

J. B. TERRY.
Pin Sticking Machine.

2 Sheets—Sheet 1.

No. 13,553.

Patented Sept. 11, 1855.

Fig. 1

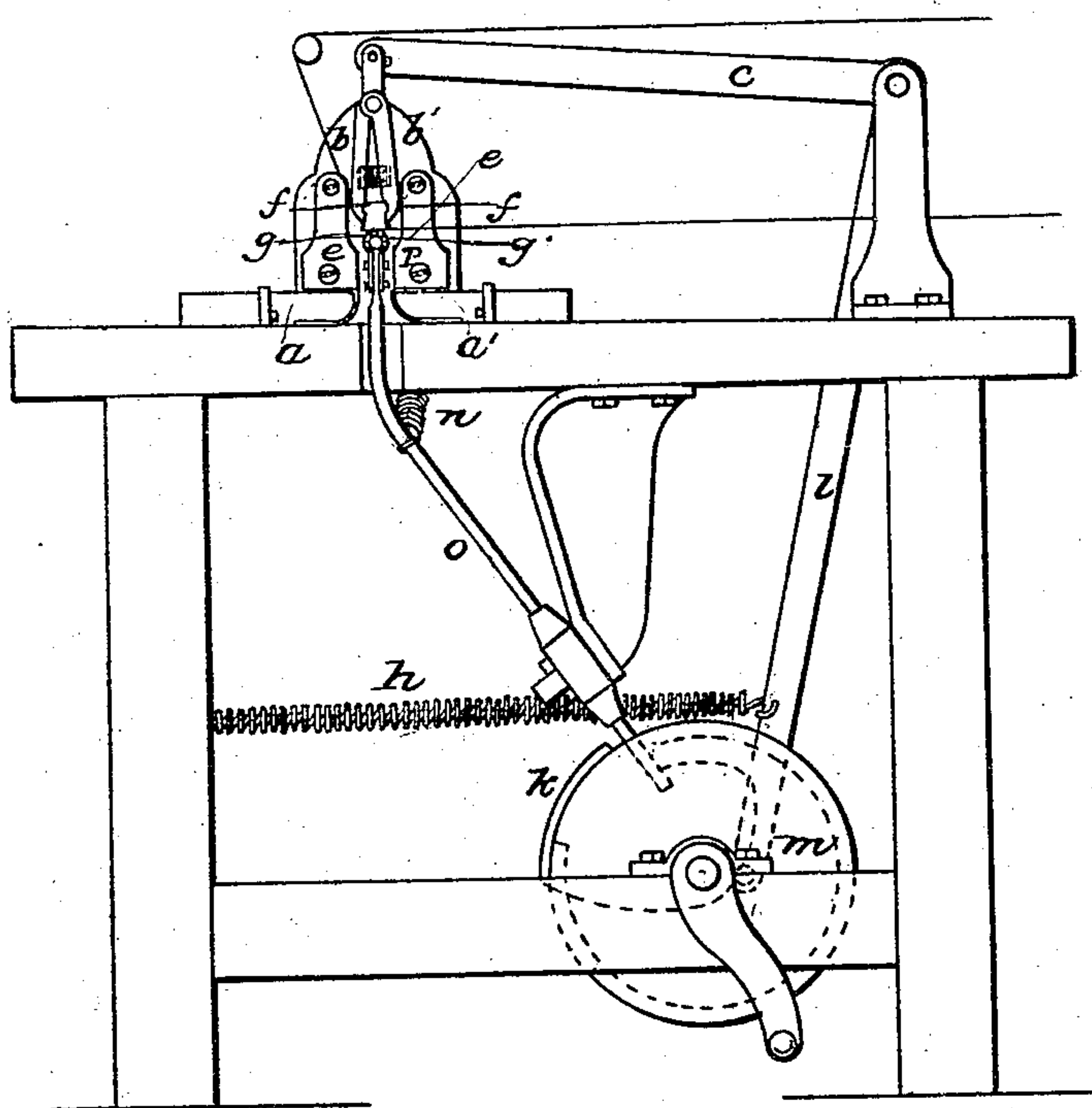
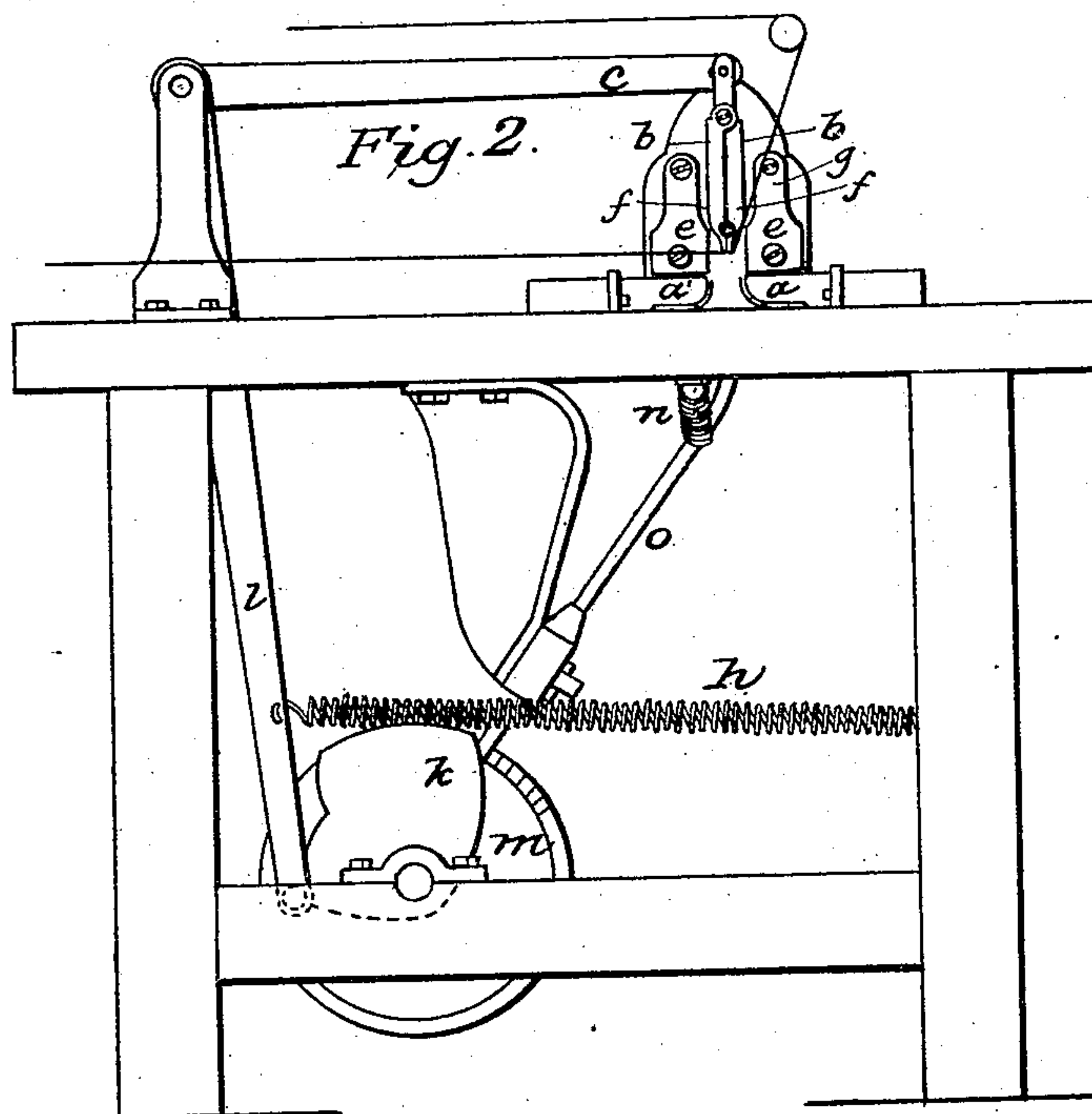


