

(No Model.)

3 Sheets—Sheet 1.

C. E. PARKS & L. MOLLART.
STAPLING AND CUTTING MACHINE.

No. 517,586.

Patented Apr. 3, 1894.

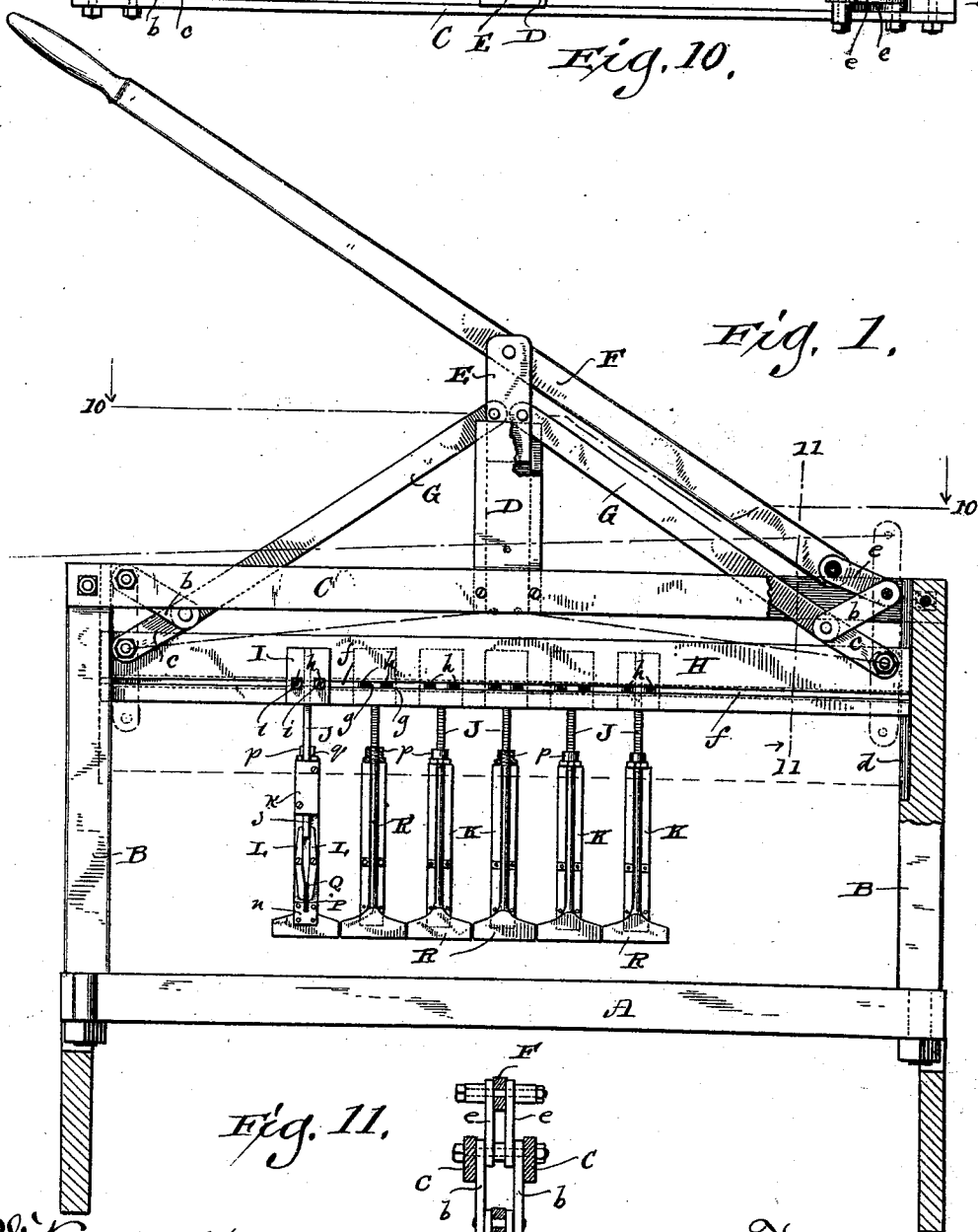
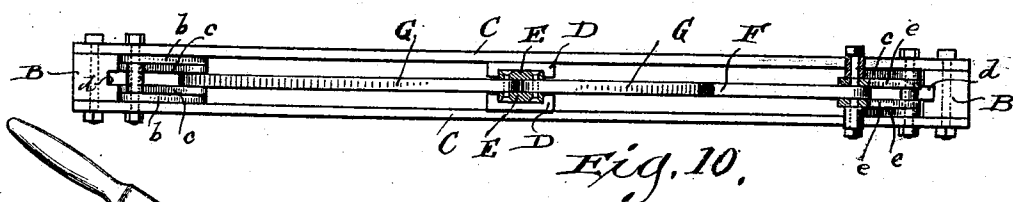
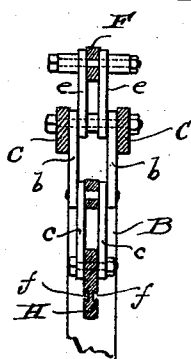


Fig. 11.



