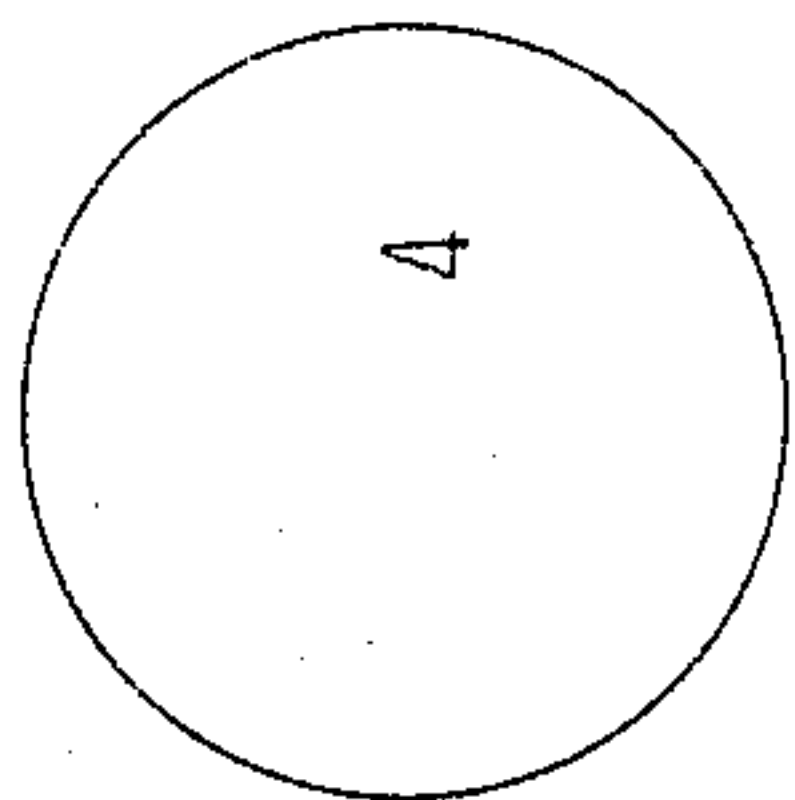
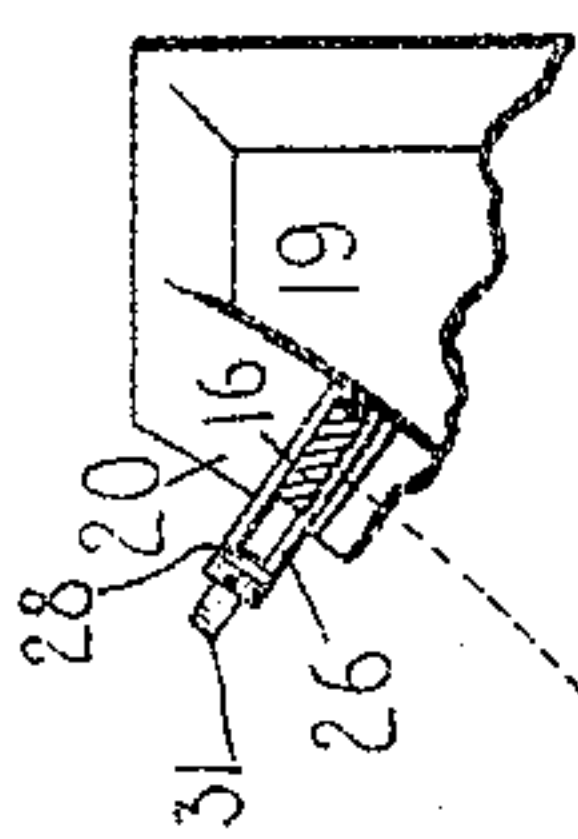


PATENTED MAY 9, 1905.

