E. E. BARNEY.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 20, 1906.

904,669.

Patented Nov. 24, 1908.

3 SHEETS—SHEET 1.

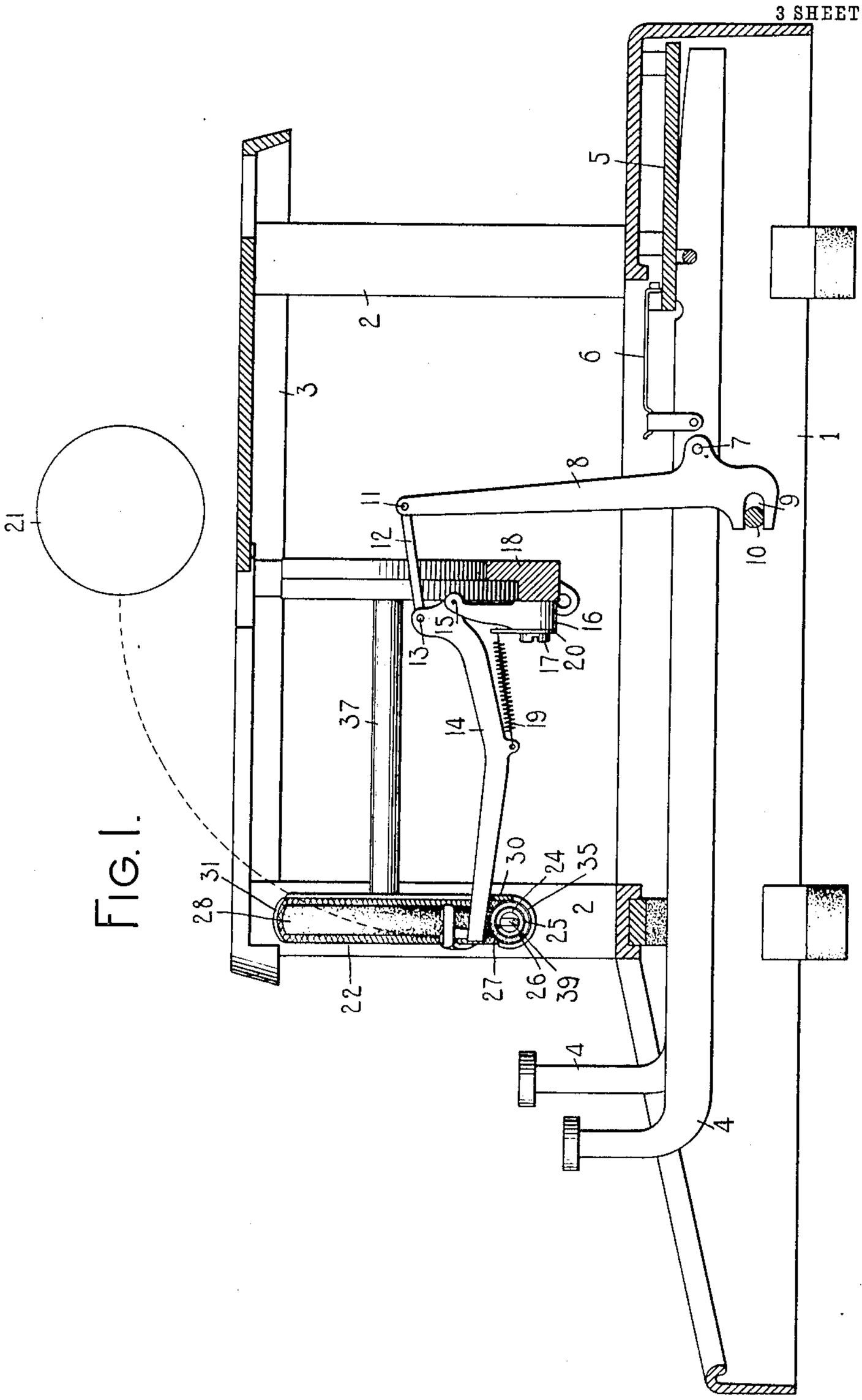

FIG. 1.

WITNESSES:

E. M. Wells.

M. W. Poole

INVENTOR

Edwin E. Barney

By Jacob Felbel

HIS ATTORNEY

E. E. BARNEY.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 20, 1906.

904,669. Patented Nov. 24, 1908.

