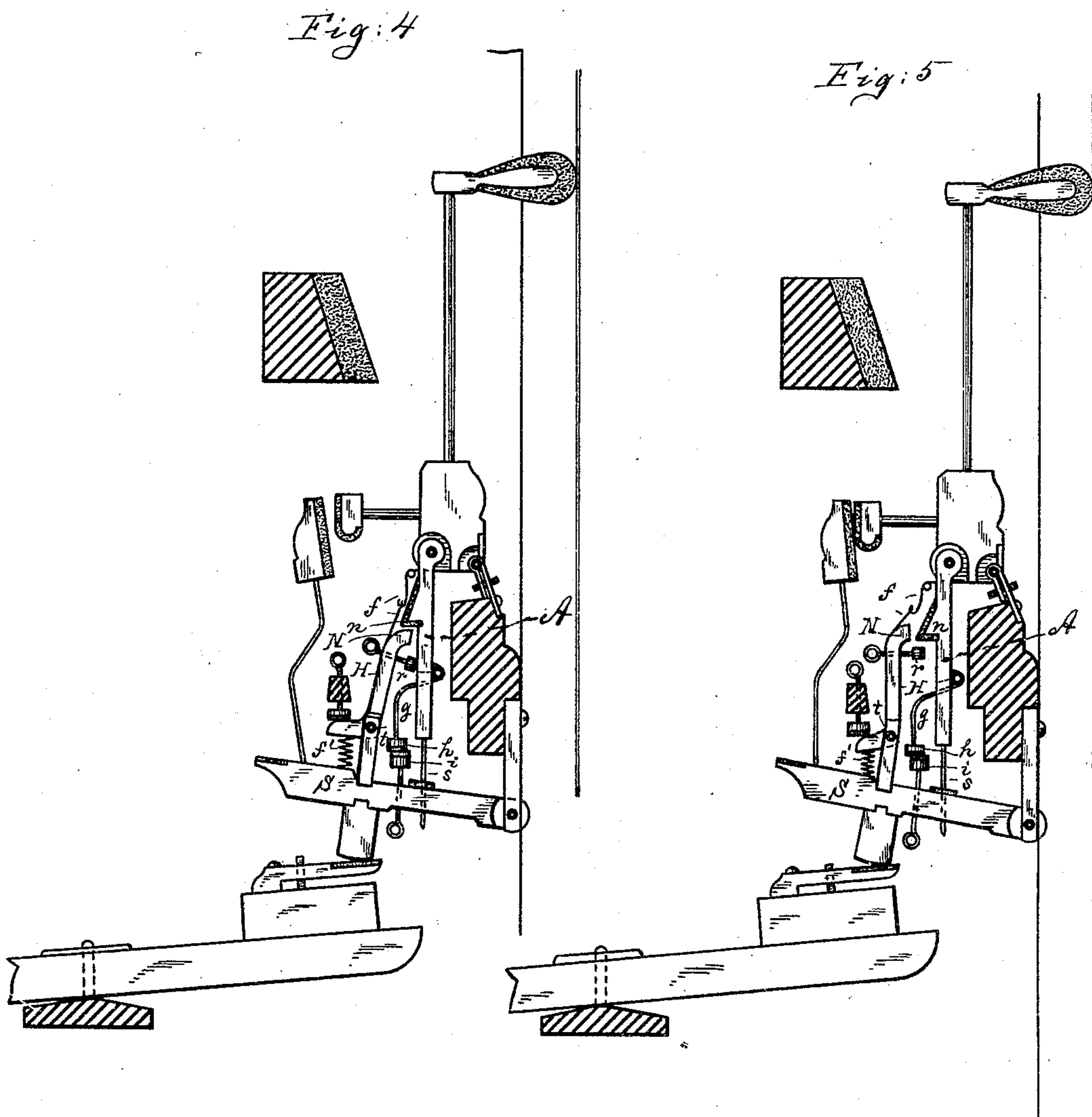
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UNITED STATES PATENT OFFICE.

JULIUS BLÜTHNER, OF LEIPSIC, GERMANY.

PIANO-ACTION.

SPECIFICATION forming part of Letters Patent No. 543,371, dated July 23, 1895.

Application filed March 7, 1895. Serial No. 540,836. (No model.)

To all whom it may concern:

Be it known that I, JULIUS BLÜTHNER, of Leipsic, in the Kingdom of Saxony, Germany, have invented a new and useful Improvement in Repeating-Actions for Upright Pianos, of which the following is a specification.

This invention relates to an improved repeating-action for upright pianos, which is provided with an abstract having a spring-arm that is adapted to make contact with a regulating-button and insures a full tone with even a partial or soft depression of the key.

In the accompanying drawings, Figure 1 is an elevation of my improved action, showing the key raised. Fig. 2 is a rear view of Fig. 1; Fig. 3, a front view thereof; Fig. 4, an elevation of the action, showing the key partly depressed; and Fig. 5, a similar elevation with the key fully depressed.

The letter A represents the abstract pivoted to the hammer-butt and terminating in a pin *s*, guided in the lever S. The fly or jack H is pivoted at *t*, and provided with a regulating-button *r* to regulate the degree of engagement between the jack and the nose *n* of the abstract. At its upper end the jack H is provided with a loop-spring *f*, which throws the curved neck N of the jack H under the nose *n* of the abstract. A spring *f'* beneath the lower bent end of the jack H serves for a like purpose. This spring, however, is not absolutely necessary, and if it should accidentally break the operativeness of the action would not be seriously impaired.

The loop-spring *f* does not alone cause the return of the jack beneath the nose *n*, but it also prevents the jack from receding to an undue extent from the same. To provide the abstract with a yielding attachment and to render it properly adjustable I secure to the abstract a spring *g* that passes through the same and terminates in a button *h*. This button

is adapted so bear upon a regulating-button *i*, which serves to accurately regulate the vibrations of the hammer. The parts *h i* prevent any abrupt motion of the abstract and also effect an easy and prompt engagement of the jack with the nose *n*, so that a reliable repeating-action is insured.

The principal feature of my invention is to be found in the spring-arm connected to the abstract, which causes a perfect action of the hammer for a soft as well as for a full depression of the key. Thus the engagement between the jack and abstract is such as to insure a reliable repeating-action for any depression of the key.

What I claim is—

1. In a repeating action, the combination of an abstract with a downwardly extending spring arm connected thereto at its upper end, a button secured to the free end of the spring arm, and a regulating button adapted to engage said button, substantially as specified.

2. The combination of an abstract having a nose, with a spring arm, a button adapted to be engaged thereby, a guide pin, a jack, and a spring adapted to throw the jack into engagement with the nose, substantially as specified.

3. The combination of an abstract having a nose, with a spring arm, a button secured thereto, a regulating button engaged thereby, a guide pin secured to the lower end of the abstract, an arched jack and a loop spring adapted to throw the jack into engagement with the nose, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JULIUS BLÜTHNER.

Witnesses:

MAX MATTHAI,

OTTO DOEDERLEIN.