Fig. 2.

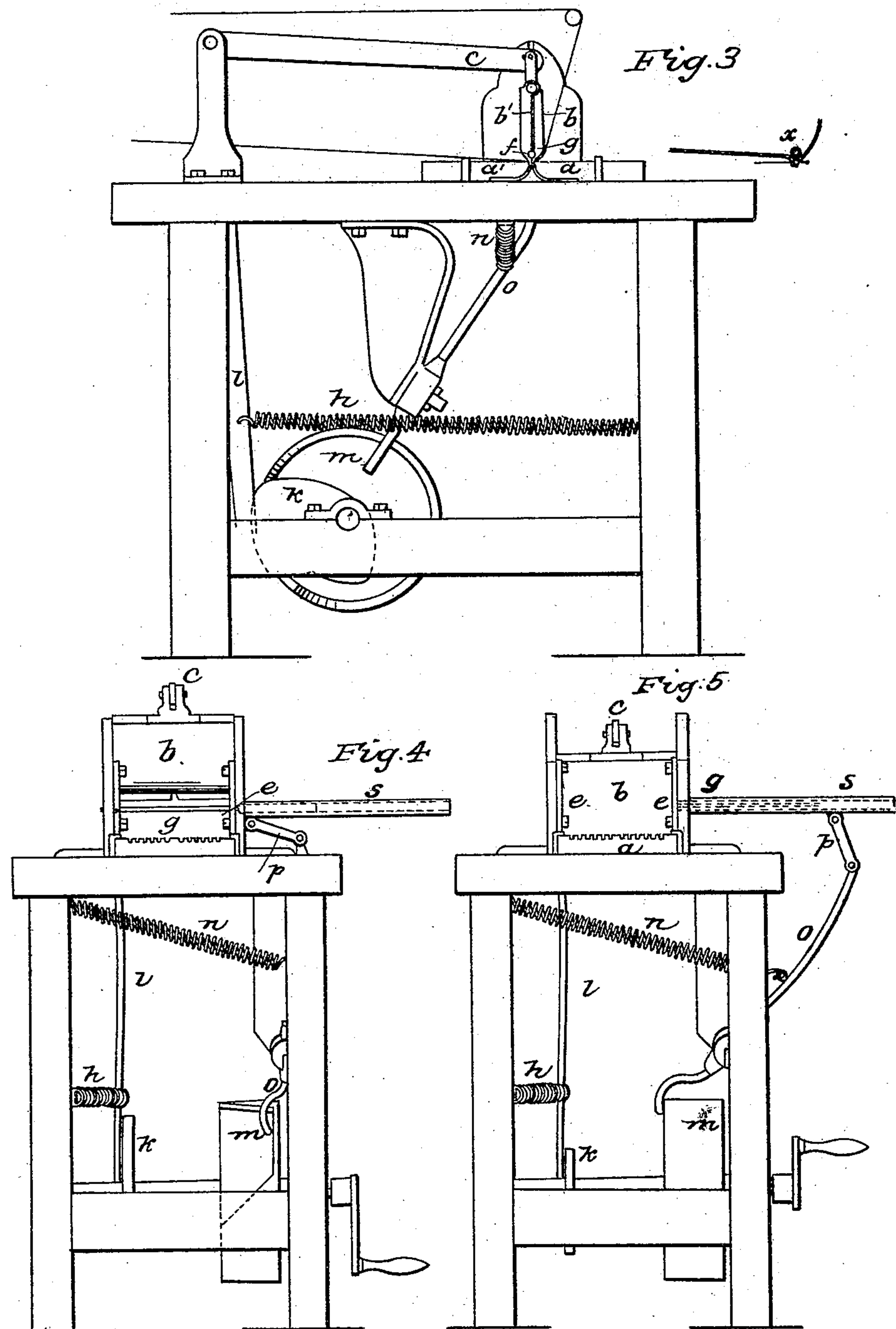


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UNITED STATES PATENT OFFICE.

J. B. TERRY, OF HARTFORD, CONNECTICUT.

MACHINE FOR CRIMPING PAPER FOR STICKING PINS.

Specification of Letters Patent No. 13,553, dated September 11, 1855.

To all whom it may concern:

Be it known that I, J. B. TERRY, of the city and county of Hartford, in the State of Connecticut, have invented a certain new and useful Improvement in Crimping Arrangements of Pin-Stitching Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 represents a side elevation of the crimping gear arrangement, showing the crimping clamps in their raised position and the jaws which hold the crimped paper open;—Fig. 2, a similar elevation viewed from the other side and representing the crimping clamps as having crimped the paper over and around a “former” or rod as will hereinafter be fully described; Fig. 3, a similar view to Fig. 2, but showing the “former” withdrawn and the crimping clamps at the extremity of their down stroke and the jaws advanced to hold the crimped paper; with diagram attached illustrative of the crimp with a pin stuck through. Fig. 4 represents an end elevation showing the parts in their position indicated in Fig. 1; and Fig. 5 a further end elevation illustrating of the parts in their position represented in Fig. 3.

My invention has reference to that portion of pin sticking machines which stick the pins in rows in the strip or sheet of paper, that comprises what is termed the crimping arrangement. The other parts of the machine therefore will only be generally or partially alluded to, or will for the most part be altogether omitted notice of, as my improvement is not confined to any one machine in particular but to a well known class of machines that stick the pins as just described, and of which description is the machine referred to in my patent of January 3rd 1854, and in which, the paper is fed forward at intervals, formed into crimps at suitable distances apart by means of a crimping bar, the crimped portions of the paper held by jaws while the pins are stuck through the crimps, then the jaws opened to let out the stuck crimp, and a further similar feed, crimp, and sticking operation proceeded with as before.

Having thus generally spoken of the operation, I will proceed to describe in particular my improvement.

