Oct. 20, 1953 L. P. PETRUSCHELL 2,656,140

CAMMING ARTICLE CLAMP

Filed Jan. 29, 1948

Fig. 1.

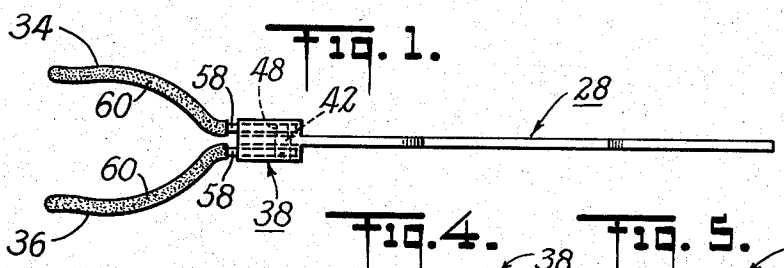


Fig. 4.

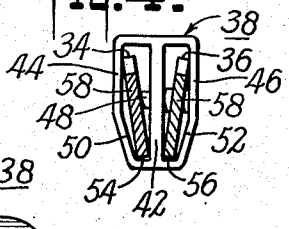
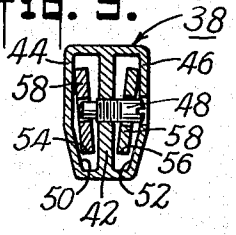


Fig. 5.



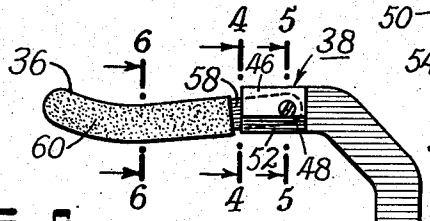


Fig. 2.

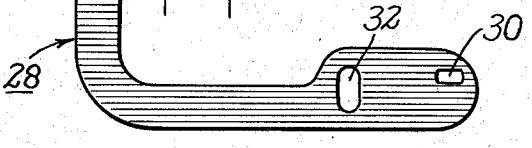


Fig. 6.

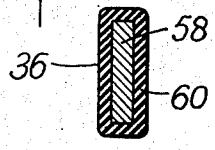
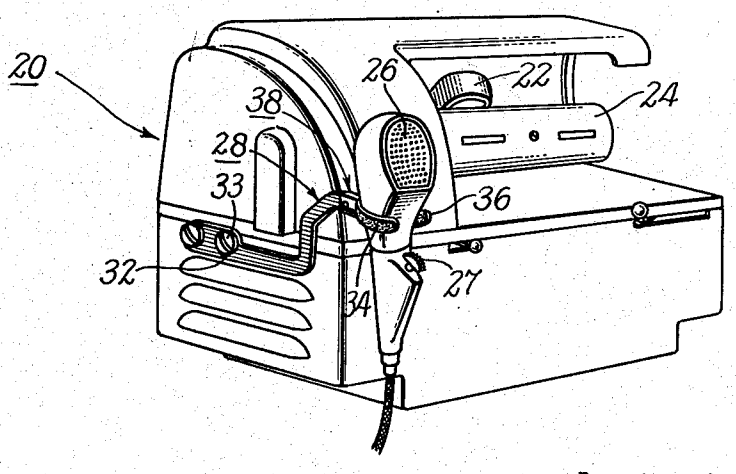


Fig. 3.



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CAMMING ARTICLE CLAMP

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2 Claims. (Cl. 248—316)

1

This invention relates to a cradle construction which advantageously can be used on a dictating machine for supporting the microphone unit when the machine is not in use, and the invention will be described in one form which it may take when embodied in a dictating machine. Other uses and adaptations of the invention will be apparent and will suggest themselves from time to time.

The usual office dictating machine commonly includes a recording and reproducing mechanism, and a sound receiving and transmitting mouthpiece into which the user dictates and which, when it is not in use, normally rests upon a cradle at the end of an arm pivoted upon and forming a part of the machine. Usually the arm carrying the cradle is spring-biased so that when the cradle is not supporting the mouthpiece, the cradle arm closes a switch in the electrical system of the machine to condition it for operation. When the mouthpiece is resting in the cradle, however, this switch is thrown to its alternate position.

