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C. W. CHENEY

1,893,493

PRESS TOOL FOR FIXING ATTACHÉ CASE LOCKS AND SIMILAR FASTENINGS.

Filed Oct. 24, 1930

3 Sheets-Sheet 1

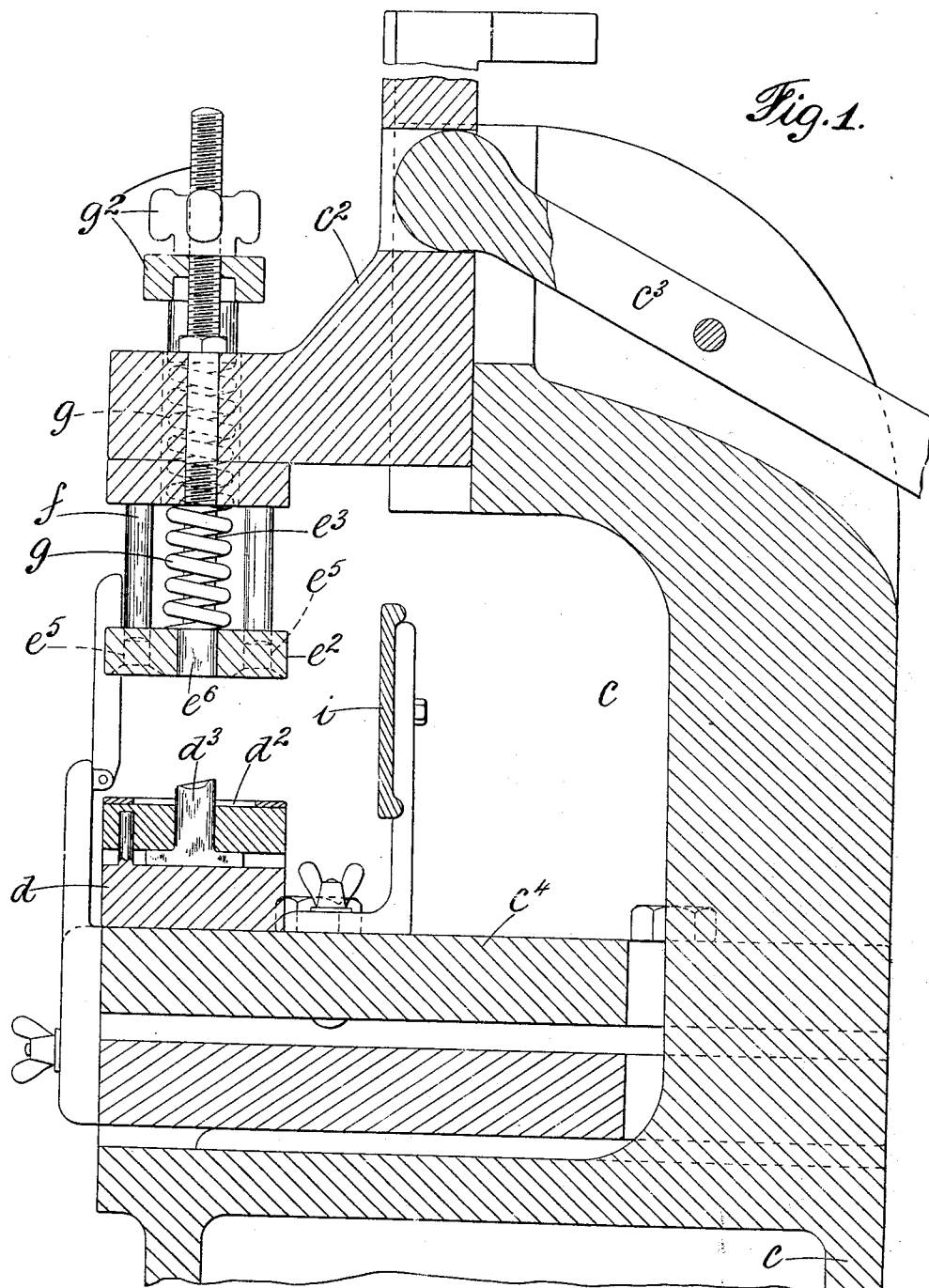


Fig. 1.

