

No. 771,217.

PATENTED SEPT. 27, 1904.

B. C. STICKNEY.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 19, 1904.

NO MODEL.

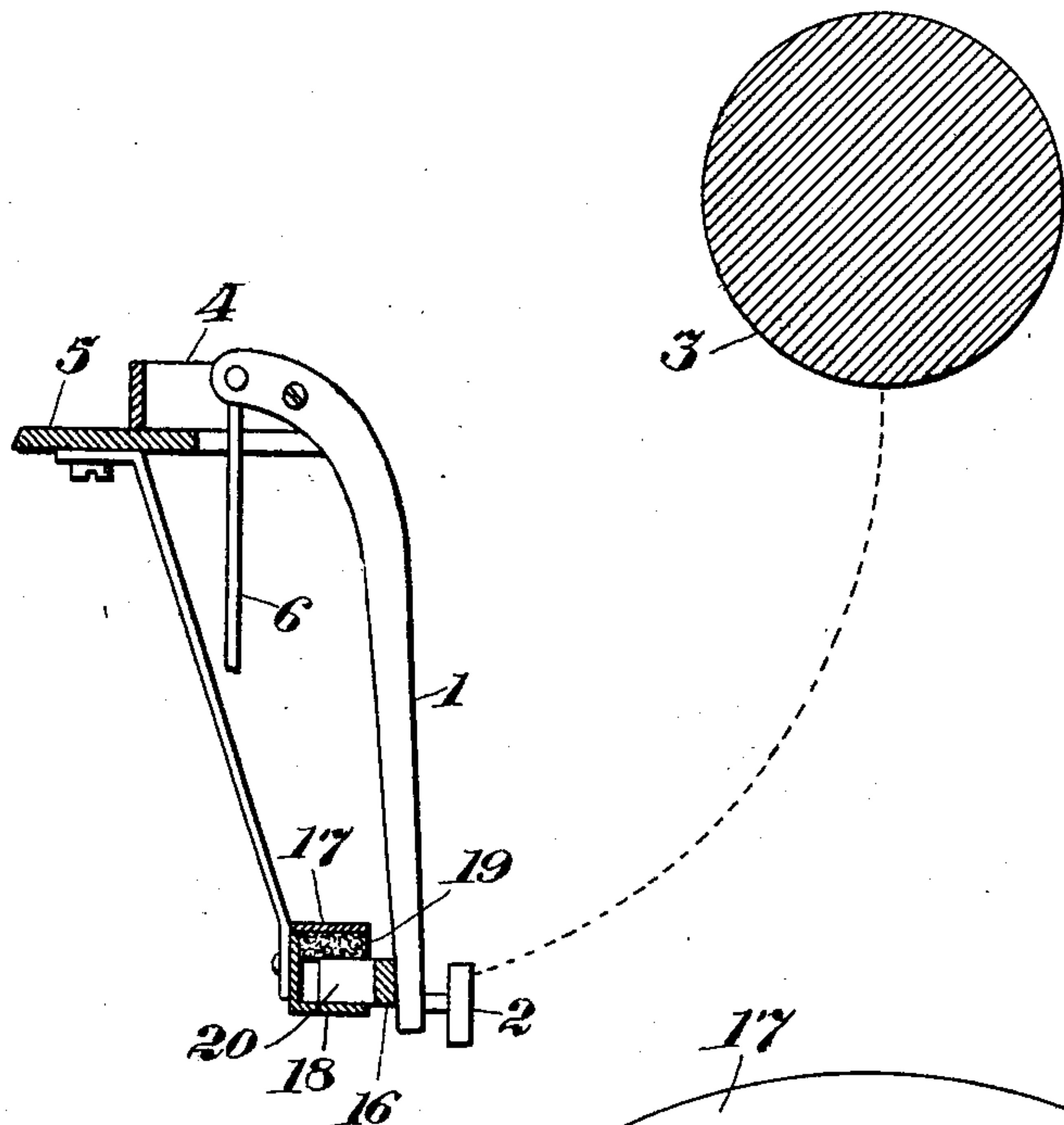


Fig. 1.