M. W. POOL.  
TYPE WRITING MACHINE.  
APPLICATION FILED JULY 30, 1904.



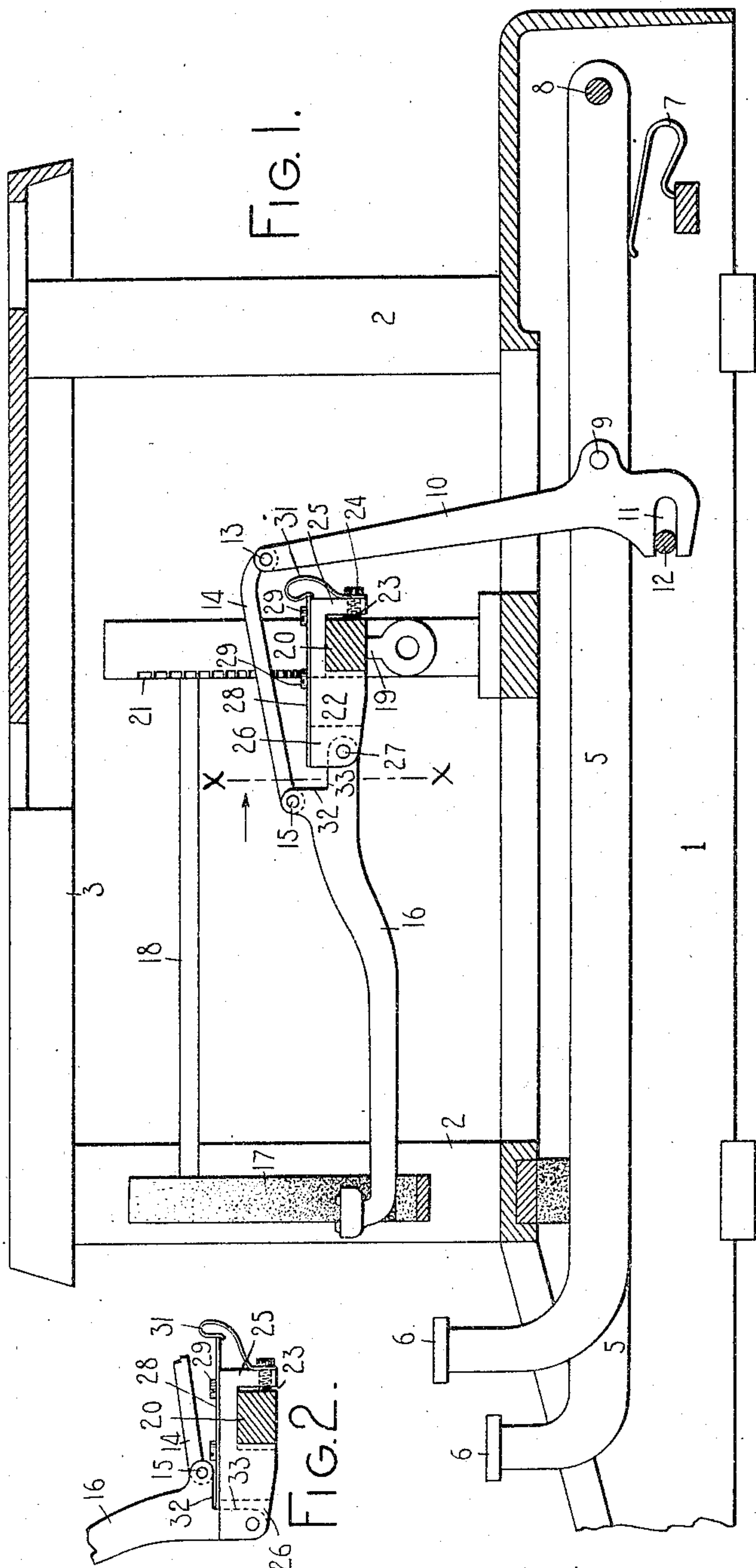
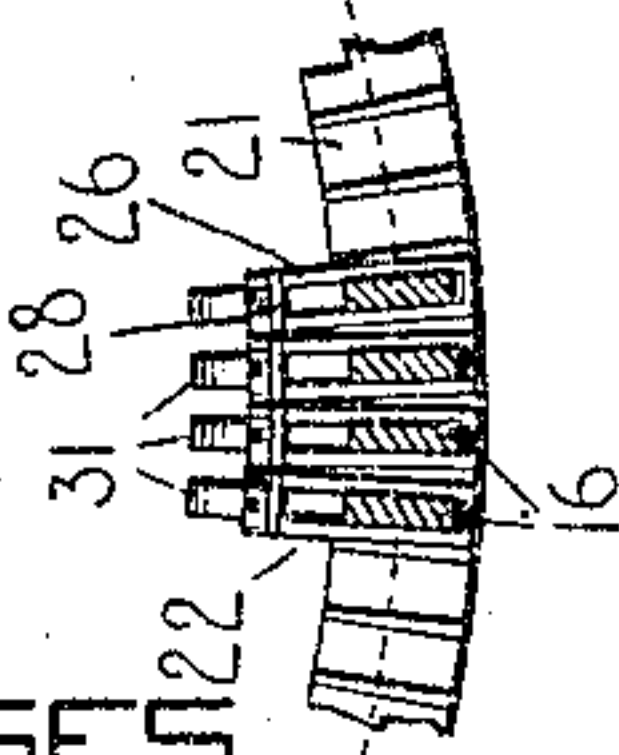
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FIG. 2.

