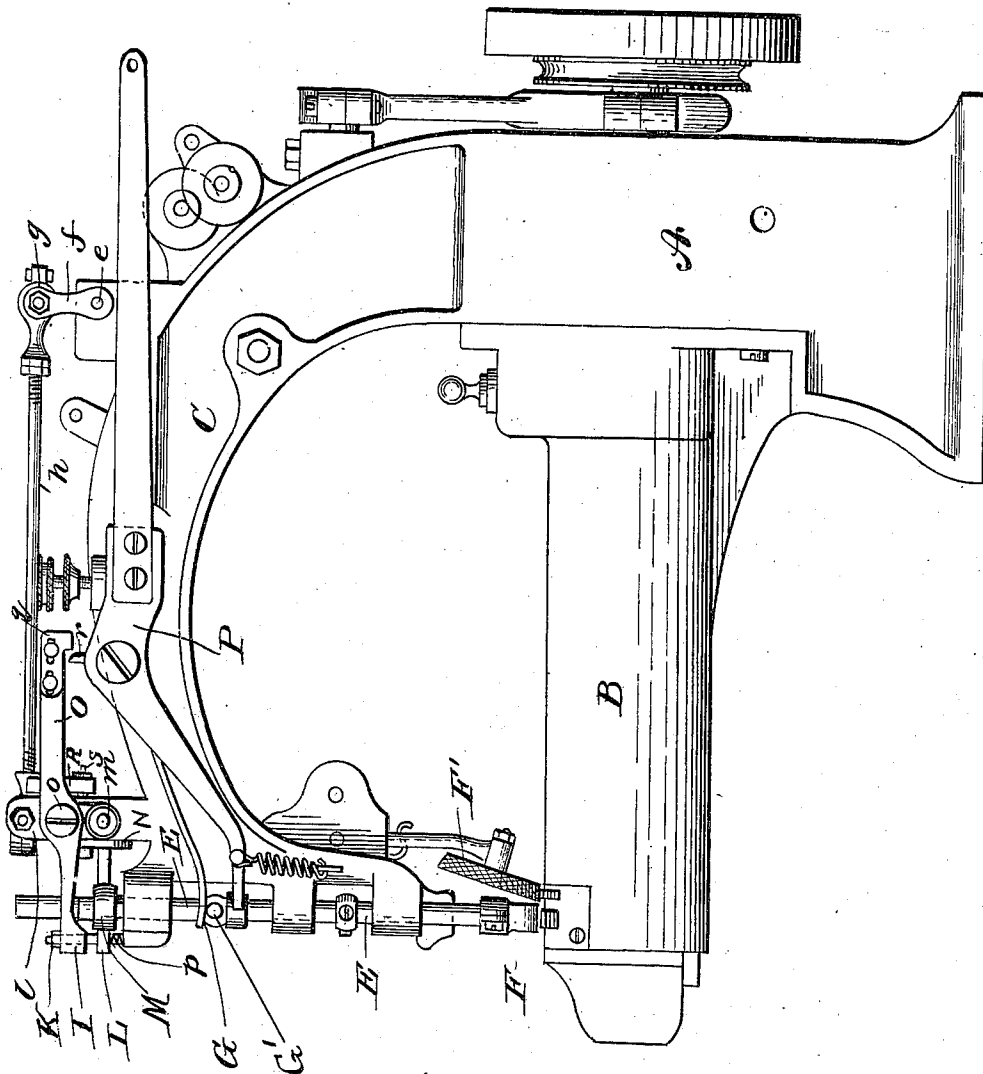


984,690.

