

No. 661,895.

Patented Nov. 13, 1900.

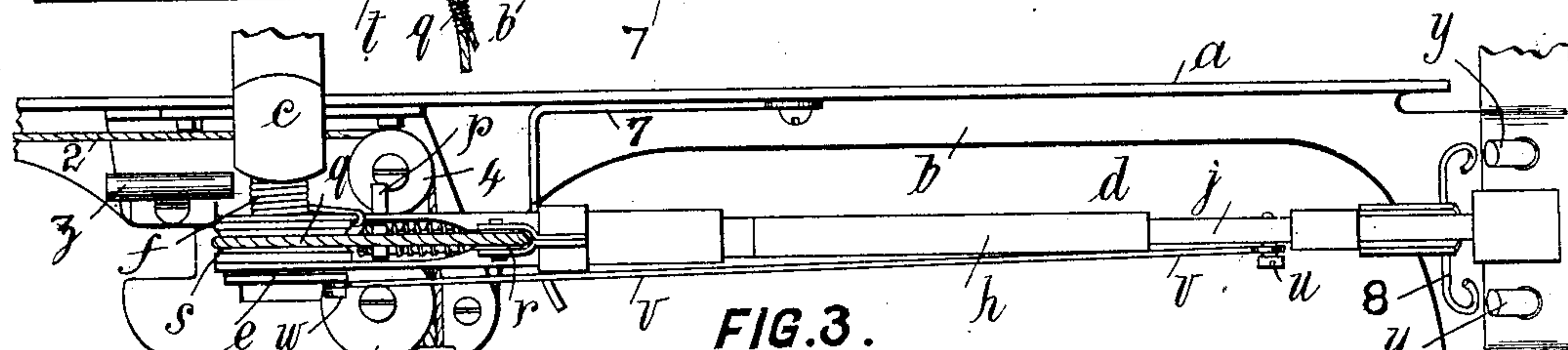