INVENTOR=

Morris H. Pool

By *Jacob Telbel*  
HIS ATTORNEY

# UNITED STATES PATENT OFFICE.

MORRIS W. POOL, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE  
MONARCH TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK,  
A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 789,170, dated May 9, 1905.

Application filed July 30, 1904. Serial No. 218,779.

*To all whom it may concern:*

Be it known that I, MORRIS W. POOL, a citizen of the United States, and a resident of the borough of Brooklyn, city of New York, in the county of Kings 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 type-writing machines, and more particularly to means for protecting the bearings of the type-bars and for restoring the latter from printing to normal position.

In front-strike writing-machines of the type-bar class the printing-point is usually over the bearings of the type-bars, which latter are therefore in a position to receive particles of dust or grit resulting from erasures as they fall from the platen. If left unprotected, the bearings are liable to become clogged, preventing free movement of the type-bars. Various means have heretofore been employed to remedy this defect; but so far as I am aware individual movable dust-guards supported on each type-bar hanger have not hitherto been used, and one of the main objects of my invention is to provide such a construction.

A further object is to provide a restoring means for the type-bar in connection with the protecting means for the type-bar bearing.

My invention consists in the various features of construction, combinations, and arrangements of parts, all as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In carrying out my invention I mount on each type-bar hanger a dust-guard or cover-plate, which normally protects the type-bar bearings; but this plate is so mounted and arranged that when the type-bar swings upwardly and rearwardly to print it contacts with the forward end of said plate and moves it rearwardly, thus allowing the type-bar to make its full excursion. This cover-plate is spring-pressed in the opposite direction, and thus is automatically restored to normal position during the return of the type-bar to its

normal position, and the parts are so related that the spring assists the return movement of the type-bar.

One form of the invention is embodied in the accompanying drawings, in which—

Figure 1 is a vertical front-to-rear sectional view taken centrally of the machine, various parts which are not material being omitted. Fig. 2 is a side elevation of a hanger and a portion of its associated type-bar, showing the position of the dust-guard when the type-bar is in printing position. Fig. 3 is a fragmentary front view of the segment with a number of hangers mounted thereon. This view is taken on the plane represented by the line *xx* of Fig. 1. Fig. 4 is a plan, on an enlarged scale, of a dust-guard and hanger.

The same numerals of reference indicate the same parts throughout the various views, in which—

1 is the base of the machine.

2 represents corner-posts upholding a top plate 3, which in turn supports a carriage (not shown) of any desired construction, the platen 4 of said carriage being diagrammatically illustrated. Key-levers 5, provided with finger-keys 6 and returning-springs 7, are pivoted at 8 in the rear of the base 1.

Pivoted at 9 to the key-levers 5 are sub-levers 10, each having a slot 11 near its lower end, said slot embracing a fixed fulcrum-bar 12, which passes from side to side of the machine beneath the key-levers and is supported in the side frames.

Connected at 13 to the upper end of sub-lever 10 is a link 14, the forward end of which is pivoted at 15 to the type-bar 16. The type-bar is supported at its type end by a type-rest 17, said rest being upheld by several horizontal arms (one of which, 18, is shown in Fig. 1) projecting forwardly from the segment 19. It is immaterial to the purpose of this invention whether the segment is fixedly or movably supported in the machine. The hanger-supporting portion 20 of the segment 19 is provided with radial slots 21. Each of the hangers 22 has a notch or cut-away 23, by which the hanger may be fitted over the



hanger-supporting portion 20 of the segment and into the appropriate radial slot 21, in which position it is secured by a set-screw 24, passing through the rear wall 25 of the hanger and abutting against the rear vertical face of the segment. Forward of the segment the hanger 22 is provided with side walls 26, wherein the type-bar 16 is pivoted at 27.

The protecting means for the type-bar bearing as herein embodied consists of a plate 28, of sheet metal, having substantially the same dimensions in plan as its associated hanger 22, to which it is secured by headed pins or screws 29. These pins are driven into holes in the hanger through slots 30 in the dust-guard plate 28, Fig. 4, so as to permit the said dust-guard plate to have a limited movement longitudinally of the hanger, while at the same time it is held from movement in a direction upward or away from the hanger by the heads of the pins 29 and from movement in a lateral direction by the sides of slots 30 and the body portions of the pins 29. The rear walls of the slots 30 normally contact with pins 29, as best shown at Fig. 4, this position being maintained by a curved leaf-spring 31, said spring being attached to the hanger by the set-screw 24. Just to the rear of its pivot 15 the type-bar is formed with a normally vertical face 32, which joins at right angles a face 33, formed on the type-bar forward of the pivot 27.