3 SHEETS—SHEET 1.



77-1

Inventor

Chester Zwickel

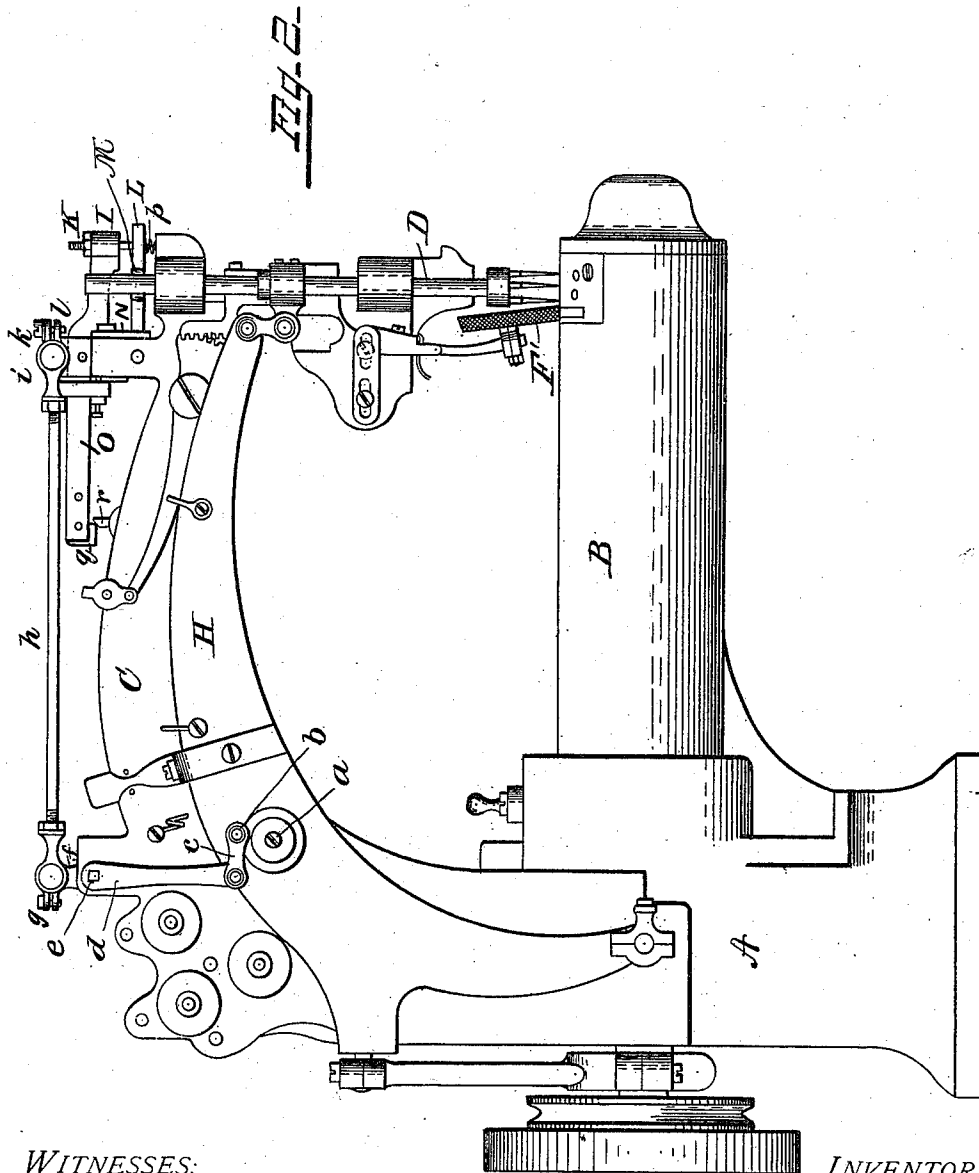
~~C. Z. Zwickel~~

Attorney

C. McNEIL.
PRESSER BAR CLAMPING DEVICE FOR SEWING MACHINES.
APPLICATION FILED JUNE 21, 1904.

984,690.

Patented Feb. 21, 1911.
3 SHEETS—SHEET 2.