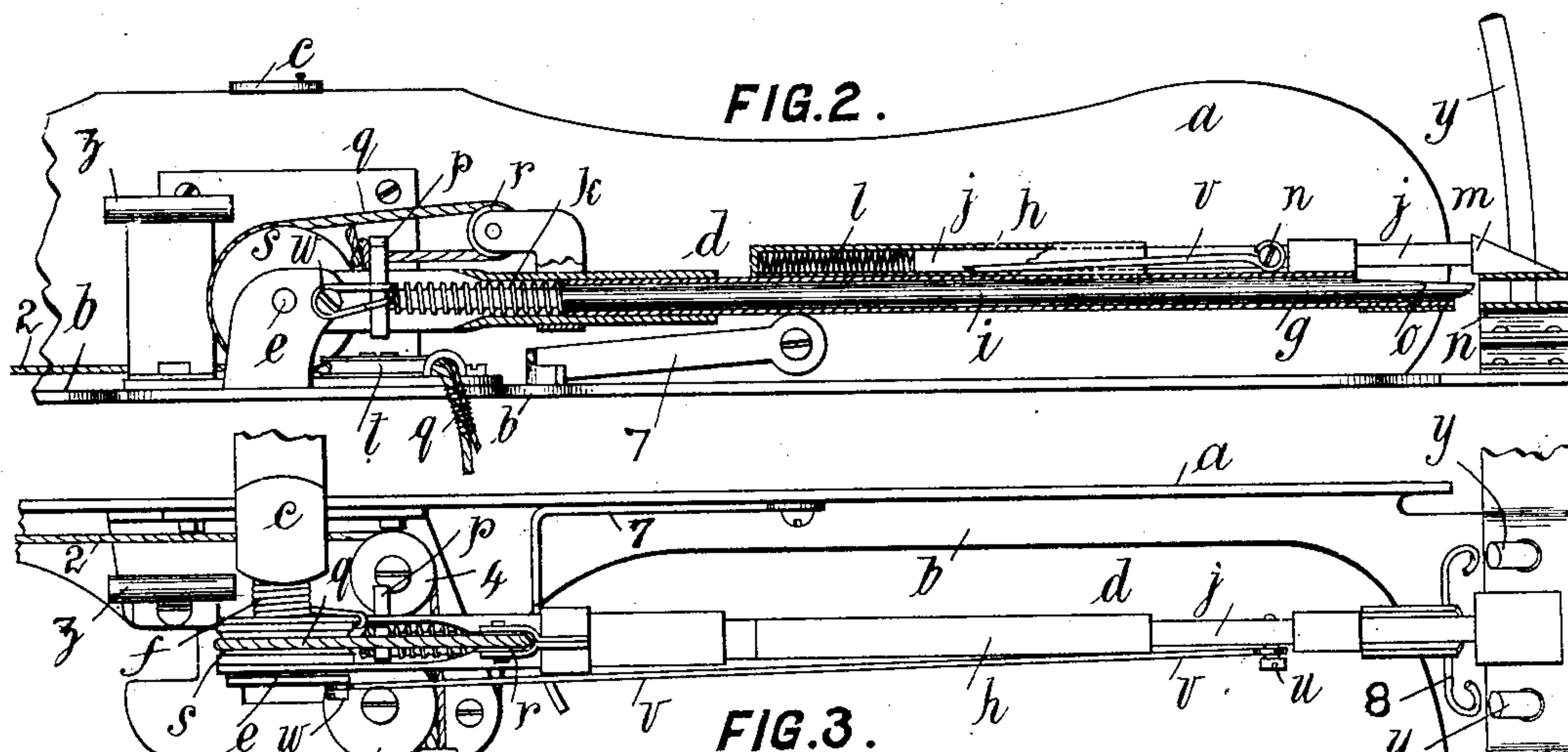
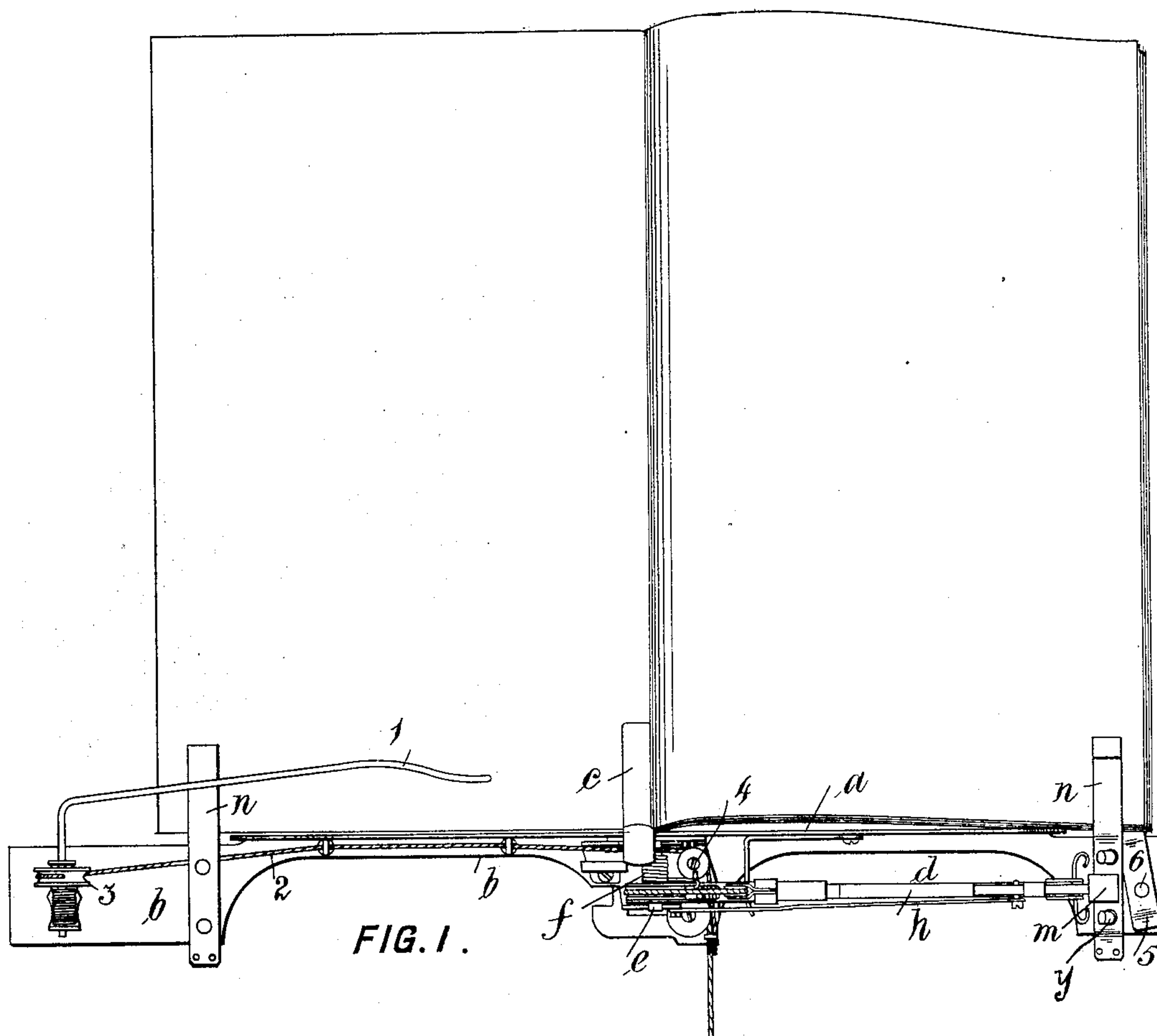
R. J. ROSS.

