H. P. HÜBSCH.

STAPLE SETTING IMPLEMENT.

APPLICATION FILED APR. 18, 1916.

1,205,634. Patented Nov. 21, 1916.

Fig. 1.

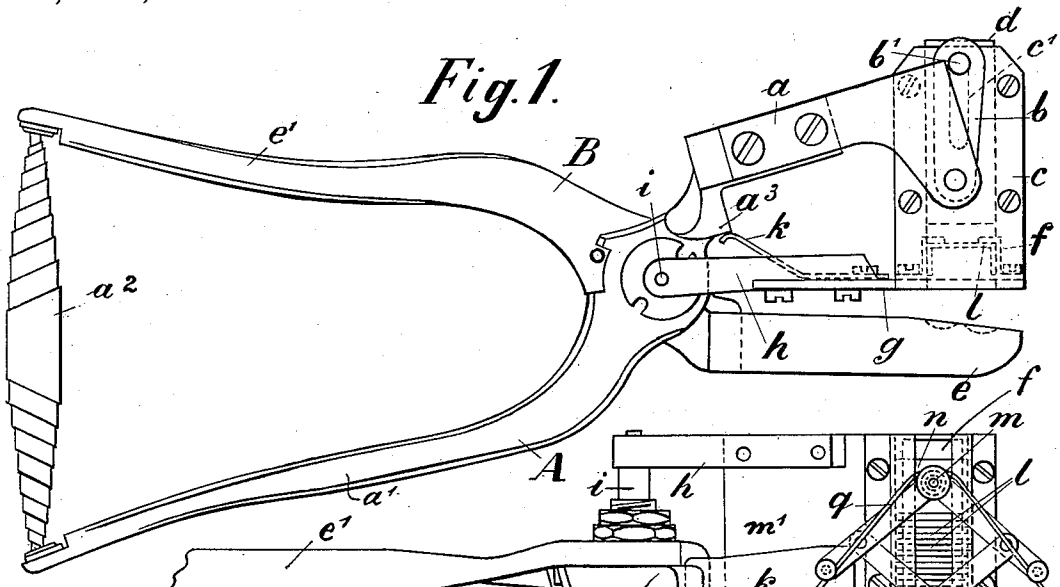


Fig. 2.

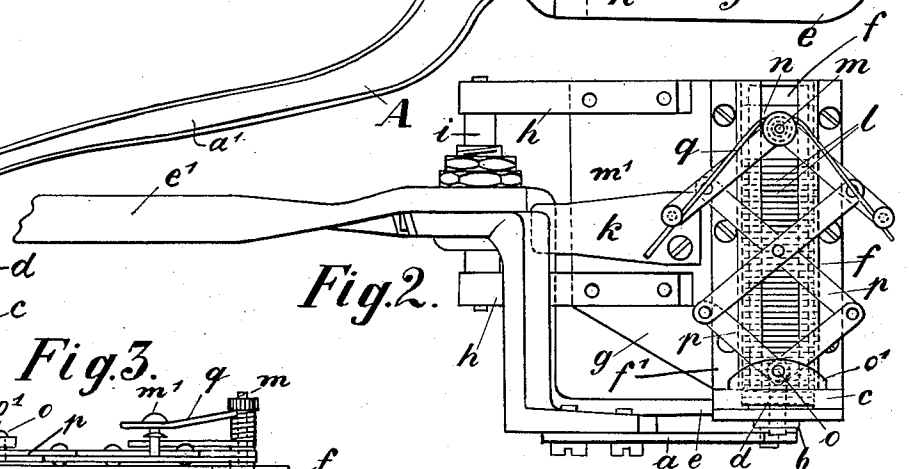


Fig. 3.

Fig. 4.

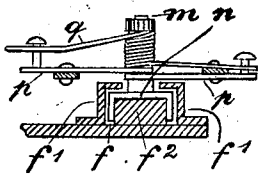


Fig. 5.