WITNESSES:

F. L. Curand

Albert Hopkins

INVENTOR

Chester McNeil

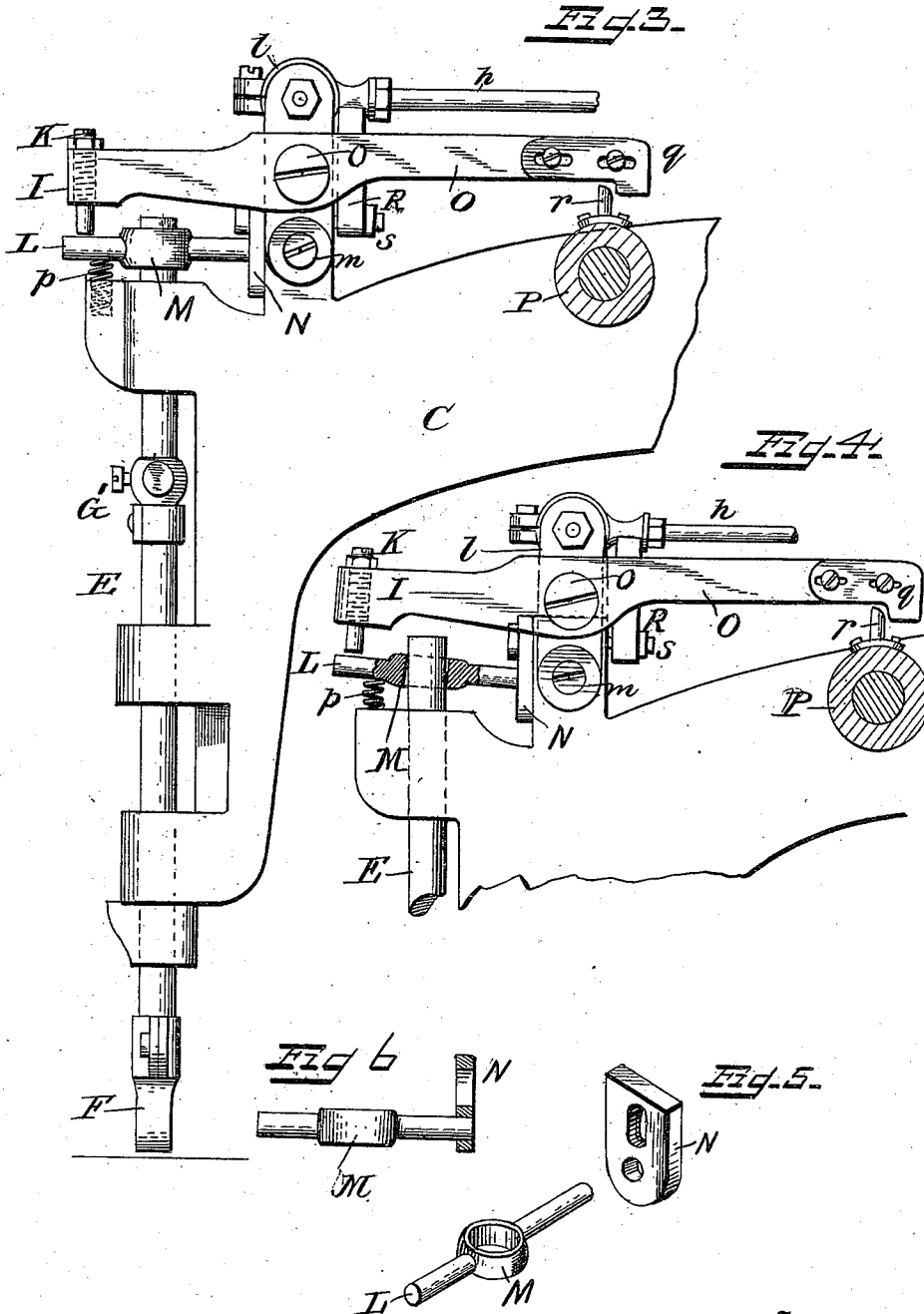
BY *C. S. Stinson*
Attorney

C. McNEIL.
PRESSER BAR CLAMPING DEVICE FOR SEWING MACHINES.
APPLICATION FILED JUNE 21, 1904.

984,690.

