

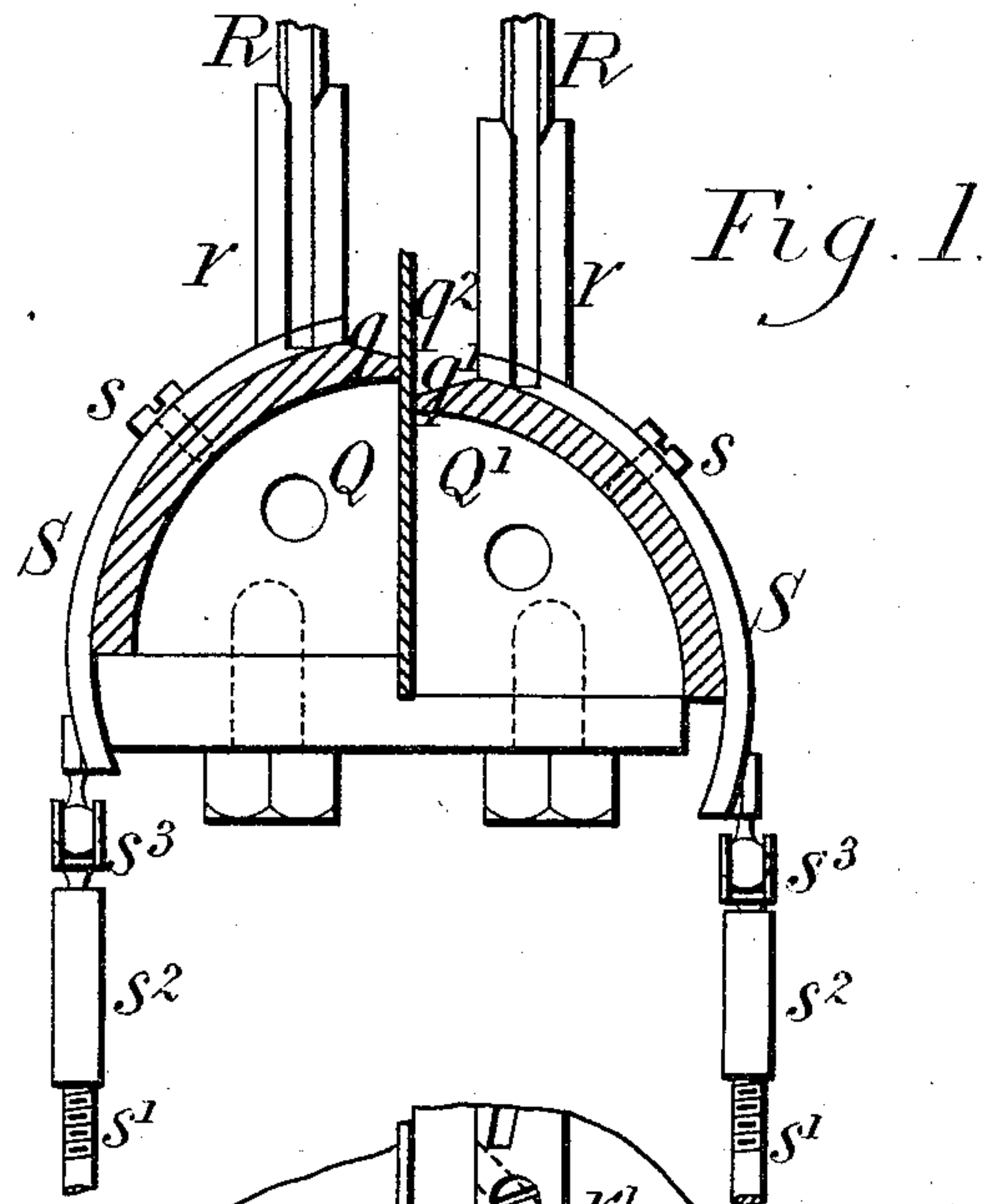
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