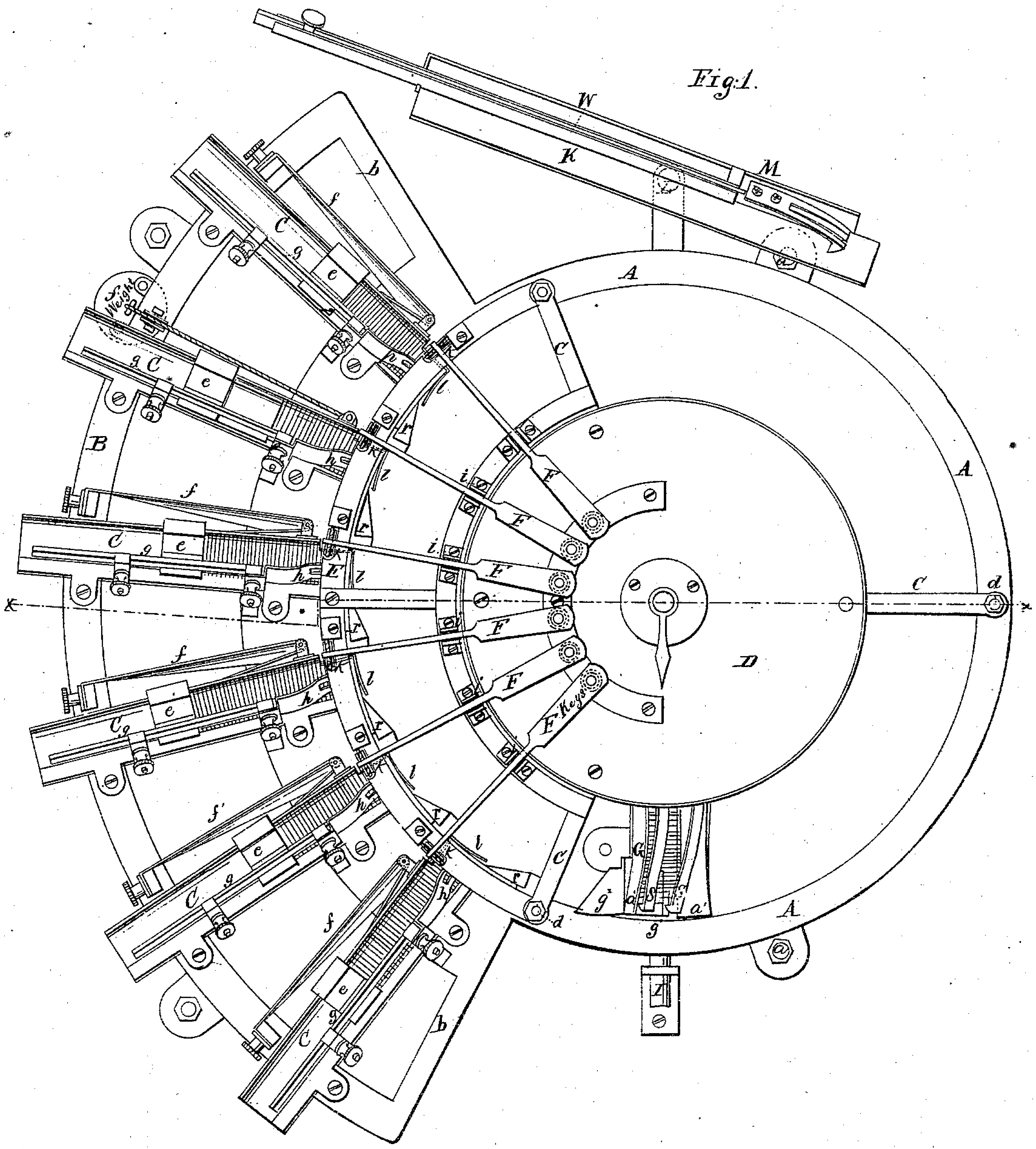
C. Baer. Sheet 1. 2 Sheets.

Type Setting Mach.

No. 57034. Patented Aug. 7. 1866.

Fig. 1.



WITNESSES.

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Type Setting Mach.

No. 57034. Patented Aug. 7, 1866.

Fig: 2.