Witnesses
Geo. W. Lowry.
N. E. Oliphant

Inventors.
Charles E. Parks,
Lobezott Mollart,
By H. G. Underwood,
Attorney

C. E. PARKS & L. MOLLART.
STAPLING AND CUTTING MACHINE.

No. 517,586.

Patented Apr. 3, 1894.

Fig. 7.

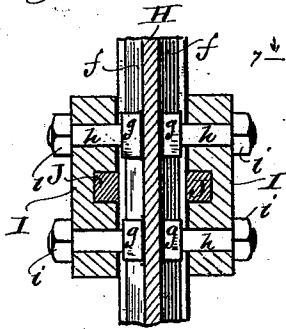


Fig. 2.

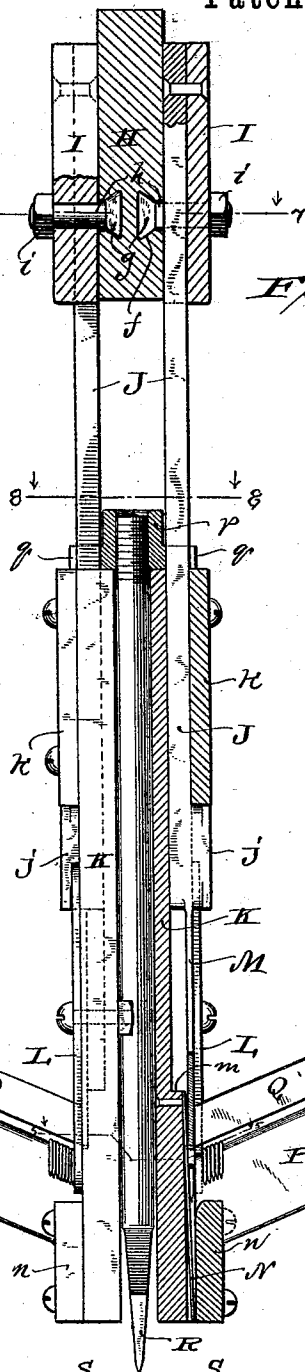


Fig. 8.

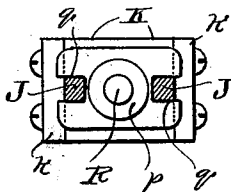


Fig. 12.

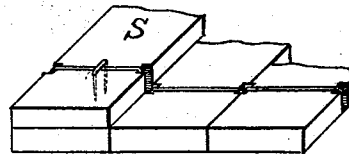
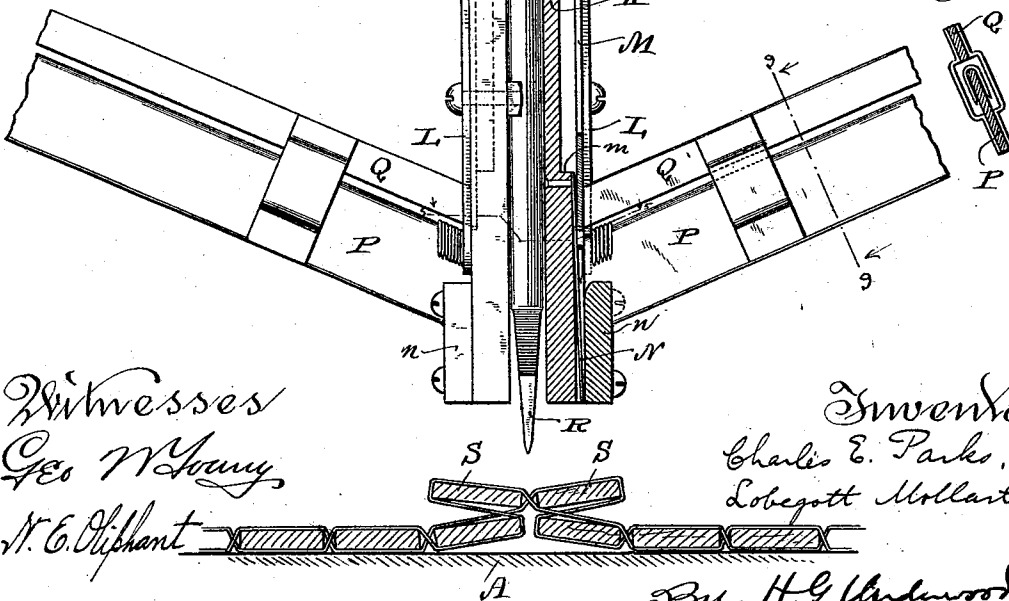


Fig. 9.