Patented Feb. 21, 1911.

3 SHEETS—SHEET 3.



Witnesses
F. L. Ormand
Albert Perkins

Inventor
C. McNeil
by C. S. Shubert
Attorney

UNITED STATES PATENT OFFICE.

CHESTER McNEIL, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNION SPECIAL SEWING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PRESSER-BAR-CLAMPING DEVICE FOR SEWING-MACHINES.

984,690.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed June 21, 1904. Serial No. 213,530.

To all whom it may concern:

Be it known that I, CHESTER McNEIL, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Presser-Bar-Clamping Devices for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

In Patent No. 689,375, of December 17th, 1901, granted R. G. Woodward, for improvements in presser bar clamping mechanisms for sewing machines, there is shown, described and claimed, the combination in a sewing machine, of special means for operating upon the presser bar to clamp it and hold the material firmly in place while it is being stripped from the needles while the latter rise. Such an invention is particularly useful in sewing heavy materials, such as leather, but the invention set forth in the patent above referred to, has been found to be somewhat defective in practical operation, inasmuch as no means were provided for releasing the clamping device while the needles were moving out of the goods, so that if one of the needles should break while in the goods, the operator would have to turn the shaft of the machine until the needles were raised entirely out of said goods, and this it is very difficult to do on heavy material.

The object of my present invention is, therefore, to provide broadly an arrangement for clamping the presser bar during the upward movement of the needles until the needles have raised out of the work, and the feed begins to operate, but with auxiliary means controlled by the operator, whereby this clamping means may be released at such time as it would normally be acting so as to allow the presser bar to be released from the clamp, and allow the ready movement of the needles to raise them from the cloth plate.

Another object of my invention is to provide an arrangement such as described, in which the auxiliary means for releasing the clamping mechanism are controlled by the presser bar operating lever.

The invention, therefore, consists in various matters hereinafter described and referred to in the appended claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a rear elevation of a cylinder vamping sewing machine of the Union Special type, embodying said invention; Fig. 2 is a front elevation of the same; Fig. 3 is a front view of a portion of the head of a sewing machine, showing enlarged and more in detail the clamping and releasing mechanism in the position of release; Fig. 4 is a similar view, showing the parts in clamped position; and Figs. 5 and 6 are respectively perspective and side elevations, partly in section, of the clamping bar or rod.

In these drawings, the invention is shown as applied to a Union Special cylinder vamping sewing machine, as covered, for example, by patent granted Lansing Onderdonk, October 18th, 1895, No. 547,675, but it will be understood that in its use the invention is not so limited but that it may be applied to any machine.

The standard of the machine is shown at A, and it has the cylindrical bed or cloth plate B, and the goose neck or overhanging arm C, with the usual lugs having bearings for the needle bar D, and the presser bar E, carrying the auxiliary presser foot F, which on machines of this kind is used in connection with the roller presser foot F', the presser bar being normally pressed downwardly by the flat spring G. The flat spring G rests on a pin G' secured to the presser bar. As a means for lifting the presser bar, I have provided the usual presser lifting lever P which is pivoted to the overhanging arm and at its forward end extends underneath the pin G' carried by the presser bar. The usual spring secured to the lever P and to the head of the machine, serves to hold the rear end of the lever P raised and the front end thereof out of engagement with the pin G' on the presser bar. These parts are of the usual construction and will not need further description.

While I have referred to the part F as the presser foot, and the part E as the presser bar, it will be understood that the said part F may be the ordinary needle guide foot, and I propose to cover the invention whether it is applied to the needle guide foot bar or to the presser bar, which carries the presser foot F, or to the presser bar which carries the usual roller presser foot.

As in the ordinary construction of machines, the two presser feet are connected together so as to move as one, it will be understood that the clamping of one of the bars would hold both in fixed position.

