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STAPLING OR TACKING MACHINES

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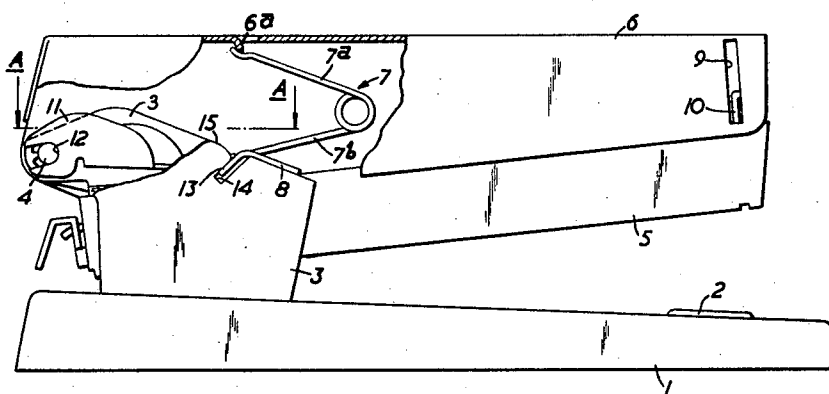


FIG. 1.

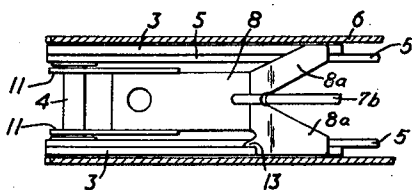


FIG. 2.

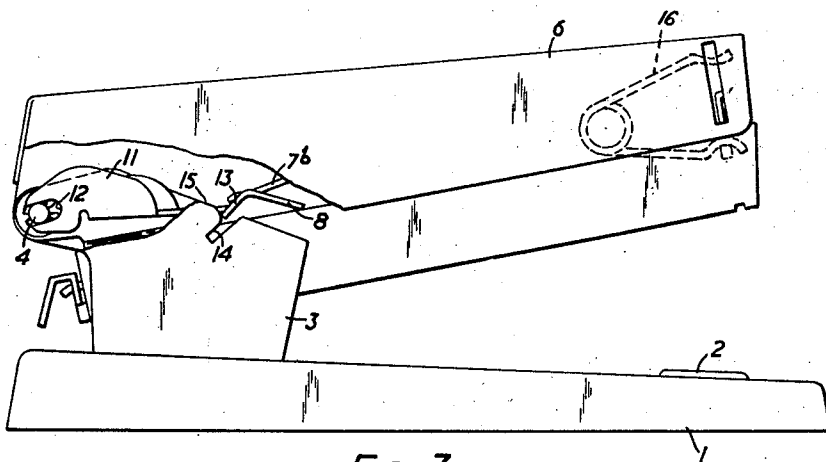


FIG. 3.

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STAPLING OR TACKING MACHINES

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3 Claims. (Cl. 227—120)

This invention relates to stapling or tacking machines of the kind comprising a base having a body member pivotally mounted thereon housing the stapling mechanism, a stapling operation being effected by pivoting the body member downwardly relatively to the base.

Such stapling machines, particularly if they are of the type used in offices, are invariably lifted by grasping the body member, and where the body member has been mounted to permit an unrestricted 180° pivotal movement, immediately the body member is lifted, the base pivots downwardly. If this sudden downward pivoting of the base is not anticipated by the user, it may cause him to drop the stapler and damage it.

It is an object of the invention to provide a stapler with means to prevent such downward movement of the base.

According to the present invention, a stapling or tacking machine of the kind referred to is provided with a resilient latch operable to limit relative pivotal movement of the body relative to the base, the latch being sufficiently positive to support the weight of the base but being manually releasable to enable the body member to pivot into a position for loading staples.

To enable the invention to be fully understood, it will now be described, with reference to the accompanying drawings in which:

FIGURE 1 is a side view, partly in section, of a stapling machine according to one embodiment of the invention, the parts being shown in the normal "at rest" position prior to performing a stapling operation.

FIGURE 2 is a fragmentary plan view of the latch on line A—A of FIGURE 1; and

FIGURE 3 is a view similar to FIGURE 1 but showing the latch about to be released.

As shown in the drawings the stapler comprises a base 1 having an anvil 2 at one end. At the opposite end, the base is provided with two laterally spaced side plates 3, having a spindle 4 extending transversely therebetween. A body member 5 is pivotally mounted on the spindle, and a second body member 6 is also pivotally mounted on the spindle and embraces the body member 5.

The body member 5 is adapted to house the staple magazine, and the body member 6 the driver blade and operating mechanism.

