

No. 750,391.

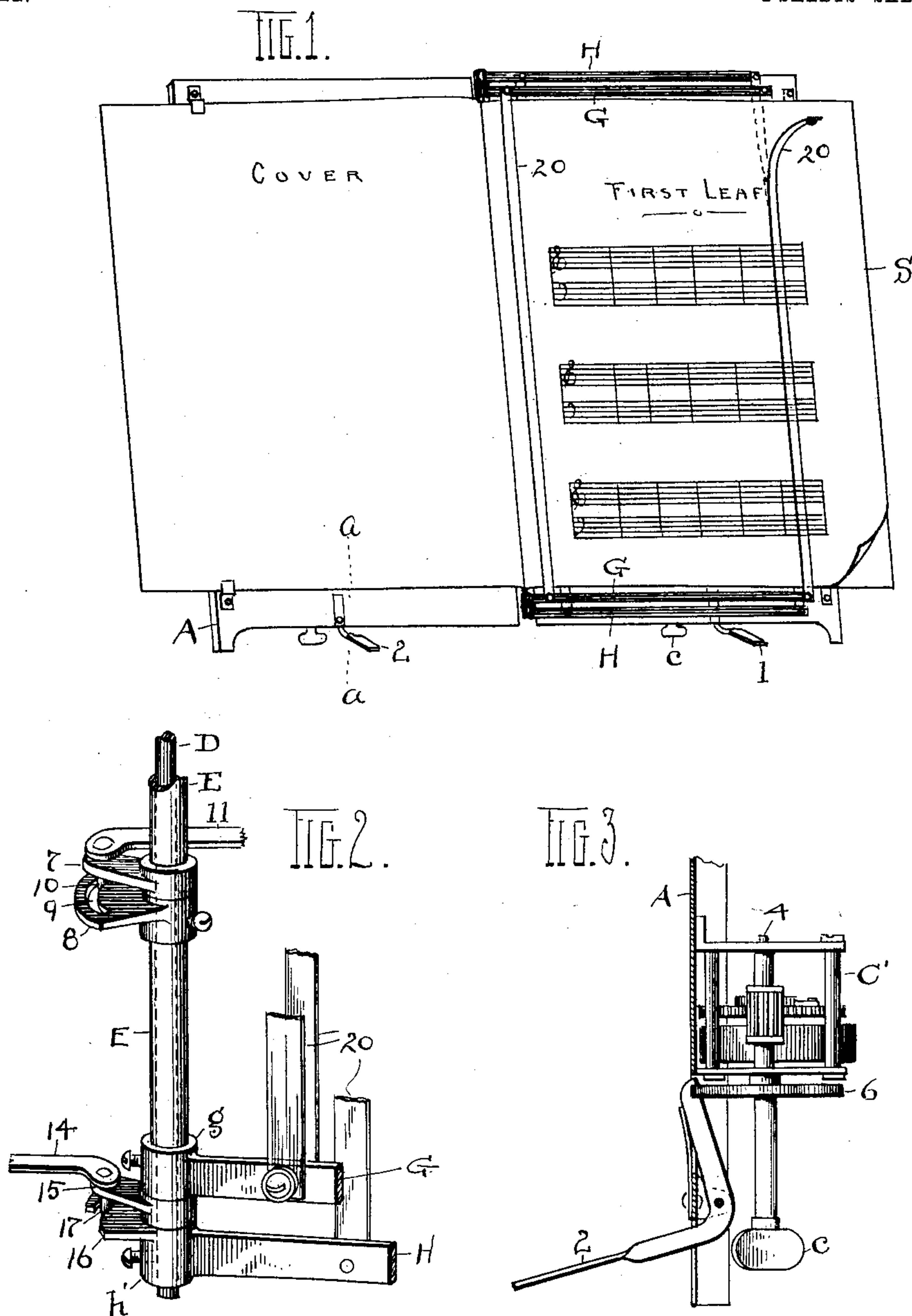
PATENTED JAN. 26, 1904.

M. T. PHILLIPS.
SHEET MUSIC TURNER.

APPLICATION FILED JULY 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



ATTEST

W. B. Moore

A. H. Moore

INVENTOR

Martin T. Phillips

BY *H. F. Fisher*

ATTY

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2 SHEETS—SHEET 2.