3 SHEETS—SHEET 2.

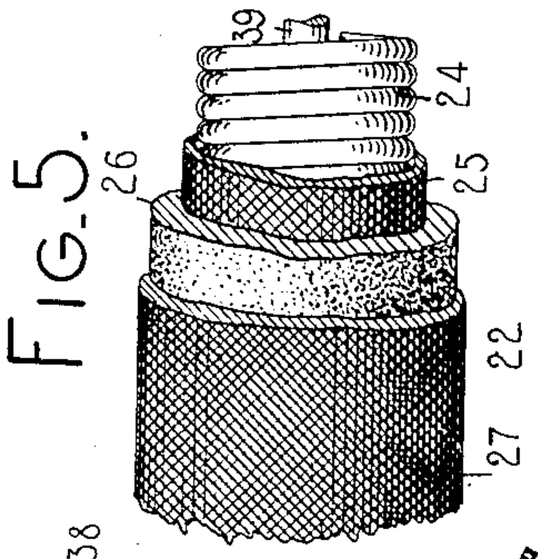

FIG. 5.

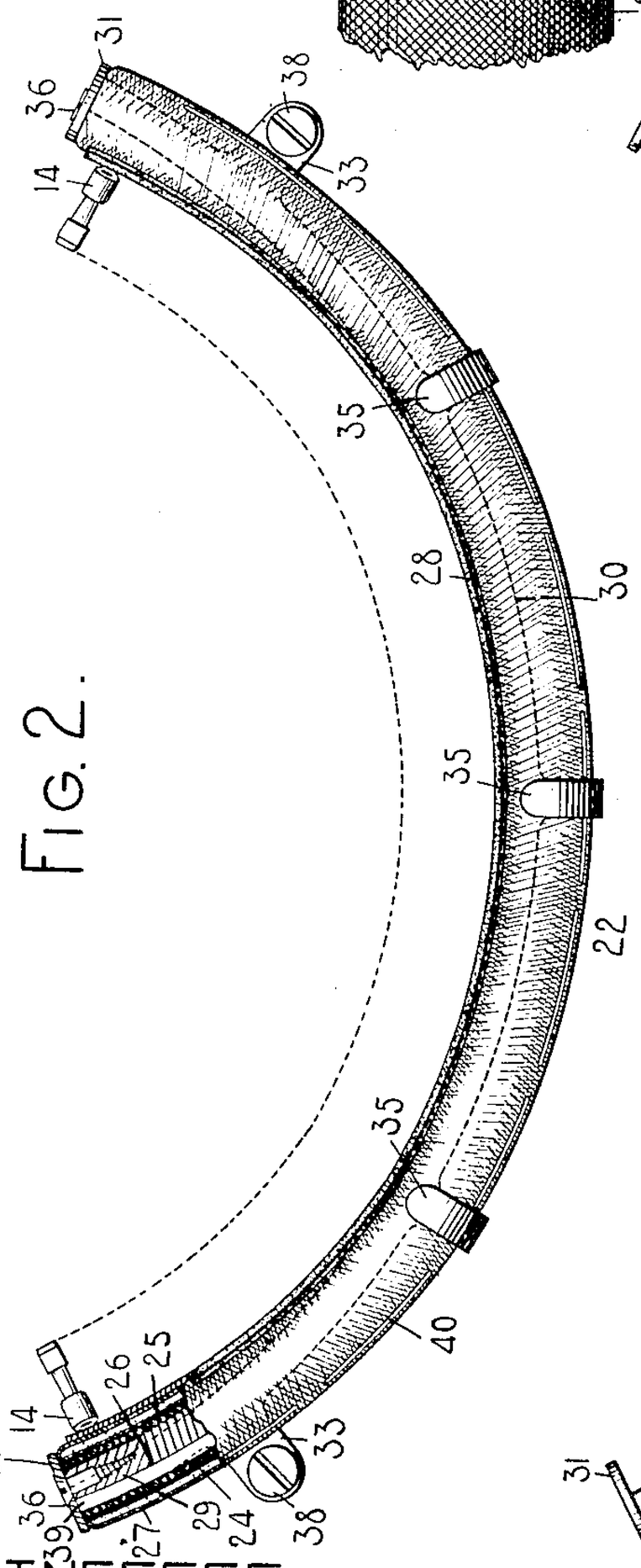

FIG. 2.

