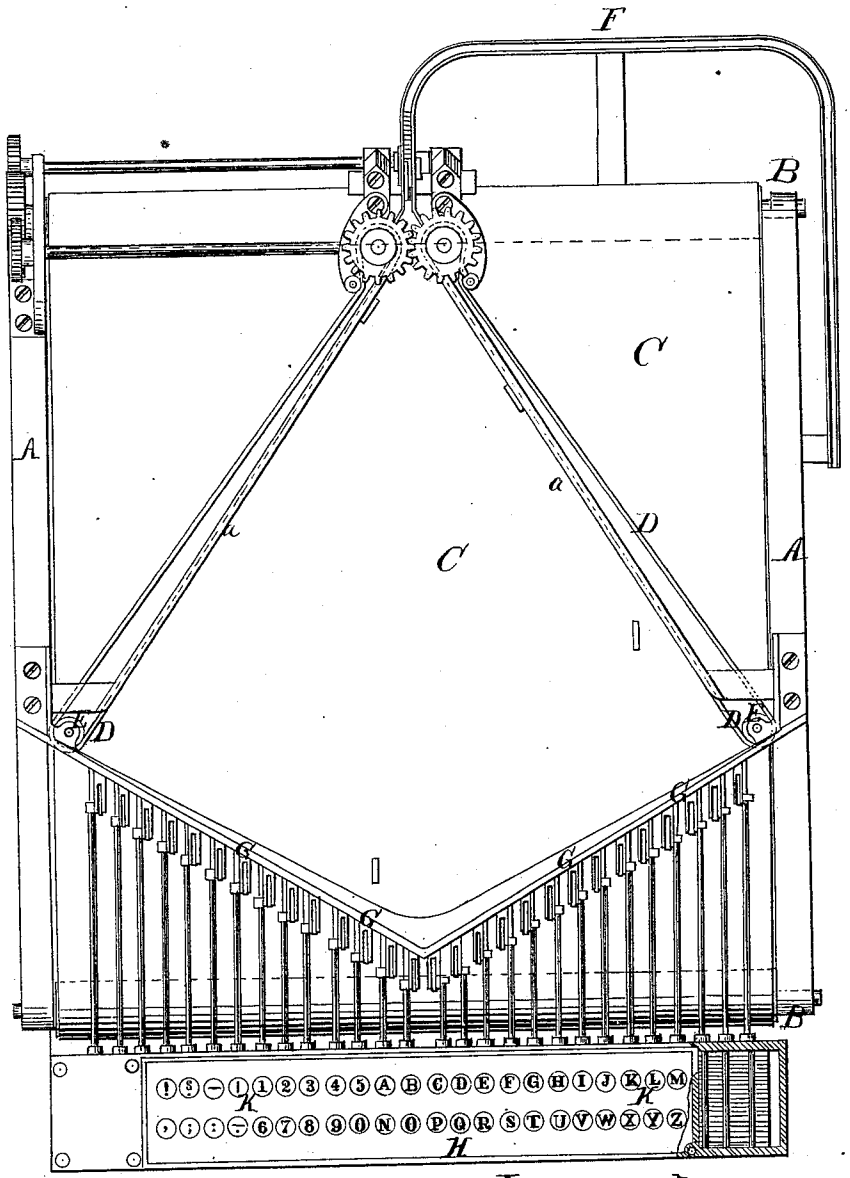
2 Sheets--Sheet 1.

A. C. RICHARDS.

Type-Setting Machine.

No. 164,037. Patented June 1, 1875.

Fig. 1



Witnesses.
Chas. Wahlers.
Otto Shipland

Inventor.
Augustus C. Richards
per
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2 Sheets--Sheet 2.

A. C. RICHARDS.

Type-Setting Machine.

No. 164,037. Patented June 1, 1875.