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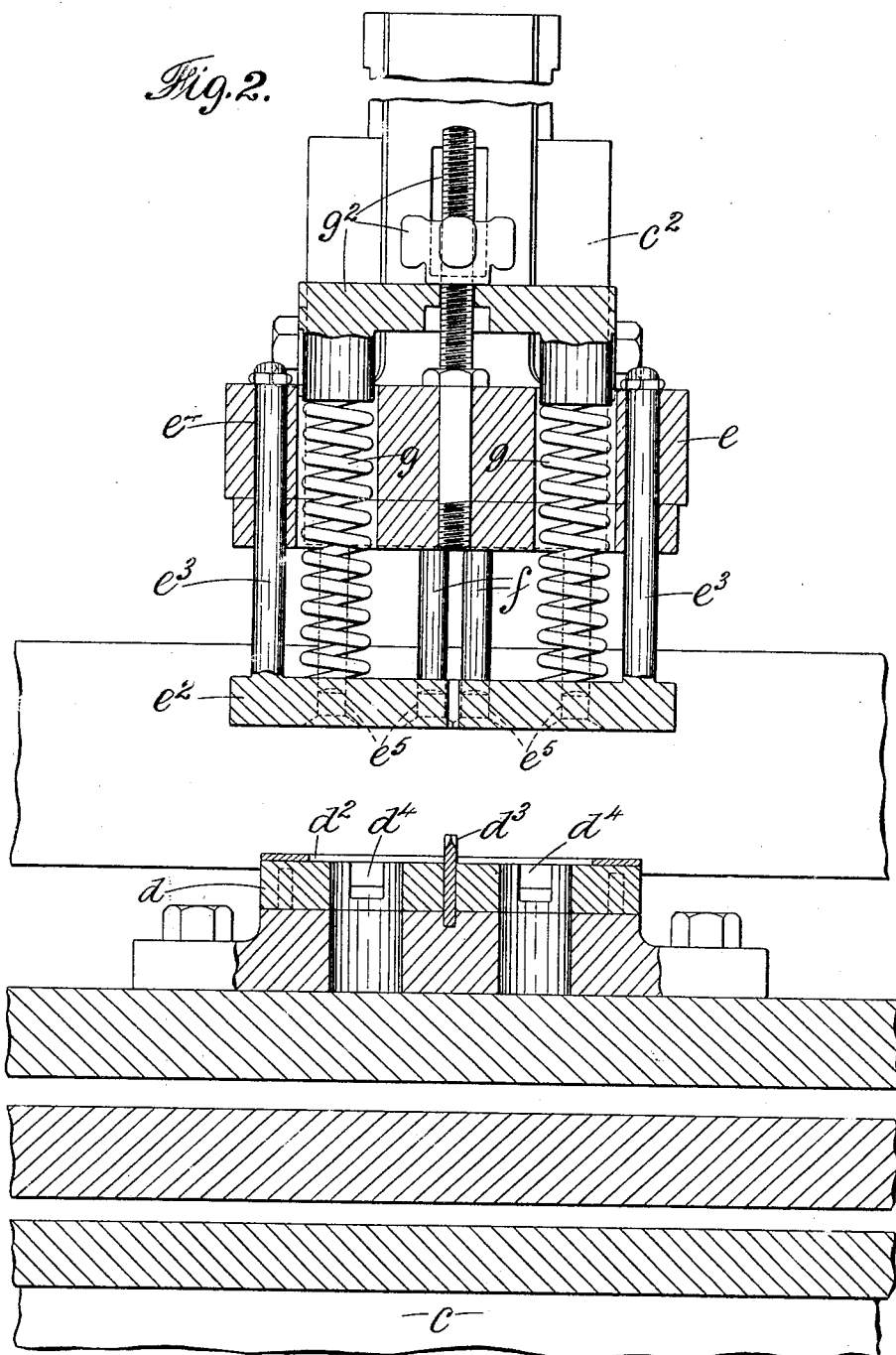
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3 Sheets-Sheet 3

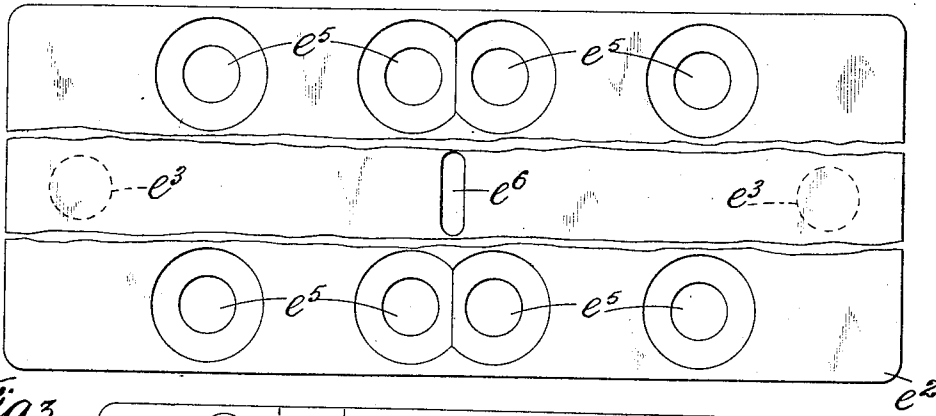


Fig. 3.