Some dictating machines are provided with a sound receiving microphone intended to remain permanently at rest on a desk, or elsewhere in the room, and to record voices anywhere within a given range—often anywhere in the room. These machines are provided with a hand control unit which normally rests in a conventional cradle on the machine. When the unit is removed from the cradle, the machine is automatically conditioned for operation. When a button in the hand control unit is depressed the machine actually records or reproduces, depending upon how the operator has set certain other controls on the panel of the machine.

It will be appreciated, therefore, that a hand unit sometimes will include only the control button, but that often it will include a microphone or sound receiver-reproducer, depending upon the model. Hereinafter when the expression "hand unit" is used, it will be understood as including within its scope either a hand control unit per se, or any of the usual combinations of sound recording and reproducing microphones and hand control assemblies.

In ordinary use the dictator removes the hand unit from its cradle or restores it to its position of rest perhaps many times in the course of an hour; the motions of lifting the unit from the cradle and restoring it thereto naturally become more or less automatic.

In recent years dictating machines have been made to perform more and more functions automatically. One result has been that the hand unit has developed into a relatively delicate mechanism in itself, whereas originally it was little more than part of a speaking tube. Because of the fact, however, that the hand unit now almost always includes various electrical components and often includes a comparatively delicate combination microphone and loudspeaker, it is important that this unit be protected against unnecessary jars and, insofar as possible, against all routine abuses. Accordingly, the cradle in which the unit rests should be one from which it will not readily be dislodged accidentally, for falls to the floor would shorten its life and impair its utility. On the other hand, if the machine is to be such that the ordinary dictator can use it easily and more or less automatically, the hand unit and its cradle must be such that the unit can readily be withdrawn from its position of rest, put into use, and again returned to its position of rest without requiring any particular thought or care on the part of the operator. Heretofore some difficulty has been encountered in providing and maintaining a cradle which would securely hold the hand unit when it was not in use, thus assuring against accidental dislodgement, and which at the same time cleanly release the unit in response to the more or less unconscious movements of the operator in reaching for it and grasping it.

2

I have devised a cradle which by its very nature holds the hand unit securely when it is at rest and which readily receives or cleanly releases the hand unit in response to the automatic movements of the operator.

It is an object of my invention to provide a cradle construction of the character described having to a notable extent the capabilities and characteristics set forth. A further objective is to provide a cradle which will secure a dictating machine hand unit against accidental dislodgement and which at the same time will readily accommodate itself to the more or less unconscious, routine movements of the operator. A further objective resides in the provision of a phonograph cradle construction which overcomes certain of the disadvantages inherent in the cradle constructions heretofore known. Other objects will in part be pointed out as the description proceeds and will in part become apparent therefrom.

The invention accordingly consists in the features of construction, combinations of elements, methods of operation and arrangements of parts as will be exemplified in the structure and se-

quences and groups of related steps to be hereinafter described and the scope of the application of which will be set forth in the accompanying claims.

In the specification and the accompanying drawings I have shown and described a preferred embodiment of my invention and suggested various modifications thereof; but it is to be understood that these are not intended to be exhaustive nor limiting of the invention but, on the contrary, are given for purposes of illustration in order that others skilled in the art may fully understand the invention and the principles thereof and the manner of applying it in various forms, each as may be best suited to the conditions of a particular use.

In the drawings:

Figure 1 is a plan view of a cradle and cradle arm assembly embodying my invention;

Figure 2 is a side elevation of the assembly illustrated in Figure 1;

Figure 3 is perspective view of a dictating machine which I use by way of example and in which has been incorporated the cradle assembly illustrated in Figures 1 and 2.

Figure 4 is a sectional view on an enlarged scale taken along the line 4—4 of Figure 2 with parts broken away;

Figure 5 is a sectional view on an enlarged scale taken along the line 5—5 of Figure 2 with parts broken away; and

Figure 6 is a sectional view on an enlarged scale taken along the line 6—6 of Figure 2 with parts broken away.