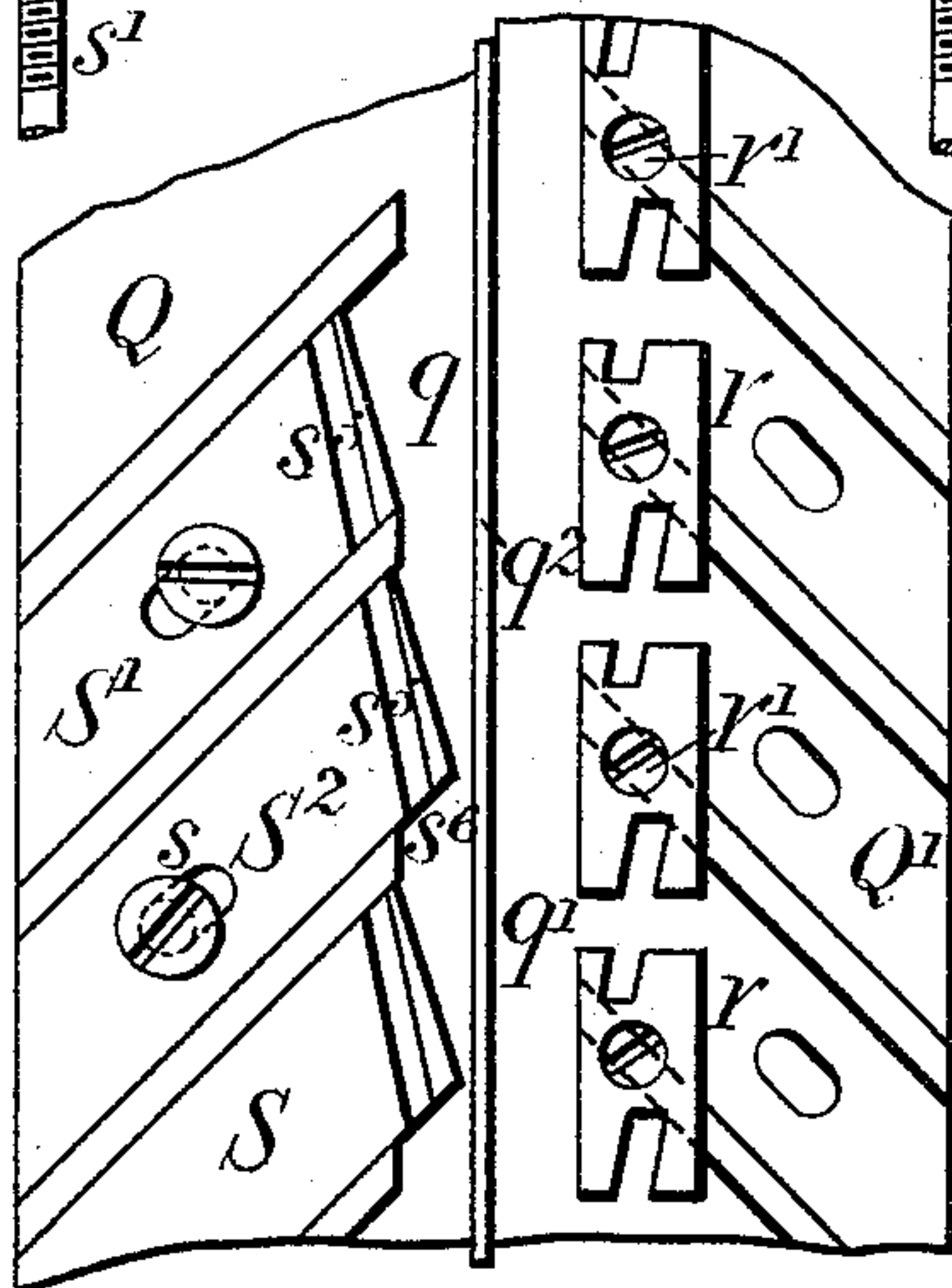
F. WICKS.  
TYPE COMPOSING MACHINE.

