

F. H. PIERPONT.
PATTERN OR RECORD STRIP COMPOSING MACHINE.
APPLICATION FILED DEC. 8, 1908.

952,632.

Patented Mar. 22, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

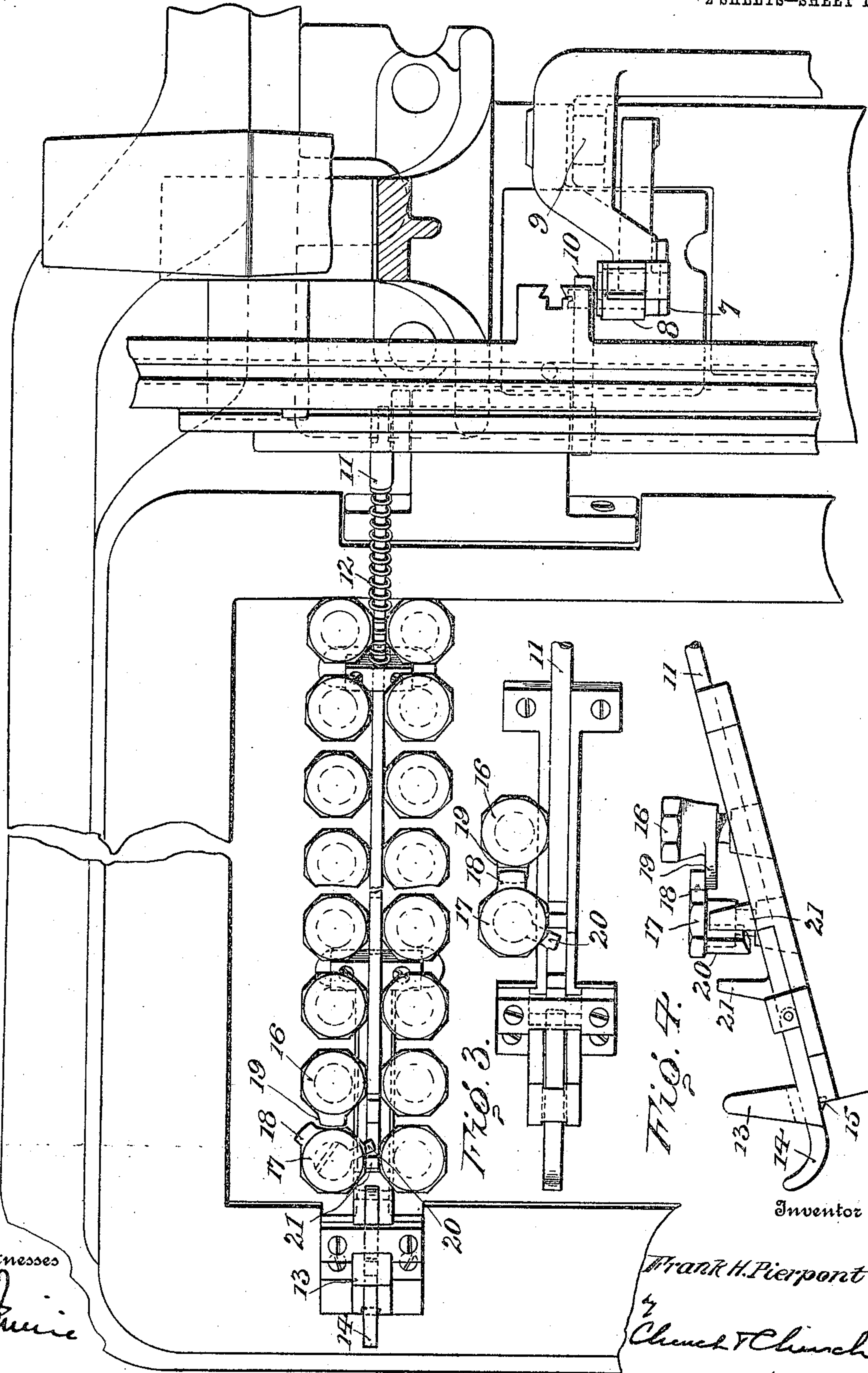


Fig. 3.

Fig. 4.