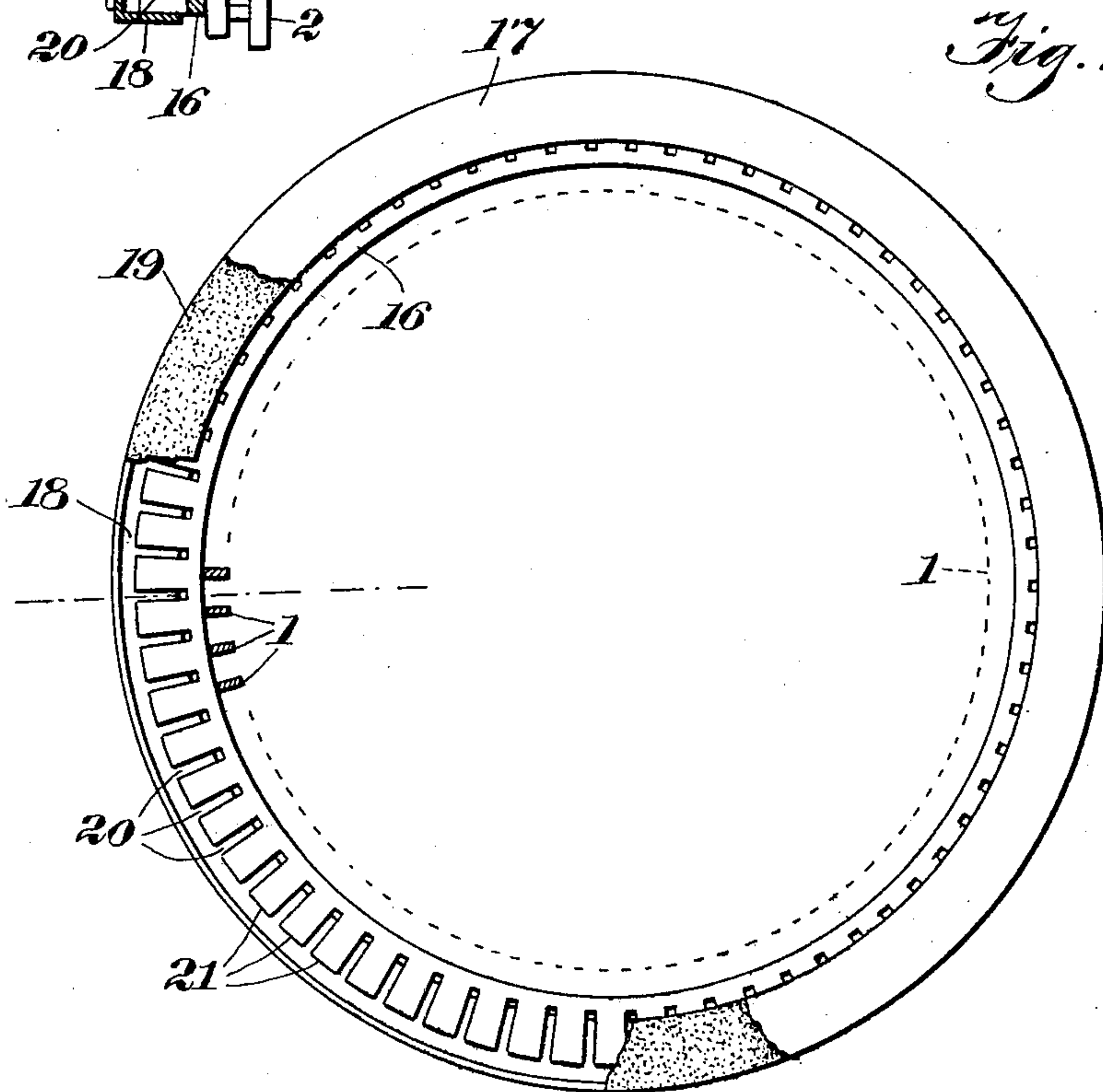


Fig. 2.

WITNESSES:

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TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 771,217, dated September 27, 1904.

Original application filed December 16, 1902, Serial No. 135,361. Divided and this application filed March 19, 1904. Serial No. 198,967. (No model.)

To all whom it may concern:

Be it known that I, BURNHAM C. STICKNEY, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates primarily to type-writing machines in which radially-disposed type-bars are arranged about a common printing-point and move one at a time to the printing position. These type-bars, especially in "front-strike" machines, are often closely arranged, so that in rapid operation there is a liability of clashing, due largely to the fact that the type-bars are apt to rebound from the basket or cushion upon returning to normal position, thus getting into the path of a subsequently-operated type-bar.