As shown, a "hair pin" type spring 7 is mounted in the body member 6, one arm 7a being anchored to a lug 6a on the top wall of the body member 6, and the other arm 7b resting on a latch plate 8.

The purpose of the spring 7 is to pivot the body member 6 upwardly relative to the base into the "at rest" position shown in FIGURE 1. At its forward end the side walls of the body member 6 are formed with slots 9 which receive lugs 10 on the side walls of the body member 5 so that the latter is pivoted upwardly with the member 6.

A second spring 16 is interposed between the forward ends of the body members 5 and 6, and in effecting a stapling operation, pressure is applied to the body member 6 to pivot it and the member 5 downwardly against the action of the spring 7 to position the forward end of the member 6 in engagement with a workpiece to be

stapled which is positioned on the anvil 2. Further downward pressure is then applied to the member 6 to pivot it relatively to the member 5, against the action of the second spring 16, this further pivotal movement effecting the actuation of the driver blade to force a staple through the workpiece.

Heretofore the body members have been mounted to permit an unrestricted upward and outward pivotal movement through 180° so that the body member can be swung back to expose the underside of the body member 5 when it is desired to load the staple magazine.

This unrestricted movement has the disadvantage that if the stapler is lifted by grasping the body member, immediately the base is lifted from the desk or the table on which it has been supported, it pivots downwardly by gravity.

The present invention provides latch means for obviating this drawback, and as shown, the latch plate 8 has ears 11 formed with a slot 12 for engaging the spindle 4, and also has a latch arm 13 for engaging a slot 14 in one of the side plates 3. The latch plate also includes lugs 8a portions of which extend inwardly of the side plates 3 for engaging the upper edge of the body member 5.

The spring arm 7b normally exerts sufficient pressure on the latch plate 8 such that by reason of the pivotal mounting of the plate 8 a resultant force is produced. to urge the latch arm 13 into the slot 14 so that it frictionally engages a side wall with sufficient force to prevent the base 1 pivoting downwardly if the stapler is lifted by the body 6.

If, however, it is necessary to swing back the body members for loading the magazine, the latch is readily released by holding the base and applying an upward pivoting movement to the body members. As shown in FIGURE 3, this movement will cause the latch to be withdrawn from the slot 14, and the body members can then be swung back through 180°.

It will be noted that the upper end of the side plate 3 is rounded at 15, and accordingly when the body members are returned to the normal "at rest" position, the latch arm 13 will be guided by the rounded portion 15 to re-enter the slot.

When the body members 5 and 6 are returned by the spring 7 after a stapling operation, the upper edges of the body member 5 by striking the lugs 8a limit the upward pivoting movement of the body members when they reach the "at rest" position.

This abutment of the lugs with the body member 5 also serves to retain the latch plate 8 in the body member 6 when the body members are pivoted into open tacking position.

I claim:

1. In a stapling machine including a base having laterally spaced upstanding side plates and a head structure pivotally mounted on a pivot pin supported by said side plates so that the head structure overlies said plates, the improved means for limiting the pivotal movement of said head structure relative to the base which comprises a latch plate located in the head structure, a latch arm on the said latch plate and means at one end of said latch plate pivotally connected with the said pivot pin, one of said side plates having an inwardly extending slot, and spring means in said head structure which urges said latch plate into a position wherein said arm extends into said slot and frictionally engages a wall thereof with a force sufficient to support the weight of the base when the stapling machine is lifted by grasping the head structure.

2. In a stapling machine including a base having laterally spaced upstanding side plates and a head structure pivotally mounted on a pivot pin supported by said side

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plates so that the head structure overlies said plates, the improved means for limiting the pivotal movement of said head structure relative to the base which comprises a latch plate located in the head structure, a latch arm on said latch plate and ears pivotally connected with said pivot pin, one of said side plates having an inwardly extending slot, and spring means in said head structure for urging said latch plate into a position wherein said arm extends into said slot and frictionally engages a wall thereof with a force sufficient to support the weight of the base when the stapling machine is lifted by grasping the head structure.

3. In a stapling machine including a base having laterally spaced upstanding side plates and a head structure pivotally mounted on a pivot pin supported by said side plates so that the head structure overlies said plates and spring means in said head structure which urges the latter into predetermined spaced relation to the base, the improved means for limiting the pivotal movement of said head structure relative to the base which comprises a latch plate located in the head structure, a latch arm

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on said latch plate and means also on said latch plate pivotally connected with the said pivot pin, one of said side plates having an inwardly extending slot, said spring means acting on said latch plate which urges it into a position wherein said arm extends into said slot, the said arm when so disposed engaging a wall thereof and frictionally resisting relative movement between said arm and wall with a force sufficient to support the weight of the base when the stapling machine is lifted by grasping the head structure.

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