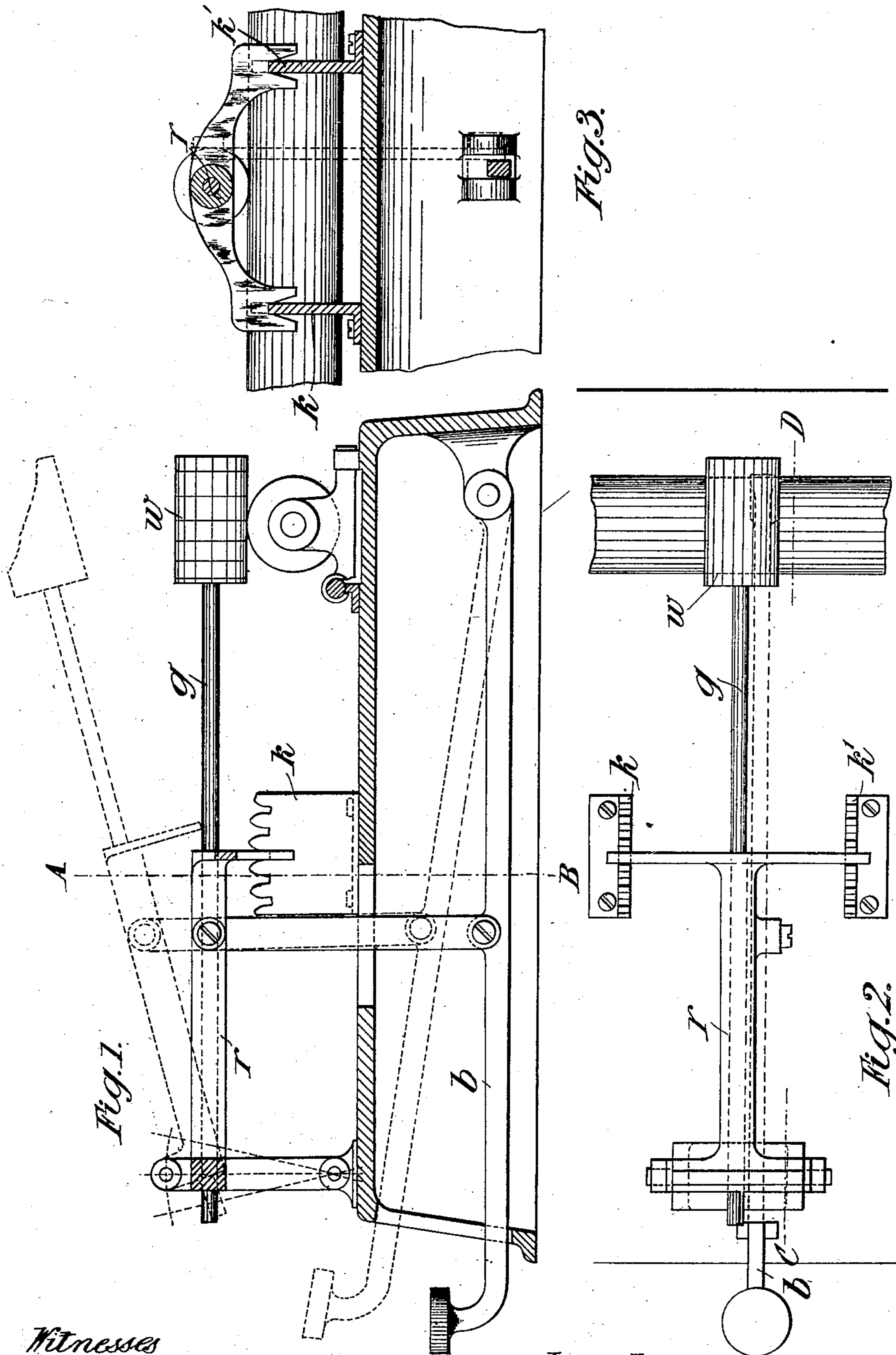


No. 890,715.

PATENTED JUNE 16, 1908.

C. B. SCHULTZ.
TYPE WRITING MACHINE.

APPLICATION FILED SEPT. 30, 1905. RENEWED NOV. 20, 1907.



Witnesses
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UNITED STATES PATENT OFFICE.

CLARENCE B. SCHULTZ, OF VEGESACK, NEAR BREMEN, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 890,715.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed September 30, 1905, Serial No. 280,819. Renewed November 20, 1907. Serial No. 403,072.

To all whom it may concern:

Be it known that I, CLARENCE B. SCHULTZ, a subject of the King of Prussia, residing at Vegesack, near Bremen, Germany, have invented certain new and useful Improvements in and Relating to Type-Writing Machines, of which the following is a specification.

The present invention relates to a type-writing machine having a type cylinder and no key-board, in which the impression of the type which is effected on the downward movement of the type cylinder against the paper roller is produced by means of a key lever in the manner already known. For this purpose the type cylinder spindle *g* as in the known typewriting machines, is mounted so as to be capable of rotation within a swinging sleeve or the like, from which it extends in the direction away from the writer. This sleeve is capable of movement upon an axis horizontally and vertically.

The type cylinder *w* is brought into the lifted position indicated in dotted lines in Fig. 1 principally by special operating mechanism with which the present invention is not concerned.

In every down stroke of the type cylinder which effects the impression of the type, the position of the type for printing is made positive and exact by the engagement of a star-wheel mounted on the cylinder spindle in the usual manner, which wheel, being provided with a space corresponding to the type to be printed, is engaged by a fixed edge which enters that space and thus effects the positive and exact angular placement of the type cylinder for the printing of that particular type; while at the same time an edge fixed on the bearing or sleeve of the cylinder spindle, enters in the usual manner in one of the spaces of a comb which is fixedly mounted on the base support in the direction corresponding to that of the type cylinder axis, and thus effects the exact placing of the type cylinder in the direction of its length upon the downward movement of the type cylinder.

In the known typewriting machines a great disadvantage has been experienced in that the bearing or sleeve for the type cylinder spindle is not sufficiently supported in the

straight and parallel guiding during the downward movement in which the position of the type is determined, and is thus subject to a little lateral movement in the horizontal plane, which is occasioned also and augmented by the slightest inaccuracy of workmanship in the construction of the parts. In order to avoid this, the present invention is employed, which is illustrated in the drawings, where all the parts of the machine which are not necessary for the understanding of the invention are left out for the sake of clearness.

In the drawings, Figure 1 is an elevation partly in section of a machine provided according to the invention. Fig. 2 is a plan corresponding to Fig. 1. Fig. 3 is a cross section on the line *a-b* of Fig. 1.

Instead of one comb for the exact and positive placing of the type cylinder in the length direction, two such combs *k* and *k'* are provided in the interstices, of which laterally extending arms *s* provided on the bearing or sleeve *r* of the cylinder spindle *g* can engage with their notches. Thereby the bearing or sleeve *r*, which is always a little slack, and with which the type cylinder is moved to and fro and up and down, is absolutely fixed in the position of impression of the type cylinder by being fixedly held laterally at two points. The third point, the impression point itself, is thereby exactly determined, so that a lateral movement of the type cylinder *w* with its spindle *g* is completely precluded.

What I claim as my invention and desire to secure by Letters Patent is:—

A typewriting machine comprising a type cylinder, a spindle carrying the same, arms connected to the spindle and extending at right angles thereto and two combs placed parallel to the spindle, one on each side thereof, said combs having teeth between which the ends of the arms engage.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

CLARENCE B. SCHULTZ.

Witnesses:

C. DIEDERICH,
J. REICHY.