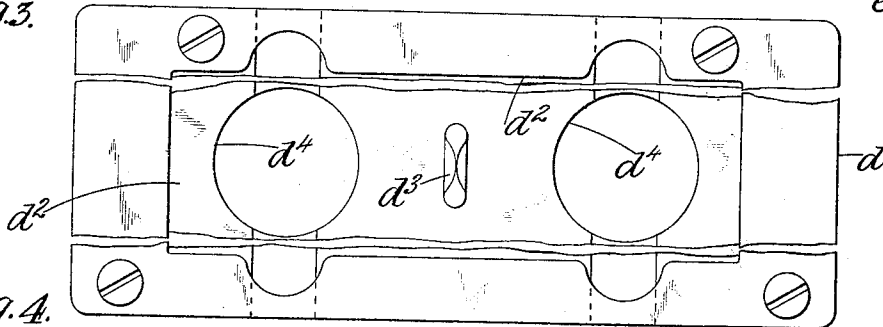


Fig. 4.

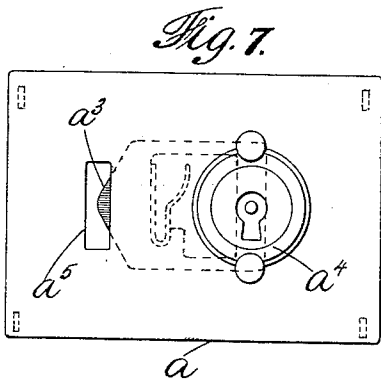


Fig. 7.

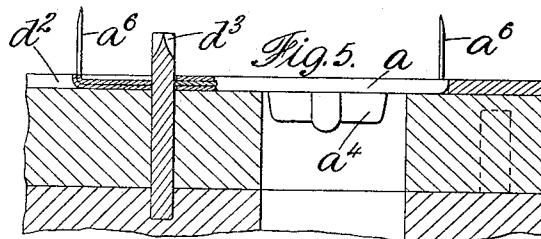


Fig. 5.

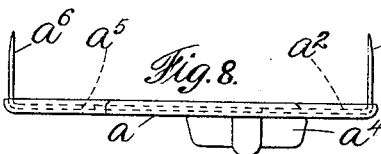
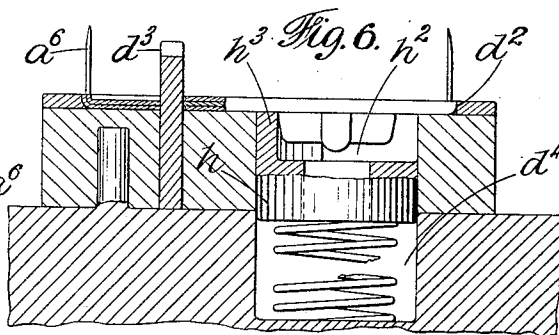


Fig. 8.



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PRESS TOOL FOR FIXING ATTACHÉ CASE LOCKS AND SIMILAR FASTENINGS

Application filed October 24, 1930, Serial No. 490,896, and in Great Britain October 26, 1929.

This invention relates to press tools for fixing attaché case locks and similar fastenings to the material of the case, box, bag or the like and the invention particularly relates to such locks and fastenings provided at the back with outstanding prongs which are adapted to be forced through the material of the case or the like and subsequently clinched down onto the material to rigidly fix the lock or fastening, the front plate of the lock or fastening being provided with a hole to receive the staple, eye or notched peg of the hasp and across which hole the bolt or catch bar moves for engagement with said staple, eye or peg, the said hole being hereinafter referred to as the staple hole. If the lock casing is thin, then a co-incident hole is provided in the back plate.

