

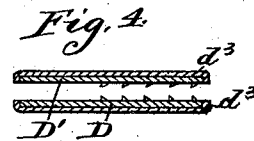
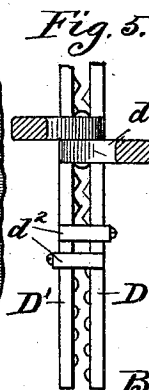
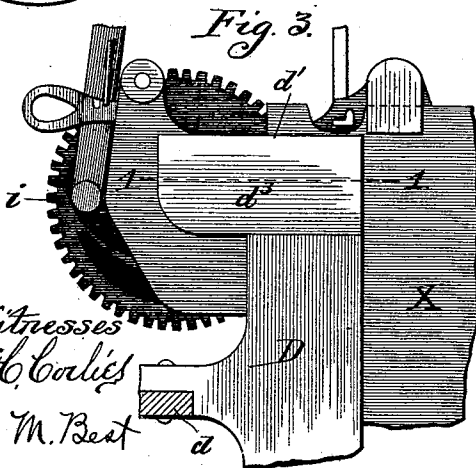
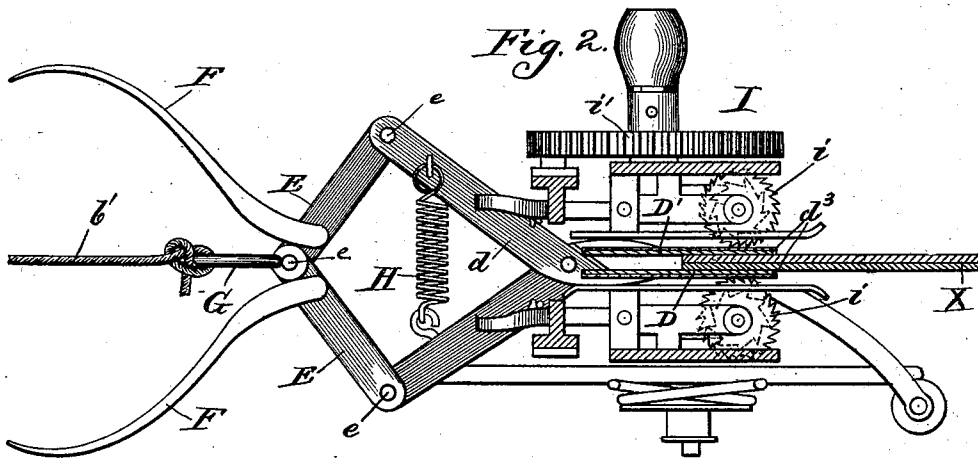
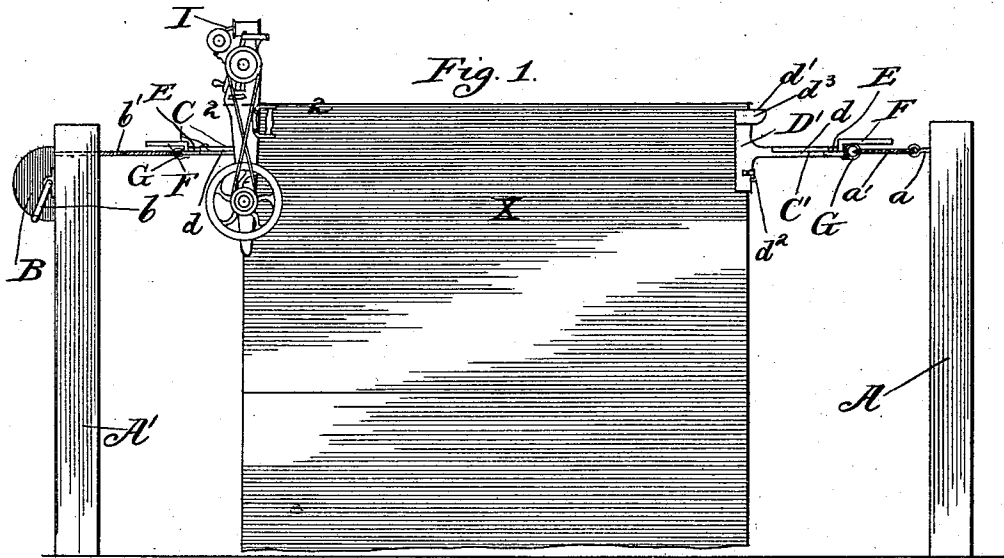
(No Model.)