When finger-key 6 is depressed, the type-bar 16 is actuated in a manner well understood, and after it has moved some distance toward the platen the parts are so related that the type-bar will contact with the forward end of the dust-guard plate 28 at the junction of the faces 32 and 33. A further rearward movement of the type-bar gradually forces the bearing-protector 28 rearwardly against the action of its spring 31 until the type-bar reaches the printing-point, when the parts are in the relative positions shown in Fig. 2. It will be apparent that as the dust-guard plate 28 is moved backward its rear portion is held from motion upward or away from the hanger by the heads of screws 29, while the forward end will be similarly restrained by the face 32 of the type-bar. After the type has printed the tension of spring 31, acting through the dust-guard 28, will serve to assist in restoring the type-bar to normal position.

It is evident from the construction herein illustrated that when the type-bars are all in normal position their bearings will all be covered by their respective dust-guards when viewed from the printing-point on the platen. When any particular type-bar is actuated to print, the dust-guards of all the remaining type-bars are unmoved. It is only the dust-guard of the bar actuated which is moved.

Various changes may be made in the means to accomplish the results herein set forth

without departing from the scope of this invention.

I desire to be understood as limiting the term "dust-guard" as employed in the subjoined claims to a protecting means which is independently movable in respect of both the type-bar and the type-bar bearing.

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

1. In a type-writing machine, the combination with a type-bar, of an individual dust-guard for the type-bar bearing, said dust-guard being adapted to be automatically actuated by contact of the type-bar.

2. In a type-writing machine, the combination with a type-bar of a dust-guard for the type-bar bearing, said dust-guard being adapted to be actuated by the type-bar when it moves to print.

3. In a type-writing machine, the combination with a type-bar and key-actuated means for operating the same, of a dust-guard for the type-bar bearing, said dust-guard being adapted independently to assist in restoring the type-bar to normal position.

4. In a type-writing machine, an individual type-bar hanger wholly supporting a movable roof or cover.

5. In a visible-writing machine, the combination of a hanger, a type-bar pivoted in the hanger and a slotted spring-pressed plate mounted on the hanger and adapted to be moved rearwardly as the type-bar moves toward the platen.

6. In a type-writing machine, the combination of a type-bar and a dust-guard for the type-bar bearing, the type-bar when moving to print being adapted to actuate the dust-guard in one direction and to be actuated by the dust-guard during its return motion.

7. In a type-writing machine, a series of type-bar hangers each provided with a separate spring-pressed dust-cover for the bearings of the type-bars.

8. In a type-writing machine, the combination of a type-bar hanger, a type-bar pivotally mounted therein, and a reciprocatory cover-plate mounted wholly on said hanger.

9. In a type-writing machine, a type-bar hanger, a type-bar pivotally mounted therein, means for actuating said type-bar, and a cover-plate mounted on said hanger and adapted to be actuated in one direction when said type-bar is actuated to print.

10. In a type-writing machine, a type-bar hanger, a type-bar pivotally mounted therein, means for actuating said type-bar, and a cover-plate mounted on said hanger and adapted to be actuated in one direction by the type-bar and in the opposite direction by a spring.

11. In a type-writing machine, the combination of a type-bar hanger, a movable cover-plate supported thereon, and a type-bar constructed at its pivotal end to move said cover-



plate when the type-bar approaches the printing position.

12. In a type-writing machine, the combination with a type-bar hanger provided with  
5 a movable cover-plate, and a key-actuated type-bar pivotally mounted in said hanger and adapted to move said cover-plate, the said type-bar being notched or cut away so as not to act  
10 on said cover-plate during the whole printing stroke of the type-bar but only at a predetermined time thereof.

13. In a type-writing machine, the combination of a type-bar hanger provided with a  
15 spring-pressed movable top plate and with means for holding and guiding said plate.

14. In a type-writing machine, the combination of a type-bar, a type-bar hanger, and a  
20 movable dust-shield wholly supported on said hanger.

15. In a type-writing machine, the combi-

nation of a type-bar, a type-bar hanger, a dust-shield supported on the hanger and movable in the path of the type-bar and movable rearwardly by the contact of said type-bar  
25 when the latter is actuated to print.

16. In a type-writing machine, the combination of a hanger, a type-bar pivoted in said  
hanger, and an individual dust-guard which covers the pivots of said type-bar when the  
30 latter is in normal position, said dust-guard being mounted on a fixed part of the machine.

Signed in the borough of Manhattan, city of New York, in the county of New York and State of New York, this 29th day of July,  
A. D. 1904.

MORRIS W. POOL.

Witnesses:

CHARLES E. SMITH,  
J. B. DEEVES.