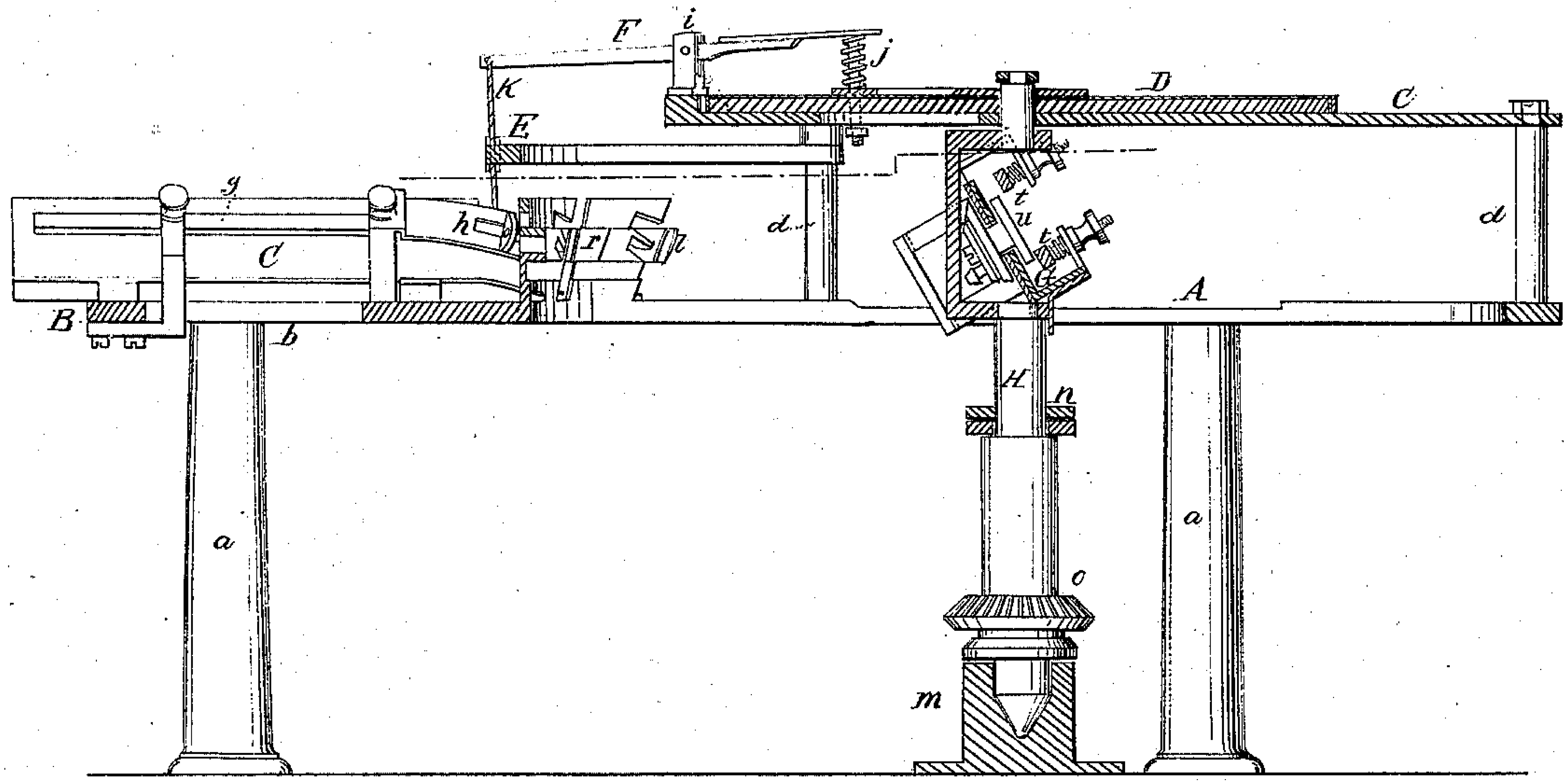


Fig: 3.

