

PATENTED SEPT. 3, 1907.

H. W. MERRITT.

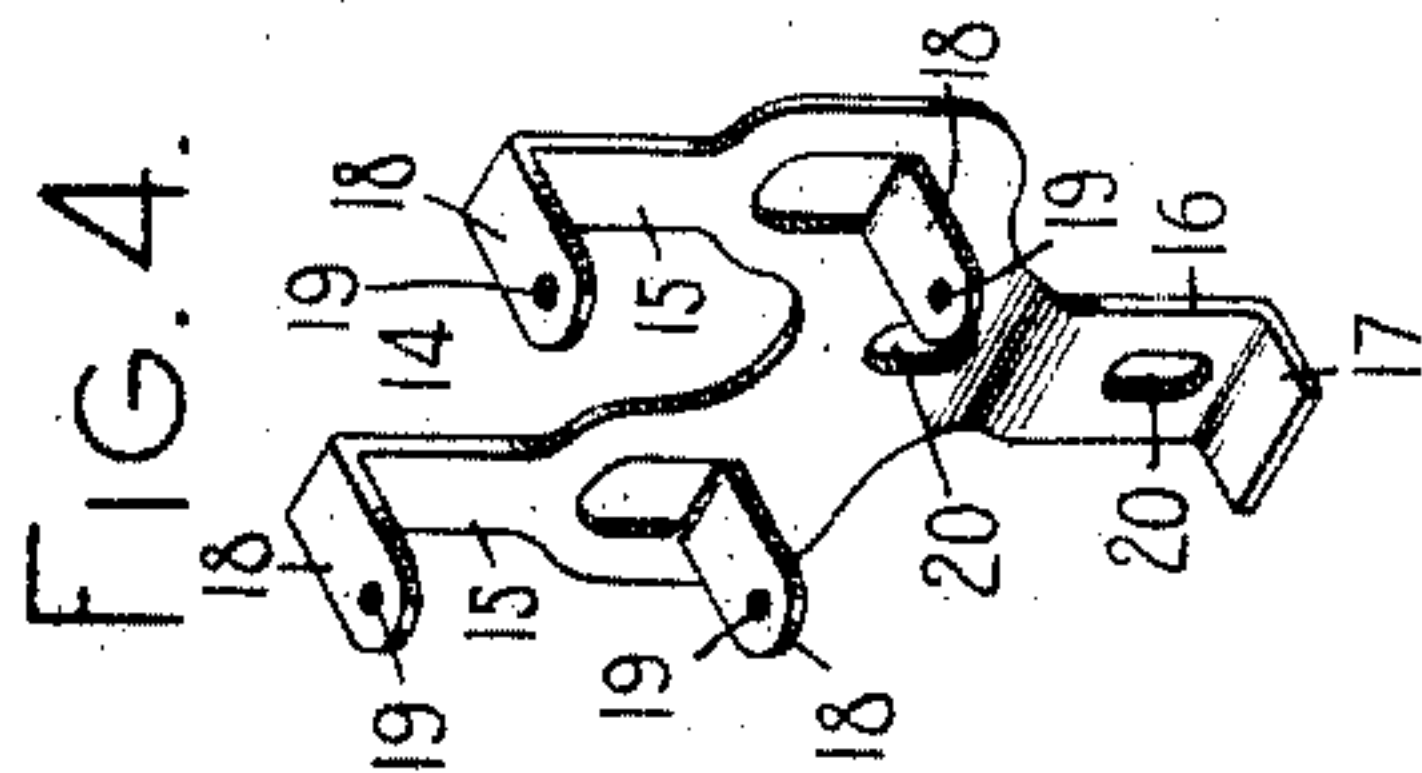


FIG. 4.

