

A. FRASER.
Type-Composing Machine.

No. 226,297.

Patented April 6, 1880..

Fig. 2

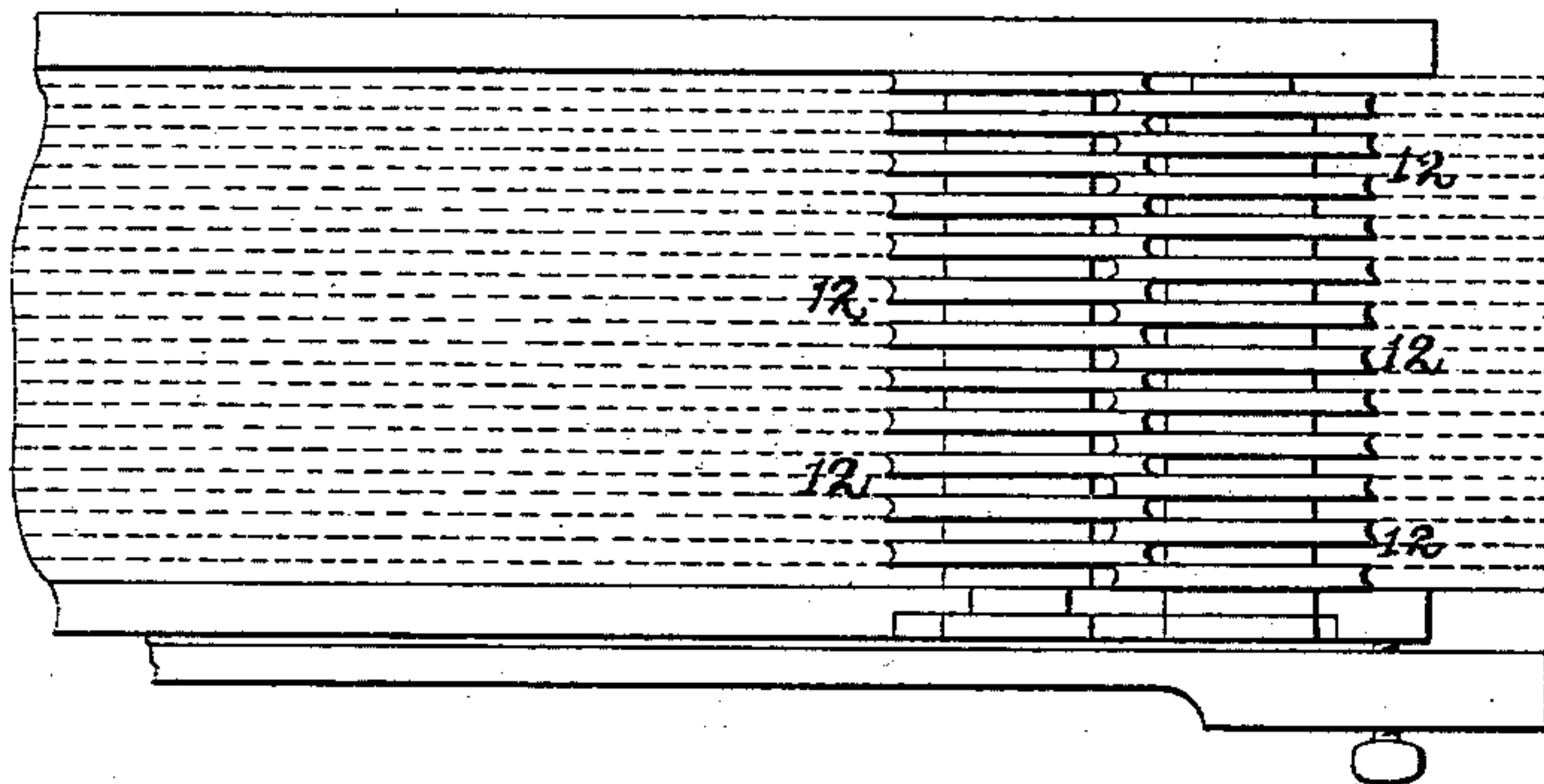


Fig. 1