FIG. 4.

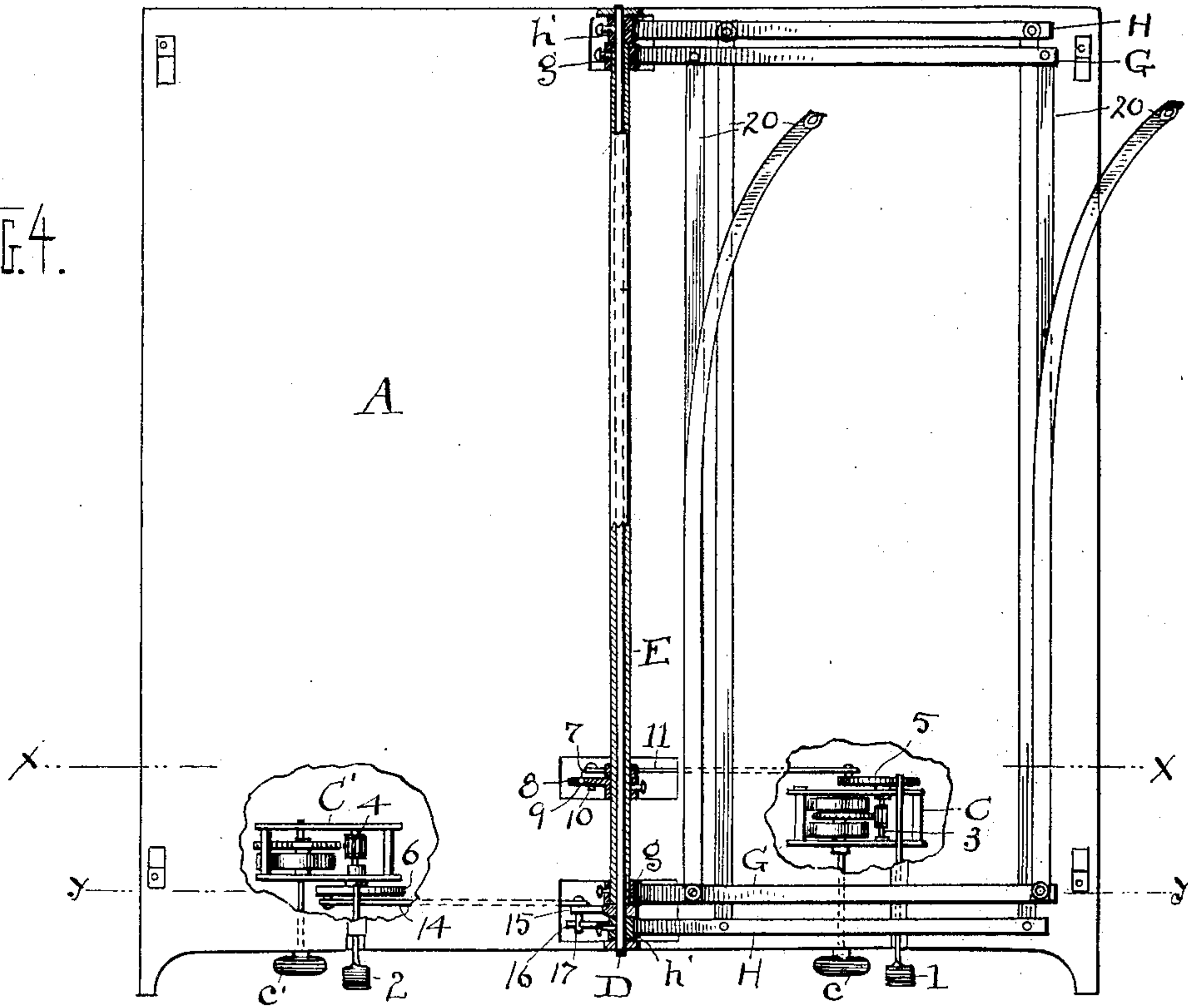


FIG. 5.