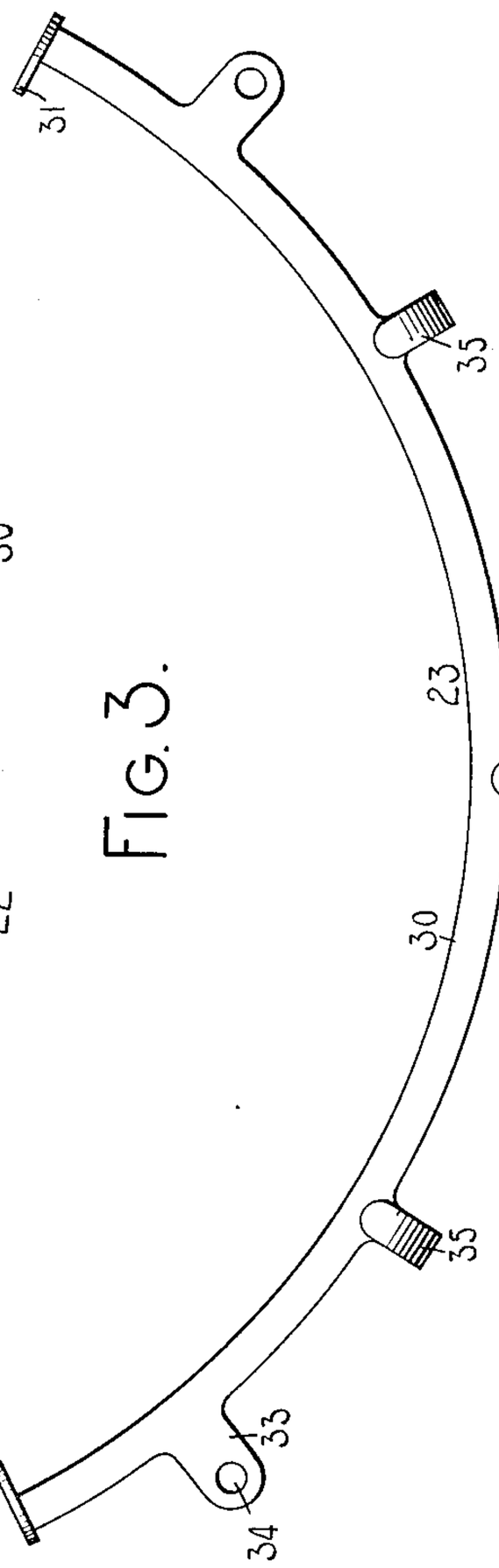

FIG. 3.

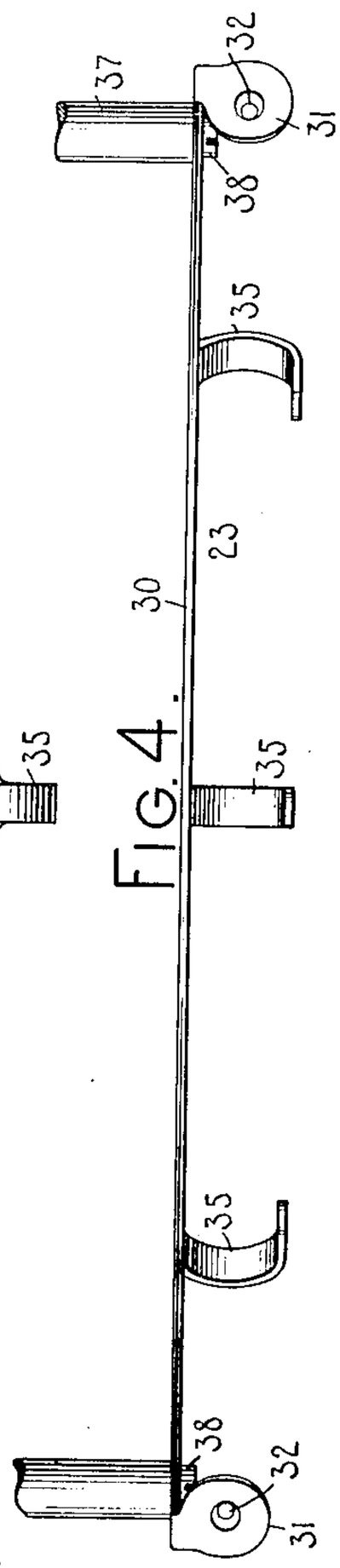

FIG. 4.

WITNESSES:

E. W. Wells.

Wm. Pool

INVENTOR:

Edwin E. Barney

By Jacob Felbel

HIS ATTORNEY

E. E. BARNEY.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 20, 1906.

904,669.

Patented Nov. 24, 1908.

