

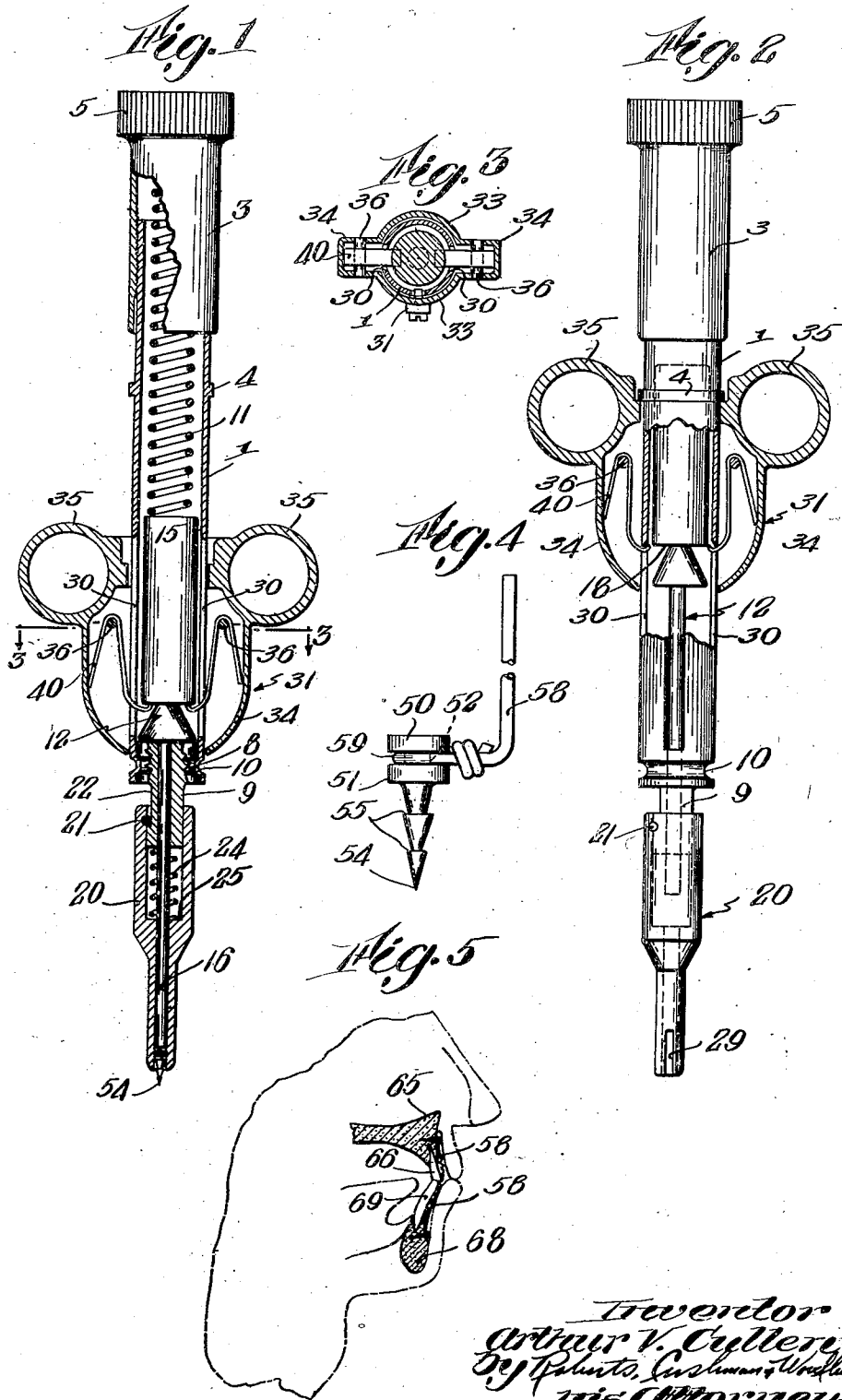
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FASTENING METHOD AND MEANS

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FASTENING METHOD AND MEANS

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9 Claims. (Cl. 27—1)

This invention relates to an improved fastening method and to means for advantageously practicing the method. More especially the method permits the fastening of the jawbone of a human corpse in proper position, while the means employed may include novel fastening elements such as tacks with cooperating strands that may be secured to each other, while an automatic tool may be provided for conveniently driving the tacks into the bony structure of the jaw. Such a tool is disclosed and claimed in my copending application Serial No. 107,763, filed October 27, 1936.