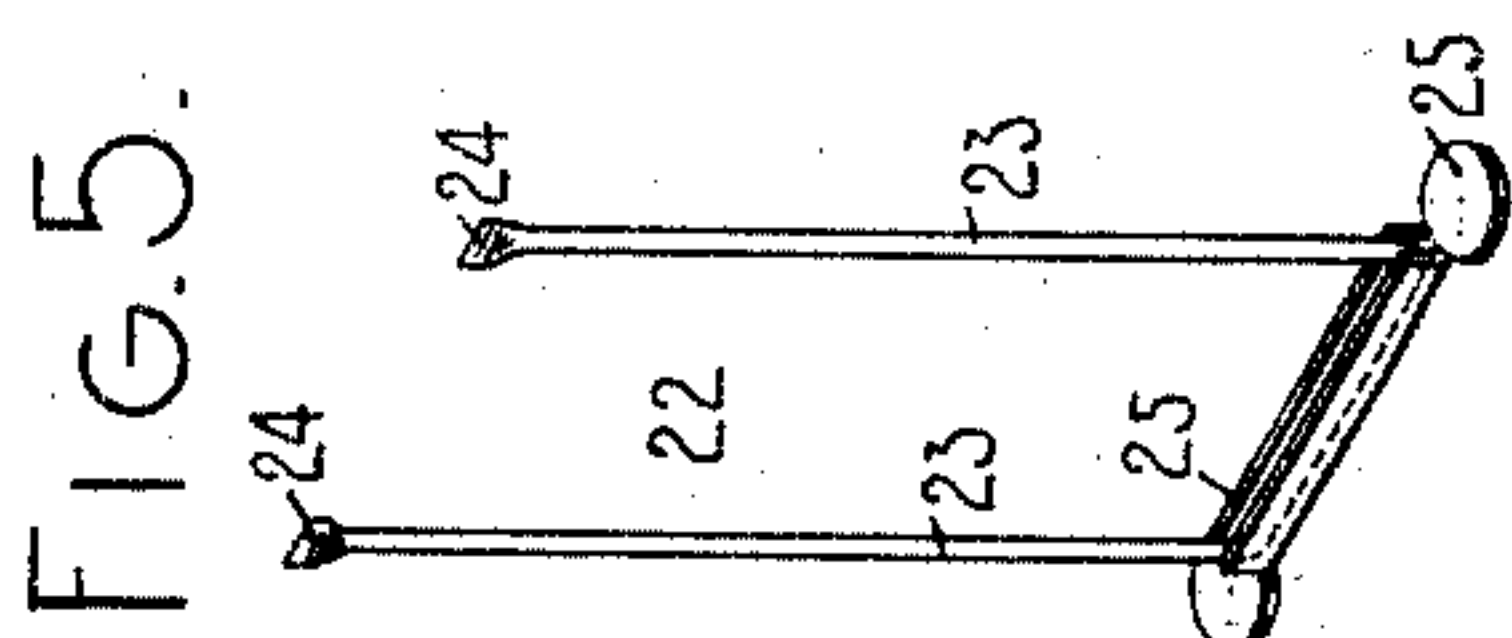


FIG. 5.