3 SHEETS—SHEET 3.

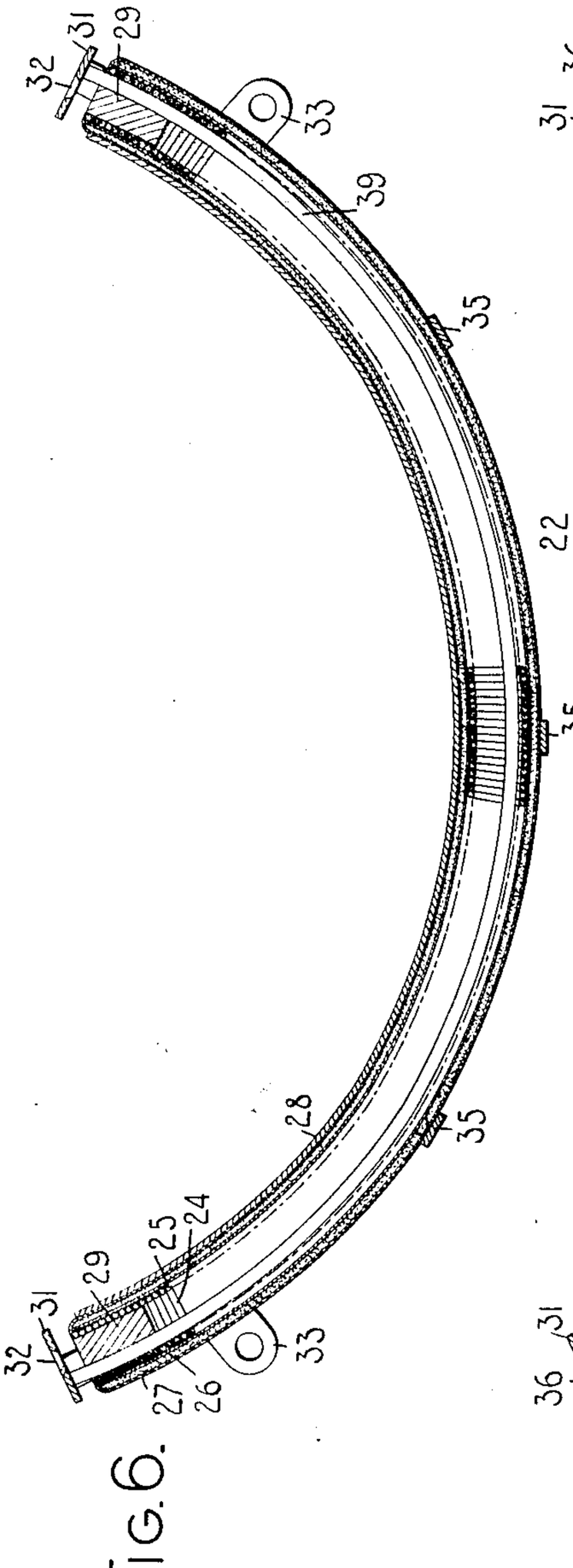

FIG. 6.