In Figure 3 a desk model dictating machine is generally indicated at **20**. It includes a sound recording and reproducing head **22**, a mandrel **24** for carrying and rotating a conventional wax record cylinder, and a hand unit **26** which includes a combination microphone and loudspeaker (not shown) and a thumb switch **27** for operating the clutch in the drive for the mandrel. The machine is provided on its lefthand end, as viewed in Figure 3, with a cradle arm **28**. This cradle arm is illustrated in some detail in Figures 1 and 2 and includes a pivot hole **30** and motion-limiting slot **32** (see also Figure 3). The arm is mounted upon a pivot shaft the end of which is fitted through hole **30**; and the extent of its pivotal movement is limited by a screw **33** passing through limit slot **32** and threaded into the frame of the machine.

Arm **28** is provided at its outer end with a pair of cradle members **34** and **36** which, together, form the hand unit cradle. Each member is pivotally mounted upon arm **28** within a pivot assembly **38**, as shown in Figure 1. Assembly **38** is formed upon end **42** of arm **28**. A pair of covers **44** and **46** (see Figures 4 and 5) are permanently secured upon end **42** and form the housing of the pivot assembly. A shoulder pin **48** is threaded into an opening in end **42** of arm **28** and extends laterally on both sides of the cradle arm. Cover **44** is provided in its lower part with a member wedging surface **50** and cover **46** correspondingly is provided with a member wedging surface **52**. Cradle member **34**, at its lower rearward portions as indicated at **54** (see Figure 4), is given a camming action as it pivots downwardly upon wedging surface **50** and similarly the lower rearward portion of cradle member **36**, as indicated at **56**, is given a camming action by member wedging surface **52**. Each of the cradle members is loosely journaled upon one of the lateral extensions of pin **48** (see Figure 5) and as a result, when gravity pulls these members to their most downward positions, the wedging surfaces **50** and **52** cause the members to approach each other as they move downwardly. And as shown in Figure 3, when the hand unit is positioned between the members and left at rest, the weight of the hand unit effects a self-energizing action upon the cradle members which makes the members grasp firmly the throat of the hand unit. However, a slight lifting of the hand unit is sufficient to free it from the clamping action of the cradle members and to avoid any possible binding which might otherwise occur.

Additionally, the outermost ends of the cradle members are disposed at a horizontal level slightly above the level of the pivot points of pin **48** so that when the throat of the hand unit is merely pushed inwardly against and between the cradle members, there is a tendency for the members to lift slightly so as to effect a separation which will automatically permit the hand unit to assume its intended position of rest.

As shown in Figure 6, each of the cradle members **34** and **36** of the illustrative embodiment includes a central metal core **58** and a rubber cover indicated at **60**. The coefficient of friction between the surface of the hand unit and the rubber covers is relatively high. Thus the weight of the hand unit tends to pull downwardly upon the cradle members to promote a tighter clamping action. All the while the delicate hand unit is gently cradled in the rubber covered members and protected against accidental dislodgement. The self-energizing action of gravity is immediately overcome, however, by the automatic action of the operator in simply withdrawing and slightly lifting the hand unit, as he naturally does when he is going to put it into use. The high coefficient of friction between the parts assures a lifting action on the cradle members. The relationship of the ends of the cradle members to the rest of the assembly is such that they automatically tend to spread open and grasp the hand unit when it is pushed into the cradle. Thus the hand unit normally is securely held at rest but is immediately freed when the operator withdraws it.

From the foregoing it will be seen that a cradle construction made in accordance with the present invention is well adapted to attain the ends and objects hereinbefore set forth and to be economically manufactured since both the article and the methods of making it are suited to common production methods and are susceptible to a wide latitude of variations as may be desirable in adapting the invention to different applications.

As various embodiments may be made of the above invention and as changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In a device for recording and transcribing business dictation and the like, a cradle apparatus comprising a central supporting arm, a pivot pin secured in said arm adjacent an end thereof and extending on both sides thereof, a pair of cradle members journaled on the extending portions of said pivot pin, and a pair of upwardly diverging wedging surfaces mounted on

said supporting arm adjacent said pivot pin, said wedging surfaces being disposed laterally outwardly of said cradle members for sliding contact with the outer surfaces thereof to cam said cradle members toward each other upon downward pivotal movement thereof.

2. A device as described in claim 1 further characterized by stop means mounted on said supporting arm adjacent said pivot pin to limit the downward pivotal movement of said cradle members whereby excessive pinching of a microphone placed therein is avoided.

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