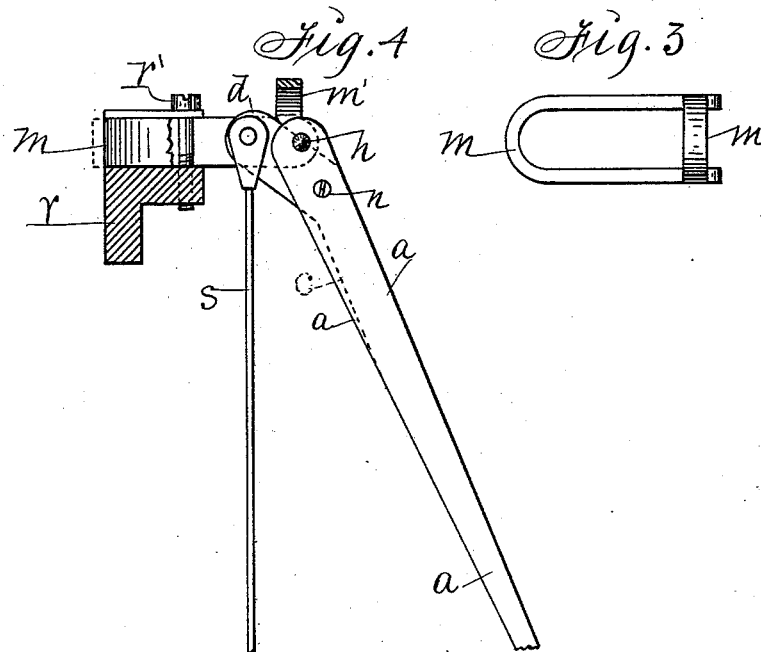
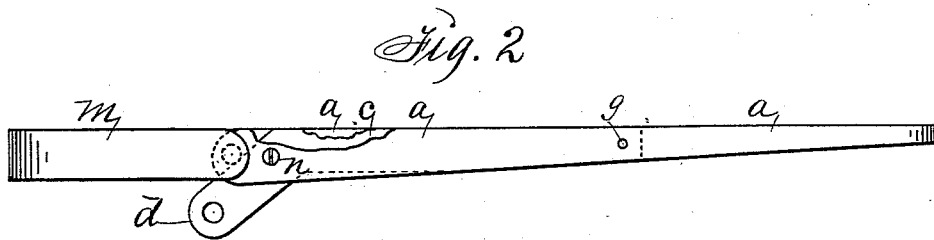


(No Model.)

E. A. BRANDENBURG.
TYPE BAR FOR TYPE WRITING MACHINES.

No. 420,005.

Patented Jan. 21, 1890.



Witnesses:
O. U. Stiles,
M. P. Smith.

Inventor:
Edward A. Brandenburg,
By Thomas G. Quigg, Atty.

UNITED STATES PATENT OFFICE.

EDWARD A. BRANDENBURG, OF DES MOINES, IOWA, ASSIGNOR OF ONE-HALF TO WILLIAM F. CARSON, OF SAME PLACE.

TYPE-BAR FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 420,005, dated January 21, 1890.

Application filed September 20, 1888. Serial No. 285,936. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. BRANDENBURG, a citizen of the United States of America, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Improvement in Type-Bars for Type-Writing Machines, of which the following is a specification.

My improvement relates to the manner of forming the arms that carry the types and connecting them with the frame; and my invention consists in the construction, application and operation of an arm that is expandible at its pivoted end with a rigid hanger, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is an enlarged top view, and Fig. 2 a corresponding side view, showing my expandible type-arm pivoted to a hanger of common form. Fig. 3 is a top view of my rigid hanger. Fig. 4 shows the expandible end of the arm connected with my rigid hanger and a section of a machine-frame as required for use.

a is a flat steel bar, wider at its ends than its center, and bent double at its center.

b is a perforated block fixed in the bend at the center in such a manner as to adapt the end of the arm for the reception of a type to be carried thereby.

c is a flat steel bar that has a perforated extension *d* at its larger end that projects outward at an angle of about forty-five degrees. The small end is fixed to and between the central portion of the parallel parts of the double bar *a* by means of washers *f* and a rivet *g*.

h are steel pivots fixed to the ends of the parallel free ends of the bar *a* to project outward and into corresponding bearings formed in the inside faces of a type-arm hanger *m* as required to pivot the arm thereto.

m' is an arch fixed to the ends of the hanger to make it rigid, as required, to prevent it from spreading.

n is a screw that extends through screw-threaded bores in one of the parallel parts and free ends of the bar *a* and the bar *c* in

such a manner that the parallel parts and free ends of the bar *a* can be readily spread by means of the screw, to compensate for wear of the pivots *h* and, as required, to regulate the pressure of the pivots so as to maintain a perfect joint between the type-arm and hanger *m*.

r represents the frame to which the hanger *m* is adjustably connected by means of a screw *r'* in a common way, as required, to facilitate the alignment of types carried by a series of arms hinged to the frame of a machine.

s is a rod that extends from the branch or extension *d* of the bar *c* to a lever in a common way, in such a manner that when the end of the lever is depressed the type-arm will be swung upward, as required, to make an impression with the type on its end upon paper folded over an impression plate or roller.

A light, strong, and durable type-arm is thus produced that can be readily attached to and detached from the hanger, and the pressure of its pivots in the bearings readily regulated, as required, to prevent any deflection of the arm in its operation, so that the alignment of the letters printed in succession by a series of the arms will not be faulty, as often occurs in type-writing when the pivots and bearings allow the arms to vibrate and deflect from the perpendicular planes in which they move to make impressions with the types carried on their free ends.

In place of bending one long bar double, two bars may be rigidly fixed together to produce my expandible type-arm.

I claim as my invention—

1. An arm for type-writers, composed of three bars that can be adjusted relatively to each other, and a screw for adjusting them, and pivots extending outward from the free ends of the two outer bars.

2. A type-arm comprising two parallel parts firmly united at one end and provided with pivots or fulcras at their opposite ends, a bar fixed between the central portions of the parallel parts and provided with an extension constructed to be connected with a rod and

lever, and a screw connected with the free end portions of the three parallel parts for regulating the space between the pivots, in the manner set forth, for the purposes stated.

- 5 3. The type-arm consisting of the bar *a*, fixed block *b*, the bar *c*, having an extension *d*, the washers *f*, the rivet *g*, the pivots *h*, and

the screw *n*, in combination with a hanger *m*, substantially as shown and described, for the purposes stated.

EDWARD A. BRANDENBURG.

Witnesses:

M. P. SMITH,

THOMAS G. ORWIG.