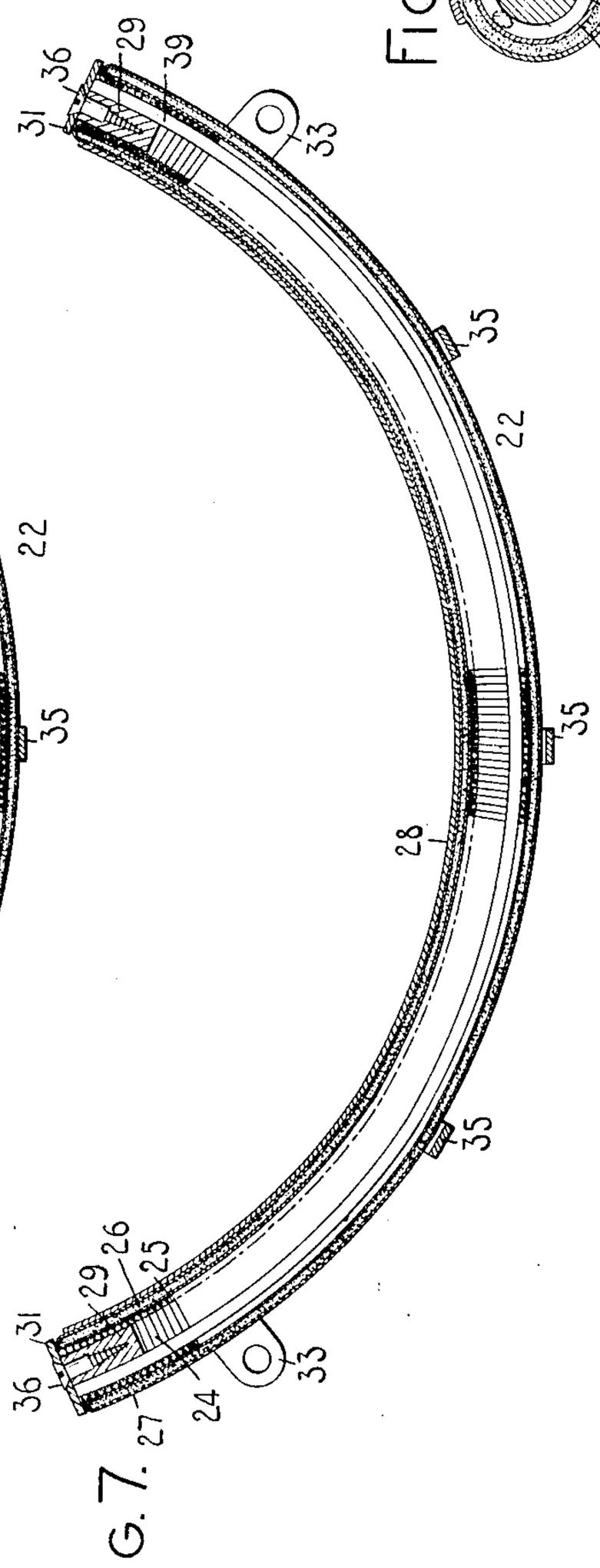

FIG. 7.

FIG. 8.

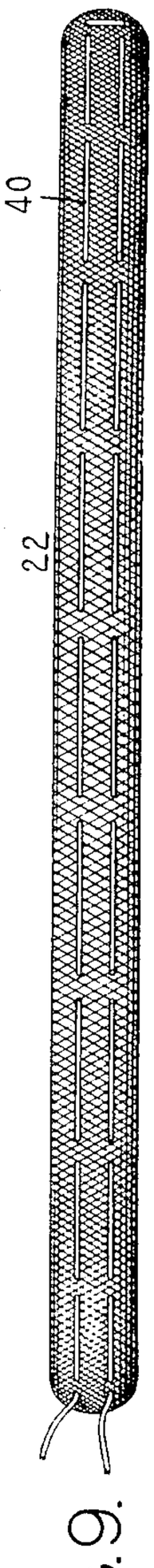

FIG. 9.

WITNESSES:

E. M. Wells.

M. W. Poole

INVENTOR:

Edwin E. Barney

By Jacob Felbel

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

EDWIN E. BARNEY, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 904,669. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed June 20, 1906. Serial No. 322,628.

To all whom it may concern:

Be it known that I, EDWIN E. BARNEY, citizen of the United States, and resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and has for its main object to provide an improved construction of type rest, cushion or pad for preventing or reducing rebound of the type bars.

To the above and other ends the invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter fully described and particularly pointed out in the claims.

One form of the invention is illustrated in the accompanying drawings, wherein

Figure 1 is a front to rear sectional view of the typewriting machine embodying my invention, the section being taken about centrally of the machine and parts of said machine being omitted. Fig. 2 is a full-sized front elevation of my improved type rest comprising a pad and its holder or support, several type bars being shown resting against said pad and one end of said pad being broken away. Fig. 3 is a full-sized detached front elevation of the holder or support for the pad. Fig. 4 is a full-sized top plan view of the holder or support for the pad and showing the arms to which said holder is secured. Fig. 5 is an enlarged fragmentary view of the pad, the various layers or strata of the pad being shown broken away at different points lengthwise of said pad. Fig. 6 is a longitudinal sectional view through the pad and showing its relation with its interior supporting rod in process of assembling and prior to the final adjustment of the parts on their support. Fig. 7 is a view corresponding to Fig. 6 but showing the parts after final adjustment. Fig. 8 is an enlarged transverse sectional view of the pad and its interior supporting rod. Fig. 9 is a bottom plan view of the pad.

My invention is illustrated as applied to the machine commercially known as the Monarch typewriter, but it is to be understood that the nature of said invention is such that it may be readily applied to other forms of writing machines.

In the drawings the main frame of the machine is shown as comprising the base 1 from which rise corner posts 2, said corner posts sustaining a top plate 3. Key levers 4 are fulcrumed on the fulcrum plate 5 secured at the rear of the base. Each key lever is provided with a restoring spring 6 and has pivoted to it at 7 a sub-lever 8. The lower end of each sub-lever is slotted at 9 to coöperate with a fixed abutment 10 and the upper end of each sub-lever is pivotally connected at 11 with a forwardly extending link 12, said link being pivotally connected at 13 with a type bar 14. Said type bar is one of a set comprising segmentally arranged series of type bars each of which is pivoted, as indicated at 15, in a hanger 16, said hanger being secured by a screw 17 to a segmental type bar support 18. Each type bar is provided with a restoring spring 19, one end of which is secured to the type bar and the other end to a washer 20 with which the head of the securing screw 17 engages and said type bar is adapted when the actuating mechanism above described is operated to coöperate with the front face of a platen 21 diagrammatically illustrated; the platen being carried by the usual carriage (not shown) which travels from side to side of the machine.