The paper, it will be observed, as indi-

cated by red line in Figs. 1, 2 and 3 of the drawing, passes from the one side of the machine over a roller or other suitable device, downward to a position near the bed where it is crimped and off in a horizontal or other direction, much in a similar manner to that shown and described in my patent of 1854 as above referred to, there being likewise a somewhat similar arrangement of grooved sliding jaws (*a a'*) that are caused by any suitable mechanism to advance and recede and which by means of springs, forceps or pins, serve to clasp the crimped portion of the paper and hold the crimp while the pins are being stuck through it.

My method of forming the crimp however is different to that described in my former patent; I employ no fixed crimping bar or “former,” but use, under a peculiar arrangement and operation together, a sliding rod or “former” and crimping clamp or their equivalents substantially as follows. The crimping clamps (*b b'*) are shown hinged together at their upper end, where they are united to an operative lever (*c*), that, in connection with suitable side guides to the clamps, give the clamps an intermittent vertical movement as will presently be described. These crimping clamps (*b b'*) may be kept open by means of a spring between them, and closed at the proper periods during their vertical movement, by projecting guides (*e*), in between which they slide. The lower ends or edges of the clamps (*b b'*) are made with crimping lips immediately above which are semi-circular recesses (*f*), running—one to either clamp—horizontally of the clamps parallel with their crimping lips. These semi-circular recesses (*f*) are for the purpose of receiving in between the clamps a former or rod (*g*) around which the paper is compressed by the clamps in closing and serving as a bed or stop for the paper to enable the clamps to give the requisite crimp to the paper. This “former” or rod is operated so as to be withdrawn from between the clamps after the crimp is made and the paper formed around the rod, and, at the proper period, again to shoot across or occupy the position specified for its reception between the clamps, to effect the “crimping” as follows: The clamps (*b b'*) being open and at their top stroke as represented in Fig. 1, in descending, press upon the paper and carry it

on or against or over the "former" or rod (*g*) which remains, for the present, stationary in its forward position across the race or path of the clamps. The clamps then
 5 close and in so doing fold the paper around the rod or "former" (*g*) and, the "former" acting as a bed or bearing, the clamps further squeeze the paper into the requisite flat crimp beneath the "former." During this
 10 closing action of the clamps, or toward the finishing portion of the same, their descending movement is suspended and remains so for a short period after the clamps are closed, to enable the "former" or rod to be
 15 withdrawn out of the path or race way of the clamps to the position occupied by said "former" (*g*) shown by dotted lines in Fig. 5, when the clamps (*b b'*), still closed, are made to continue their descent from their
 20 stationary or stopping position, represented in Fig. 2, to their extreme downward stroke shown in Fig. 3, which brings the cramped portion of the paper in between the sliding
 25 jaws (*a a'*) before referred to, the jaws moving toward each other and by pin protections or other suitable devices on their faces sticking into and holding the paper in between them, while the clamps (*b b'*), having thus conveyed the crimp to the jaws
 30 that hold it for the pins to be stuck through the crimp, ascend to their original position, represented in Fig. 1, and the "former" or rod is again shot forward to its position represented in Figs. 1, 2 and 4, for repetition of the crimping process as before. In
 35 this manner a most perfect crimp is formed, one necessarily of uniform width and regularity, with a hollow arched or other equivalently shaped strengthening rib at the root
 40 (*x* in diagram of Fig. 2) of the crimp, which will give the necessary firmness to

the crimp in the sticking process; and as the crimp is formed before its adjustment to the sticking position and the "former" or rod withdrawn prior thereto, no interference
 45 can by any possibility of defective construction, shake or accident, be presented by the "former" to the passage of the pins through the crimp.

The crimping clamps (*b b'*) may have
 50 their specified intermittent reciprocating vertical movement given them by any suitable arrangement of mechanical devices and may be thus operated by a spring (*h*) and suitably formed cam (*k*) acting upon a lever
 55 arm (*l*) attached and serving to rock the fulcrum to which the operative lever (*c*) of the crimping clamps is affixed.

The "former" or rod (*g*) may have its specified period of rest, forward and with-
 60 drawal movements given it, by a somewhat similar arrangement of devices as for instance by a revolving cam wheel (*m*) and a spring (*n*) brought to bear or act upon a lever (*o*) that by a jointed attachment (*p*)
 65 connects with the "former" (*g*) through a slot in a tube (*s*) in and out of which the "former" is projected to effect the crimp or be withdrawn from it as specified.

What I claim as new and useful and de-
 70 sire to secure by Letters Patent, is—

The use of the hinged clamps (*b b'*), or equivalents, operating together with the folding rod or former (*g*) to crimp the
 75 paper, substantially as set forth.

In testimony whereof, I have hereunto subscribed my name.

J. B. TERRY.

Witnesses:

HENRY FRANCIS,
 LORING W. BLISS.