MUSIC LEAF TURNER.

(Application filed June 4, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

F. S. Belt,

Ernest Seaver

64.

2. by. *Nason Emick Lawrence* Robt
Atty.

INVENTOR:

Robt J. Ross,

Atty.

No. 661,895.

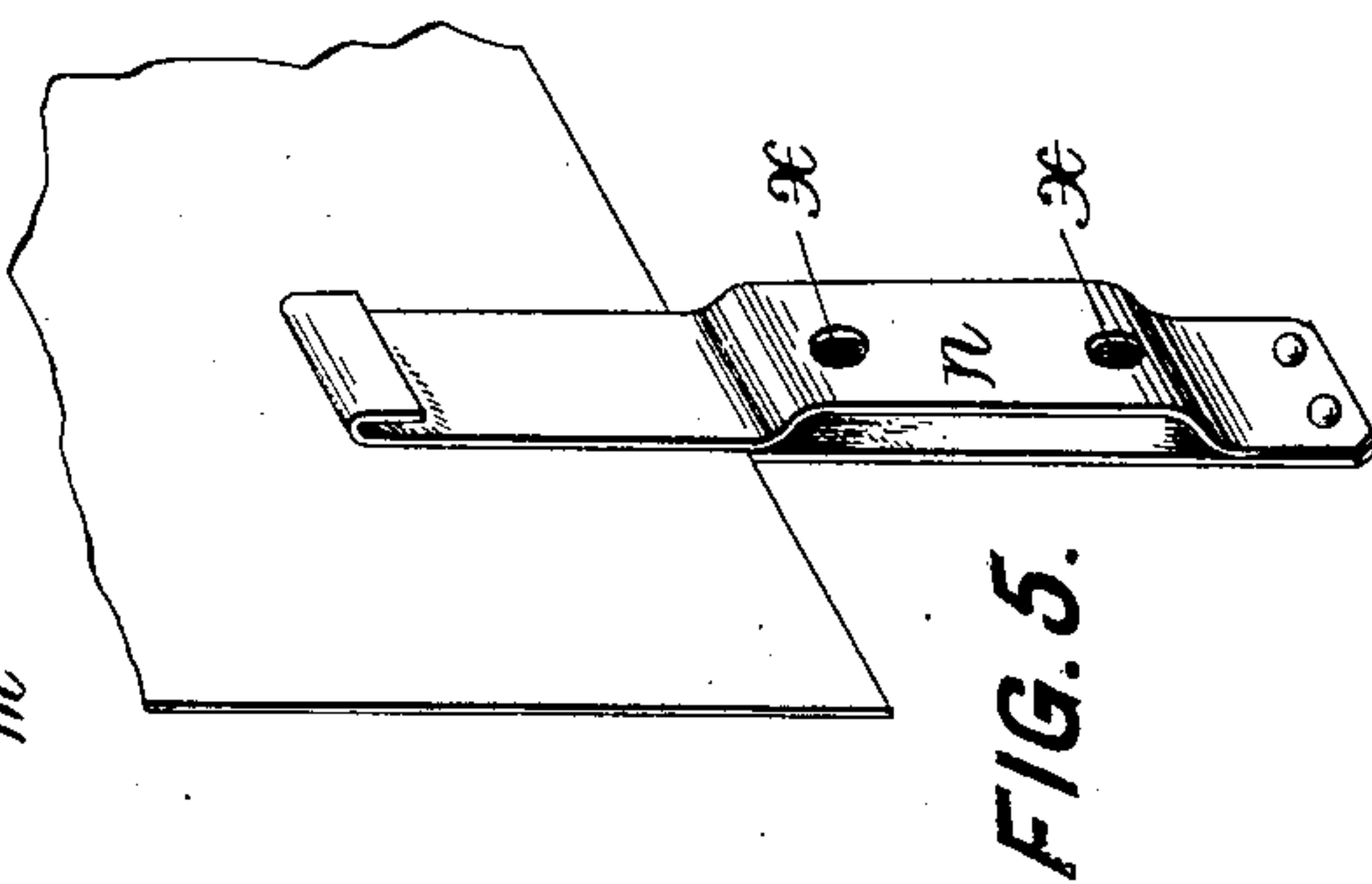
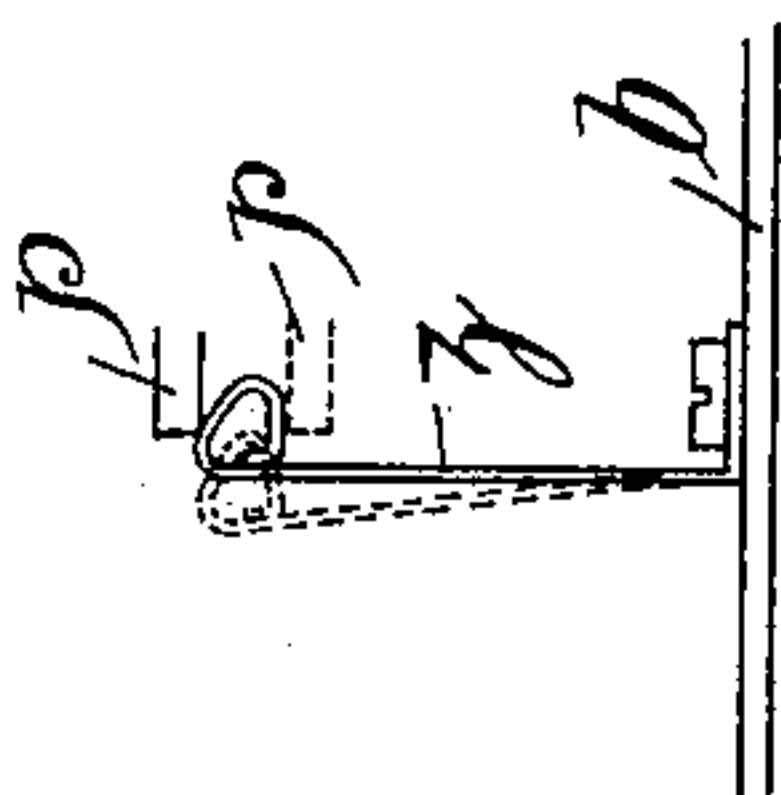
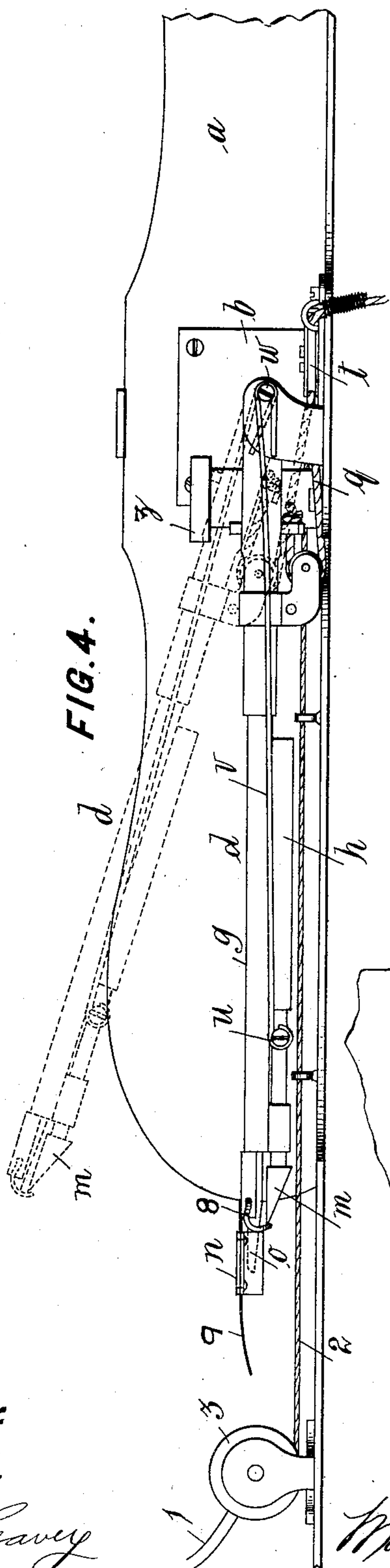
Patented Nov. 13, 1900.