Normally the free or type ends of the type bars are supported on a type rest, which rest comprises a member or pad designated as a whole by the reference numeral 22 and a holder or support for said pad, designated as a whole by the reference numeral 23. The pad is curved in a segment of a circle as indicated in Fig. 2, so that the ends of the type bars may rest against it as they lie in the basket, as indicated in Fig. 2. Said pad preferably comprises a wire helix or core 24, an inner woven sheath or covering 25 immediately surrounding said core, a non-fibrous intermediate covering 26, and an outer woven covering or sheath 27.

The pad, as thus far described, is like the ordinary flexible gas tubing of commerce, but other forms of gas tubing may be employed in combination with my novel pad holder or support, as may, also, other forms of tubular pad or cushion. A facing 28 preferably in the form of a leather strip is suitably secured as by pasting or cementing to the upper face of the outer woven covering 27, the type ends of the type bars nor-

mally resting against said strip 28. End plugs 29 preferably of wood are suitably secured one in each end of the core or helix 24 (Fig. 2). The holder or support 23 for the pad is preferably made of sheet metal and, as best shown in Figs. 3 and 4, comprises a segmental body portion 30 terminating in angularly disposed tabs or ears 31 formed with perforations 32. Near its ends the body portion 30 is provided with downwardly and outwardly extending ears 33 having perforations 34. Between the ears 33 the body portion is formed with a plurality of supporting projections or fingers 35, three of said fingers being shown in the drawings and each being curved forwardly and upwardly so as to cradle or embrace the tubular pad 22. Threaded members, preferably wood screws 36, pass through the perforations 32 in the end tabs 31 and are received in the end plugs 29 in the pad, thereby securing the pad in place on its support 23 and supporting the pad from its ends on said support. The curved fingers 35 cooperate with the body portion 30 of the support to prevent any swaying or displacement of the pad fore and aft of the machine. Horizontally disposed arms 37 are fixed to and project forwardly from the segmental type bar support 18, one at each side of said support. The outer end of each arm is formed with a threaded opening which receives a headed screw 38, said screw passing through the opening 34 in one of the ears 33 and the two screws serving to secure the support 23 in place on the machine.

In practice I prefer to insert in the opening in the tubular pad or cushion 22 a segmental support or rod 39 having a considerably smaller diameter than the diameter of the opening in the pad. The end portions of the rod 39 pass freely through openings in the plugs 29 and the rod is of such length that its ends abut against the ears 31 as shown in Figs. 2, 6 and 7. The tubular pad or cushion is preferably of such length that in assembling the parts the outer ends of the plugs 29 are slightly separated from the ears 31 as shown in Fig. 6. Consequently, when the screws 36 are screwed in, they serve as oppositely acting means to draw the plugs further away from each other until each contacts with its neighboring ear 31. The pad is thereby stretched slightly endwise, the under portion of its inner surface being drawn or forced tightly against the rod 39 as shown in Figs. 1, 2, 7 and 8, so that the rod serves as a support to prevent one portion of the tubular pad from moving upwardly when a returning type bar impacts against another portion thereof. The rod further acts as a brace or backing for the under side of the tubular pad, stiffening the pad and preventing it from losing its shape. When the pad proper has been adjusted as just described, a stout thread 40 is preferably sewed longitudinally along the under side of the outer woven sheath 27 from one end of the pad to the other and back again, as shown in Fig. 9, said thread being then drawn taut and its ends being then tied tightly together. This thread tends to prevent the bulging away or separation of the pad from the rod 39 under the impact of the returning type bars, the effect being substantially the same as it would be if the pad and rod were tied together. It has been found in practice that the pad is highly efficient, it being sufficiently non-resilient to prevent the returning type bars from rebounding to such a height that they will clash in the basket. Indeed the rebound is so very slight as to be almost unnoticeable. In the following claims wherever the expression non-resilient pad or member is employed it is to be understood as meaning a pad or member which is sufficiently non-resilient to prevent undue rebound.

Various changes may be made within the scope of my invention.

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

1. In a typewriting machine, the combination of a set of type bars; a curved, pliant non-resilient member against which the type bars normally rest; and a holder or support for said member, the curved member being attached at its ends to said holder and said holder being provided with projections which embrace and cradle said member.

2. In a typewriting machine, the combination of a set of type bars; a curved, pliant non-resilient member against which the type bars normally rest; and a holder or support for said member, said holder conforming to the curve of said member and being provided with a plurality of lateral curved projections which embrace and cradle said member.

3. In a typewriting machine, the combination of a set of type bars; a curved, pliant non-resilient member against which the type bars normally rest; a curved metal bar having end tabs to which said member is secured and being provided with a plurality of lateral curved fingers partially embracing said member.