The principal object of my invention, therefore, is to minimize the liability of the type-bars to rebound in this manner.

This application is a division of my application filed December 16, 1902, Serial No. 135,361.

In the drawings forming part of this specification, Figure 1 is a sectional elevation of a type-bar, type-basket, and platen of an under-strike machine, and by turning the figure quarter-way around it will be seen that it represents like parts in a front-strike machine, in which the type-bars lie horizontally and below the plane of the printing-point. Fig. 2 is a plan of the type basket or ring seen at Fig. 1, the type-bars being indicated in cross-section.

In the views like signs denote like parts.

Type-bars 1, forming a radial series and carrying types 2, which strike against a platen 3, are supported by hangers 4 upon a ring, segment, or plate 5 and operated by means of pull-rods 6 or otherwise and usually provided with returning-springs. The type-bars normally rest in contact at their type ends with a flexible ring or segment 16 and against its inner edge. The segment is confined between upper and lower shelves or sets of fingers 17 and 18, upon the latter of which it preferably

rests. The upper shelf 17 is lined upon its under side with felt or leather 19, which is in contact with the upper face of the ring 16, which consists of leather or other material possessing some flexibility and preferably as inelastic as possible. When the type-bars strike the basket 16, the latter is moved; but its movement is opposed by the friction-pad 19, so that it does not move so far nor recover as promptly as if its movement were unopposed, so that the liability of rebounding of the type-bar is lessened. The under shelf or fingers 18 may also be lined with a friction-pad, and the ring 17 may be made separate from the ring 10, so that the former may rest upon the leather ring 16, the ring 17 being made as heavy as desirable and serving as a weight in order to secure the desired friction, or the friction may be otherwise secured. The parts 17, 10, and 18 may be fixed together or made in a single piece, and the members 16 and 19 may fit between them with sufficient tightness to produce the desired friction. For making the ring 16 more flexible it may be formed upon either its outer side or its inner side with incisions 20, these being preferably upon the outer side and being preferably so deep as to give the effect of a band backed by a series of friction pieces or plungers 21, preferably one plunger for each type-bar, as illustrated. Of course the band may be made separately from the plungers and attached thereto or be otherwise caused to cooperate therewith, and in some cases a series of plungers may be used between a pair of friction-plates or otherwise without any connecting-band. The advantages of a flexible strip have been explained, and when used in connection with friction devices rebound of the type-bars may be effectually prevented, and the machine may be operated at high speed without danger of the type-bars clashing because of rebounding from the basket.

In another application, Serial No. 168,245, filed August 4, 1903, which is not a division of my application Serial No. 135,361, certain features covered broadly by claims herein are illustrated as carried out in another form;

but the claims in said application, Serial No. 168,245, cover no feature disclosed in the present application.

Variations may be resorted to within the scope of my present improvements, and portions thereof may be used without others.

Having thus described my invention, I claim—

1. In a type-writing machine, a type-bar support consisting of a flexible curved member against which the type-bars rest, radial members connected to said flexible member, and a stationary friction device in contact with said radiating members.

2. In a type-writing machine, the combination with a series of type-bars of a series of movable members which take up the force of the returning type-bar, said movable members being so connected that the displacement of one of said members by a type-bar tends to restore to normal position a member formerly displaced.

3. In a type-writing machine, the combination with a series of type-bars, of a series of members which oppose the movement of the returning type-bars and are movable thereby, and means for frictionally opposing the movement of said members, said movable members being so connected that the displacement of one of said members by a type-bar tends to restore to normal position a member formerly displaced.

4. In a type-writing machine, the combination with a series of type-bars of leather ring 16 having incisions 20 forming radial members 21, curved plate 17 faced with felt 19 and bearing upon said members 21, support 18, and ring 10 of sufficient size to permit movement of the members 21 under the impact of the type-bars.

5. In a type-writing machine, the combination with curved members 18 and 19 facing each other and one lined with felt, of connected members 21 between said linings, and a series of type-bars.

6. In a type-writing machine, the combination with curved members 18 and 19 facing each other and one lined with felt, of means for pressing them toward each other, and connected devices between said linings and movable by the type-bars.

7. A type-bar rest including a series of radiating pieces each mounted for receiving the impact of one type-bar, said pieces being so connected that the displacement of one of said pieces by a type-bar tends to restore to normal position a member formerly displaced.