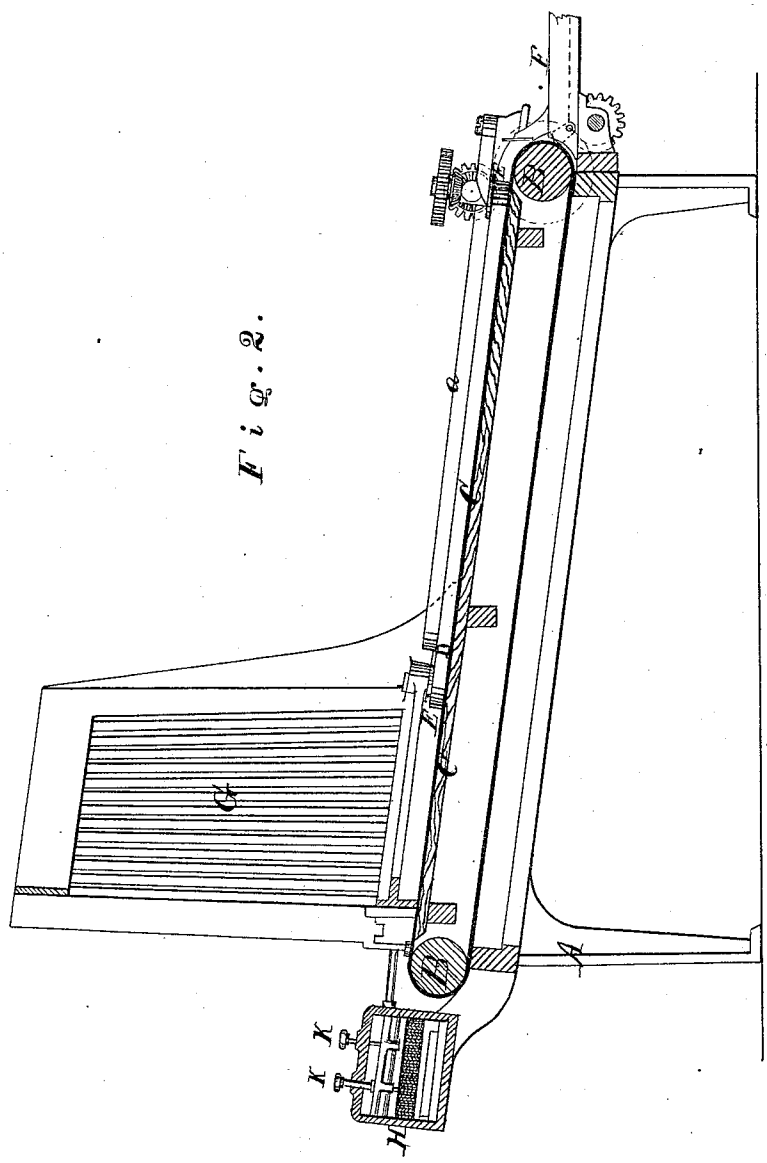

Fig. 2.

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UNITED STATES PATENT OFFICE.

AUGUSTUS C. RICHARDS, OF NEW YORK, N. Y.

IMPROVEMENT IN TYPE-SETTING MACHINES.

Specification forming part of Letters Patent No. **164,037**, dated June 1, 1875; application filed April 12, 1875.

CASE B.

To all whom it may concern:

Be it known that I, AUGUSTUS C. RICHARDS, of the city, county, and State of New York, have invented a certain new and useful Improvement in Type-Setting Machines, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a plan or top view. Fig. 2 is a longitudinal vertical section.

Similar letters indicate corresponding parts.

This invention consists in an endless carrying-apron, in combination with converging belts, which move at a different speed from the carrying-apron, and with a series of type-channels, from which the desired types are discharged successively by suitable mechanism in such a manner that, by the combined action of the carrying-apron and the converging belts, the types are deposited in the proper position in a channel provided for their reception.

The inner branches of the converging belts are subjected to the action of flanged rails, which hold them down close to the carrying-apron, and also prevent them from canting over.

In the drawing, the letter A designates a frame, which forms the bearings for two rollers, B B, round which extends an endless apron, C.

The frame and apron are, by preference, placed in an inclined position, as shown in Fig. 2.

With said apron are combined two belts, D D, which run over pulleys E E, situated above the apron and close to its surface, so that the edges of the belts move in close proximity to the surface of the apron.

In order to prevent the inner strands of the belts from rising and from canting over, flanged rails *a* are applied, which catch over the upper edges of said belts.

The pulleys E E are so arranged that the belts D D converge toward the receiving type-channel F, situated at the lower part of the apron C. The converging belts D D are geared together with the carrying-apron C, so that they move with a different velocity from said apron, the velocity of the converging belts being either larger or smaller than that of the apron.

If a type is dropped upon the upper part of the carrying-apron, it is carried down until it comes in contact with one of the converging belts, and, by the action of this belt, the type is turned, so that it lies close against the inner surface of said belt, and that it moves down toward the receiving type-channel in the required position. On reaching the lower end of the carrying-apron, said type slides down into the receiving type-channel F, a suitable mechanism being provided to bring the types after they reach this receiving type-channel in the proper upright position.

The mechanism which I employ for this purpose forms the subject-matter of a different application for a patent, and I do not, therefore, describe the same in this present specification.

The types to be set are taken from a series of cases, G, which are placed at the head of the carrying-apron on a circular or angular line, so that the distances from the several cases to the mouth of the receiving type-channel are, as near as possible, alike, and that the time required for each type from the moment when it has been discharged from its case until it reaches the receiving type-channel will be uniform, or nearly so.

The type-channels consist of narrow channels, just wide enough to receive the types, and the types are pushed out of these cases as required by the action of keys K, which are arranged in a key-board, H.

The mechanism employed for pushing out each particular type from its case may be changed in various different ways, and I do not wish to confine myself in this respect to any particular device.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of an endless carrying-apron, C, with converging belts D D, and with a series of type channels or cases, from which the desired types are discharged suc-

cessively, substantially in the manner herein shown and described.

2. In combination with the endless carrying-apron and the converging belts, the flanged rails *a*, overlapping the inner strands of the converging belts, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 2d day of April, 1875.

A. C. RICHARDS. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.