The driving parts of the machine are of the usual construction, the needle lever H being operated in the regular way, and sleeved on the stud *a*, secured to the goose neck. Passing into the needle lever H, above the sleeve, which fits over the needle lever stud *a* is a small stud *b*, upon which is pivoted one end of a link *c*, which at its opposite end is pivoted to an arm *d*, which at its upper end is fixed on a shaft *e* projecting through to the opposite side of the goose neck, and having fixed to its opposite end an arm *f*, to the upper end of which is attached by the usual ball and socket clamp *g*, one end of the pitman rod *h*, which pitman rod at its opposite end has a clamp *i* fitting over a ball stud *k*, which ball stud is secured in the upper end of the arm *l*. The arm *l* has a sleeve on its lower end pivoted upon the stud *m* on the forward end of the goose neck C. Pivoted on this arm *l* by means of the stud *o* is a lever O having an opening at its forward end to receive the vertical pin or bolt K, which passes through it, and is adapted to engage the forward end of the rod L, which has a central enlarged portion M, having an opening, embracing the presser bar E. This bar or rod L at its rear end rests in a socket in the plate N. This rod or bar L has a very slight vertical movement and normally by means of the spring *p* presses upwardly against the end of the rod or bar L, and clamps the sides of the perforated portion M against the presser bar, this spring resting upon a lug on the goose neck.

The lever O has a rearwardly projecting arm carrying on its rear end an adjustable plate *q*, having a downwardly projecting portion, which is adapted to be engaged by an upwardly projecting lug *r* carried upon the presser bar operating lever P.

R represents a block carried by the lever O, through which passes a screw *s*, which bears against the link *l* and acts as an adjustable stop for the lever O, to maintain it in its adjustable position.

In the normal operation of the machine, the arm *l* is vibrated back and forth by means of the link *h*, and its connection to the needle lever H. Starting with the parts in the position shown in Fig. 4, it will be seen that the clamping bar L is in its extreme upper position, and the lever O is also raised at its forward end. The arm *l* is out of contact with the pin *s*. In this position of the parts, the presser bar *e* is clamped by the clamping bar L. The needles at this time are at the lower end of their stroke, and as the needles begin to rise the needle lever H, through the link *h*, rocks the arm *l* forward. Until the

arm *l* contacts with the adjusting screw *s* there will be no movement of the lever O. Therefore, during the first part of the upward movement of the needle, the presser bar is clamped, and the material thus held firmly in place while it is being stripped from the needles. As soon as the needles, however, begin to leave the fabric, the arm *l* engages the adjusting screw *s* and tilts the lever O on the stud *o*, and through the bolt K depresses the forward end of the clamping bar or rod L, thus relieving the presser bar, so that the same may be raised and the feed of the fabric take place. The clamping bar or rod L will be held depressed until the needle bar has descended through part of its stroke, after which through the link *h* the lever O will be raised at its forward end and the bar L released, so that through the spring *p* the presser bar will again be clamped. If, however, it should be desired to release the presser bar when the needles are at the lower end of their stroke, as is sometimes desirable when a needle breaks in the material, the operator swings the presser bar lifting lever P through the usual knee shift or treadle, and as the lever P is swung about its axis, the projecting cam pin *r* will engage the adjustable plate *q* on the end of the arm O and swing the arm O about the stud *o*, depressing the forward end of the lever O, and through the bolt K depress the clamping rod L to release the presser bar. The pin *r* is so positioned on the lever P that the lever O is swung to release the presser bar before the forward end of the lever P engages the stud *G'* on the presser bar, whereby the presser bar is lifted in the usual manner. The plate *q* is adjustably connected to the lever O mainly for the purpose of varying the timing of the throw of said lever O relative to the lever P. These parts should be timed so that when the lever P is released, the clamp will not grip the presser bar until the presser foot is bearing upon the material. It will be seen that if the plate *q* be adjusted to the left as viewed in Fig. 1, the pin *r* will contact with said plate at an earlier period when the presser foot is raised by the lever P, and will be released from said pin *r* at a later period when the foot is lowered.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. A sewing machine including in combination, a needle, means for operating said needle, a work support, means for clamping the material upon the work support, including a presser bar, a presser foot connected thereto, a clamping device for the presser bar operated by a moving part of the machine, which alternately clamps and releases the same, manually operated means for releasing said clamp including a pivoted

lever, a movable device cooperating with said pivoted lever, and means for varying the time of the throw of said lever relative to the movement of said movable device.