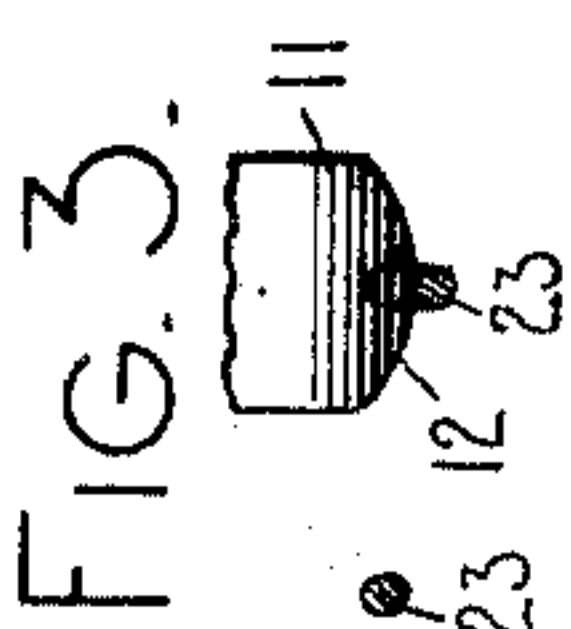
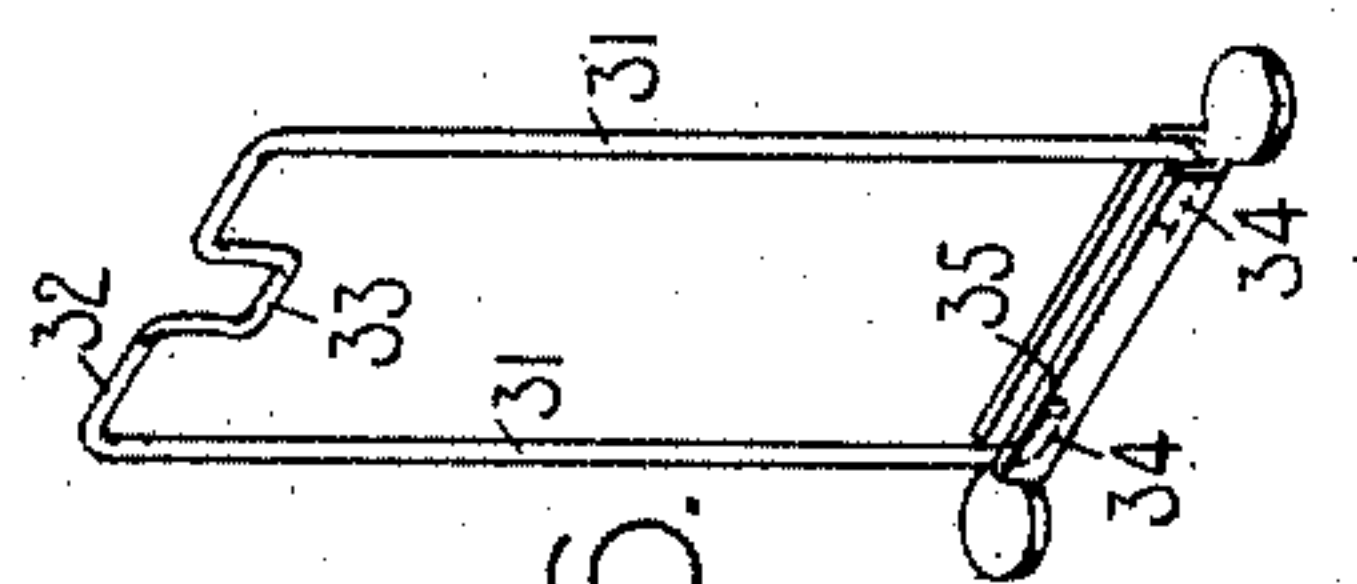
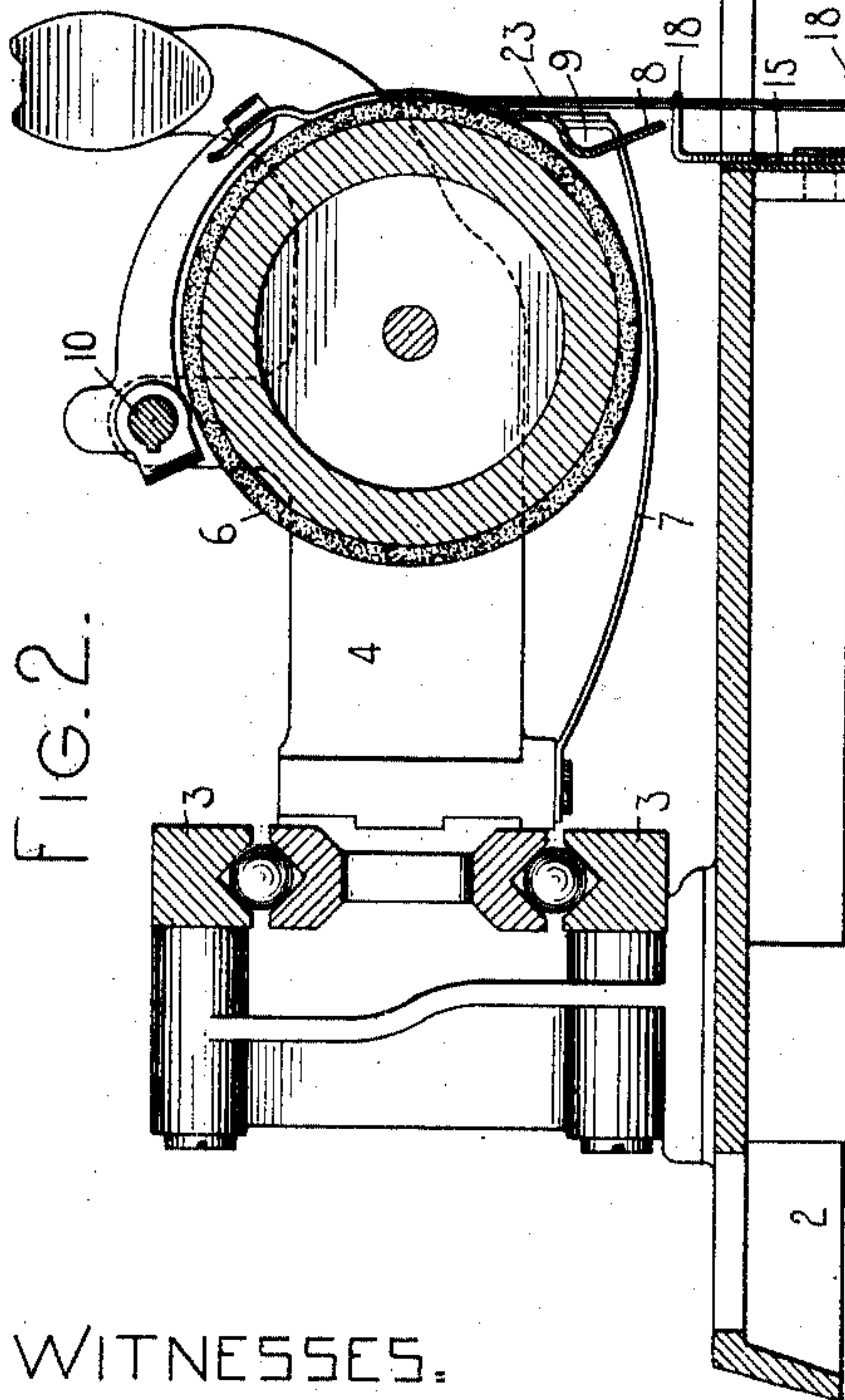


