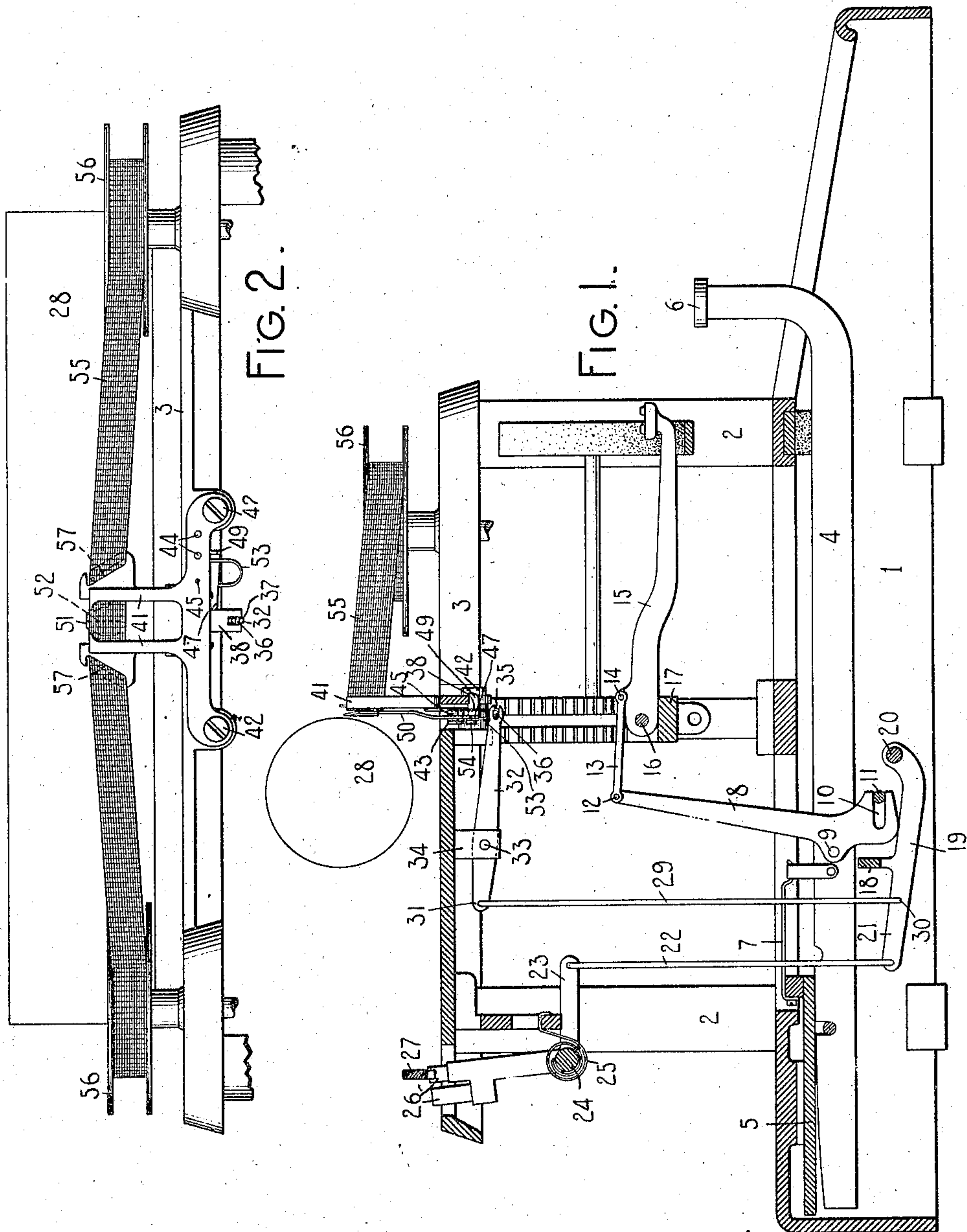


No. 885,715.

PATENTED APR. 28, 1908.