Heretofore when a human corpse has been prepared for burial, it has been usual to employ sutures to hold the jaws in proper closed position, thus enabling the mouth of the corpse to have a natural appearance and avoiding the tendency of the mouth to come open. This operation has necessitated sewing into the flesh of the corpse and has been a comparatively troublesome, disagreeable task incidental to the preparation of a human body for burial.

In practicing this invention an automatic tack-driving device may be employed, which tool preferably is so shaped that it may conveniently be inserted into the mouth of the corpse and positioned to drive a tack or fastening element into the bone of the jaw structure. The improved tack-driving tool comprises a spring and a cooperating plunger having a heavy hammer portion associated with means to compress the spring so that the latter may be released to impel the plunger against the tack and thus drive it with considerable force into an object such as the bony structure of a corpse.

Preferably a novel form of tack may be employed with a driving device of this type, such a tack being provided with a head portion having a groove to receive the looped end of a strand of wire or strong twine, which may be connected to a similar strand associated with a similar tack, the strands, for example, being twisted or tied together to secure the jaws in closed position. Preferably the tack is provided with barbed portions to assure its firm retention in the bony structure of the jaw. Thus, for example, these barbed portions may be in the form of stepped conical sections of the pointed shank of the tack.

In the accompanying drawing:

Fig. 1 is a vertical section of the tack-driving device, with parts broken away and shown in elevation;

Fig. 2 is a similar view of the device, but with the retracting mechanism shown disengaged from the plunger at the instant the latter is ready to begin its outward or driving stroke;

Fig. 3 is a section indicated by line 3—3 of Fig. 1;

Fig. 4 is an elevational detail of the improved fastening device including the preferred form of tack with the associated strand illustrated with a portion broken away; and

Fig. 5 is a central section of a portion of the jaw structure of a human corpse, showing my improved fastening means applied thereto, a portion of the face and mouth being diagrammatically outlined.

In the accompanying drawing, the numeral 1 designates the generally tubular or cylindrical casing of the tack-driving device which is provided with a screw-threaded end portion receiving the internally threaded cap 3, the latter being provided with a corrugated head 5 to permit its convenient rotation. An annular flange 4 upon the casing 1 limits the inward movement of the cap 3. When desired, the cap may be unscrewed from the body portion 1 of the casing to afford access to the interior thereof. The opposite end of the casing is closed by a metal plug 8, which is shown with a portion broken away in Fig. 1, this plug having an integral extension 9. Preferably the plug 8 is provided with a groove into which the metal of the casing 1 is pressed by a spinning operation to secure these parts firmly together, the resulting grooved portion of the casing being designated by numeral 10.

Disposed within the casing 1 and engaging the head of cap 3 is a heavy compression spring or main spring 11. The upper end of this spring engages cap 3, while its lower end engages a plunger designated generally by numeral 12 and including a relatively heavy cylindrical hammer portion 15 which slides in the casing. The lower part of the hammer portion is shaped to afford a flat annular shoulder 18 (Fig. 2). The plunger also includes a small-diametered rod portion 16 forming an extension of its hammer portion, this rod portion being slidable in a bore in the plug 8 and its integral extension 9 and projecting beyond the same into an auxiliary housing 20.

A light coil spring 24 is disposed between the end of extension 9 and an internal shoulder 25 of the auxiliary housing so that the spring normally holds the housing in a projected position, illustrated for example in Fig. 1. The pin 21 engages a flattened portion of the extension 9 and limits the movement of the housing 20 in either direction. The outer end of housing 20 has a reduced diameter to provide a tubular shell about the end of the plunger rod 16 when the latter is in its projected position. Thus when the plunger is in this position and the housing 20 is in its normal position, these parts cooperate in providing a small cylindrical recess or socket in which a tack may be received. If desired, these parts may be magnetized to aid this effect. The wall of the end portion of housing 20 is cut away to provide a slot 29 which enhances the resili-

ence of this portion of the housing, so that the head of the tack may be more readily accommodated.

The casing 1 is provided with opposite longitudinal slots 30 adjoining the plug 8 and a sliding assembly 31 is mounted upon this portion of the casing. This assembly may comprise opposite portions 33 shaped to fit about portions of the cylindrical surface of the sleeve 1 and opposite, diametrically disposed chambers 34 connecting these portions. These chambers 34 may have integral extensions in the form of finger rings 35 which may be engaged by the fingers of the user of such a device. Pins 36 extend between the walls of each of the chambers 34, and leaf spring elements 40 are mounted upon each of these pins, these elements each having one leg bearing against the outer wall of the corresponding chamber 34, as shown in Figs. 1 and 2, and having a longer leaf with an intumed end portion engageable with the shoulder 18 of the plunger when the latter is in its projected position, shown in Fig. 1. To aid in guiding the sliding assembly or retracting mechanism, a pin or stud 31 may extend inwardly from one of the walls 33 of the latter to engage a guide slot which is disposed between the slots 30 in the wall of the casing.