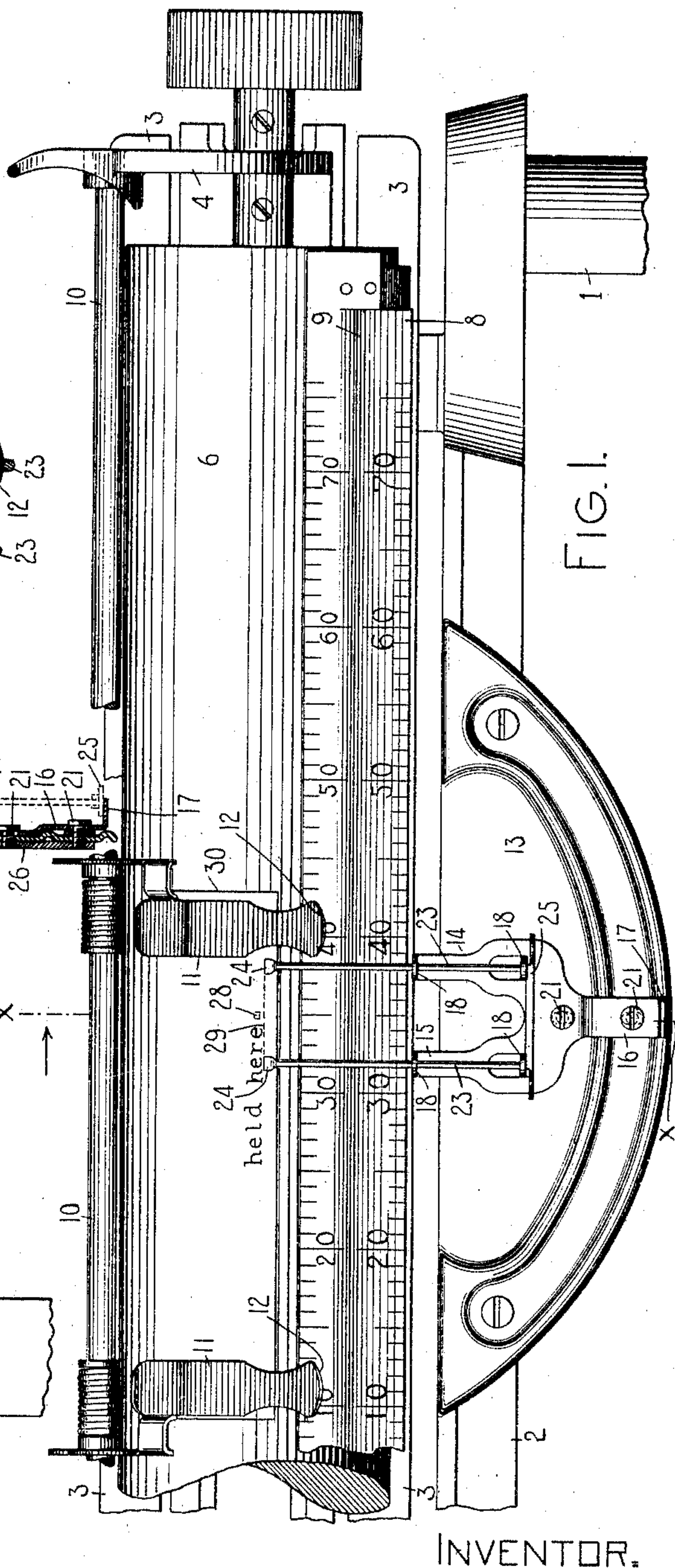
FIG. 3.