R. J. ROSS.
MUSIC LEAF TURNER.

(Application filed June 4, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

F. S. Belt.

Ermer Leaver

Investor:

Robt J. Ross,

by
Mason Emrick Lawrence Attys

UNITED STATES PATENT OFFICE.

ROBERT J. ROSS, OF BOOTLE, ENGLAND.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 661,895, dated November 13, 1900.

Application filed June 4, 1900. Serial No. 19,065. (No model.)

To all whom it may concern:

Be it known that I, ROBERT JESSE ROSS, a subject of the Queen of Great Britain, residing in Bootle, in the county of Lancaster, England, (whose post-office address is 25 Exeter road, Bootle,) have invented certain new and useful Improvements in Apparatus for Turning Over the Leaves of Music, of which the following is a specification.

10 This invention has for its object improvements in apparatus or devices for turning over the leaves of music and the like.

The apparatus comprises mainly a frame which may be in one with the music or book rest, or it may be attached to the ledge of the ordinary music-rest. Above or below the book, the leaves of which are to be turned over, an arm is pivoted to the frame, such arm normally lying flat against the frame on the right-hand side, but which can by simply pressing a treadle or lever be forcibly turned, so as to lie flat on the left-hand side and by means of suitable clips to take a leaf of the book over with it, such arm returning on the release of the treadle or lever to its normal position ready to take over another leaf.

Referring to the accompanying drawings, Figure 1 is a front elevation of the apparatus with a book in position; Fig. 2, an enlarged underneath plan, partly in section, of a portion of Fig. 1; Fig. 3, a front elevation of Fig. 2; Fig. 4, an underneath plan of a portion of the apparatus, showing the arm turned back; Fig. 5, a view showing one of the clips engaging a leaf, and Fig. 6 a detail view of a brake or retarding device hereinafter described.