C. J. BOND.
TYPE WRITING MACHINE.
APPLICATION FILED JULY 19, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

E. M. Wells.

Wm. Smith

INVENTOR:

Charles J. Bond

By Jacob Zabel

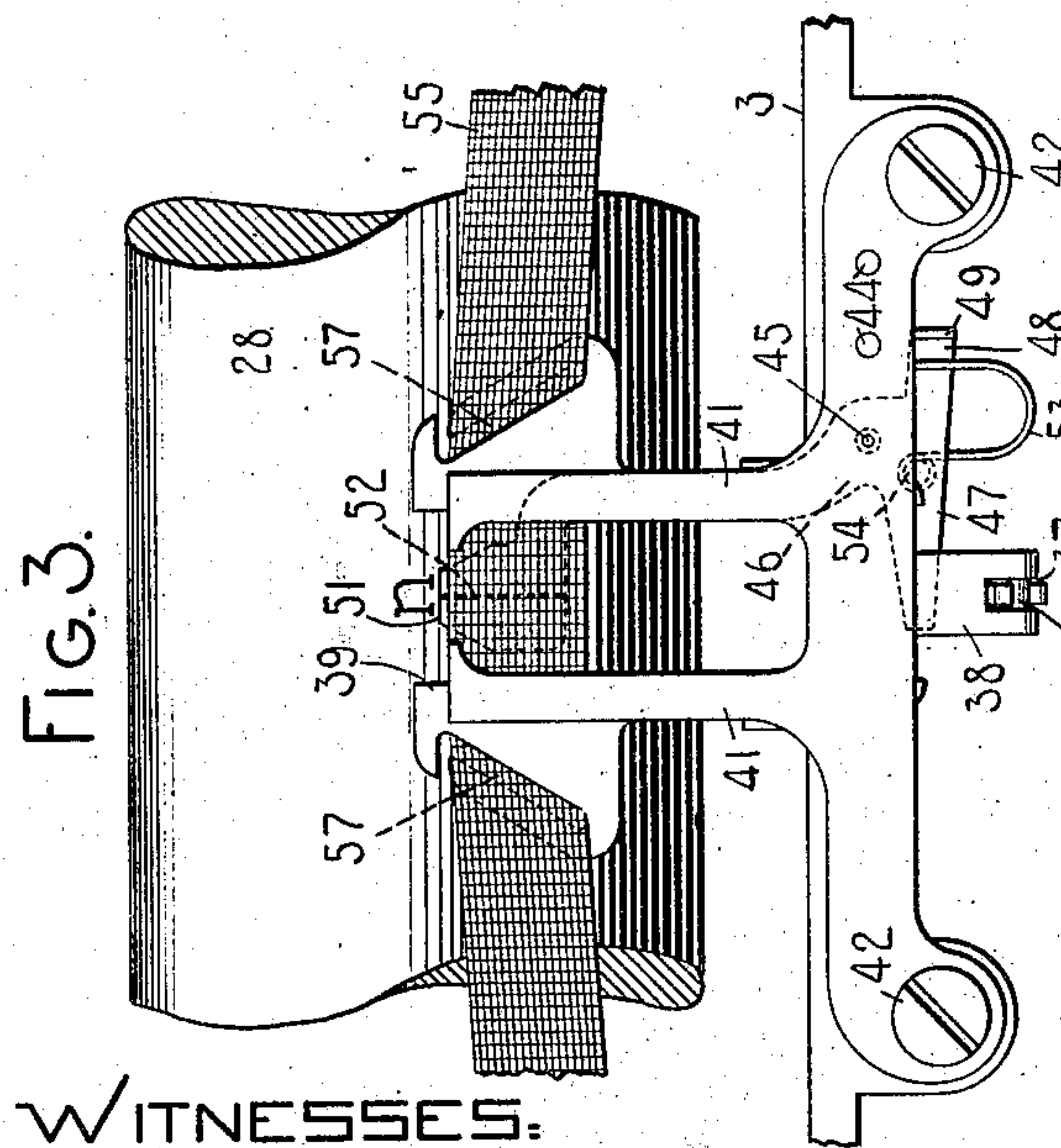
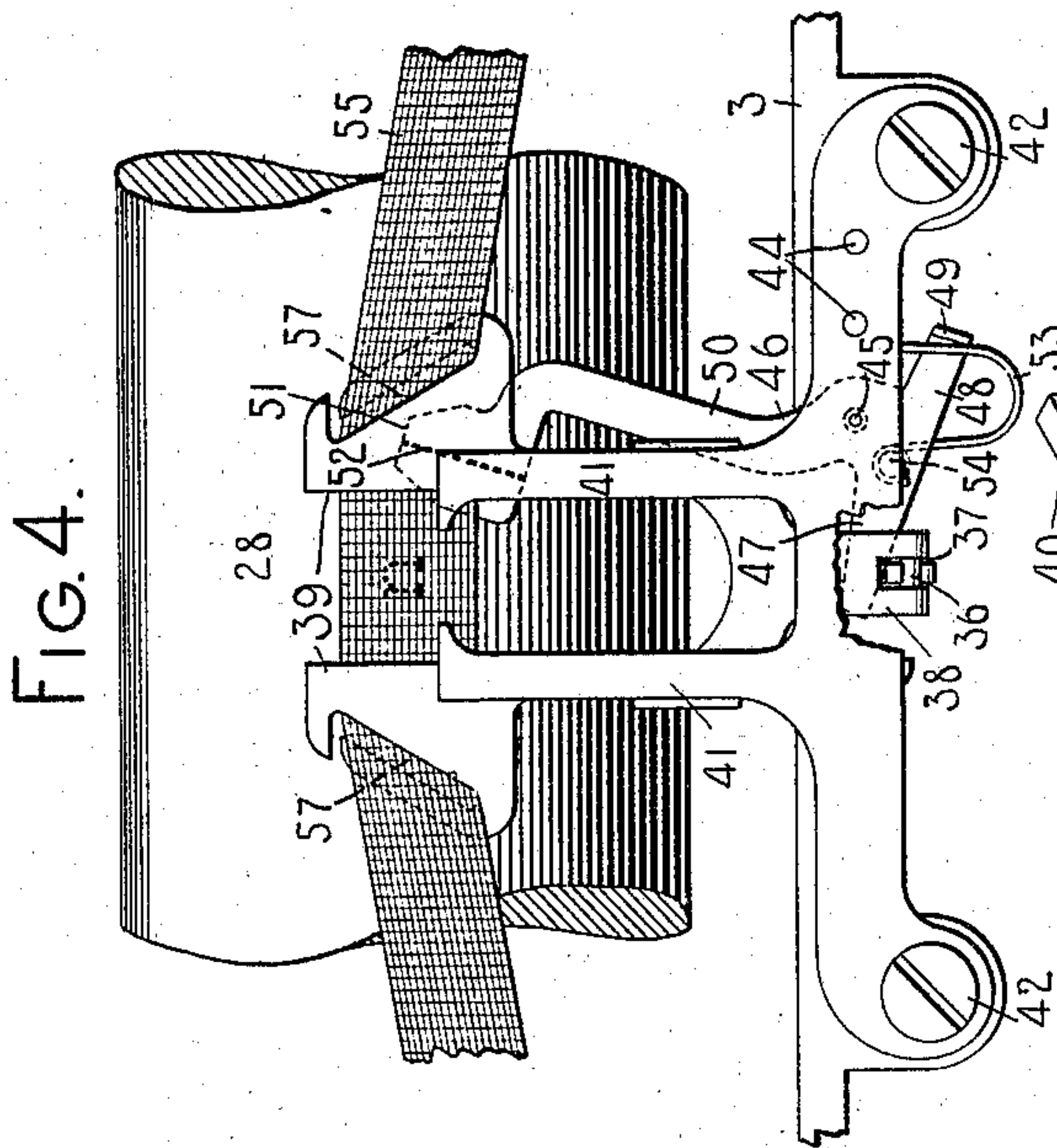
HIS ATTORNEY