No. 539,716.

Patented May 21, 1895.



*Fig. 1.*



*Fig. 2.*

*Witnesses:*  
*Thos. A. Green*  
*Robert Garrett*

*Inventor:*  
*Frederick Wicks.*  
*By James L. Norris.*  
*Atty.*

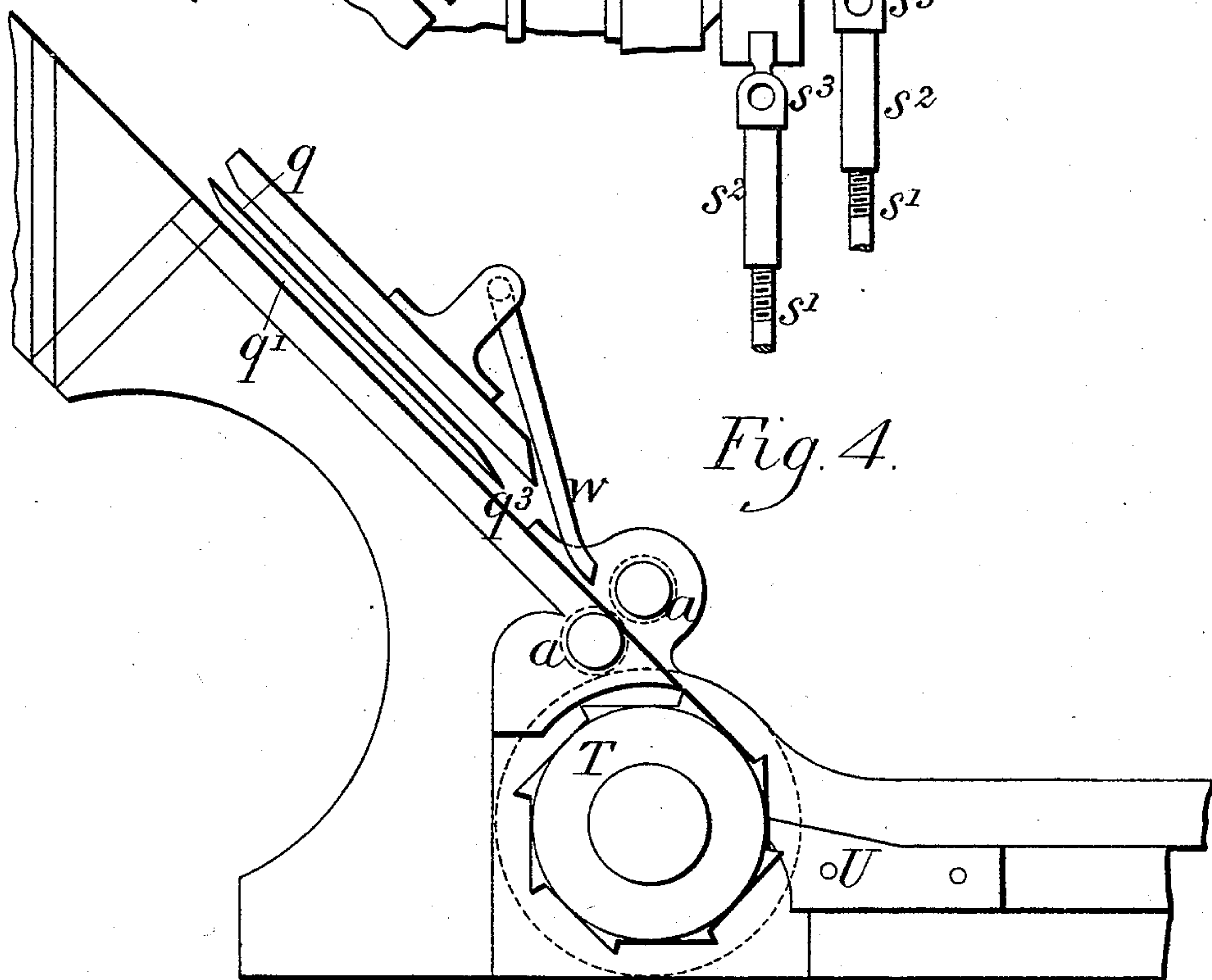
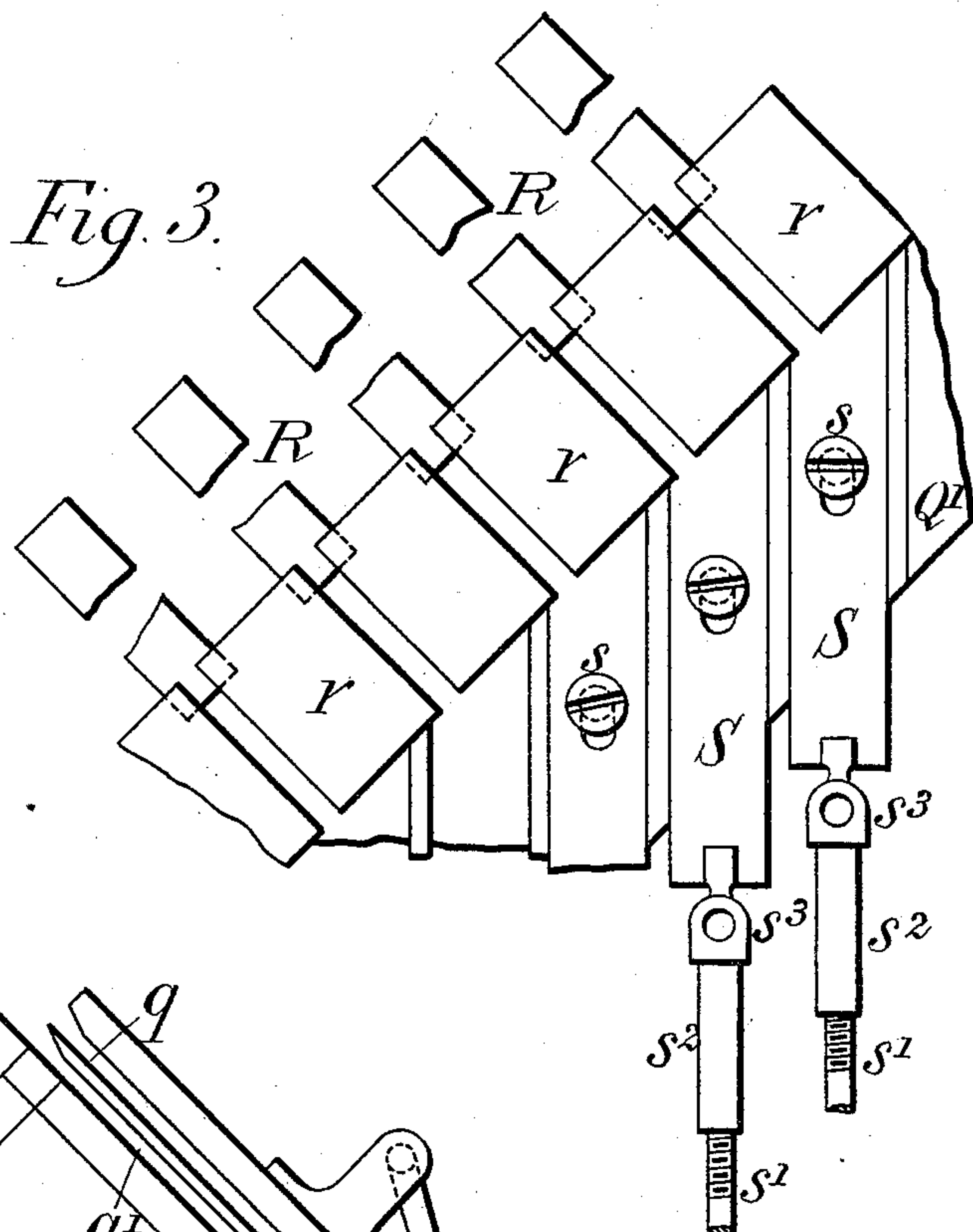
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2 Sheets—Sheet 2.