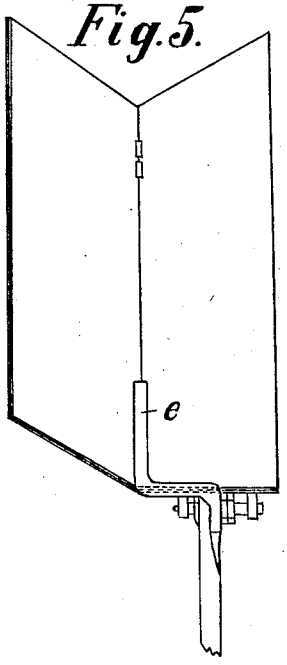
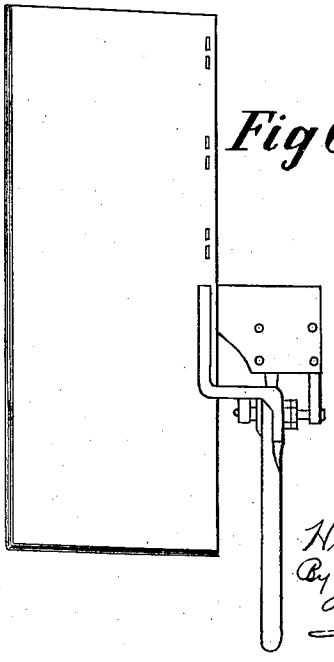


Fig 6



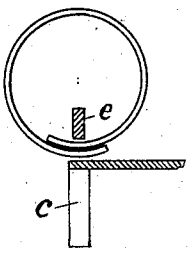


Fig. 7.

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STAPLE-SETTING IMPLEMENT.

1,205,634. Specification of Letters Patent. Patented Nov. 21, 1916.

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To all whom it may concern:

Be it known that I, HUBERT PETER HÜBSCH, a subject of the German Emperor, and residing at Hamburg, in the German Empire, have invented certain new and useful Improvements in Staple-Setting Implements, of which the following is a specification.

This invention refers to a staple-setting implement for setting wire fastenings bent into U-shape.

The main object of this invention is to provide means for carrying out all kinds of work in fastening leaves, signatures in book binding, despatch-rolls or tubes and the like, so that with the same implement wire stitching can be carried out not only on the edges or folds of signatures outside but also in the inside of the folds or in the inside of despatch-tubes and the like. This object is attained by arranging the jaws of the implement so that they not only run parallel to the handles, as in known implements, but also at a distance from the plane of these handles. This is done by joggling that part of the implement members, which carries the jaws; the magazine for holding the staples being attached to one of the jaws forming the stapling head transversely to the jaw. By arranging the stapling head carrying jaw and the anvil carrying jaw parallel or approximately parallel to the plane of the handles but laterally at a distance from the same, it is possible to hold the implement either parallel to the edge or fold of the work piece or at right angles to the same, so that all kinds of wire stitching or staple setting can be carried out, which heretofore had to be done by two different kinds of implement. Staple-setting implements have been devised for a similar object, but such implements required inconvenient and tedious adjustment in changing for different kinds of work. By the new staple-setting implement however, all kinds of staple setting can be carried out without any change of its mechanism. The staple magazine being arranged on the stapling head at right angles thereto, that is to say, parallel to the axis of the pivot pin of the members, there is no hindrance in applying the implement to the work as is the case in known staple-setting implements, in which the staple magazine was arranged transversely to the pivot pin. The new arrangement also has the advantage of the magazine being more accessible.

The invention also includes improved means in connection with the staple magazine for feeding the staples to the stapling plunger.

In the drawings a staple-setting instrument is shown by way of example, constructed according to the present invention. The invention however is not limited to this construction and can be carried out in different ways.

Figure 1 is an elevation of the new staple-setting implement. Fig. 2 is a plan of the same. Fig. 3 shows an end view of the stapling head and Fig. 4 is a cross section of the staple magazine. The Figs. 5, 6 and 7 illustrate the way of applying the implement to different kinds of work.

In the construction shown the two members A, B of the implement comprise each a jaw a and e respectively and a handle a' and e' respectively. Both jaws a and e are joggled, that is to say are bent twice at an angle, so that their working parts are set laterally at a distance to the plane of the handles but run parallel to it. The jaw a is connected by a link b to a plunger d, guided within the stapling head c to allow a vertical movement of the plunger, when the handles a' e' are pressed together. The plunger has a cross section to correspond with the size of the staple and the jaw e has only a thickness to allow an anvil to be formed on its upper edge to properly clench the prongs of the staple when the implement is pressed together. A spring a^2 is arranged between the ends of the handles to press the same apart when released from the pressure of the hand. The stapling head c is fastened to a plate g at a right angle thereto, said plate having arms h, which are pivoted to the pivot pin i of the members A, B. On the plate g the magazine f for holding the staples is fastened, by which means the magazine is attached to the stapling head c, thus the magazine runs parallel to the pivot pin i and preferably more or less symmetrically placed with respect to the handles a', e'. A spring k is attached to the plate g and catches under a shoulder a^3 of the jaw a, the tension of which aims to press the plate g, and with it the stapling head c toward the anvil carrying jaw e. The separating movement of plate g and jaw a is

limited by the pin b', which connects the link b with the plunger d engaging the end of the slot c' in the stapling head c provided for allowing the pin b to move up and down when the plunger is operated.