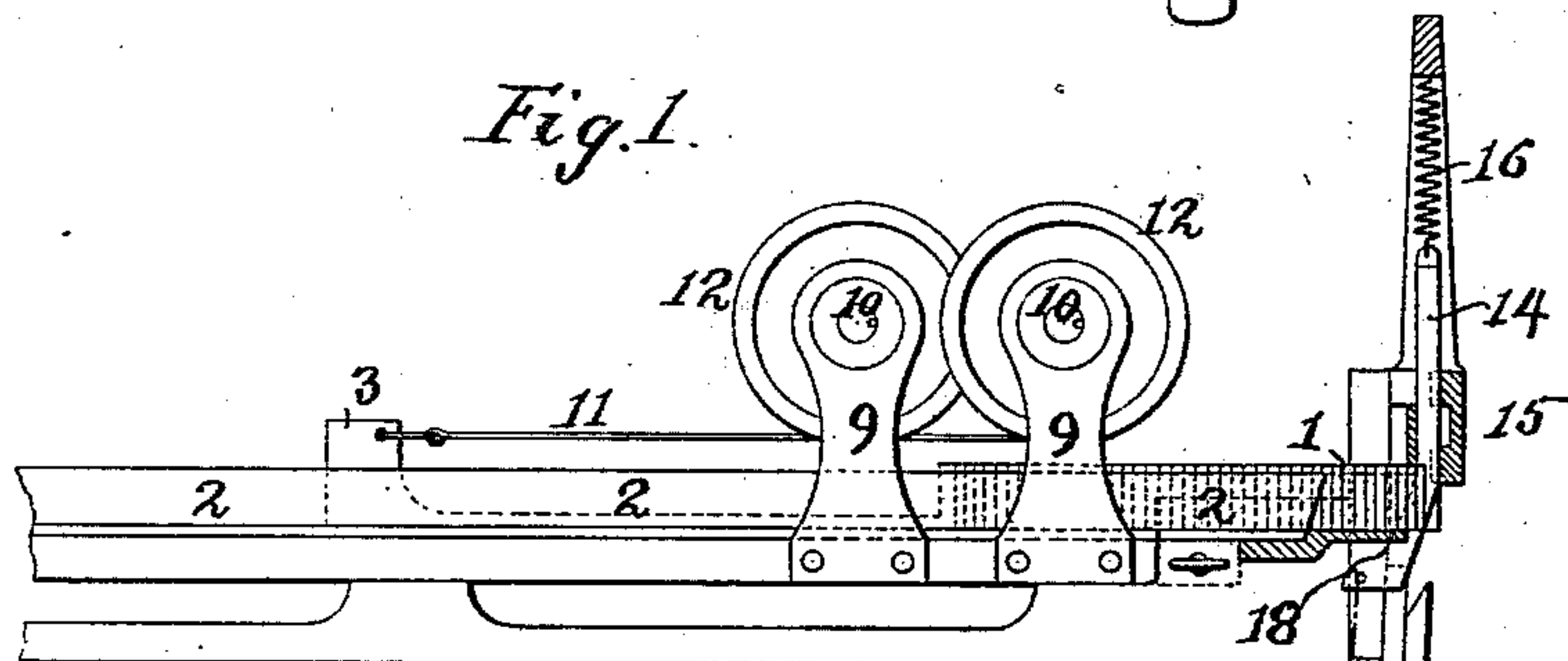


Fig. 3

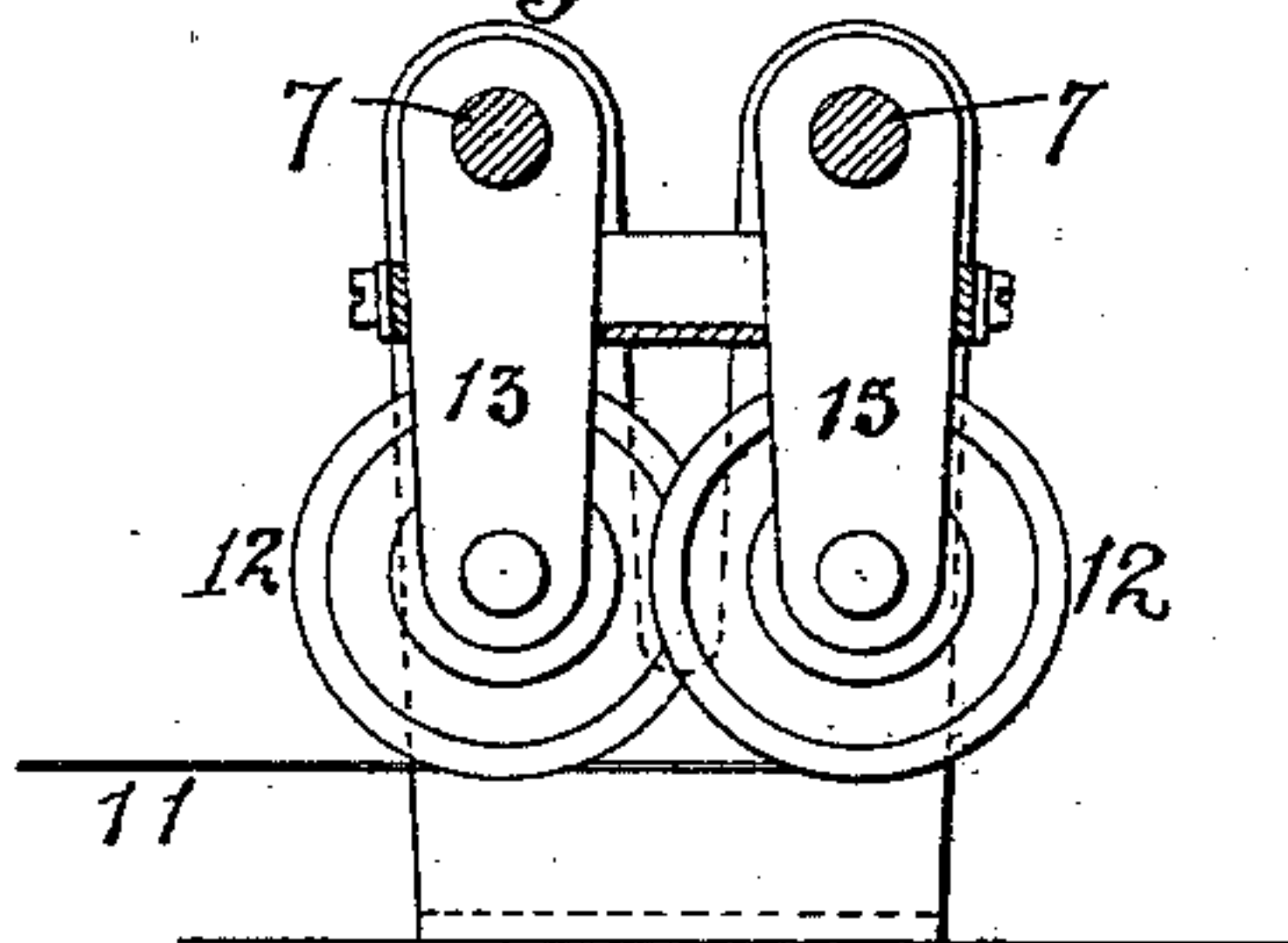