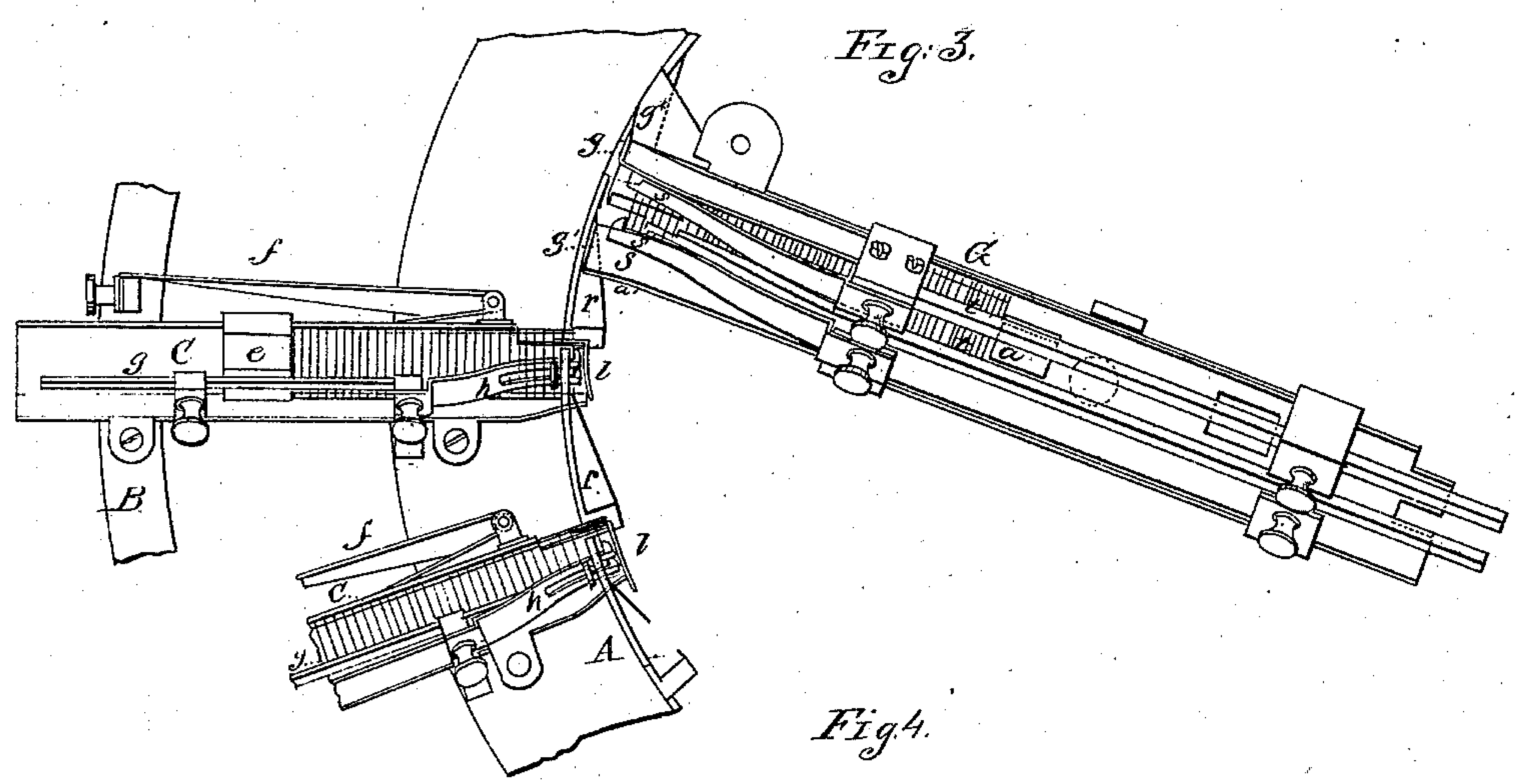
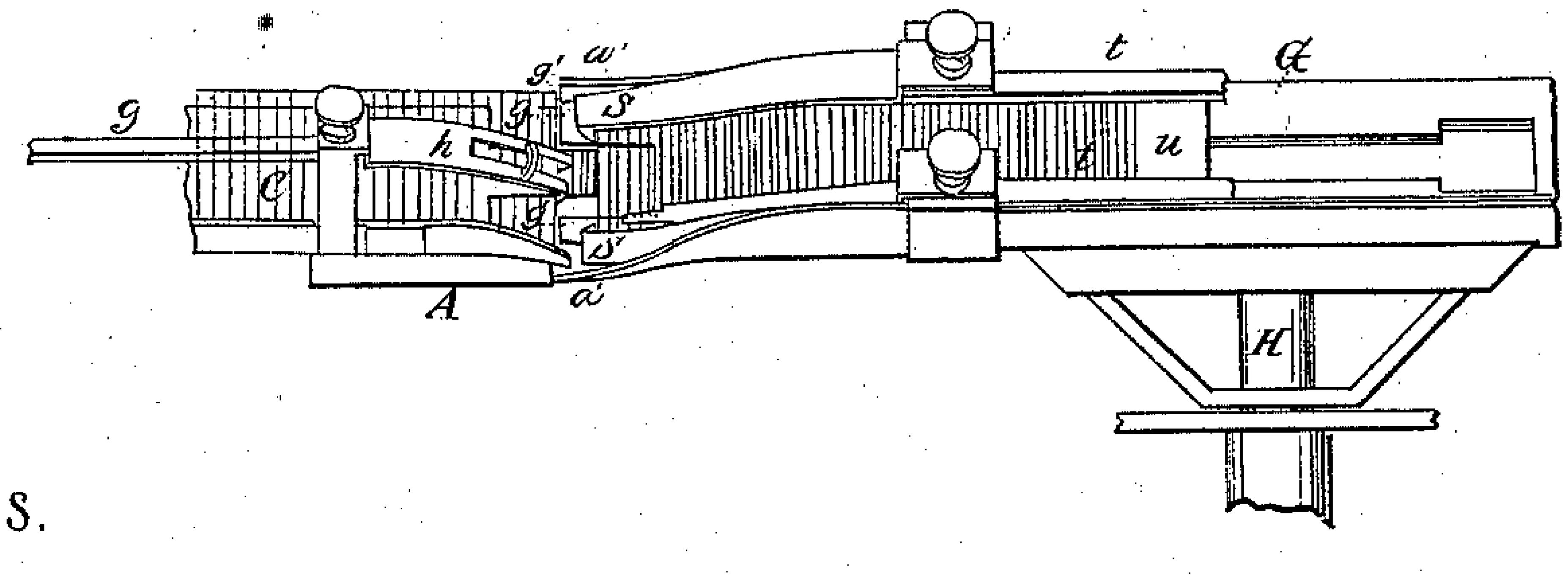