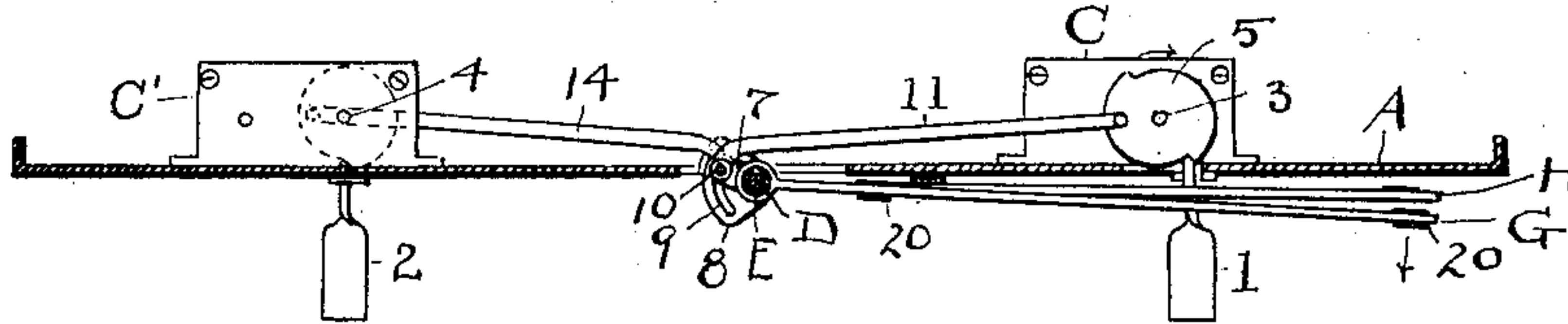


FIG. 6.

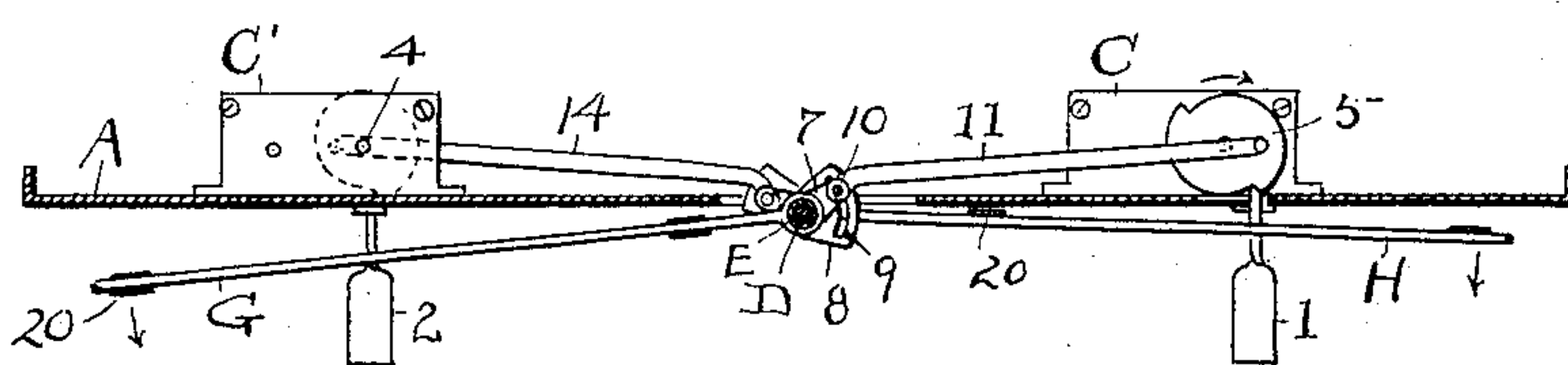


FIG. 7.