No. 885,715.

PATENTED APR. 28, 1908.

C. J. BOND.
TYPE WRITING MACHINE.
APPLICATION FILED JULY 19, 1905.

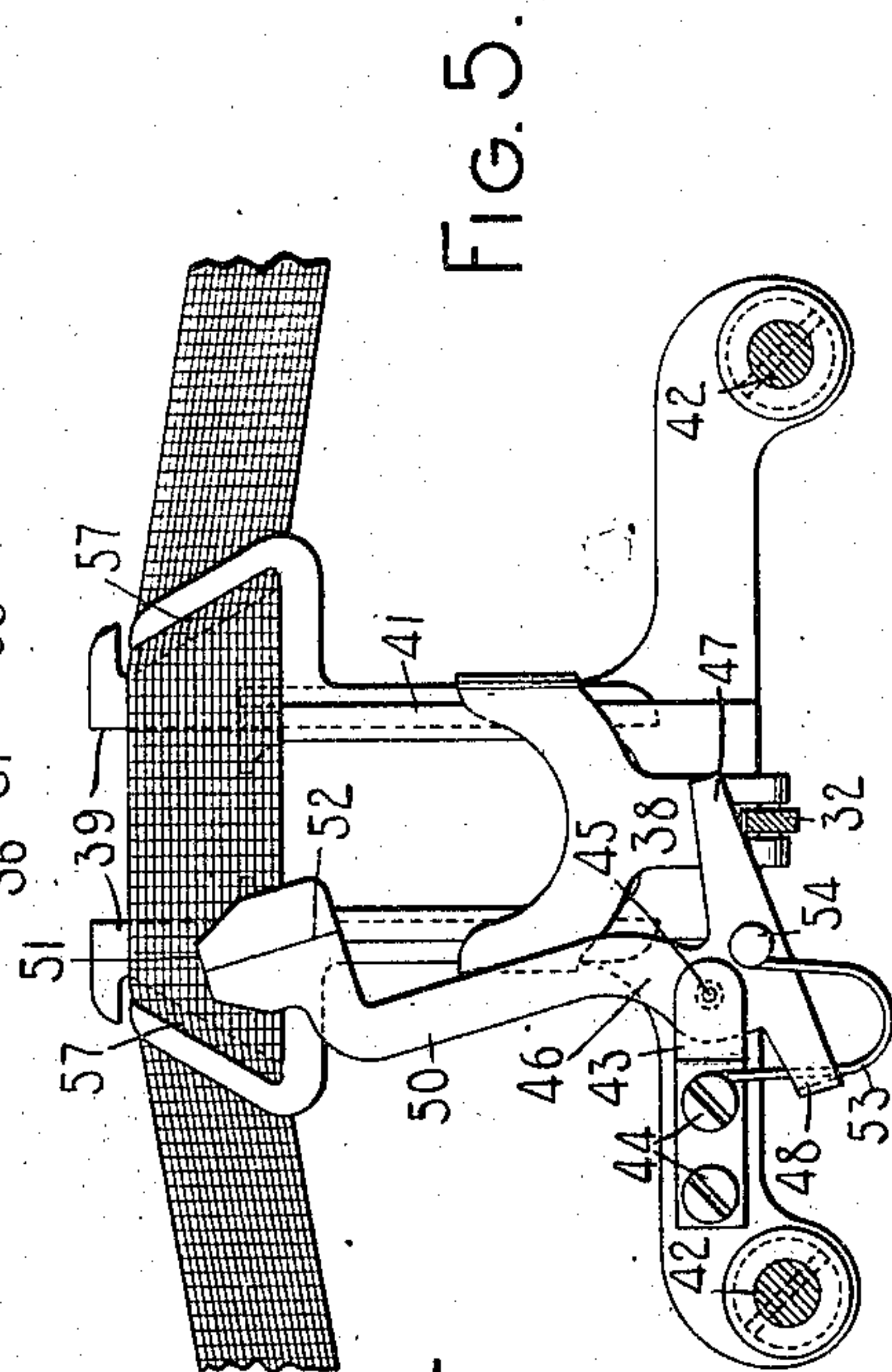
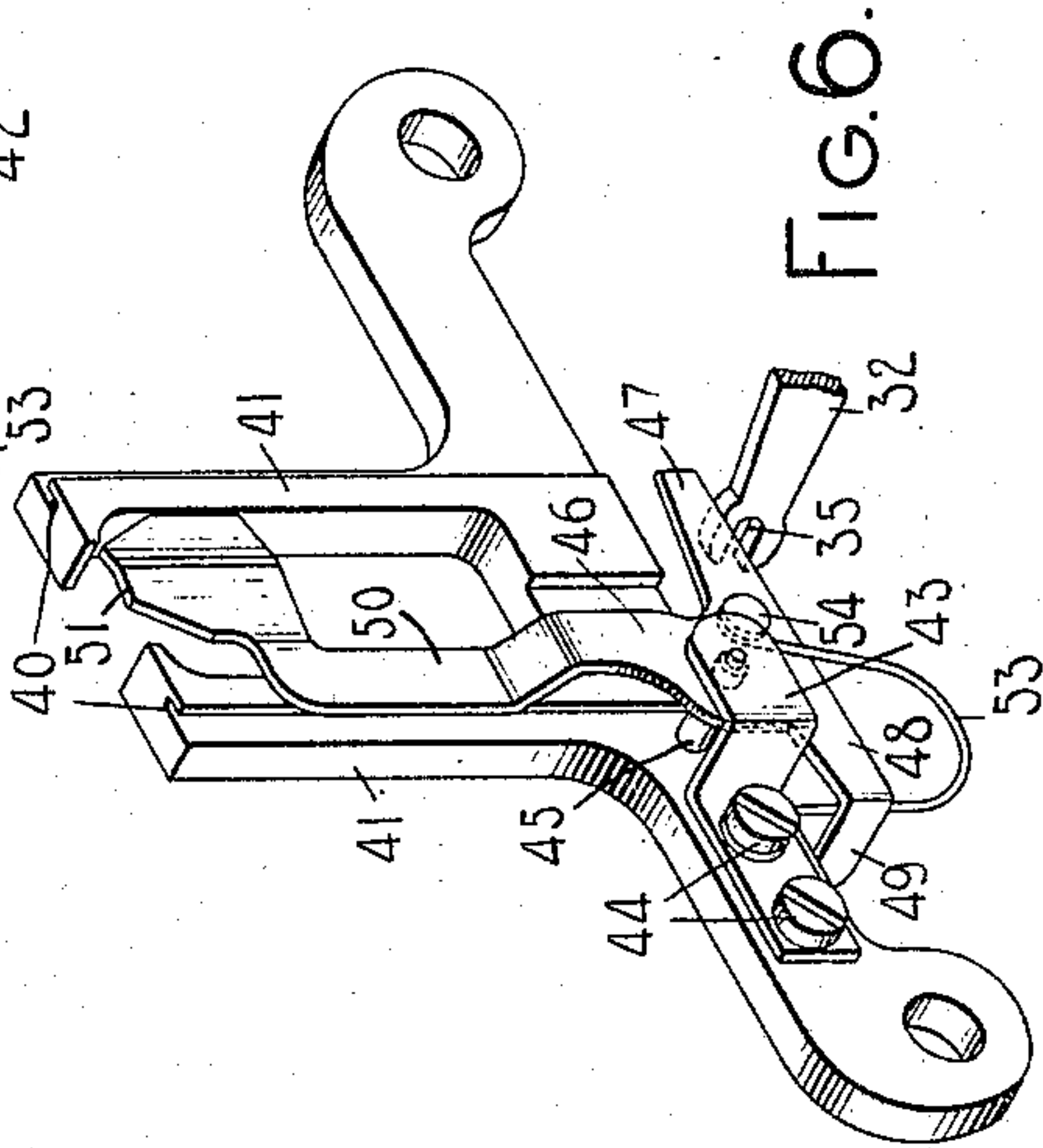
2 SHEETS—SHEET 2.