According to the invention the tools comprise a bed tool to receive the lock or the like with its prongs upwardly directed and a pressure and clinching down tool to co-act therewith, said bed tool being provided with a projection to engage the staple hole and to hold the bolt in retracted position and thereby localize the lock or the like in relation to positioning devices for the box or case, the pressure and clinching tool operating to initially cause the prongs to penetrate the material and the clinching tool to clinch down the prongs and thereby securely fix the lock or the like to the material of the box, bag or attaché case. The pressure and clinching tool moves with a plunger-like action with respect to the bed tool and during the movement of the pressure plate, the projection referred to on the bed, pierces a hole through the material to accommodate the staple, eye or the like when in engagement with the staple hole.

According to a convenient embodiment of the invention the bed tool is bolted to a table and within its upper horizontal face is a recess of size and shape to receive the casing of the lock member, the recess being of such a size that the same tools can be used to reverse a lock casing when securing same by the tools to the left and right-hand side of an attaché case or the like. Extending vertically from the bottom of the recess and substantially centrally of the length thereof is a projection

to accurately fit the staple hole in the lock casing and also to constitute a punch to cut out from the material a hole corresponding in size to said staple hole. On each side of the punch projection is a recess or hole to accommodate the knob or operating member and the lock member.

The upper tool comprises a block-like body from the underside of which a horizontal pressure plate is suspended at a convenient distance below said block-like body, said pressure plate being slidably connected with said body by means of vertical rods secured at their lower ends to the pressure plate while their upper ends are slidably guided within the body to hang therefrom from abutment pegs. A pair of such rods are adequate to slidably suspend the pressure plate from the body, the said rods being preferably arranged one at each end. Through the thickness of the pressure plate are a number of vertical holes and a corresponding number of vertically slidable clinching pegs projecting rigidly from the underside of the block-like body according to the number of attachment prongs that are required to be penetrated and clinched down onto the material of the attaché case or the like. Said pressure plate is also provided with a vertical hole corresponding with the punch projection on the bed tool. Strong coiled vertically arranged springs operating in compression in a space between the pressure plate and the body have their abutments thereagainst respectively and a tensioning screw device is applied to the upper end of the body so that the power of the springs can be adjusted by the operation of a nut.

The invention will now be described with reference to the accompanying drawings which illustrate two forms of press tools.

Fig. 1 is a transverse section of the tools and a machine for effecting the operation thereof.

Fig. 2 is a sectional elevation of Fig. 1.

Fig. 3 is an underside plan of the pressure plate.

Fig. 4 is a plan of the bed tool.

Fig. 5 is a fragmentary vertical section of Fig. 4 showing a fastening in position in

readiness to be operated upon by the pressure and clinching down tool.

Fig. 6 is a modified form of bed tool.

Fig. 7 is a plan of a lock member having general well-known features and

Fig. 8 is an edge view of Fig. 7.

Referring to Figs. 7 and 8, *a* is the front plate of the lock, *a2* the back plate, *a3* the slidable bolt, *a4* the manually operated knob therefor, and *a5* the staple hole. The prongs *a6* are either formed integral with the front or back plates *a*, *a2*.

Referring to Figs. 1 to 4, *c* is the frame of the machine, *c2* is a slide or plunger carrying the pressure and clinching down tool said slide being operated either manually or by a pedal through the lever *c3*. The bed tool *d* is bolted to the table or bed *c4* of the machine and within its upper horizontal face is a recess *d2* of a size and shape to receive the casing of the lock, the recess being of such a length as to permit of said casing being reversed dependent upon the side to which the lock is to be secured to the attaché case or the like, i. e. the left or the right. *d3* is a punch-like projection extending vertically from the bottom of the recess *d2* said projection being of a size to accurately fit the staple hole *a5* in the lock and also to constitute a punch to cut out from the material of the case or the like a hole corresponding in size to that of said staple hole. *d4* are recesses in the bed tool to accommodate the manually operable knob *a4* of the lock. It will be appreciated that when the lock is applied to the recess in the bed tool the projection *d3* will retract the bolt *a3* against the action of its spring and the lock will be securely positioned within the recess irrespective of whether the knob engages either of the recesses *d4* of the tool dependent upon whether the lock is to be fixed to the right or left hand side of the case.