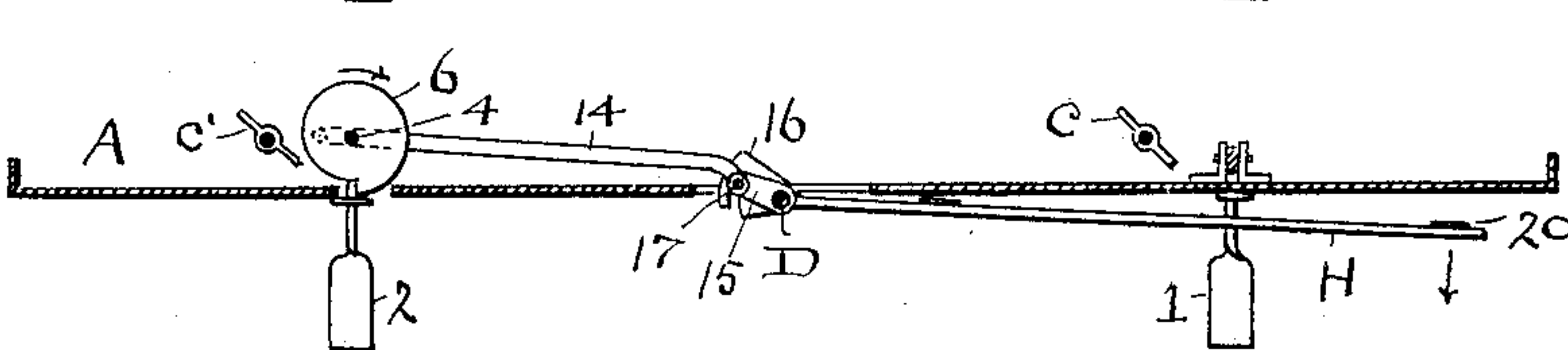
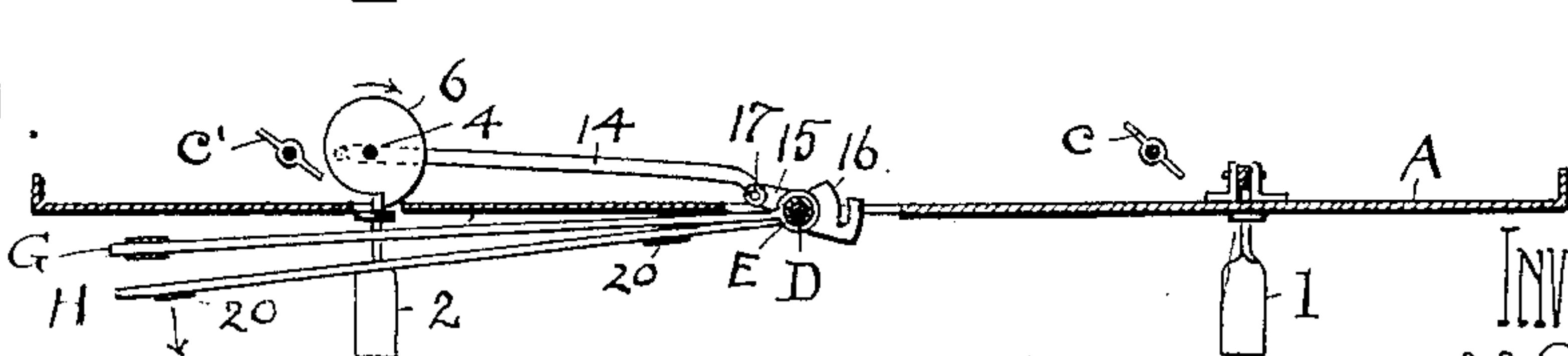


FIG. 8.



ATTEST

W. B. Moot
A. H. Moot.

INVENTOR
Martin T. Phillips
BY *H. J. Fisher*
ATTY

UNITED STATES PATENT OFFICE.

MARTIN T. PHILLIPS, OF AKRON, OHIO.

SHEET-MUSIC TURNER.

SPECIFICATION forming part of Letters Patent No. 750,391, dated January 26, 1904.

Application filed July 29, 1902. Serial No. 117,529. (No model.)

To all whom it may concern:

Be it known that I, MARTIN T. PHILLIPS, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Sheet-Music Turners; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sheet-music turners; and the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plain front elevation of my new and improved sheet-turning device, showing a sheet of music supported thereon and the parts in operating relation, but mostly hidden from view by the music, as clearly appears. Fig. 2 is an enlarged elevation in perspective of a portion of the central shaft and the sleeve thereon and means for turning the sheets from side to side, as will hereinafter more fully appear. Fig. 3 is a sectional elevation of the parts on a line corresponding substantially to *a a*, Fig. 1. Fig. 4, Sheet 2, is a plan view of the device itself, showing the board or base and the operating mechanism mostly exposed and partly in section. Fig. 5 is a cross-section of Fig. 4 on line *x x*; and Fig. 6 is a cross-section on the same line as Fig. 5, but showing the first leaf of music turned. Fig. 7 is a cross-section of the parts on line *y y*, Fig. 4. Fig. 8 is a cross-section of the parts on a line corresponding to *y y*, Fig. 5, and showing both leaves turned to the left.