F. AMES.

SUSPENDING CLAMP FOR USE WITH CARPET SEWING MACHINES.

No. 472,779.

Patented Apr. 12, 1892.



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UNITED STATES PATENT OFFICE.

FRANKLIN AMES, OF CHICAGO, ILLINOIS.

SUSPENDING-CLAMP FOR USE WITH CARPET-SEWING MACHINES.

SPECIFICATION forming part of Letters Patent No. 472,779, dated April 12, 1892.

Application filed November 15, 1890. Serial No. 371,600. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN AMES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Suspending-Clamps for Carpet-Sewing Machines, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved clamping apparatus. Fig. 2 is an inverted plan view of one of the clamps in operative position relative to a carpet-sewing machine, the said view being partially in section on the line 2 2 of Fig. 1. Fig. 3 is a side elevation of the upper portion of one member of the clamp. Fig. 4 is a cross-sectional view of the clamp on the line 4 4 of Fig. 3, and Fig. 5 is a plan view of the clamp with its arms partially broken away.

The object of my invention is to produce a suspending-clamp which shall permit a carpet-sewing machine of the type embodied in Letters Patent No. 296,744, granted to Joseph Grisel, to travel the whole length of the widths of carpets, and thus form a complete seam which requires no subsequent hand-sewing for its finishing.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In the said drawings, A A' designate two posts or supports, between which the breadths or widths X of carpet are sustained and stretched or strained laterally. One of these posts carries at its upper end an eyebolt or pin *a*, with which is connected a cord or similar flexible device *a'*. Upon the opposite post A' is journaled a windlass or drum B, the axle of which is provided with a crank-handle *b*, a rope or cord or similar flexible device *b'* passing around the drum or windlass and being attached at its opposite end to the adjacent clamp C similarly as the inner end of the rope or cord *a'* is connected to the opposite clamp C'. Each of these clamps consists of two elongated jaws D D', the inner sides or faces of which are formed with inwardly extending sharp projections to enter the fabric of the carpet. About midway of its length

each jaw of the clamp is provided with an integral arm *d*, the said arms being bent so as to cross each other and pivotally connected at their juncture by a through bolt or pin. The upper ends of the jaws are also provided each with an ear or projection *d'*, extending backward some little distance from the jaw and flush at the upper edge with the upper end of the respective jaws, as seen in Figs. 1 and 3. The outer extremities of the arms *d* carry links E, which are pivoted at one end to the extremities of the respective arms, and at their outer ends are connected together by a pivot-pin *e'*, as seen in Fig. 2. A finger bar or handle F is attached to each of the links just inside of their joint connection and extends backward and outward in a position convenient for the attendant to grasp. A ring or loop G is connected to the outer ends of the links at their point of junction. The pivot-pin of the links may form the device for the attachment of this loop. The cords *a'* and *b'* are connected, respectively, to the loops on the respective clamps at the opposite ends of the carpet, as seen in Fig. 1, thereby providing for stretching the carpet taut when the clamps are applied. A spiral spring H is arranged between the two arms *d* of the clamp-bars, being connected to each and serving to pull the outer ends of said arms toward each other, thereby closing together the jaws of the clamp, and so causing the notched faces of the jaws to engage with the carpet when applied thereto, as seen in Fig. 1. At the back edges of the clamp-jaws D D' and near their lower ends are stops *d²*, one on each, and each stop extending inward horizontally across the edge of the opposite jaw, as seen in Fig. 5. The outer surfaces of the ears *d'* at the upper ends of the jaws are provided with a thin covering *d³*, of copper or other comparatively soft metal, which covering extends also across the end of the jaw for the same width.

As already stated, this invention is designed for use with machines of the type shown in Letters Patent No. 296,744. I have shown a machine of this type in the drawings; but it requires no special description here, reference being made to the said patent for information as to its construction and operation. This machine I is seen in Fig. 1 in position ready

to be started along the carpet, which has been suspended and stretched in proper position. It will be understood that this machine is provided with a kind of saddle, which straddles the upper edge of the suspended carpet and is fed along by the operation of the feed-wheels *i*, the machine being held by an attendant and driven by him by means of a crank-wheel *i'* and suitable gearing.