The magazine f comprises Z-shaped outer rails f' and an inner block f^2, on which the staples l ride. A U-shaped slide n also rides on the block f^2, which slide catches behind the staples l to feed them along the block. To the slide n a pin m is attached which is adapted to move between the upper edges of the rails f'.

Due to the fact that the jaws e and a are joggled as explained above, the magazine can be made of considerable length, so as to hold a considerable number of staples. In order to provide for a feed which presses the staples forward practically independently of the number of staples within the magazine, a toggle arrangement or lazy-tongs is made use of, consisting of a number of pairs of levers p pivoted together at the center and hinged to one another at the ends. In the construction shown three pairs are connected to one system. One pair of end levers p are pivoted to the pin m of the slide n and the other pair of end levers are pivoted to a pin o, fastened to a lug o' attached to the stapling head c. The pin m carries a spiral spring q, the straight ends of which engage pins m' on arms or prolongations of the first levers p of the toggle arrangement in such a manner, as to press the slide n in the direction toward the stapling head c. By this arrangement the staples l are fed one after the other to the plunger d. The magazine is open at its free end, thus allowing the slide n to be drawn outward preferably after releasing one end of the spring q from the pin m'. When the magazine is filled with a sufficient number of staples the slide n again is introduced into the magazine to act as described above.

By the staple-setting implement constructed according to the present invention staples can be as conveniently set along an edge as within the fold or within any other article. In Fig. 5, it is illustrated how the implement can be used for setting fastenings or staples inside the folds to connect the sheets at this place. As may be seen from Fig. 6, it is just as easy to set staples along the edges of leaves or signatures to be fastened together. In Fig. 7 a despatch-tube is shown to which the implement is applied to set staples running parallel to the center line of the tube. Evidently the jaw carrying the anvil can be made extremely narrow, so that tubes of very small diameter can be provided with staples as shown.

Evidently the implement is well adapted to be used in connection with all kinds of work, and not only U-shaped staples can be set by the implement, but also fastenings of other kinds can be set according to the shape given to the anvil, the construction of which forms no part of this invention.

I claim:

1. A staple setting implement, comprising two pivoted members, each having a handle and a jaw, both jaws being laterally offset from the plane of the handles, and arranged parallel or substantially parallel to the same, and means operating during the movement of the jaws to feed a staple into driving position.

2. A staple setting implement comprising two pivoted members, each having a handle and a jaw, both jaws being laterally offset from the plane of the handles, and arranged parallel or substantially parallel to the same, a stapling head rotatably attached to the pivot of the members, the jaw of one member carrying an anvil, and a plunger connected with the jaw of the other member and vertically guided on the stapling head.

3. A staple setting implement comprising two pivoted members, each having a handle and a jaw, both jaws being laterally offset from the plane of the handles, and arranged parallel or substantially parallel to the same, a stapling head rotatably attached to the pivot of the members, the jaw of one member carrying an anvil, a plunger connected with the jaw of the other member and vertically guided on the stapling head, and a magazine for the staples attached to the stapling head.

4. A staple setting implement, comprising two pivoted members, each having a handle and a jaw, both jaws being laterally offset from the plane of the handles, and arranged parallel or substantially parallel to the same, a stapling head rotatably attached to the pivot of the members, the jaw of one member carrying an anvil, a plunger connected with the jaw of the other member and vertically guided on the stapling head, and a magazine for the staples arranged parallel to the axis of the pivot of the members and attached to the stapling head.

5. A staple-setting implement comprising two pivoted members, each having a handle and a jaw, both jaws being laterally offset from the plane of the handles and arranged parallel or substantially parallel to the same, a stapling head rotatably attached to the pivot of the members, the jaw of one member carrying an anvil, a plunger connected with the jaw of the other member and vertically guided on the stapling head, a magazine for the staples attached to the stapling head, and a spring pressed block guided within the magazine and adapted to press the staples toward the plunger.

6. A staple setting implement comprising two pivoted members, each having a handle and a jaw, both jaws being laterally offset from the plane of the handles and arranged

parallel or substantially parallel to the same, a stapling head rotatably attached to the pivot of the members, the jaw of one member carrying an anvil, a plunger connected with the jaw of the other member and vertically guided on the stapling head, a magazine for the staples attached to the stapling head, a block guided within the magazine, and a spring-pressed toggle arrangement attached at one end to the said block and at the other end to the stapling head to press the staples toward the plunger.

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Witnesses:

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