5 2. A sewing machine including in combination a needle and means for operating it, a work support, means for clamping the material upon the work support including a presser bar and a presser foot carried
10 thereby, a clamping device for the presser bar including a moving frame, operated by a moving part of the machine, manually operated means for releasing said clamping means, including a lever pivoted upon said
15 moving frame.

3. A sewing machine including in combination, a needle, means for operating said needle, a work support, means for clamping the material upon the work support, including a presser bar, a presser foot connected thereto, a clamping device for the presser bar including a moving frame operated by a moving part of the machine, manually operated means for releasing said clamping device, including a lever pivoted upon said moving frame, a movable device cooperating with said device, and means for varying the time of the throw of said lever, relative to the movement of said movable device.

30 4. A sewing machine including in combination a needle, a work support, means for clamping the material upon the work support, including a presser bar and a presser foot connected thereto, a clamping device
35 for said presser bar, operated by a moving part of the machine which alternately clamps and releases the same, manually operated means for releasing said clamp, including a pivoted lever and means for raising the work
40 clamping means above the work support and for operating said pivoted lever.

5. A sewing machine including in combination, a needle, means for operating said needle, a work supporting member, means
45 for clamping the material upon said work supporting member including a presser foot, a vertically moving bar connected to said presser foot, a clamping collar having means for clamping said bar, said collar being operated by a moving part of the machine, for
50 alternately clamping and releasing said bar, manually operated means for releasing said clamping collar, including a pivoted lever, a hand operated lever, and devices operated
55 by said hand operated lever for moving said first named lever to release the clamping collar and for raising the presser foot.

6. A sewing machine including in combination, a needle, means for operating the
60 same, a work supporting member, means for clamping the material upon the work supporting member, including a presser foot, a

vertically moving bar connected to the presser foot, a clamping collar adapted to grip said vertically moving bar, means
65 operated by a moving part of the machine for alternately clamping and releasing said bar, and manually operated means for releasing the clamping collar including a pivoted lever, a hand operated lever, a projecting member movable with said hand operated lever for engaging the outer end of
70 said first named lever for moving the same to release the clamping collar, and a projecting member moved by said hand operated lever for raising the presser foot from the material.

7. A sewing machine including in combination a needle, and means for operating the same, a work support, means for clamping
80 the material upon the work support, including a presser bar and a presser foot carried thereby, a clamping device for said presser bar operated by a moving part of the machine, which alternately clamps and releases
85 the same, manually operative means for releasing said clamping device, including a tilting lever and means for raising the work clamping means above the work support, one end of said lever having an adjustable connection with said clamping device and the
90 other end of said lever being operably engaged by the means for raising the work clamping means.

8. A sewing machine including in combination a presser bar, a clamping device
95 therefor, including a rod having a collar in engagement with the presser bar, a lever having a part in engagement with said rod, a spring normally pressing said rod so as to bring the collar thereon in engagement with the presser bar, means for lifting said
100 presser bar, said last named means having a device for operating said lever to release the clamping device.

9. A sewing machine including in combination a presser bar, a presser bar lifting device, a clamping device for said presser bar including a rod having means for engaging
110 said presser bar, a lever having a part in engagement with said rod, a spring normally pressing said rod into engagement with the presser bar, an oscillating crank to which said lever is attached, connections between said oscillating crank and a moving part of
115 the machine, and connections between said lever and the presser bar lifting device.

In testimony whereof I affix my signature, in presence of two witnesses.

CHESTER McNEIL.

Witnesses:

A. B. CLOTHIER,
C. E. CULLEY.