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WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY W. MERRITT, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

No. 864,793.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed June 3, 1904. Serial No. 210,965.

*To all whom it may concern:*

Be it known that I, HENRY W. MERRITT, a citizen of the United States, and a 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.

This invention relates to typewriting machines and more particularly to the paper feeding mechanism thereof.

The main object of the invention is to provide a device whereby cards, envelopes or other forms of paper may be held in close contact with the platen and written upon even to their extreme edges.

To this and other ends which will subsequently appear, my invention consists of certain features of construction and combinations of devices which will be hereinafter set forth and particularly pointed out in the concluding claims.

In the accompanying drawings, Figure 1 is a front elevation of a portion of a typewriting machine embodying my invention. Fig. 2 is a sectional elevation taken on the plane represented by the line *x* of Fig. 1. Fig. 3 is a plan view showing a portion of the end of the spring-mounted marginal paper finger and sections of the guide or pressure wires or fingers of the central paper or card holder. Fig. 4 is a perspective view of the support for the paper or card holder. Fig. 5 is a perspective view of the paper or card holder proper. Fig. 6 is a perspective of one modification of the same.

In the drawings the invention is shown as applied to the Monarch typewriter, but it is to be understood that it may readily be adapted to other typewriting machines.

Like parts are represented by like numerals throughout the several views.