Inventor

Witnesses

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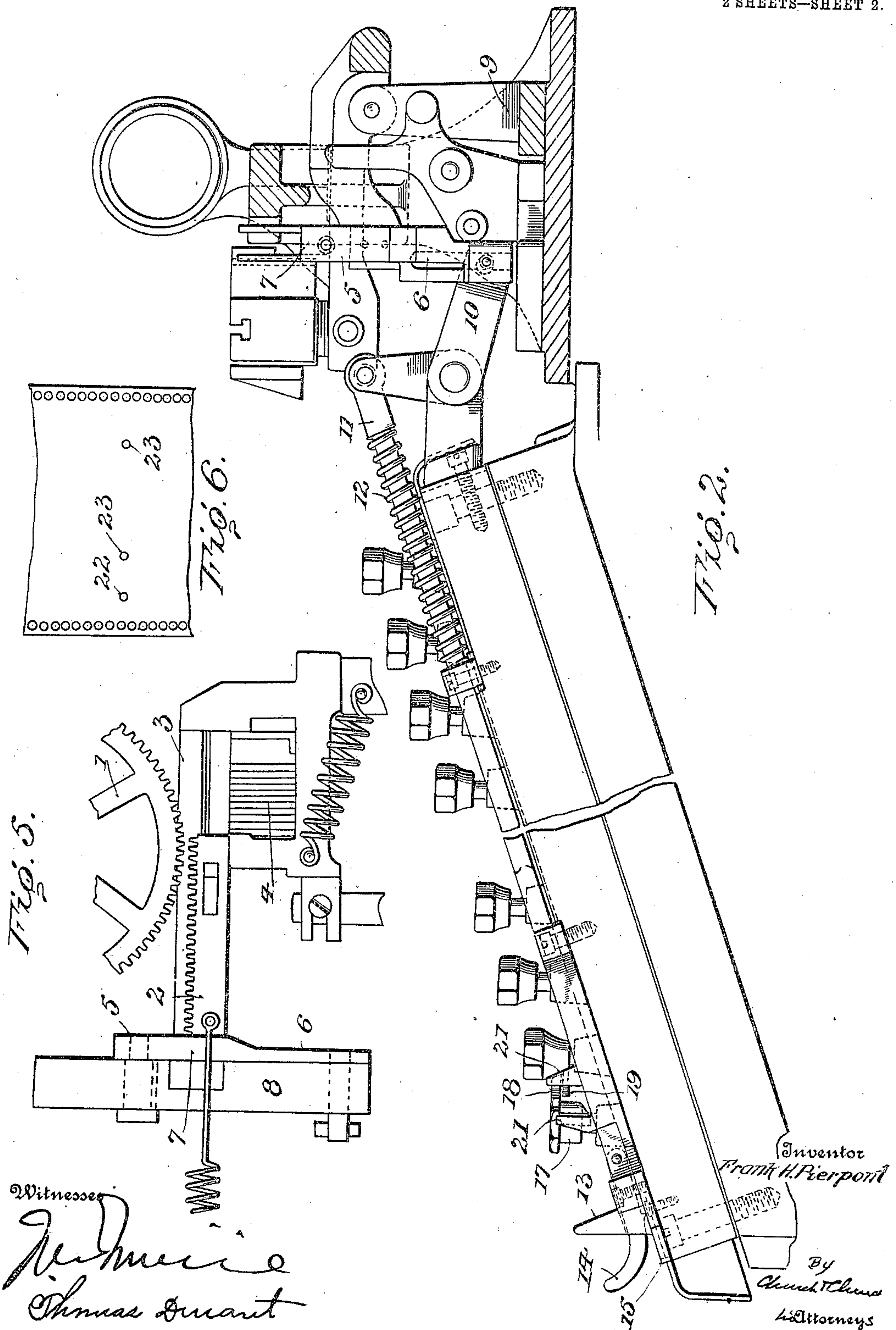
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UNITED STATES PATENT OFFICE.

FRANK HINMAN PIERPONT, OF HORLEY, ENGLAND, ASSIGNOR TO LANSTON MONO-TYPE MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF VIRGINIA.

PATTERN OR RECORD STRIP COMPOSING-MACHINE.

952,632.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed December 8, 1908. Serial No. 466,510.

To all whom it may concern:

Be it known that I, FRANK HINMAN PIERPONT, a citizen of the United States, temporarily residing at Horley, county of Surrey, England, have invented a certain new and useful Improvement in Pattern or Record Strip Composing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the numerals of reference marked thereon.