The pressure and clinching down tool comprehends a block-like body *e* carried upon the slide *c2* from which the pressure plate *e2* is suspended a distance below said body by means of a pair of vertical rods *e3* rigid with the pressure plate at their lower ends while their upper ends are slidably guided in holes *e4* in the body, suitable abutment pegs being fitted to the upper end of the rods. Through the thickness of the pressure plate *e* are a number of distanced vertical holes *e5* and a corresponding number of vertically slidable clinching anvils *f* depend from the underside of the block-like body *e*, the number of clinching pegs *f* corresponding to the number of attachment prongs that are required to be clinched down onto the material of the attaché case or the like. The pressure plate *e2* is also provided with a vertical hole *e6* corresponding with the position of the punch *d3*. *g* are a pair of coiled springs operating in compression and disposed in a space be-

tween the pressure plate *e2* and the body *e* and having their abutments thereagainst respectively. *g2* is a screw device disposed at the upper end of said body for regulating the tension of the springs by the rotation of the nut forming part of the device.

Referring to Fig. 6 which exemplifies a development or modification of the bed tool hereinbefore described, the recess *d2* is adapted to receive a single lock casing, the projection *d3* being constructed substantially identical with that set forth in the previous figures. Fitted within the recess *d4* is a spring-influenced support *h*, said support being hollowed at *h2* at its upper end to clear the operating knob *a4* of the lock member. When introducing the lock member into position the bolt or catch bar *a3* is withdrawn by the pressure of the knob *a4* against the vertical abutment *h3* of the support *h* so that the staple hole *a5* can be easily positioned over the projection *d3*.

The operation of the tools is as follows. Having placed the lock member in the recess *d2* of the bed tool *d* the punch projection *d3* engaging the staple hole *a5* and the material of the case to which the lock is to be attached placed in position over the bed and under the pressure plate *e2* with the aid of adjustable positioning devices *i* the machine is operated through the lever *c3* and the plunger or slide *c2* descends and brings the pressure plate *e2* against the material causing it to be penetrated by the prongs *a6* which enter the clinching peg holes *e5* said penetrating pressure being against the action of the coiled springs *g*, while the continued descent of the slide or plunger *c2* enables the clinching anvils *f* to come into operation and clinch down the prongs *a6* onto the material and thus rigidly fix the lock or fastening thereto.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. An apparatus for affixing a lock member having prongs, to cases, comprising the combination with a bed tool adapted to receive the lock member with its prongs upwardly directed, of a rigid vertical projection on the bed tool to accurately engage a staple hole in the lock member, a tool cooperating with said bed tool and provided with means cooperating with said rigid projection to pierce the case and with a clinching tool, means for supporting the bed tool, and means for moving said cooperating tool towards and away from the bed tool.

2. An apparatus for affixing a lock member having prongs, to cases, comprising the combination with a bed tool adapted to receive the lock member with its prongs upwardly directed, of a rigid vertical piercing tool projecting above the bed tool to accurately engage a staple hole in the lock member, a die cooperating with said piercing tool having

upper clinching tools associated therewith to co-operate with the bed tool, means for supporting the bed tool, means for moving the clinching tools towards and away from the bed tool, and positioning means adjacent the bed tools for localizing the case with respect thereto.

3. A tool according to claim 1 comprising a recess on each side of the projection to receive the knob of the fastening to permit the reversal thereof with respect to the projection.

4. An apparatus for affixing a lock member having prongs, to cases, comprising the combination with a bed tool adapted to receive the lock member with its prongs upwardly directed, of a rigid vertical piercing tool projecting above the bed tool to accurately engage a staple hole in the lock member, a die cooperating with said piercing tool having clinching tools to co-operate with the bed tool, means for supporting the bed tool, and means for moving the clinching tools towards and away from the bed tool.

5. An apparatus for affixing a lock member having prongs, to cases, comprising the combination with a bed tool adapted to receive the lock member with its prongs upwardly directed, of a rigid vertical piercing tool projecting above the bed tool to accurately engage a staple hole in the lock member, a block-like body, a die carried by said block-like body and having a plurality of holes, springs between said body and said die, a plurality of clinching anvils depending from the block like body to slidably engage the holes in the die, means for supporting the bed tool, and means for moving the block-like body towards and away from the bed tool.

6. An apparatus for affixing a lock member having prongs, to cases, comprising the combination with a bed tool adapted to receive the lock member with its prongs upwardly directed, of a rigid vertical piercing tool projecting above the bed tool to accurately engage a staple hole in the lock member, a block-like body slidably suspended from a stationary member, a die carried by said block-like body, and having a plurality of holes, springs between said body and said die, a plurality of clinching anvils depending from the block-like body to slidably engage the holes in the die, means for supporting the bed tool, and a lever engaging the block-like body and adapted to slidably move the same towards and away from the bed tool.

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