WITNESSES:

E. M. Veece.

Charles E. Smith



INVENTOR:

Charles J. Bond.

By Jacob F. Fabel

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES J. BOND, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 885,715.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed July 19, 1905. Serial No. 270,323.

To all whom it may concern:

Be it known that I, CHARLES J. BOND, 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 automatically actuated printing point indicators in which the indicator is actuated at each printing operation to automatically move away from the normal or indicating position as the type approaches the printing point.

The object of my invention is to provide a simple and efficient device of the character specified.

A further object of the invention is to provide such an indicating device, which is applicable to existing forms of typewriting machines without changing the structural features of such machines.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of devices to be hereinafter described and claimed.

In the accompanying drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is a vertical front to rear sectional view of sufficient number of parts of one form of typewriting machine to illustrate my invention and its application thereto. Fig. 2 is a fragmentary detail front elevation of the upper portion of the machine. Fig. 3 is an enlarged fragmentary detail front elevation of the indicating device and its associated parts, the parts being shown in normal position. Fig. 4 is a like view of the same showing the parts in abnormal position. Fig. 5 is an enlarged detail rear elevation of the same. Fig. 6 is an enlarged detail perspective view showing the rear side of the indicator.

I have shown my invention applied to a Monarch machine, though obviously it may be applied to other forms of typewriting machines.

The base 1 of the machine has corner posts 2 extending upwardly therefrom and these posts support a top plate 3. Key levers 4 are fulcrumed on a fulcrum plate 5 and are provided with the usual finger keys 6 and re-

storing springs 7. An upwardly extending sub-lever 8 is pivoted at 9 to each key lever and the lower end portion thereof is slotted at 10 for coöperation with a fixed fulcrum rod or bar 11 that extends transversely beneath the key levers and is secured at its ends to the base 1 of the machine. The upper end of each sub-lever is pivotally connected at 12 to a forwardly extending link 13 pivoted at its forward end 14 to a type bar 15. Various type bars are pivoted on a pivot wire 16 carried by the type bar segment 17 to strike upwardly and rearwardly to the printing point. Extending transversely beneath the various key levers is a universal bar 18, carried by the universal bar frame 19 pivoted in the base of the machine at the pivotal center 20 and having a rearwardly extending arm 21, the rear end of which is connected to an upwardly extending link 22, connected at its upper end to a forwardly extending arm 23 of a dog rocker, the rock shaft 24 of which is pivoted in a fixed bracket secured to the top plate of the machine. A dog rocker restoring spring 25 is connected at one end to a fixed part of the machine and at its opposite end to the rock shaft 24 so as to restore the dog rocker and its associated parts to normal position. Feed dogs 26 are carried by the dog rocker and coöperate with a suitable feed rack 27 connected to a carriage (not shown), which carries a platen 28 and travels from side to side of the machine. An upwardly extending link 29 is connected at its lower end 30 to the rearwardly extending arm 21 of the universal bar frame and is connected at its upper end 31 to a ribbon vibrator actuating lever 32, pivoted at 33 to a depending stud 34 secured to the top plate of the machine.

The forward end of the ribbon vibrator actuating lever is bifurcated at 35 for the reception of a pivot 36 which extends across the opening 37 in the depending arm 38 of the ribbon vibrator. The ribbon vibrator has inwardly bent parallel side edges 39 which are received in guide grooves 40 of the upwardly extending arms 41 of the ribbon vibrator guide, the latter being secured to depending ears on the top plate by screws 42. A bearing bracket 43 is connected to the ribbon vibrator guide by screws 44 and forms a bearing for one end of a pivot 45, the other

end of which is received in the bearing in the ribbon vibrator guide. This pivot is rigidly connected to a printing point indicator 46, which is preferably made of sheet metal and is in the nature of a three-armed lever, one arm 47 of which extends inwardly into the path of the vibrator actuating lever 32 and is adapted to cooperate directly therewith and to bear on the top of said lever when the forward end of the latter is elevated. The second arm 48 extends outwardly and has a bent end or finger 49 which extends beneath the fixed ribbon vibrator guide and cooperates with said fixed part to limit the movement of the indicator towards the normal or indicating position. The third arm 50 of the indicator is bent inwardly at its upper end and carries or constitutes a printing point indicator, the indicating nose of which is flattened at 51 and is of a width corresponding substantially to a character to be written on the machine, as indicated in Fig. 3. An indicating line or mark 52 is provided on the face of the indicator and said line is located at the longitudinal or vertical center of the letter or character imprinted at the printing point when the indicator is in the normal position, as represented in Fig. 3. The bow spring 53 is secured at one end to a pin 54 on the indicator and at its opposite end to one of the screws 44 which secures the bracket 43 in place. The tension of this restoring spring is exerted to normally maintain the indicator in the normal or indicating position.