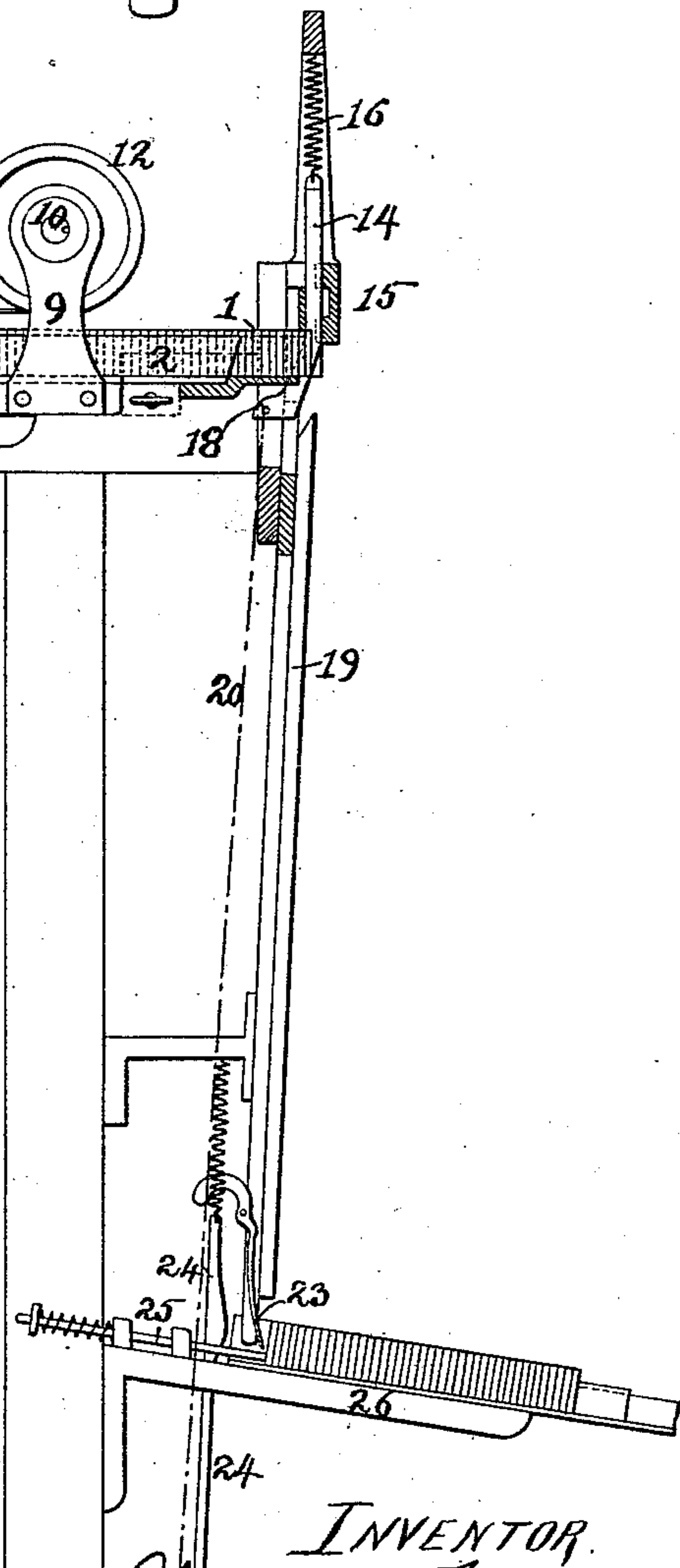
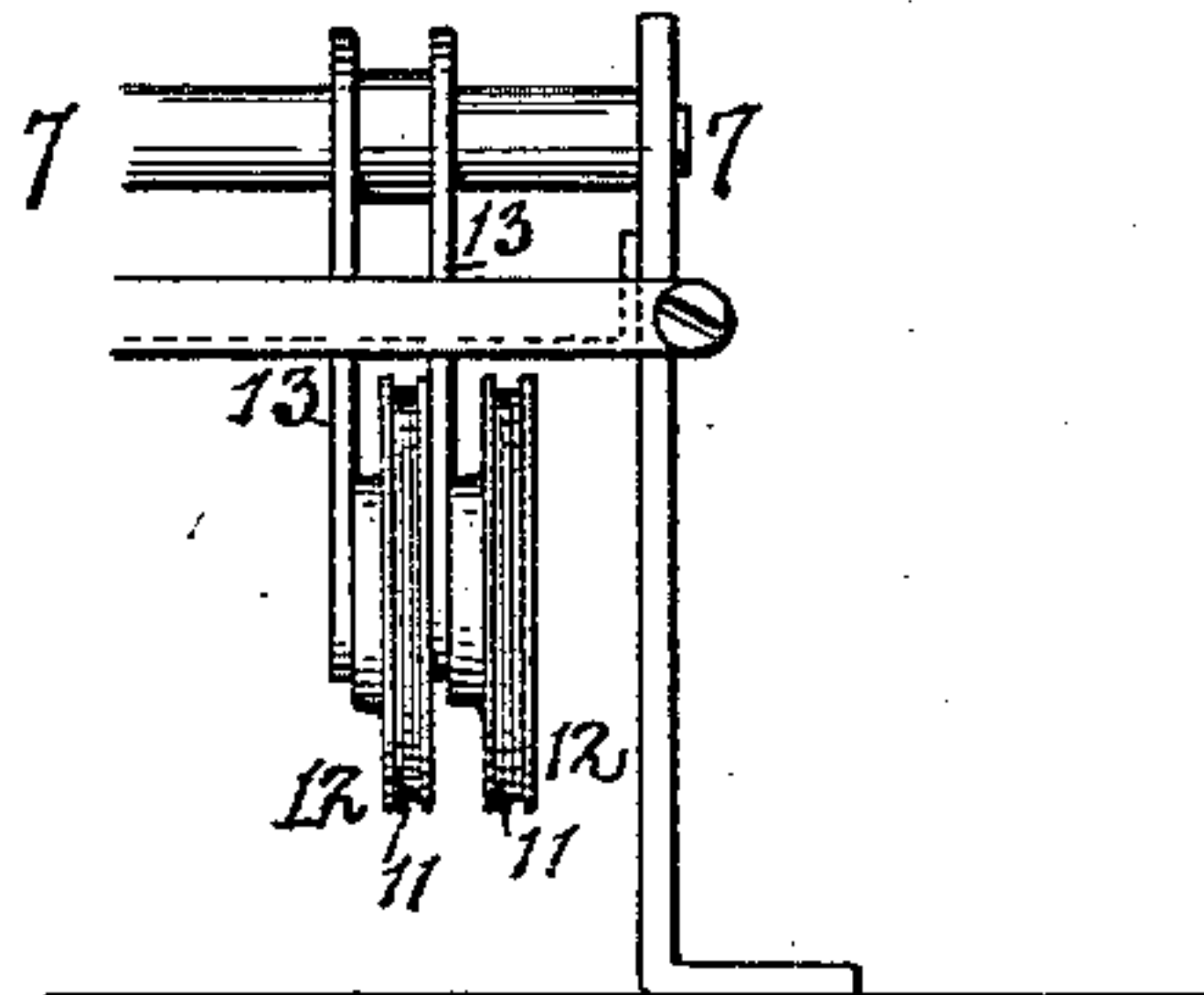