Fig 4.



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UNITED STATES PATENT OFFICE.

CHARLES BAER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND J. WILLIAM KRIETZ, OF THE SAME PLACE.

TYPE-SETTING MACHINE.

Specification forming part of Letters Patent No. **57,034**, dated August 7, 1866.

To all whom it may concern:

Be it known that I, CHARLES BAER, of the city, county, and State of New York, have invented a new and Improved Type-Setting Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan or top view of this invention. Fig. 2 is a longitudinal vertical section of the same, taken in the plane indicated by the line *x x*, Fig. 1. Fig. 3 is a plan or top view of the revolving receiver, showing its operation in combination with the radiating type-cases, in a larger scale than the previous figures. Fig. 4 is a side elevation of the same.

Similar letters of reference indicate like parts.

This invention relates to a machine in which one type after the other, as indicated by the pressure of the hand on suitable keys, is taken from a series of radiating type-cases by a receiver, which is secured to a vertical shaft, on which it revolves, and which is so arranged that its end sweeps past the inner ends of the radiating type-cases. The line of types in each type-case is subjected to the action of a pusher, which has a tendency to force the same toward the center of the axis on which the receiver revolves, and said columns are retained by spring-hooks which catch over the edge of the first type in each type-case, and which connect with the key in such a manner that by depressing the inner end of one of the keys the corresponding spring-hook is raised and a type passes out of the appropriate type-case into a small chamber, from which it is taken by the revolving receiver.

Suitable cams on the inner ends of the type-cases serve to push the type into the revolving receiver far enough to enable a spring-hook to catch hold of the same and retain them and similar cams on the end of the revolving receiver, and retain the lines of types in the type-cases, while that type which, by the pressure on the key, has been allowed to detach itself, is taken off by the revolving receiver.

A represents a circular ring, of metal or any other suitable material, which is supported by columns *a*, and which connects, by radiating arms *b*, with another segmental ring, B, which is concentric with the ring A. These two rings support the radiating type-cases C, in which the types to be set are arranged in regular order, one or more cases being provided for each letter, and above the center of the ring A rises a table, D, which is supported by a three-armed spider, *c*. This spider rests upon columns *d*, which rise from the ring A, and which also serve to support the segmental rim E.

The types are arranged in the type-cases in regular lines, which are pressed toward the center of the rings A B by means of pushers *e* and weights or springs *f*, and they are prevented from tumbling over partly by the inclined position of the type-cases themselves and partly by rails *g*, which extend in front of the types in the type-cases, and which form the guides for the pushers *e*. In order to prevent the types being pushed out of the type-cases by the action of the pushers, spring-hooks *h* are applied, which catch over the first type in each line, as shown best in Fig. 3 of the drawings, where the spring-hook is shown in position to retain the line of type in one of the type-cases, and in the other in the position which it assumes when it has been raised by the pressure on the appropriate key.