In the drawings, *a* is part of a frame, which may be the ledge of a book-rest, or it may, in combination with the part *b*, be a separate frame, which can be attached to the ledge of an ordinary book-rest, such frame carrying the apparatus or devices for turning over the leaves of the book.

45 *c* is a clip or catch for keeping the book in position on the rest, which catch may be of any suitable pattern.

50 *d* is the pivoted arm, which turns on a fixed axle *e*, mounted in the frame *b*, or the arm may be fixed on the axle, the latter being free to turn, and *f* a spring coiled around the axle in a manner well known. The tendency of this spring is to keep the arm in the position shown in Fig. 1. The arm *d* is formed

with two barrels or tubes *g* and *h*, in which 55 slide rods *i* *j*, actuated by springs *k* *l*. The rod *j*, (shown uppermost in Fig. 2,) which is held normally by spring *l* in its extended position, is enlarged at its end *m* and forms one part of a gripping device to grip the clips *n*, 60 and the sliding rod *i*, which forms the other portion, is flattened at its end *o* and is held normally by its spring in its withdrawn position. To a projecting piece *p* on the end of the rod *i* a cord or wire *q* is attached, which 65 passes first over a pulley *r*, thence over a second pulley *s*, mounted in the forked end of the arm *d*, both turning together on the axle *e* and around a third pulley *t* to the operating treadle or lever. (Not shown.) 70

The rod *j*, sliding in the tube *h*, is provided with a pin *u*, to which is attached one end of a rod *v*, its other end being attached to a pin *w*, so as to be eccentric to the axis of the arm *d*. The spring-clips *n* (shown best in Fig. 5) have holes *x*, which fit on pins *y*, fixed to the frame. 75

z is a springy piece of metal projecting horizontally from *b* and shown best in Fig. 6. Its enlarged end is fixed in the path of the projecting piece *p* on the end of the sliding rod *i* and is chamfered on front side, (not at rear,) so that the projection *p* as it moves with the arm *d* from right to left, as when turning a leaf over, pushes aside the piece *z* 85 into the position shown in dotted lines; but on its return from left to right such projection coming against the rear of the enlarged end of piece *z* bears against it, thus retarding the speed of the arm *d* and preventing it flying back too rapidly under the influence of the spring *f*. In order to keep the leaves down which have been turned over, I provide a spring-actuated arm 1, which rests normally on the leaves of the book, but by means 95 of a cord or wire 2, fixed to a pulley 3 and passing around pulley 4 and thence to the operating treadle or lever, the arm 1 is turned out of the way while a leaf is being turned over, but returns instantly on the pressure 100 being taken off the treadle. 5 is a stationary spring-clip which can turn on a pivot 6.

7 is a pivoted catch or support for holding the arm *d* in a raised position to facilitate the threading of the spring-clamps *n* on the pins *Y*; 8, a projecting piece carried by the arm *g*, to which it is secured, extending to either side thereof from beneath the free end 105

of the same and which prevents any possibility of a spring-clamp being taken back again with the arm. 9 represents a leaf of the book.