From an examination of Fig. 3, it will be observed that the arm 47 of the indicator is normally maintained out of contact with the ribbon vibrator actuating lever 32, so that the weight of the vibrator and its restoring spring is not exerted against the actuating device therefor, but that the lever 32 will reach contact with the arm 47 and will move the indicator to the non-indicating position, shown in Fig. 4, before the type impacts with the platen. An inking ribbon 55 extends from one spool 56 to the other and is received in guide openings 57 in the ribbon vibrator and is adapted to be fed longitudinally therethrough in the usual manner.

In the operation of the device, a depression of a finger key 6 will cause a depression of the universal bar, thereby elevating the forward end of a ribbon vibrator actuating lever to move the vibrator and thus interpose the ribbon in the path of the type on the type bar which is approaching the printing position, and which is controlled by the depressed key. Before the type bar reaches the printing position the lever 32 will be brought in contact with the arm 47 on the indicator, thus turning it on its pivot to move the indicator from the position shown in Fig. 3 to that indicated in Fig. 4. When the imprint has been effected a release of pressure on the finger key will cause the vibrator to be lowered and the

indicator will be restored to the normal position shown in Fig. 3 by its restoring spring, thus clearly indicating the printing point.

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

1. In a typewriting machine, the combination of a ribbon vibrator, a device for automatically actuating said ribbon vibrator at each printing operation and an indicator independent of the vibrator but which cooperates directly with the vibrator actuating device only at the last portion of the stroke of said device. 70

2. In a typewriting machine, the combination of a ribbon vibrator, an automatically actuated lever for operating said ribbon vibrator, and a spring restored pivoted printing point indicator that has an arm which is normally out of contact with said automatically actuated lever but with which said automatically actuated lever directly cooperates to turn the indicator away from the indicating position when the said lever is actuated to move the vibrator to bring the ribbon to the printing point and at the last portion of the stroke of said lever. 80 85 90

3. In a typewriting machine, the combination of an automatically actuated ribbon vibrator, a lever for actuating said vibrator, and a three-arm lever, one arm constituting a printing point indicator, another arm constituting a member with which said actuating lever cooperates to move the three-arm lever but which is normally out of contact with said actuating lever and the third arm cooperating with a fixed portion of the machine to arrest the indicator in the normal or indicating position. 95 100

4. In a typewriting machine, the combination of an automatically actuated ribbon vibrator, a lever for actuating said vibrator, a three-arm lever, one arm extending inwardly and carrying a printing point indicator, another arm extending inwardly and constituting a member with which said actuating lever cooperates to move the three-arm lever and the third arm extending outwardly and cooperating with a fixed portion of the machine to arrest the indicator in the normal or indicating position, and a spring for moving the three-arm lever to the normal position. 105 110 115

5. In a typewriting machine, the combination of a vertically movable ribbon vibrator, a fixed guide on which said vibrator slides, a horizontally disposed lever which extends fore and aft of the machine for automatically actuating said vibrator, and a spring restored printing point indicator pivoted to said guide and having an arm on which said lever bears, so that the indicator will be moved from and to the indicating position by an actuation of the lever. 120 125

6. In a typewriting machine, the combination of a ribbon vibrator, automatically ac- 130

tuated ribbon vibrator operating means, and
a spring restored angle lever pivoted to a
fixed portion of the machine and having one
arm that is adapted to register with the
5 printing point, the other arm of said lever ex-
tending into the path of the vibrator operat-
ing means so as to be actuated thereby but
normally out of contact therewith so that the
first portion of the movement of the vibrator
10 operating means may take place independ-
ently of the angle lever.

7. In a typewriting machine, the combina-
tion of a ribbon vibrator, actuating means
therefor, and a printing point indicator that
15 is normally disconnected from said vibrator
operating means but is operated thereby at
the last portion of the stroke of said vibrator
operating means.

8. In a typewriting machine, the combina-
tion of a ribbon vibrator, actuating means 20
therefor, and a printing point indicator that
is disconnected from said vibrator operating
means, the actuation of the vibrator at the
first portion of the movement thereof being
entirely independent of the indicator but the 25
vibrator actuating means cooperating with
the indicator at the last portion of the stroke
of the vibrator to move the indicator away
from the indicating position.

Signed at Syracuse, in the county of Onon- 30
daga and State of New York this 17th day of
July A. D. 1905.

CHARLES J. BOND.

Witnesses:

JOHN S. MITCHELL,
H. A. OLIMENT.