Witnesses
Geo W Young
H. E. Cliphant

Inventors
Charles E. Parks,
Lobegott Mollart.

By H. G. Underwood.
Attorney

C. E. PARKS & L. MOLLART.
STAPLING AND CUTTING MACHINE.

No. 517,586.

Patented Apr. 3, 1894.

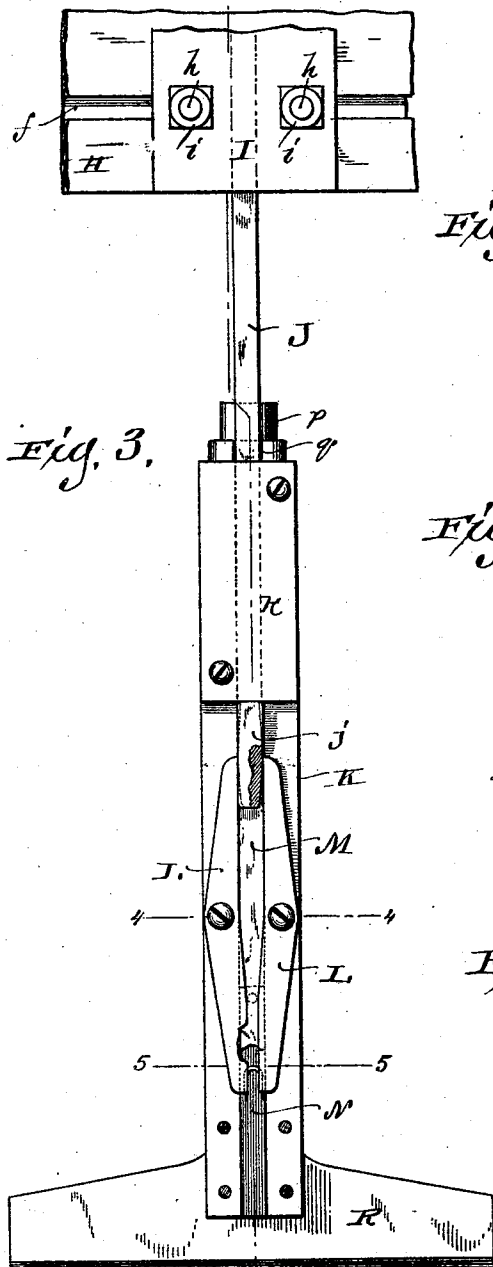


Fig. 3.

Fig. 4.

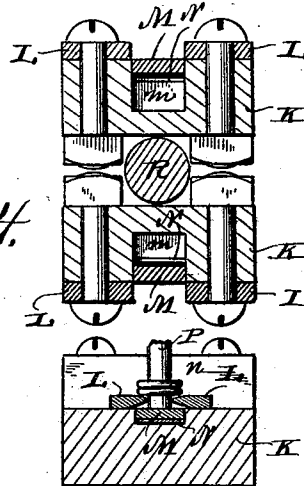


Fig. 5.

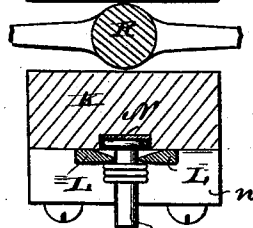
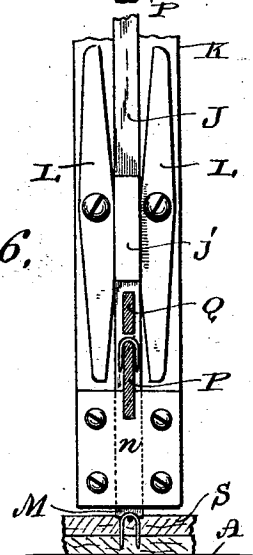


Fig. 6.



Witnesses
Geo. W. Young.
N. E. Oliphant

Inventors:
Charles E. Parks.
Lobegott Mollart.
By H. G. Underwood.
Attorney

UNITED STATES PATENT OFFICE.

CHARLES E. PARKS AND LOBEGOTT MOLLART, OF WATERTOWN, WISCONSIN;
SAID MOLLART ASSIGNOR TO SAID PARKS.