1 designates corner posts sustaining a top plate 2 above which are mounted the rails 3 which support and guide the platen carrier 4. Mounted in the platen carrier is a platen 6, which may be moved step by step in the printing direction and line-spaced and returned in a manner well understood. At the front of the platen, secured to arms 7, is a double scale 8 which is formed with a longitudinal recess 9; and supported in the ends of the platen carrier above the platen is a rod 10 on which are slidably mounted the marginal guides or spring pressed paper fingers 11. The end of each paper finger is bent forwardly and formed with a cam face or edge 12 for a purpose hereinafter explained.

The card holder support and the central paper or card holder, which will now be described, are secured to the front of the vertically disposed segmental frame plate 13. The support 14 for the card holder is preferably made of sheet metal and is formed with side arms

15 and a centrally depending arm 16, the latter terminating in a horizontal lip 17 which serves as a stop for the card holder proper. Each of the arms 15 is provided with a pair of horizontal ears 18 near the outer ends of which holes 19 are drilled or otherwise suitably formed, the hole in the upper ear of each pair of ears registering with the hole in the ear immediately beneath and such pair of holes being in a line substantially tangential of the platen. Centrally of the support 14 openings 20 are provided and through the latter pass headed screws 21 by which the support is screwed to the segmental plate 13.

The card holder proper 22 is preferably formed of fine, spring wire, such as piano wire, which is bent into the shape of a U and then the side portions 23, which are the guide fingers of the card holder, are passed up through the holes 19; after which the ends 24 are spread or flattened out. To the bottom of the U a suitable finger piece 25 is secured in any desired manner, as by soldering. After the card holder proper 22 has been thus assembled in its support 14 it is attached to the fixed plate 13 by the headed screws 21 which pass through the openings 20 in the support 14 and in the plate 13 and are screwed into tapped holes in a suitable backing plate or nut 26.

When it is desired to use the card holder it is moved vertically and longitudinally upward by the finger piece 25 until the latter contacts with the two lowermost ears 18, which serve as stops to limit the upward movement of the card holder. The latter is thereby brought into working position where it is held by the friction between the fingers 23 and the guiding holes 19, through which the said fingers pass and by which they are guided. When in this working position, as best appears in Fig. 1, the fingers 23 are tangential to the platen, while the flattened ends 24 are disposed one at each side of and at a short distance from the printing point 28 and so that a line 29 drawn to connect the tops of said flattened ends would be parallel to and slightly below the printing line.

The card 30 or other substance to be written upon is guided and held near its side edges by the marginal fingers 11, but there always is more or less tendency of the card to "buckle" or stand away from the platen between these marginal fingers, and especially is this the case when the top or bottom of the card is at or in the vicinity of the printing point. This "buckling" or "bulging" is more marked the greater the distance there is between the two marginal fingers, such distance usually depending on the length of the card, or the thicker or more resilient the card is. It is one of the purposes of this invention to remedy this objection and hold the card in contact with the platen at the printing point; but it will, of course, be understood that though



the invention may be best employed in conjunction with marginal paper guides or fingers, it may nevertheless be used separately and apart from such marginal fingers, or guides, and the small marginal feed rolls which frequently accompany such guides or fingers. The relation between the central paper or card holder 22 and the platen 6 is such that the flattened ends 24 of the former exert a pressure against the surface of the platen towards its axis. The position of the said ends 24 in relation to the printing point is such that the pressure above referred to is so exerted against the card 30 that though it be comparatively thick and resilient it may, nevertheless, be written upon even at the extreme edge of the top or bottom. This may be accomplished although the writing takes place after the bottom edge has escaped from beneath the upper edge of the scale 8, which serves to hold it, and would spring away from the surface of the platen, at and near the printing point, but for the restraining influence of the fingers 23. If while the card holder is thus frictionally held in working position, the movement of the platen carrier to the left or right brings either of the marginal paper fingers 11 into contact with either of the spring fingers 23, the cam face 12 of the paper finger 11 contacting with each of the fingers 23 in turn, cams them away from the platen in a manner shown most clearly in Fig. 3, and permits the marginal paper finger 11 to readily move past, after which each finger 23 of the card holder springs back into contact with the platen or the card thereon.