In the mechanism thus shown and having a sheet of music with, say, two sheets in place, Fig. 5, the depression of key No. 1 will throw the first sheet open to the left, Fig. 6. Then to turn sheet 2 the depression of key No. 2 will throw that sheet to the left also. Finally, to return both sheets to starting place at the same time a depression of key No. 1 is required.

Now having seen something of the purpose and function of the device, A represents what may be a plain wooden board or like rigid base

adapted to receive the mechanism and accommodate a sheet of music. A sheet-metal base is shown here. Upon this base I set suitable clock mechanism, generally designated by C and C' and provided with keys *c* and *c'*, respectively, to wind it up. This mechanism is rigidly fixed in or to the base and in each case is geared up with a rotatable shaft 3 and 4, respectively, carrying eccentric disks or parts 5 and 6, respectively.

D is the leaf-throwing shaft, which lies centrally across base A, top to bottom, and is supported in suitable bearings thereon. Its ends may extend beyond said base to make the attachments, or the base may be recessed in its ends for this purpose. It is recessed as shown here. Upon this shaft is a sleeve E, and the operating parts or attachments are divided between said shaft and sleeve, as will be seen. Thus sleeve E carries an arm 7, sleeved upon and free to rotate on sleeve E, and another arm 8 beneath arm 7, fixed to sleeve E and provided with a segmental slot 9, engaged by pin or projection 10, which secures link 11 to arm 7. Link 11 is connected with eccentric disk 5 at its other end, and finger-key No. 1, which has a right-angled extension above its pivot in its angle, Fig. 3, and which engages successively in half-way notches in said disk, Fig. 5, serves to liberate the said eccentric disk and permit a half-rotation thereof under the power of the clock mechanism. A mere touch and release upon the finger-key is sufficient to effect this movement, and the key gets back to normal position in time to engage the next notch therein, thus preventing more than a half-turn of the eccentric at a time. The position of the parts in each case is seen in Figs. 5 and 6.

Referring now to clock mechanism C' at the left, Fig. 4, the eccentric wheel or disk 6, connected therewith, is engaged in its notches and operated by finger-key No. 2 in the same manner as has just been described for key No. 1 and eccentric 5, and a link 14 connects eccentric 6 with arm 15 rotatably free on the lower end of shaft D. This arm is over arm 16, which has a notch or shoulder in its end adapted to be engaged by pin 17 in arm 15, and the said arm 16 is fixed on shaft D to

rotate said shaft. Thus shaft D and sleeve E thereon are separately rotatable, the sleeve from clock mechanism C and the shaft from clock mechanism C'. In both cases also the
 5 eccentrics driven by the clock mechanism are limited by their keys to a rotative movement which is sufficient to turn the music past the dead-center point in rotation from one side to the other, when the momentum imparted
 10 thereto by the throw will carry the music over and down as fast as needed. Now for this latter purpose I provide means to turn the music connected with both shaft D and sleeve E above and below the music-sheet S
 15 and consisting of two sets of arms G and H, respectively. Arms G are rigidly affixed to sleeve E and arms H to shaft D through hubs g and h', respectively, above and below. The slotted arm 8, Fig. 2, has its own hub on
 20 sleeve E; but notched arm or extension 16 is on hub h', which carries the lower arm H, Fig. 2. At the top each arm G and H has its own hub. The respective leaf-turning arms G and H operate wholly beyond or outside of
 25 the edges of the music top and bottom, and the sheets S are each engaged by said arms through transparent strips 20 of celluloid or any suitable material fixed at their ends to
 30 arms G and H. By using transparent connections lying across the faces of the sheets the notes can be read through them, and they in no wise obstruct the view, while in this way I am enabled to engage the sheet across
 35 its entire width to throw it from side to side. Two sets of strips 20 are used for each sheet. In operation and with the music secured in the turner as just described a quick depression and release of finger-key No. 1 will rotate sleeve E by power from clock C through
 40 link 11 and arms 7 and 8, and the slot in arm 8 permits the last portion of the rotation to turn the leaf after the first quarter-rotation has been effected by said mechanism. Then at last to bring back all the leaves to the
 45 right key No. 1 is again depressed, and arm 7, with its pin 10, is engaged in the opposite end of slot 9 in arm 8, and a half-rotation of eccentric 5 throws said parts back, the momentum on the return carrying them the
 50 last portion of the quarter and in which the parts resume starting place, as in Fig. 5. Practically the same operation proceeds from clock mechanism C' on the left with respect to shaft D, the sheet-turning arms, and the intervening mechanism; but the second sheet
 55 is turned by this mechanism, and then, as this sheet lies over the first one, the positive actuation of the first one for its return necessarily carries the second sheet back also. When the clock mechanism runs down, it is
 60 wound up as usual, and a key for each clock or a single key for both can be used. Any suitable clock mechanism may be employed, the use thereof being to turn the leaves, and
 65 it is preferably limited to a predetermined