F. WICKS.  
TYPE COMPOSING MACHINE.

No. 539,716.

Patented May 21, 1895.



Witnesses.  
Thos. A. Green  
Albert Crockett

Inventor.  
Frederick Wicks.  
By James L. Norris  
Atty.



# UNITED STATES PATENT OFFICE.

FREDERICK WICKS, OF LONDON, ENGLAND.

## TYPE-COMPOSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 539,716, dated May 21, 1895.

Application filed February 25, 1895. Serial No. 539,665. (No model.) Patented in England April 28, 1891, No. 7,329.

*To all whom it may concern:*

Be it known that I, FREDERICK WICKS, a citizen of England, residing at No. 1 Cheyne Gardens, Chelsea, in the city of London, England, have invented certain new and useful Improvements in Type-Composing Machines, (for which I have received Letters Patent in Great Britain, No. 7,329, dated April 28, 1891,) of which the following is a specification.

My invention relates to improvements in the type composing machine described in the specification to my United States Patent No. 276,947, dated May 1, 1883, whereby I render the operation of the machine more certain and effective.

I incline the bottom of the type race downward toward the middle partition of the race so that the types as they slide down the race, keep close to the partition. Instead of merely pushing out the lowest type from the holder into the race, I make the type ejector with a groove in which lodges the lowest type in the holder, and when this ejector moves the type out of the holder, the type slides on to the race out of the groove which has the same downward inclination as the race. The ejectors thus operating are fitted to slide in helical grooves at the sides of the race being moved directly by the composing keys. At the bottom of the race I provide a pair of rollers geared to the setting wheel, between which rollers each type passes from the race to the setting wheel, to which it is thus delivered at suitable speed. I make the race which receives the type from the setting wheel inclined somewhat downward from the wheel so that each type as it is delivered on to it, tends to move away from the setting wheel without risk of its being shaken back by vibration. In order to render the movement of the setting wheel and the rollers above mentioned nearly uniform, I prefer to gear a fly wheel to them.

Figure 1 of the accompanying drawings is a transverse section. Fig. 2 is a part plan, and Fig. 3 is a part side elevation, of a type-race modified according to my present invention to take the place of the type-race and ejectors described in my former specification. Fig. 4 is a part longitudinal section showing the lower end of the race and setting-wheel

modified according to my present invention to take the place of that described in my said previous specification.

R represents the cases holding the types, which rest on pieces  $r$  which are adapted to fit on the two half races  $Q Q'$  and are fixed thereon by screws  $r'$ . The two half races  $Q Q'$  are separated by a partition  $q^2$  and have their upper faces  $q q'$  inclined downward that partition so that the types which run down these faces are kept by gravity close against the partition; also the one race  $q$  is at a higher level than the other  $q'$  so that as the types descend toward the setting wheel T (Fig. 4) those running along the lower race  $q'$  go direct toward the wheel, and those running along the higher race  $q$  drop at  $q^3$  down to the line of  $q'$ . Each of the races  $Q Q'$  is made in sectional form of a quadrant having inclined grooves each forming a portion of a helix in which slides one of the ejectors S its stroke being limited by a screw  $s$  passed through a slot. Each ejector S is linked to one of the finger keys by a connecting rod  $s'$  adjustable lengthwise in a screw socket  $s^2$  which has two side cheeks  $s^3$  engaging a ball attached to the ejector, this ball and the cheeks forming a universal joint.

In Fig. 2 on the left side the type tubes are removed to show the ends of the ejectors S the upper one  $S'$  of which is shown as being drawn back having its groove  $s^5$  immediately under the type tube to receive the lowest type. The next lower ejector  $S^2$  is shown pushed forward so that the lower end of its groove  $s^5$  is open to the race  $q$  allowing the type to slide out of it and down the race. The front end of each ejector is inclined as shown so that when any one is pushed forward like  $S^2$  it does not interrupt the descent of a type from a higher part of the race  $q$  which can pass along the inclined end of  $S^2$  and escape past its extreme lower corner  $s^6$ .

As shown in Fig. 4, the types which run down the races  $q q'$  pass under the hanging weight  $w$  and between two small rollers  $a a$  and lodge against the successive teeth of the setting wheel T whence they drop on to the race U which, according to my present invention is inclined so as to give each type a tendency to move away from the wheel.



Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim in respect of improvements in type-composing machines of the kind described in my previous specification, No. 276,947, is—

1. The combination in a type-composing machine, of two quadrantal, helically grooved sections and a channel between them provided with a separating partition and constituting two type paths, one of which is lower than the other, and both of which incline toward the separating partition, substantially as described.

2. The combination in a type-composing machine, of a helically grooved race, ejectors made as curved bars and movable in the grooved parts of the race, and lengthwise adjustable rods having universal joint connec-

tions with the ejectors, substantially as described.

3. In a type composing machine each ejector made with a groove to receive the type and an inclined end, substantially as and for the purpose set forth.

4. In a type composing machine in combination with the setting wheel, a pair of rollers arranged to feed the successive types to it, and a race inclined from it, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 11th day of February, A. D. 1895.

FREDERICK WICKS.

Witnesses:

OLIVER IMRAY,  
JNO. P. MILLARD.