A device of this character may be employed to drive a tack of conventional or special design for any suitable purpose, and when used in this manner the head of the tack may be inserted in the socket provided by the end of the auxiliary housing 20. The hand of the user of the device may then be engaged with the casing 1 and with the finger pieces 35 so that the sliding assembly 31 may be moved away from the housing 20, the elements 40 remaining in engagement with the shoulder 18 of the plunger so that the latter is moved to retracted position and the spring 11 is compressed.

At the end of this stroke of the plunger, as the assembly 31 approaches the stop 4, the legs of the elements 40 have a cam-like engagement with the ends of the slots 30, this position of the parts being shown in Fig. 2. At this instant, the elements 40 are thus moved out of engagement with the plunger, which is released and driven downwardly against the tack under the force of the spring 11. If the tack engages an object such as the bony structure of the jaw, the tack is impelled outwardly, the auxiliary housing 20 being retracted and the light spring 24 being compressed so that the tack is almost entirely exposed as the plunger reaches the outer end of its path with its end portion in substantial coplanar relationship to the end of the retracted housing. After the plunger has returned to its normal position, the sliding assembly 31 may be moved toward the housing 20, the inner ends of the spring elements 41 engaging the plunger during this movement until the assembly reaches the point at which the ends of these elements may snap into engagement with the annular face 18 of the plunger, i. e., the position illustrated in Fig. 1.

Obviously this construction permits the tack to be disposed in the cylindrical socket afforded by the housing 20 before the heavy spring 11 is compressed, thus avoiding danger of accidental release of this spring as the tack is being inserted in the device. The arrangement of the cap 3 in screw-threaded engagement with casing 1 permits adjustment in the effective size of the housing containing the spring 11 so that the degree

of compression of the latter may be varied, thus permitting adjustment to alter the force of the blow with which the plunger may drive the tack.

A device of this character is particularly advantageous when employed in conjunction with fastening elements of the type illustrated in Fig. 4. Such an element may comprise a tack with a conventional disk-like head portion 50 and an adjoining annular flange 51 spaced from the head 50 and cooperating with the same and the shank 52 of the tack to afford an annular groove. Below the flange 51 the shank may extend to a pointed end 54 and may be provided with one or more barbs 55 in the form of conical or frusto-conical sections terminating in substantially flat annular shoulders. Thus when a tack of this character is driven into an object, the barbed portions, and particularly the shoulders 55, may catch upon the material surrounding the opening made by the tack so that the latter is very firmly anchored in place.

The annular groove adjoining the head of the tack is adapted to receive a strand of material which may be in the form of a cord or a ductile wire. Thus, as shown in Fig. 4, a ductile wire 58 may have a looped portion 59 received by the annular groove at the head of the tack, a length of the strand extending from the looped portion for engagement with any suitable object, such as a similar strand extending from a similar tack. It is evident that when a tack of this character is inserted in the socket portion of a tool such as illustrated herein, the strand portion extending from the head of the tack may be received in the slot 29 in the wall of the socket.

Means of the character described may be employed to secure the jaws of a corpse in closed position. The tack-driving tool is particularly advantageous for this purpose, since its end portion has a small diameter and may be inserted beneath the lip of the corpse properly to position the tack for insertion in the bony structure of the jaw. Thus when a tool of this type is to be used for this purpose, a tack of the character illustrated in Fig. 4 may be disposed in the position illustrated in Fig. 1, the end of the tool being inserted under the lip of the corpse so that the end of the tack pricks the flesh of the jaw and is positioned where it may be driven through the thin layer of flesh over the bony structure of the upper jaw and into the same. The slidable assembly 31 may then be slid toward the cap 3 so that the spring 11 is compressed and the plunger is moved to its retracted position, this movement being continued until the elements 40 are moved out of engagement with the hammer portion of the plunger which is thereupon released and impelled by spring 11 so that it strikes the tack with a sharp blow. As this occurs the auxiliary housing 20 is pressed back due to its engagement with the flesh over the bony structure so that the entire length of the tack below flange 51 may be driven into the flesh and bone of the jaw.