In a companion application Serial No. 466,511, filed December 8, 1908, is disclosed an improved form of pattern controlled type casting and composing machine adapted for the production of individually spaced type, and to that end equipped with supplemental mold adjusting devices controlled by special signals in the pattern and operating to vary the normal mold adjustments performed in connection with the production of character type.

The spacing referred to is of the kind employed in some languages, German for example, to emphasize a word or passage by the introduction of spaces between the characters, but in this instance the spacing is effected by the addition of a predetermined amount to the body of each type as produced.

The perforating or record strip composing machine upon which the pattern is prepared is equipped with line measuring mechanism upon which the normal space value of each type signal is recorded as an aid in determining the justification fraction or signal for each line of composition as set up or composed, but the efficiency of such line measuring mechanism would be greatly lessened, if not destroyed, if it were attempted to set up the spaced-type pattern thereon, owing to the fact that no means are provided for registering the extra body width of the character types composing the spaced matter, hence an independent calculation would be required to ascertain the closing point for the line and the justification fraction pertaining thereto.

Now the object of the present invention is to enable this spaced matter to be registered by the line measuring mechanism, and to facilitate the production of the spaced-type signal, to which end the invention con-

sists, broadly; first, in providing the pattern or record strip composing machine with an auxiliary or supplemental admeasuring means or mechanism adapted for use in conjunction with the normal signal admeasuring devices, to increase the value thereof by an amount equal to the excess body width of the spaced type; and, second, in coupling the controlling devices of said auxiliary admeasuring mechanism with the spaced-type signal producing devices in such manner that when said admeasuring mechanism is set to increase the space value of the signal producing devices the space type and spaced-type signal producing devices will be automatically coupled to act in unison.

The invention also includes minor features of construction, all as hereinafter fully described and pointed out in the claims.

In the accompanying drawings illustrating a preferred form of embodiment of the invention—Figure 1 is a top plan view of a portion of a record strip composing machine with the improvements applied thereto. Fig. 2 is a side elevation of the attachment. Fig. 3 is a top plan view, and Fig. 4 a side elevation of the devices for coupling the space and spaced-type signal keys. Fig. 5 is a front elevation showing the stepped abutment in connection with the units rack. Fig. 6 is a diagrammatic representation of a section of the pattern or record strip.

Corresponding numerals designate like parts in the several views.

For purposes of illustration the improvements are shown as adapted and applied to the well known Monotype record strip composing machine of Patent No. 828,470.

It will suffice for present purposes to refer to some of the principal features of the machine of the prior patent with which the improvements more directly coöperate. These include a keybank, each key whereof is coupled with and exercises control over the signal producing devices (punches), and a line measuring mechanism, the latter represented, in part, by units-wheel 1, units-rack 2, units-rack carrier 3 and series of admeasuring stop-bars 4.

The depression of any key, to produce its signal in the pattern, projects one of the stop-bars 4 into the path of units rack 2, elevates the latter into engagement with the motor driven units-wheel 1, and releases said

wheel. The movement of the units-rack from its retracted or zero position to the projected stop-bar measures the normal space value of the signal produced and adds the same to the previously measured signal, producing an accurate registry of the total number of units occupied in a line of predetermined dimensions.

Heretofore the zero position of the units-rack has been determined by a fixed stop on the units-rack-carrier against which it is drawn by its spring while said rack is out of engagement with the units-wheel. In the present instance this back stop is removed or omitted and its place supplied by one of a plurality of gages 5, 6, adapted to be alternately brought into the path of the units-rack. As shown, these gages are carried by or formed upon a block 7 guided to reciprocate transversely of the units rack on a support 8 attached to the units-rack-carrier frame 9. Preferably, block 7 is stepped to form the two gaging faces 5, 6, the latter differing in elevation by an amount corresponding with the number of units—(usually two) to be added to the bodies of normal type to convert them into spaced-type. When registering normal type, the more prominent or extended gaging surface 5 is maintained in position to arrest the units-rack in zero position, as heretofore; but when spaced type are to be registered, gaging surface 6 is substituted, with the result that the units-rack is permitted to move beyond the zero position a distance corresponding with the plus value of spaced type, say two units, so that when advanced into contact with the stop-bar, as upon the depression of a key, the line measuring mechanism will be advanced an amount corresponding with the normal space value of the signal produced, plus a uniform amount determined by the difference in projection of gages 5, 6.