F are the keys, which are situated on the table D, being hinged to studs *i*, as clearly shown in the drawings. The inner ends of these keys rest upon springs *j*, and their outer ends connect by cords *k* with the spring-hooks *h* of the type-cases C, so that by depressing the inner end of one of the keys the hook of the appropriate type-case is raised and the line of type contained in said case is permitted to move in toward the common center of the rings A B. Suitable lips *l*, which project across the mouth of each type-case, prevent the types being pushed in any farther than desirable, and the distance of these lips from the mouth of each type-channel is exactly equal to the thickness of the types contained in said channel, so that the line of type is permitted to move in for a distance equal to the thickness of one type, and not more.

The types which are thus retained in the

chambers formed by the lips *l* are taken off by the action of the receiver G, which is mounted on a vertical shaft, H, under the table D. This shaft has its bearings in a socket, *m*, which is secured to the bed-plate of the machine, and in a cross-bar, *n*, which is fastened to the under side of the ring A, and a revolving motion is imparted to it by bevel-wheels *o*, one of which is mounted on the vertical shaft H and the other on a horizontal driving-shaft, I. The position of the shaft H coincides exactly with the center of the ring A, so that the end of the receiver G will sweep closely past the mouth of each of the type-channels.

From the mouth of the receiver project two prongs, *g'*, one above and the other below, and these prongs are so situated that they straddle the lips *l* at the mouths of the type-channels, and that in passing said lips they push out the types held by the same. In leaving the chambers formed by the lips the types are brought in contact with the inner edges of cams *r*, which are situated between the type-channels, and which are so formed that by their action the types are forced into the mouth of the receiver, which is provided with spring-hooks *s*, as clearly shown in Figs. 3 and 4. These hooks are at such a distance apart that the cams *r* pass through between them, thus allowing the hooks to catch over the edge of the type as soon as the same are forced far enough in the receiver.

The prongs *g'* of the receiver also form cams *g**, which bear on the second type in the type-cases while the first type is being removed from the chambers formed by the lips *l*, and by the action of said cams the lines of type in the type-cases are held back until the spring-hooks *h*, which are raised by the type in the chamber formed by the lips *e*, are enabled to take a fresh hold.

The line of types in the receiver is held in the proper position by adjustable guide-rods *t*, extending throughout the entire length of said receiver and forming a type-channel, and said types are prevented from tumbling over by a bearer, *u*, which is guided in a suitable slot or groove in the back of the receiver, and which is constantly pressing against the line of type by the action of a spring or weight. Suitable lips or flanges *a'* on the upper and lower edges of the receiver insure the entrance of type into the same. If the type-channel in the receiver is filled throughout its entire length, the line of type thus formed is raked out into the galley K, which is secured to a swivel-post, L, on the outside of the ring A, and which is in such a position that it can be brought in line with the receiver. Said galley is provided with a rake, M, the teeth of which consist of spring-hooks, while its shank or handle is guided in a tubular socket, *w*, so that it is free to slide in or out. If the galley is brought in line with the receiver the hook-shaped teeth of the rake can be made to catch over the last type in the receiver, and the entire line of type can be moved bodily into the galley, where it is divided into lines of the proper length and justified, or whence it may be taken at once to an ordinary printer's galley for the purpose of justification.

During the operation of removing the line of type from the receiver the spring-bearer *u* must be removed, and this purpose is effected by making the guide-slot of said bearer sufficiently wide at or near its end to allow of removing the same.

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

1. The revolving type-receiving channel G, in combination with a series of radiating type-cases, C, constructed and operating substantially as and for the purpose set forth.

2. The lips *l* at the mouth of the type-cases C, in combination with the prongs *g'* on the revolving type-channel G, constructed and operating substantially as and for the purpose described.

3. The cams *g** on the forked mouth of the revolving type-channel G, in combination with the type-cases and the line of type contained therein, substantially as and for the purpose set forth.

4. The cams *r* between the mouths of the type-cases C, to act in combination with the line of type in the revolving type-channel G, substantially as and for the purposes set forth.

5. The spring-hooks *h* and pushers *e*, in combination with the keys F and type-cases C and lips *l*, constructed and operating substantially as and for the purpose described.

6. The spring-hooks *s* and spring-bearer *u*, in combination with the revolving type-channel G, constructed and operating substantially as and for the purpose set forth.

7. The adjustable galley K, with the sliding rake M, in combination with the revolving type-channel G, constructed and operating substantially as and for the purpose described.

CHARLES BAER.

Witnesses:
M. M. LIVINGSTON,
W. HAUFF.