4. In a typewriting machine, the combination of a type bar support; a set of type bars thereon; a curved, pliant non-resilient member against which the type bars normally rest; arms extending from said type bar support; and a holder comprising a curved body portion, end tabs, ears by which said holder is secured to said type bar support and a plurality of lateral curved fingers, said member being secured at its ends to the end tabs of said holder and being embraced by the fingers of said holder.

5. In a typewriting machine, the combi-

nation of a set of type bars; a curved tubular pad provided with end plugs, against which pad the type bars normally rest; and a holder or support for said pad, the pad being attached through its plugs to said holder and said holder being provided with projections in which said pad is cradled loosely.

6. In a typewriting machine, the combination of a set of type bars; a curved tubular pad provided with end plugs and against which the type bars normally rest; and a holder for said pad, said holder conforming to the curve of said pad and being provided with a plurality of lateral curved projections in which said pad is received.

7. In a typewriting machine, the combination of a set of type bars; a curved tubular pad provided with end plugs, against which pad the type bars normally rest; and a curved metal bar having end tabs to which said pad is secured through its end plugs, said metal bar being provided with a plurality of lateral curved fingers partially embracing said pad.

8. In a typewriting machine, the combination of a type bar support; a set of type bars thereon; a curved tubular pad provided with end plugs, against which pad the type bars normally rest; arms extending from said type bar support; and a holder comprising a curved body portion, end tabs, ears by which said holder is secured to said type bar support, and a plurality of lateral curved fingers, the end plugs of said pad being secured to the end tabs of said holder and said pad being embraced by the fingers of said holder.

9. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest, said pad comprising a core, an inelastic sheath and a facing secured to said sheath; and a holder or support for said pad, the pad being attached at its ends to said holder and said holder being provided with projections in which said pad is cradled loosely.

10. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest, said pad comprising a wire helix, an inelastic sheath, and a facing secured to said sheath; and a holder or support for said pad, said holder conforming to the curve of said pad and being provided with a plurality of lateral curved projections in which said pad is received.

11. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest, said pad comprising a wire helix, an inelastic sheath and a facing secured to said sheath; and a curved metal bar having end tabs to which said pad is secured and being provided with a plurality of lateral curved fingers partially embracing said pad.

12. In a typewriting machine, the combination of a type bar support; a set of type bars thereon; a curved pad against which the type bars normally rest, said pad comprising a wire helix, an inelastic sheath, and a facing secured to said sheath; and a holder comprising a curved body portion, end tabs, ears by which said holder is secured to said type bar support, and a plurality of lateral curved fingers, said pad being secured at its ends to the end tabs of said holder and being embraced by the fingers of said holder.

13. In a typewriting machine, the combination of a set of type bars; a tubular curved pad against which the type bars normally rest, said pad comprising a helical wire core, an inner woven covering, an intermediate non-fibrous covering and an outer woven covering; and a holder or support for said pad, the pad being attached at its ends to said holder and said holder being provided with projections in which said pad is cradled.

14. In a typewriting machine, the combination of a set of type bars; a tubular curved pad against which the type bars normally rest, said pad comprising a helical wire core, an inner woven covering, an intermediate non-fibrous covering and an outer woven covering; and a holder or support for said pad, said holder conforming to the curve of said pad and being provided with a plurality of lateral curved projections in which said pad is received.

15. In a typewriting machine, the combination of a set of type bars; a tubular curved pad against which the type bars normally rest, said pad comprising a helical wire core, an inner woven covering, an intermediate non-fibrous covering and an outer woven covering; and a curved metal bar having end tabs to which said pad is secured, said bar being provided with a plurality of lateral curved fingers partially embracing said pad.

16. In a typewriting machine, the combination of a type bar support; a set of type bars thereon; a tubular curved pad against which the type bars normally rest, said pad comprising a helical wire core, an inner woven covering, an intermediate non-fibrous covering, an outer woven covering and a facing secured to said outer covering, and a holder comprising a curved body portion, end tabs, ears by which said holder is secured to said type bar support, and a plurality of lateral curved fingers, said pad being secured at its ends to the end tabs of said holder and being embraced by the fingers of said holder.

17. In a front-strike writing machine, the combination of a type bar segment; type bars mounted thereon: arms projecting for-

wardly from said segment; a sheet metal holder comprising a segmental body portion terminating in angularly disposed tabs, perforated ears, and a plurality of lateral curved fingers; screws passing through said perforated ears and securing said holder to said arms; and a curved pliant member against which the type bars normally rest, said member being secured at its ends to the angularly disposed tabs of said holder, the curved fingers of said holder embracing said member.