As shown, the mechanism for controlling the position or alternate presentation of gages 5, 6, includes a bell-crank lever 10, one arm whereof is connected to block 7 and the other to an actuating rod 11 supported in guides upon the keybank frame, and provided with a spring 12, operating to normally advance block 7 so as to present gage 5 to the units rack, said rod being also provided with a finger piece 13, and a detent, in the form of a pivoted latch 14, in position to engage a shoulder 15 on the frame when said rod is retracted and thereby presents gage 6 to the units-rack. Whenever, during the composition or setting up of the type signals for a line, it is desired to space out a word, the operator, upon arriving at the first letter of the word and before designating the signal therefor, pulls down rod 11 until the detent is engaged, thus shifting block 7 to withdraw gage 5 and present gage 6, whereupon he proceeds to designate the

characters for the spaced word and finishes by producing the spaced type signal perforation 22 in conjunction with the space signal perforation 23 immediately succeeding the last character of the spaced matter, after which he releases the latch, permitting block 7 to resume its normal position and proceeds with the composition of the signals for normal type. Thus the plus measurements of the spaced type registered is carried into the line measurement. The spaced type signal (22+23+23) is produced by a key located adjacent the normal space key 17 and employed in conjunction with the latter, and to insure the simultaneous operation of the two keys at the conclusion of the composition of the spaced matter, the following arrangement has been devised. The button of the normal space key 17 is arranged to rotate on its spindle and is equipped with a lug 18 adapted to overlap a button of the spaced type signal key 16 or a similar lug 19 carried thereby. A projection 20 on the button of space key 17 extends between two lugs 21 carried by rod 11, the arrangement being such that when rod 11 is retracted to present gage 6 the button of key 17 will be turned to bring its lug 18 into position to engage key 16 when said key 17 is depressed to designate the space signal; and upon the release of rod 11 and the return of gage 5 to normal position the button of key 17 will be turned to uncover key 16. It should be mentioned that key 16 when operated alone produces a quad signal having a normal space value in excess of that registered by the normal space key 17; but when operated in conjunction with the latter it produces the spaced type signal, and although the stop-bar of key 16 is at the time elevated, it is inoperative, inasmuch as the stop-bar controlled by key 17, (the one nearest the units-rack) intercepts the units-rack and thus prevents its engagement with the more remote stop-bar of key 16.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a pattern or record strip composing machine provided with a line measuring mechanism including a movable member and admeasuring devices for determining the extent of its excursions in one direction and in combination therewith supplemental admeasuring means for determining the extent of the excursions of said movable member in the opposite direction, including a plurality of gaging members adapted to be alternately interposed in the path of said movable member.

2. In a pattern or record strip composing machine provided with a plurality of signal producing means and a line measuring mechanism including a reciprocating member and serially arranged stops therefor, the latter

coupled with said signal producing means to admeasure the advance of said movable member, and in combination therewith, a plurality of gaging members for determining the retracted position of said reciprocating member.

3. In a pattern or record strip composing machine the combination of the following elements, to wit; a plurality of signal producing means; a line measuring mechanism provided with a reciprocating member and admeasuring devices coupled with the signal producing means and operating to measure the advance of said reciprocating member; and a plurality of gaging members operating consecutively to measure the retracted position of said reciprocating member.

4. In a pattern or record strip composing machine, provided with a plurality of signal producing devices or keys, and a line measuring mechanism including admeasuring means controlled by said signal producing devices, and a reciprocating member whose excursions in one direction are limited by said admeasuring means, and in combination therewith, a plurality of gaging members for limiting the excursions of the reciprocating member in the opposite direction and controllable means for presenting either of said gaging members in the path of said reciprocating member.

5. In a line measuring mechanism for pattern or record strip composing machines such as described, the combination with the units rack and serially disposed stop bars for admeasuring the advance of said units rack, of a plurality of gages for admeasuring the return of said units rack, said gages differing in altitude or projection and coupled for simultaneous movement to withdraw the one and substitute another in the path of the units rack.

6. In a pattern or record strip composing machine provided with a plurality of signal producing keys and a line measuring mechanism, including a units rack and a series of stop bars therefor coupled with and controlled by said keys, and in combination therewith, an admeasuring device for limiting the recession of the units rack, the same including a block equipped with stepped gaging surfaces and movable transversely of the unit rack to present alternate gaging surfaces to the latter.