When the card holder is not needed, it may be lowered to non-working position by pressing down upon the finger piece 25 and thus moving the card holder longitudinally downward until the finger piece 25 contacts with the lower stop 17. In this position the ends 24 are opposite the recess 9 in the scale 8. It will be evident that when the card holder is in its non-working position it is out of contact with any of the moving parts of the machine, and unnecessary friction or rubbing is avoided.

The working position of the flattened ends 24 with relation to the printing point may be altered by loosening the screws 21 and moving the support 14 up or down, thus changing the position of the lower ears 18 which, it will be recalled, serve as the limiting stop for the upward movement of the card holder 22.

The modified form shown in Fig. 6 has the side wires 31 of the card holder joined at the top by a cross-wire 32 which is formed with a central depression 33 to afford a passage for the type blocks of the type bars. In practice the side and top portions of this modification would preferably be of one piece, which, after it had been bent to the desired shape, would be passed down through the openings 19 in the holder, after which the ends 34 would be bent in and the finger piece 35 would be suitably secured thereto.

For the sake of brevity the invention has been frequently referred to as a "card holder" but it is to be understood, of course, that it is applicable to paper, envelopes, and to other substances to be written upon as well as to cards.

It will be seen that I have provided a pressure device for guiding, feeding, controlling and holding the card in contact with the platen at and near the printing point; that this pressure device serves as a means for

holding the paper against the platen while the paper and platen are traveling and is a relatively fixed means; that the relatively fixed means for holding the paper against the platen is so constructed as not to interfere with the relatively moving means for holding and guiding the paper near its side edges, that is, the marginal paper fingers; and that the pressure device is so constructed that it may be used in a front strike typewriting machine to guide, feed, control and hold the paper or card in the vicinity of the printing point after the bottom edge of the paper or card has escaped from beneath the top edge of the scale. The flattened tops of the fingers 23, also serve as a guide to the re-insertion and adjustment of cards and paper, when correcting is being done. The cross bar 32 of the modified form serves a similar function.

Various changes in detail construction and arrangement may be made without departing from the gist of the invention as expressed in the following claims.

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

1. In a front strike typewriting machine, the combination of a platen and a pressure device for paper or cards which is arranged to move bodily up and down tangentially of the platen, and to press directly against the platen or the substance to be written on.
2. In a front strike typewriting machine, the combination of a platen, a pressure device for paper or cards which is arranged to move up and down tangentially of the platen and is movable into and out of contact with the latter, and a support for said pressure device arranged in a plane substantially tangential of the platen.
3. In a typewriting machine, the combination of a platen and a pressure device movable tangentially of the platen into and out of contact with the latter and relatively fixed in respect of the machine frame.
4. In a visible writing machine, the combination of a platen, a scale for holding the paper against the platen below and parallel to the printing line, marginal paper guides movable with the platen during its longitudinal movements for controlling the paper at its side edges, and an independent pressure device for the paper having a fixed position centrally of the machine and acting close to the printing point, said pressure device and said paper guides cooperating to permit the free longitudinal movement of the platen when the parts engage with one another.
5. In a front strike typewriting machine, the combination of a platen, and a horizontally yielding card guide carried by a fixed portion of the machine and adjustable vertically to different set positions.
6. In a front strike typewriting machine, the combination of a platen and a card guide vertically adjustable into and out of working position.
7. In a front strike typewriting machine, the combination of a platen, a platen scale, and a device arranged in the vicinity of the printing point and adapted to control the lower edge of a card after it leaves the control of the platen scale and before it reaches the printing point, said device being mounted for adjustment into and out of working position.
8. In a typewriting machine, the combination of a platen and a pressure device attached to a fixed part of the machine and longitudinally movable in a direction tangential of the platen into and out of contact with the platen, whereby said device is rendered operative or inoperative.
9. In a typewriting machine, the combination with the platen, of fixed means for holding the paper against the platen while the platen is traveling longitudinally, said means being movable into and out of operative relation with the platen.
10. In a typewriting machine, the combination of a platen, means for holding and guiding the paper near its side edges, said means being movable with the platen, and



fixed means for guiding and holding the paper near the printing point, said fixed means being adapted to be engaged by and yield to the holding and guiding means so as to permit of the passage by it of said holding and guiding means which move with the platen.