Obviously this operation may be followed in driving a tack into the bone of the upper jaw in the general position illustrated in Fig. 5, above or between the roots of the upper teeth 66. In a similar manner a tack may be driven into the bony structure 68 of the lower jaw between or below the lower teeth 69. Each of these tacks is provided with a strand 58, the strand portions being brought into engagement and tied or twisted in position to hold the jaws properly closed with the teeth in engagement, as illustrated in

Fig. 5, the lips of the corpse then being readily positioned over the strands so that a natural appearance is imparted to the mouth and lips.

It is obvious that this invention affords a method of securing the jaws of a human corpse in closed position, which requires the minimum of working over the corpse to effect this result, the necessity of passing sutures into the flesh adjoining the upper and lower jaws being avoided.

The novel tacks disclosed herein are particularly advantageous in affording fastening devices permitting the convenient and facile securing of the jaws in closed position.

I claim:

1. The method of securing the jaws of a human corpse in closed position which involves the employment of fastening means in the form of tacks having looped ends of strands secured to their head portions, said method comprising driving the tacks into the bony structure of the upper and lower jaws respectively above and below the upper and lower teeth, securing the strands to each other to hold the jaws closed, and arranging the strands in concealed position behind the lips of the corpse.

2. A mouth-closing device comprising a pair of tacks, each having a head and a flange spaced from the head and cooperating therewith in affording a grooved portion, each of said tacks having a straight shank extending from its flange to a point at the end of the tack opposite its head, and flexible strand means connecting the grooved portions of said tacks, said tacks being adapted to be driven into the bony structure of the jaws.

3. A mouth-closing device comprising a tack having a flat disk-like head, a shank extending from the head in a direction perpendicular to said head and to a point remote from the head, a flange spaced from said head and cooperating with the same and the shank in providing a groove, a flexible strand having a loop portion secured in said groove and a part extending therefrom for connection with a similar strand of a similar device, whereby the tack may be driven into the bony structure of the jaw and the strand part connected to a similar part extending from a similar tack to hold the jaws closed.

4. A mouth-closing device comprising a tack having a flat disk-like head, a shank extending from the head in a direction perpendicular to said head and to a point remote from the head, a flange spaced from said head and cooperating with the same and the shank in providing a groove, a flexible strand having a loop portion secured in said groove and a part extending therefrom for connection with a similar strand of a similar device, said shank being provided with stepped conical portions affording shoulders between the flange and point, whereby the tack may be driven into and have the major portion of its shank in the bony structure of the jaw

and the strand part connected to a similar part extending from a similar tack to hold the jaws closed.

5. A mouth-closing device comprising a pair of tacks, each having a head, ductile wire means extending between the tacks and having end portions connected to the tacks adjoining their heads, the tacks having pointed barbed portions adapted to be driven into and be held in embedded position in the bony structure of the upper and lower jaws, the wire affording means capable of ready tightening by twisting to hold the jaws together.

6. A mouth-closing device comprising a tack having a flat disk-like head, a shank extending from said head in a direction perpendicular to said head, a flange spaced from said head and cooperating with the same and the shank in providing a groove, a flexible strand having a loop portion secured in said groove and a part extending therefrom for connection with a similar strand of a similar device, said shank having a pointed end to penetrate the bony structure of the jaw and being barbed so that it remains firmly embedded in said bony structure.

7. In the art of preparing a corpse for exhibition, the method of securing and retaining the mouth and jaws in closed position, comprising forcibly driving an attaching element into the bony structure of one of the jaws and thus causing a portion of the element to be firmly embedded and anchored in said bony structure, similarly forcibly driving a second element into the bony structure of the other jaw, connecting the first and second elements by strands, tightening said strands to draw and hold the jaws closed, and arranging said strands in concealed position beneath the lips of the corpse.

8. In the art of preparing a corpse to simulate the appearance of a living human being, the method of securing and retaining the jaws and mouth in closed position, comprising securing a pair of ductile wire strands respectively to a pair of attaching elements, forcibly anchoring one of the attaching elements in partially embedded position in the bony structure of one jaw, similarly anchoring the other attaching element in partially embedded position in the bony structure of the other jaw, connecting the elements by the wire strands, closing the jaws, tightening and twisting the wire thus to hold the jaws in closed position and then arranging the wire in non-protruding and concealed position beneath the lips of the corpse.

9. Means for holding the mouth of a dead person in predetermined position, including flexible wires having means whereby they may be anchored respectively to the upper jaw and the lower jaw inside the mouth, the wires being twisted upon and with each other to restrict the extent of which the mouth may be opened.

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