18. In a front-strike writing machine, the combination of a type bar segment; type bars mounted thereon; arms projecting forwardly from said segment; a sheet metal holder comprising a segmental body portion terminating in angularly disposed tabs, perforated ears, and a plurality of lateral curved fingers; screws passing through said perforated ears and securing said holder to said arms; and a tubular pad provided with end plugs and against which the type bars normally rest, said pad being secured by its end plugs to the angularly disposed tabs of said holder, the curved fingers of said holder embracing said pad.

19. In a front-strike writing machine, the combination of a type bar segment; type bars mounted thereon; arms projecting forwardly from said segment; a sheet metal holder comprising a segmental body portion terminating in angularly disposed tabs, perforated ears, and a plurality of lateral curved fingers; screws passing through said perforated ears and securing said holder to said arms; and a curved pad against which the type bars normally rest, said pad comprising a core, an inelastic sheath and a facing secured to said sheath, said pad being secured at its ends to the angularly disposed tabs of said holder, the curved fingers of said holder embracing said pad.

20. In a front-strike writing machine, the combination of a type bar segment; type bars mounted thereon; arms projecting forwardly from said segment; a sheet metal holder comprising a segmental body portion terminating in angularly disposed tabs, perforated ears, and a plurality of lateral curved fingers; screws passing through said perforated ears and securing said holder to said arms; and a tubular curved pad against which the type bars normally rest, said pad comprising a helical wire core, an inner woven covering, an intermediate non-fibrous covering and an outer woven covering, the ends of said pad being secured to the angularly disposed tabs of said support, the curved fingers of said support embracing said pad.

21. In a front-strike writing machine, the combination of a type bar segment; type bars mounted thereon; arms projecting forwardly from said segment; a sheet metal holder comprising a segmental body portion terminating in angularly disposed tabs, perforated ears, and a plurality of lateral curved fingers; screws passing through said perforated ears and securing said holder to said arms, a tubular curved pad against which the type bars normally rest, said pad comprising a helical wire core, an inner woven covering, an intermediate non-fibrous covering and an outer woven covering; a facing secured to said outer woven covering; and end plugs fixed in the ends of said wire core, said pad being secured by its end plugs to the angularly disposed tabs of said holder, the curved fingers of said holder embracing said pad.

22. In a typewriting machine, the combination of a set of type bars; a curved, hollow pad against which the type bars normally rest; a support within said pad; and means extending longitudinally of the pad and assisting to maintain a connection between said pad and said support.

23. In a typewriting machine, the combination of a set of type bars; a curved, hollow pad against which the type bars normally rest, said pad comprising a core and a covering; a support within said pad; and a thread or the like in said woven covering, said thread assisting to maintain a connection between the pad and the support.

24. In a typewriting machine, the combination of a set of type bars; a curved, hollow pad against which the type bars normally rest, said pad comprising a wire helix and a woven covering; a support within said pad; and a thread or the like threaded through said covering from one end of the pad to the other and back again, said thread being drawn taut and its ends tied together.

25. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest, said pad comprising a core and an inelastic sheath; a supporting rod within said pad, and a holder for said pad, the pad being attached at its ends to said holder and the ends of the supporting rod abutting against said holder.

26. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest, said pad comprising a core; end plugs and an inelastic sheath; a supporting rod within said pad, the end portions of said rod passing through said end plugs, and a support to which said plugs are secured and against which said rod abuts.

27. In a typewriting machine, the combination of a type bar support; a set of type bars; a curved pad against which the type bars normally rest, said pad comprising a wire helix, end plugs and an inelastic sheath; a supporting rod within said pad, the end portions of said rod passing through said end plugs; and a curved bar mounted on

the type bar support and having end tabs to which said plugs are screwed and against which the ends of said rod abut.

28. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest; and means for stretching the pad endwise.

29. In a typewriting machine, the combination of a set of type bars; a curved pad against which the type bars normally rest; a support for the pad; and threaded members on the support and coöperative with the ends of the pad to draw it endwise.

30. In a typewriting machine, the combination of a set of type bars; a curved hollow pad against which the type bars normally rest; a curved member or rod within said pad; and means for stretching the pad endwise and drawing it against said member.

31. In a front-strike typewriting machine, the combination of a curved tubular pad; an interior rod or support; and means for drawing the bottom of the pad against said rod or support.

32. In a front-strike typewriting machine, the combination of a curved tubular pad; an interior rod or support; and oppositely acting means applied to the ends of the tubular pad for drawing its bottom against the interior support.

Signed at Syracuse, in the county of Onondaga, and State of New York, this 18th day of June A. D. 1906.

EDWIN E. BARNEY.

Witnesses:

JOHN S. MITCHELL,
W. J. LOGAN.