turn of each eccentric. A quick movement and release of the finger-keys prevents the eccentric from running past the same on the quarter-turn notches.

What I claim is—

1. In sheet-music turners, a base, a set of
 70 axially-rotatable parts arranged across said base, top to bottom, means on each part to support and carry a sheet of music, an arm free to rotate on each part, an arm fixed upon
 75 each part, and contacts and stops between said arms to provide for a positive starting movement and with a free play at the end of the movement, in combination with clock mechanism, and means connecting the same opera-
 80 tively with the said arms whereby a sheet of music is automatically turned, substantially as set forth.

2. In sheet-music turners, a rotatable shaft and a rotatable sleeve on said shaft and a base
 85 upon which the said shaft is supported at its ends, arms on said shaft and said sleeve, respectively, to carry the music, crank-arms fixed upon said shaft and sleeve, respectively, separate operating-arms free upon said shaft
 90 and sleeve, and engaging stops between said crank-arms and operating-arms, in combination with separate clock mechanism operatively connected with said operating-arms, substantially as described.

3. In a sheet-music turner, a suitable base, a rotatable shaft supported in bearings across
 95 said base from top to bottom and a rotatable sleeve on said shaft, a fixed and a free arm on both shaft and sleeve, and connections between
 100 said fixed and free arms constructed to give a positive starting movement and a free continued movement within limits, in combination with mechanism having an eccentric connection with each of said arms, respectively,
 105 and a finger-key to release said clock mechanism and throw said eccentric into action, substantially as described.

4. In a sheet-music turner, a suitable base and a shaft and sleeve thereon, sheet-turning
 110 arms fixed to said shaft and sleeve, respectively, and pairs of detachable transparent strips connecting said arms adapted to hold a sheet of music between them, in combination with separate mechanism connected with said
 115 shaft and sleeve to rotate the same and turn the music, substantially as described.

5. In a sheet-music turner, a suitable base and a rotatable part supported across said base
 120 centrally from top to bottom and sheet-turning arms affixed to its respective ends, and two sets of transparent strips across said arms adapted to engage on opposite sides of the sheets and detachable connections at the top
 125 of said strips, in combination with clock mechanism connected with said rotatable part to turn the music-supporting arms, substantially as described.

6. In a sheet-music turner, a suitable base and sheet-turning mechanism comprising a set
 130

of arms top and bottom for each sheet, in combination with detachable transparent connections between said arms adapted to lie across a sheet of music, substantially as described.

5 7. In a sheet-music turner, a suitable base and a rotatable part supported thereon and provided with sheet-turning arms at its respective ends, in combination with clock mechanisms and a set of arms operatively connected
10 with said mechanisms and with said rotatable part, and one of said arms fixed upon said part and the other free to turn thereon, substantially as set forth.

15 8. In sheet-music turners, a suitable base and mechanism to turn the sheets, comprising a shaft and a sleeve thereon and a rotatable

arm on each said shaft and said sleeve, respectively, and leaf-turning arms rigid with said shaft and sleeve, respectively, in combination with a clock mechanism for said shaft and another clock mechanism for said sleeve and connections between said parts constructed to open one sheet at a time and to close all the sheets at the same time, substantially as set forth.

Witness my hand to the foregoing specification this 12th day of July, 1902.

MARTIN T. PHILLIPS.

Witnesses:

R. B. MOSER,
T. M. MADDEN.