11. In a typewriting machine, the combination of a platen, marginal paper fingers, and a fixed central paper or card holder, adapted to yield to permit either of said marginal paper fingers to pass to either side of it.

12. In a typewriting machine, the combination of a platen, marginal paper fingers, and a fixed central paper or card holder adapted to be cammed off by either of said marginal paper fingers.

13. In a typewriting machine, the combination of a platen and a card holding device comprising a plurality of guide fingers attached to a fixed part of the machine and adjustable into and out of operative position.

14. In a typewriting machine, the combination of a platen and a plurality of spring guide fingers attached to a fixed part of the machine and adjustable into and out of operative position.

15. In a typewriting machine, the combination of a platen and a card holding device comprising a plurality of guide fingers attached to a fixed part of the machine and movable in and out of contact with the platen, whereby said fingers are rendered operative or inoperative.

16. In a typewriting machine, the combination of a platen and a plurality of adjustable spring guide fingers attached to a fixed part of the machine and movable into and out of contact with the platen, whereby said fingers are rendered operative or inoperative.

17. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder mounted to slide in said support into and out of operative engagement with the platen, and a finger piece attached to said card holder for moving it into and out of position.

18. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder mounted in said support and movable into and out of contact with the platen, a finger piece for moving said card holder, and means for limiting the movement of the card holder in either direction.

19. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder, mounted in said support and movable into and out of contact with the platen, a finger piece for moving said card holder, and adjustable means for limiting the movement of the card holder in either direction.

20. In a typewriting machine, the combination of a platen, a support secured on a fixed part of the machine, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece acting as a stop

to limit the movement of the card holder in either direction.

21. In a typewriting machine, the combination of a platen, an adjustable support secured on a fixed part of the machine, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece acting as a stop to limit the movement of the card holder in either direction.

22. In a typewriting machine, the combination of a platen, a support secured on a fixed part of the machine, limiting stops on said support, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece being adapted to contact with the said fixed stops on the support to limit the movement of the card holder.

23. In a typewriting machine, the combination of a platen, an adjustable support secured on a fixed part of the machine, limiting stops on said support, a card holder mounted in said support and movable into and out of contact with the platen, and a finger piece for moving said card holder, said finger piece being adapted to contact with the said fixed stops on the support to limit the movement of the card holder.

24. In a typewriting machine, the combination of a movable platen, a support secured on a fixed part of the machine, a card holder mounted on said support and movable into and out of operative relation with the platen, and adjustable means for limiting the movement of the card holder in either direction.

25. In a typewriting machine, the combination of a platen, and a pressure device attached to a fixed part of the machine, said device being movable longitudinally of itself and tangentially of the platen into and out of engagement with said platen whereby said device is rendered operative or inoperative.

26. In a front strike typewriting machine, the combination with a platen, of an upstanding spring pressed card holder adapted to press the card against the platen and provided at its upper portion with means constituting a line gage.

27. In a front strike typewriting machine, the combination with a platen, of an upstanding card holder comprising a pair of spring fingers adapted to press the card or work sheet against the platen, the tops of said fingers terminating below the printing point and serving as a line gage.

Signed at Syracuse, in the county of Onondaga and State of New York, this 1st day of June A. D. 1904.

HENRY W. MERRITT.

Witnesses:

CHAS. H. COOKE,

SILAS W. CRANDALL.