

UNITED STATES PATENT OFFICE.

FERDINAND SCHAAF, OF FRANKFORT-ON-THE-MAIN, PRUSSIA, GERMANY.

REPETITION-ACTION FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 426,332, dated April 22, 1890.

Application filed May 23, 1889. Serial No. 311,897. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND SCHAAF, a subject of the King of Prussia, and residing at Frankfort-on-the-Main, Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Repetition Mechanics for Pianos, of which the following is a specification, reference being had therein to the accompanying drawing.

10 In the accompanying drawing, A is the connecting-rod which transfers the lift or stroke of the keys T to the principal lever B. This lever bears a little post *b* with a bolster, against which the jack *St* is pressed by the
15 spring F. By the nose N of the jack *St* the hammer is supported after the escapement, and thus the repetition is effected. That the hammer may overcome the resistance of the jack, even if the touch is feeble, a spring F
20 is joined with the jack *St*, so that the shorter arm of the spring draws by the cord *v* the jack a little, while the longer arm presses on the opposite side with twice the strength, and is stopped by the stopper *Ku* short before the
25 hammer is loosened. During the escapement only the short arm of the spring is acting upon the jack. The longer arm is acting only when the keys T are released, or if the hammer by a strong touch recoils for a longer
30 part. The stopper *Ku* is fixed on the hammer-support E. A second support C carries the damping mechanism. P is the lifter to raise the damper D from the strings. The damper D has a block *l*, on which the cord S is
35 fastened, the other end of which is fixed on

the wire *o* upon the lever B. As soon as the key T is touched and the lever B is lifted the cord S will be tightened and the damper lifted. On releasing the keys the spring F' presses the damper again toward the strings. 40

Having now fully described my invention, I claim—

1. The combination, with the key T, of the rod or bar A, the lever B at the upper end of said rod, the jack B, with its upright arm 45 bearing against the post *b* on said lever, the double-armed spring F, the longer arm of which bears against the horizontal arm of the jack, and the cord *v*, connecting the shorter arm of said spring and the upright arm of the jack, 50 substantially as specified.

2. The combination, with the key T, the rod or bar A, the lever B, the jack having a horizontal and a vertical arm, the latter of which 55 bears against a part *b* standing upward from said lever, the double-armed spring F, and cord *v*, of the hammer supported on the upright arm of the jack during escapement, substantially as specified.

3. The combination, with the key T, bar A, 60 and lever B, having the wire arm *o*, of the damper D, and the cord S, connecting said damper to the end of the wire arm, substantially as specified.

In testimony whereof I have hereunto set 65 my signature in presence of two witnesses.

FERDINAND SCHAAF.

Witnesses:

ALVESTO P. HOGUE,
LOUIS WIESENGRUND.