7. In a pattern or record composing machine such as described, provided with line measuring mechanism including a units rack and stop bars for measuring the advance thereof, and in combination therewith, a plurality of gaging members adapted to be successively interposed in the path of the units rack, and actuating devices for said gaging members including transmitting connections, a spring and a detent.

8. In a pattern or record strip composing

machine provided with a plurality of individual signal producing means, and a line measuring mechanism including a reciprocating member whose excursions, to measure the normal space value of each signal as produced, are controlled by admeasuring devices coupled with the signal producing means, and in combination therewith, controllable means for varying the initial position of said reciprocating member to correspondingly increase or diminish the space value of the produced signal as registered.

9. In a pattern or record strip composing machine provided with signal producing devices and line measuring mechanism, and in combination therewith the following elements, to wit:—two opposed admeasuring devices, of which one is coupled with the signal producing devices to designate the normal space value of each signal as produced, while the other is coupled with a separate control means; and a units measuring member interposed and reciprocating between said admeasuring devices, the latter limiting its excursions at opposite extremes thereof.

10. In a pattern or record strip composing machine such as described, the combination with the units rack and its stop bars, of a back stop for said rack provided with stepped gaging surfaces of relatively different altitudes.

11. In a pattern or record strip composing machine such as described, provided with a line measuring mechanism including units rack and stop bars, and in combination therewith, an admeasuring back-stop for said units rack, provided with gaging surfaces of different altitude and movable transversely of said rack, to present said gaging surfaces in alternation, and actuating devices for said back-stop provided with a finger piece and latch.

12. In a pattern or record strip composing machine such as described provided with keys controlling the signal producing devices and a line measuring mechanism, the latter including a units measuring member and a series of admeasuring devices coupled with the keys to designate the space value of each signal as produced, and in combination therewith an admeasuring back-stop for said units measuring member, actuating devices therefor, and means coupled with the latter for connecting up a plurality of keys for simultaneous action.

13. In a pattern or record strip composing machine such as described provided with a series of signal producing keys and a line measuring mechanism equipped with a plurality of back stops or gages for the unit measuring member and a unit admeasuring mechanism coupled with said keys for registering the normal space value of each signal and in combination therewith a revolu-

ble member carried by one of said keys and adapted in one position to engage an adjacent key for simultaneous operation.

14. In a pattern or record strip composing machine such as described provided with a plurality of signal keys and a line measuring mechanism including a units registering member movable between opposed admeasuring devices the one coupled with the keys and operating to designate the space value of the signals as produced and the other provided with actuating devices and operating to vary the retracted or zero position of said units registering members, and in combination therewith, means controlled by said actuating devices for coupling a plurality of keys for simultaneous action.

15. In a pattern or record strip composing machine provided with a series of finger keys controlling signal producing devices and a line measuring mechanism including a units measuring member and two admeasuring systems therefor the one controlled by the keys and the other by actuating devices adjacent said keys, and in combination therewith means controlled by said actuating devices for coupling two adjacent keys for simultaneous action, said means including a movable member carried by one key adapted to engage an adjacent key and controlled as to such engagement by said actuating devices.

16. In a pattern or record strip composing machine such as described provided with a plurality of signal producing keys and a line measuring mechanism including admeasuring devices coupled with the keys for measuring the normal space value of each signal

as produced, and other admeasuring devices provided with independent actuating devices and operating to vary the normal space value measurements, and in combination therewith a revoluble finger piece applied to one key and provided with an offset for engagement with an adjacent key and an offset projection between opposed bearings coupled with the aforesaid independent actuating devices.

17. In a pattern or record strip composing machine such as described provided with a plurality of signal producing keys and a line measuring mechanism coupled therewith, the combination of the following elements, to wit: means for varying the throw of the units measuring device and actuating mechanism therefor including a motor device and a detent; a revoluble finger piece carried by one key and provided with an offset portion adapted to overlap an adjacent key; and means for coupling said revoluble finger piece with the actuating mechanism of said means for varying the throw of the units measuring device.

18. In a pattern or record strip composing machine such as described, the combination with adjacent keys, of a revoluble finger piece carried by one key and provided with an offset portion for engagement with the other key and a reciprocating bar or rod coupled with said finger piece to rotate the latter.

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Witnesses:

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