5 The mode of action of the whole apparatus is as follows: A number of clips n , corresponding to the number of leaves to be turned over, are placed one above the other on the fixed pins Y on the right-hand side, and one
10 clip is sprung onto each leaf. If there be more leaves in the book than is required to be turned over, they are held down by the stationary spring-clip 5, Fig. 1. The arm d in its normal position is held by the spring f
15 in the position shown in Figs. 1, 2, and 3 with the enlarged end m of the sliding piece j on the top of the uppermost clip, held in this position by spring l , the arm 1 also bearing on the book. Now if the treadle or lever to
20 which the cords or wires q and 2 are attached be depressed, the cords or wires q and 2 will be both operated simultaneously, the cord q operating the arm g and rod i and the cord 2 operating the arm 1. As, however, the spring
25 f is of greater strength or resistance than the spring h , the pulling of the cords will first slide out the rod i into engagement with the clip n , and thus, in conjunction with the sliding end piece m , gripping it, the same move-
30 ment of treadle causing the arm 1 to commence to move. As soon as the rod i has traveled as far as it will go, then the further pressing down of the treadle necessarily turns the arm d (with the clip and a leaf attached to
35 it) rapidly from right to left, its motion at the end of the stroke being retarded by the spring-piece z and the contact of the projection 8 with the clip secured to the page. The same movement causes the arm 1 to move away quite clear
40 of the book. At the same time the rod v , as it does not turn on the same center as the arm d , causes the sliding rod j to be withdrawn, as shown in Fig. 2, the clip being prevented from returning with the rod j by the projec-
45 tion 8, which serves as a stop for this purpose. On releasing the treadle the parts fly back into the former position, the rod i sliding back, thus freeing the clip which remained attached to the leaf, the arm d turning back
50 from left to right by the pressure of its spring f , and the arm 1 turning over, so as to press down the leaf of the book. These several parts, in fact, assume their normal positions ready to turn over another leaf, and so on until all
55 the clips have been used up.

I claim as my invention—

1. An apparatus for turning over leaves of music, comprising a pivoted spring-controlled arm or carrier located in proximity to the ledge
60 of the music-rest, clips, one of each of which is sprung onto a leaf of the music to be turned, a treadle, and means for causing the pivoted arm or carrier at each depression of the treadle to first engage with the clips and then rotate
65 half a turn in such a manner as to turn the leaf, and means whereby the release of the treadle will instantly disconnect the pivoted

arm from the clip and enable the pivoted arm to swing back ready for a repetition of the operation, substantially as described. 70

2. In an apparatus for turning leaves of music, a spring-controlled pivoted arm or carrier for engaging the clips that are attached to the leaves of the music and which is swung over by means of a lever or treadle, said piv- 75
oted arm or carrier comprising a sliding rod held normally in its extended position in contact with the outermost clip, a second sliding rod held normally in its withdrawn position so as to be out of engagement with the clip, 80
means for throwing the same into engagement and holding the clip in conjunction with the other rod immediately the treadle is depressed to swing over the arm, and means for releasing the hold of the respective rods on 85
the clip immediately the carrier has been swung over, or the force that swung it over is released, substantially as described.

3. In an apparatus for turning over leaves of music and the like, the combination with 90
a turning arm or carrier, of spring-clamps adapted to engage said arm or carrier, stationary pins on which said clamps are threaded, the said clamps being clipped to the leaves to be turned, an arm and a rock-shaft carry- 95
ing the same, a spring for normally holding the shaft so that the arm will rest against the turned-over leaf, a cord connected with the said rock-shaft for rotating the same so as to move the arm off the said leaf when another 100
leaf is being turned, the said cord being also connected with the turning arm, whereby both the turning arm and the clamping-arm are operated by one cord, substantially as de-
scribed. 105

4. In a leaf-turner in combination with a pivoted arm having a return-spring, a gripping device consisting of two rods sliding in tubes or barrels on the said arm, springs in the tubes acting against the rods so as to keep 110
one in its extended position normally and the other in its withdrawn position, a rod attached at one end to the upper or extended sliding rod, its other end being pivoted to the arm so as to be eccentric to the center of oscilla- 115
tion of such arm, a treadle or lever connected with the lower rod, whereby on operating the treadle or lever the lower rod is thrust out and after the movement of the arm to the opposite side both rods are withdrawn as set 120
forth.

5. In a leaf-turner the combination of the arm with its gripping device, clamps n , stationary pins y , projecting piece p , retarding device z , arm 1 with its pulley and spring, 125
cords or wires 2 and q and pulleys for the purposes described.

In witness whereof I have hereunto signed my name, this 5th day of May, 1900, in the presence of two subscribing witnesses.

R. J. ROSS.

Witnesses:

G. C. DYMOND,
F. P. EVANS.