In operation the clamps are applied to opposite ends of the carpet, as seen in Fig. 1, and stretched by means of the windlass, and it will be seen that as the loops are connected to the extremities of the links the strain on the cords will tend to draw the ends of the jaw-bars together, thereby closing the clamp upon the carpet tighter and tighter as the strain is increased. Now in clamps heretofore used the arms have been located at the extreme upper ends of the jaws, and the latter have had no rear extensions. It is obvious then that the machine cannot run out at the end of the carpet-lengths, so as to sew clear out to the end, as the front part of the saddle will come in contact with the clamp-arms before the needle, which is at the back of the machine, is brought to the extremities of the carpet. Furthermore, if this obstruction did not exist the sewing could not be completed, for there being no support to the saddle it would begin to drop and tilt the machine before the sewing is finished. With my improvement, however, the arms of the jaws are located well down, as seen in Fig. 1, so that they are entirely below the saddle of the sewing-machine and will not interfere with the movement of the latter outward at the extremity of the carpet. At the same time the rear projections or ears *d'* furnish a continuation of the support for the saddle, as will be seen in Fig. 1 of the drawings, and, therefore, I provide for a continuation of the operative movement of the sewing-machine far enough beyond the extremity of the carpet to complete the sewing of the edges of the latter together clear out to the extremity.

In feeding the machine out past the clamp the feed-wheels will of course come in contact with the metal, as seen in Fig. 2; but as the jaws are covered with a soft metal, as described, the feed-wheels will do their proper work and will not be injured. Heretofore in sewing carpets with this type of machine it has been necessary to sew the ends of every seam by hand. With my improvement this difficulty is entirely obviated. The handles attached to the links furnish means for manipulating the clamp, for it will be seen when pressed together they will tend to force the arms *d* outward, like a toggle, thereby opening the arms and jaws against the operation of the spring, which closes them when left free, and the stops *d²* prevent the placing of the clamp too far forward on the carpet.

I do not wish to be understood as limiting my invention to use with the machine especially described in Patent No. 296,744, as it may be employed with any machine of this type, and I do not wish to be understood as limiting my invention to all the details of construction and arrangement herein described and shown.

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

1. A saddle-back sewing-machine adapted to travel along the edges of suspended carpet-lengths, in combination with the long upright clamping-jaws *D D'*, provided with arms *d*, arranged at a point considerably below the upper ends of said jaws and below the line of travel of the sewing-machine saddle, and the stretching-ropes *a' b'*, whereby when the carpet is suspended the saddle of the sewing-machine may pass out beyond the point of attachment of said arms to the jaws, substantially as described.

2. A saddle-back sewing-machine adapted to travel along the edges of suspended carpet-lengths, in combination with the clamping-jaws *D D'*, provided with ears or projections *d'*, flush with the upper ends thereof and extending backward beyond the carpet edges from the rear edges of the jaws themselves, handle-arms *d*, attached to the jaws below the said ears or projections, and stretching-ropes connected to said clamps beyond the ends of the carpet edges, whereby the saddle of the machine may pass out over said handles and upon the projecting ears to sew the carpet edges to the extreme end thereof, substantially as described.

3. In a clamp for suspending carpets for sewing, the clamping-jaws *D D'*, provided with cord-attaching arms *d*, arranged below the line of travel of the sewing-machine saddle, projections or ears *d'*, on which said saddle may ride beyond the carpet edges, and stops *d²* for the end edges of the carpet-lengths, substantially as described.

4. A saddle-back sewing-machine *I*, adapted to travel along the edges of suspended carpet-lengths and provided with toothed feed-wheels *i*, in combination with the clamping-jaws *D D'*, provided with rear extensions *d'*, and an external covering on their upper ends *d³*, of copper or other soft metal, substantially as described.

5. In a clamp for suspending carpets for sewing, the clamping-jaws *D D'*, provided with arms *d*, in combination with the spring *H*, interposed between said arms, the links *E*, and the handles *F*, attached, respectively, to said links, substantially as described.

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Witnesses:

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