8. A type-bar rest including a series of pieces, a strip to which they are attached, and means directly engaging said pieces for frictionally opposing the movement of said pieces under the impact of the type-bars.

9. A type-bar rest including a curved pad, and a series of radiating pieces supported

thereon and adapted to receive the impact of the type-bars and to be slightly moved thereby; said pieces having frictional engagement with said pad, so that the movements of said pieces by said type-bars are opposed by the friction of the pieces against the pad.

10. A type-bar rest comprising two curved pad-surfaces, and a series of separate pieces confined between said surfaces and movable by the impacts of the type-bars, said pad-surfaces directly engaging and frictionally opposing the movements of said pieces, so as to absorb the force of the type-bar blows.

11. A type-bar rest comprising a friction device having means for receiving a series of movable pieces which are movable by the impact of the type-bars; said friction device having the form of a pad continuous for the series of pieces, and frictionally engaging the same.

12. A type-bar rest comprising a friction device having means for receiving a series of movable connected pieces which are movable by the impact of the type-bars; said friction device having the form of a pad continuous for the series of pieces, and frictionally engaging the same.

13. A type-bar rest comprising a friction device having means for receiving a series of pieces which are movable by the impact of the type-bars; said pieces being connected by a leather strip, and said friction device having the form of a continuous strip of felt extending throughout the series of pieces.

14. A type-bar rest comprising a continuous pad, and pieces seated in said pad and movable by the impact of the type-bars; said pad offering frictional opposition to the movement of the pieces and hence of the type-bars.

15. A type-bar rest comprising a pad structure extending continuously along the type-bars, pieces seated in said pad structure and movable therein by the impacts of the type-bars, said pad structure being in frictional contact with said pieces, and a leather strip connecting said pieces, and receiving the impacts of the type-bars.

16. The combination of a curved pad, a series of type-bars, and a leather strip between the pad and the type-bars and against which the type-bars rest, and pieces inserted in said pad and connected to said leather strip; the latter being bodily movable at the impacts of the type-bars; said pieces having frictional engagement with said pad and being slightly movable by the impacts of the type-bars, so that the movements of the latter are opposed by the friction of said pieces against said pad.

17. The combination of a series of type-bars, a single pad curving around said type-bars, and a series of pieces seated in said pad and movable therein and receiving the impacts of the type-bars; said pieces having frictional engagement with said pad and being movable

by the type-bars, so that the movements of the latter are opposed by the friction of said pieces against the pad.

18. The combination with a series of type-bars, of a ring or segment movable by all the impacts of the type-bars when returning to normal position, and a friction device for opposing the movement of said ring or segment; whereby the energy in the type-bar may be dissipated by moving the ring or segment, and whereby the latter is unable to throw the type-bar again into the path of the next operated type-bar.

19. The combination with a series of type-bars, of a flexible ring or segment movable by the impacts of the type-bars when returning to normal position, and means for frictionally opposing the movement of the ring or segment by the type-bars.

20. The combination with a series of type-bars, of two opposing rings or segments, against one of which the type-bars strike when returning to normal position, and which is movable by the blows of the type-bars; at least one of said rings or segments having a friction-surface for opposing the movement of the movable ring or segment.

21. The combination with a series of type-bars, of two opposing rings or segments, one of which is flexible; the flexible ring or segment receiving the blows of the type-bars when they return to normal position, and being movable under such blows; at least one of said rings or segments having a friction-sur-

face for cooperating with the other ring or segment to oppose such movement.

22. The combination with a series of type-bars, of a ring or segment which receives the blows of the returning type-bars and is movable thereby; and members engaging said ring or segment upon both sides and affording a support therefor, one of said supporting members having means for frictionally opposing the movements of said ring or segment under the blows of the type-bars.

23. The combination with a series of type-bars, of a ring or segment and two segmental or annular members between which it is confined; said ring or segment being movable by the blows of the returning type-bars, and one of said confining members being provided with a friction-surface to oppose such movement.

24. The combination with a series of type-bars, of a ring or segment, a support therefor, and a weight thereon; said ring or segment being movable by the blows of the returning type-bars, and such movements being opposed by the friction caused by the weight.

25. The combination with a plurality of type-bars, of a member common to said type-bars and movable by the return strokes thereof, and means for frictionally opposing the movement of said member.

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Witnesses:

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