Fig. 4



WITNESSES

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INVENTOR.

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UNITED STATES PATENT OFFICE.

ALEXANDER FRASER, OF EDINBURGH, SCOTLAND.

TYPE-COMPOSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 226,297, dated April 6, 1880.

Application filed December 8, 1879. Patented in England, May 15, 1875.

To all whom it may concern:

Be it known that I, ALEXANDER FRASER, of Edinburgh, Scotland, have invented a new and useful Improvement in Type-Composing Machines, for which an English patent, No. 1,812 of 1875, was granted to me, and of which the following is a specification.

My invention relates to an improvement in the type-composing machine for which I obtained Letters Patent of the United States, No. 224,166, dated February 3, 1880; and the object of my invention is to improve the construction of the devices for operating the series of type-pushers. This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a side view, partly in section, of sufficient of the machine to illustrate my invention; Fig. 2, a plan view of the spring drums or pulleys, and Figs. 3 and 4 detached views of a modification.

The construction of the frame, the grooved face-plate, its glass front, the keys, and mechanism for operating the type-depressors is the same as that shown in my above-mentioned patent, and it has therefore not been deemed necessary to show these parts, since they form no part of the present invention.

As shown in my said patent, the lines of type 1 are contained in trays 2 on the upper part of the frame of the machine, and the front type of each line bears against a notched depressor-bar, 14, suspended by a spring, 16, to a bar on the upper part of the machine, and guided by bars 15. Each depressor is provided with a blade or fin, 18, connected by a cord, wire, or chain, 20, with operating-levers under the control of finger-keys. As each type is withdrawn from the tray by its depressor 14 it slides down the corresponding channel in the face-plate 19, the type being guided at the point where the several channels meet, as described in my above-cited patent, by a weighted or spring tongue, 23, which directs the type into the composing-stick or galley 26, and serves to keep said type in an upright position. The line of type in the composing-stick or galley is fed forward as each new type is fed into it by a spring-bar, 25, to which a forward movement is imparted on each depression of a finger-key by a cam-bar, 24.

Instead of pushing the several lines of type forward by pushers controlled by dogs pass-

ing through slots in the bottom of the type-grooves and connected by cords to weighted levers, the slots in the type-grooves in the present case are dispensed with, and the type-pushers 3 are lengthened and connected by cords 11 above the type each to a spring drum or pulley, 12. These pulleys are mounted on two stationary shafts, 10, alternately, as shown in Fig. 2, to economize space and permit the type-grooves to be close together, as required, the cords from the back row of pulleys passing between the pulleys of the front row. The shafts 10 are carried by brackets 9 secured to the portion of the frame-supporting type-trays. Each pulley or drum is formed with a barrel to receive the spring, the outer end of the latter being attached to the barrel, while the inner end of each spring is secured by a key in a groove in the stationary shaft 10.

Instead of mounting the spring-drums on shafts carried by brackets, each drum may be mounted on an axle carried by a hanger, 13, suspended from upper transverse bars, 7, carried by brackets secured to the frame, as shown in the sectional view, Fig. 3, and detached end view of a single drum, Fig. 4, the drums in this case also being arranged in two alternate rows.

It will thus be seen that when the cords are uncoiled from the drums to the farthest limit—that is, when the grooves are full of type—the springs will be at their greatest tension, and will exert the most power, and as the lines of type decrease in length the tension of the springs will decrease.

I do not desire to claim, broadly, spring drums or barrels for feeding or pushing rows of type; but

I claim as my invention—

In a type-composing machine, the combination of type-trays, provided with a series of grooves for lines of type and a series of type-pushers, with a corresponding series of spring drums or barrels, 12, round which pass cords to the said pushers, and which are mounted on two transverse shafts alternately, all 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.

ALEXANDER FRASER.

Witnesses:

GEO. MERRILL,
EDWARD A. BATES.