STAPLING AND CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 517,586, dated April 3, 1894.

Application filed February 11, 1893. Serial No. 461,913. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. PARKS and LOBEGOTT MOLLART, citizens of the United States, and residents of Watertown, in the county of Jefferson, and in the State of Wisconsin, have invented certain new and useful Improvements in Stapling and Cutting Machines; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention is designed for use in connection with slat-and-wire fabric, and has for its object to provide a simple mechanism for stapling the wires to the slats, as well as for cutting the fabric into sections, when desirable the machine herein shown being organized for a cutting operation simultaneous with a drive of wire securing staples. In view of the objects above enumerated our invention consists in certain peculiarities of construction and combination of parts hereinafter specified with reference to the accompanying drawings and subsequently claimed, as well as in a method also set forth and claimed.

In the drawings: Figure 1 represents a front elevation, partly in section, of a machine embodying the features comprehended in our invention; Fig. 2, a detail side elevation partly in section on line 2—2 of the succeeding figure showing the operation of our machine in connection with slat-and-wire fabric; Fig. 3, a detail front elevation, partly in section, illustrating a staple-driving and wire-cutting mechanism that constitutes part of our invention; Figs. 4 and 5 detail horizontal sections respectively taken on lines 4—4 and 5—5 of Fig. 3, the latter section being also indicated by line 5—5 in Fig. 2; Fig. 6, a detail front elevation, partly in section, illustrating our staple-driving mechanism at the finish of an operation thereby; Figs. 7 and 8 horizontal sections respectively taken on lines 7—7 and 8—8 of Fig. 2; Fig. 9, a detail vertical transverse section taken on line 9—9 of Fig. 2, and Figs. 10 and 11 are in their order horizontal and vertical sections respectively taken on lines 10 and 11 of Fig. 1. Fig. 12, represents a perspective view of a portion of a section of slat-and-wire fabric after being operated upon by our machine.

Referring by letter to the drawings, A represents the bed of our machine provided with a pair of standards B that are joined at their upper ends by parallel braces C, and joined to these braces are upwardly extended guides D for links E that connect a hand-lever F with the inner ends of other levers G, the outer ends of the latter levers being connected by the links *b c* of toggle-joints to said braces and a bar H that works in guide-ways *d* cut in said standards. Connecting one end of the hand-lever F and a link *b* of one of the toggle-joints is another link *e*, the construction and relative arrangement of parts thus far described being clearly illustrated in Figs. 1, 10 and 11. Incidental to the operation of the hand-lever F it will be seen that the bar H is reciprocated in its guideways *d*, and that as the toggle-joints straighten out, as shown by dotted lines in Fig. 1, considerable power is exerted upon said bar when traveling downward.

As herein shown each side of the reciprocative bar H is provided with a longitudinal dove-tail groove *f* for engagement with correspondingly shaped heads *g* of bolts *h* that pass through plates I and receive nuts *i* that serve to bind these plates against said bar in any position to which they may be adjusted thereon by a movement of the bolts along said groove.

Rigid with each of the plates I and depending therefrom is a plunger J that loosely engages a guide-stock K and is provided on its outer face with a lateral lug *j* that operates against the tapered inner edges of a pair of fingers L pivoted to the guide-stock. A stop-plate *k* is bolted or otherwise rigidly secured to the upper end of each guide-stock to oppose the lug *j* on the relative plunger J and limit independent upward movement of the latter. Each plunger J is limited, as to downward movement in its guide-stock by an opposing shoulder *m* forming part of this guide-stock, as shown in Fig. 2, and forming an offset continuation of the plunger is a blade M having a concave lower extremity. This blade works against a flat-spring N fast in the relative guide-stock for the purpose hereinafter set forth.

Bolted or otherwise rigidly secured to the lower extremity of each guide-stock in opposition to the reciprocative blade M therein is the vertical foot-piece *n* of an inclined guide P for a series of staples, and supported on this guide is a guard Q that prevents displacement of the staples when jarred by operation of the machine.

As herein shown the guide-stocks K are arranged in pairs and between each pair we arrange a chisel R having the upper end of its shank screw-threaded into a flanged head *p* that rests upon the upper extremities of said guide-stocks and is provided with recesses *q* in which the plungers above specified have loose play. By the screw-threaded engagement of the heads *p* and chisels R an independent vertical adjustment of the latter may be effected. Any suitable guides may be provided for the chisels, but we find that nuts on the pivot-bolts of the fingers L will suffice for this purpose, as will be apparent from an observation of Fig. 4.

In the operation of our machine, organized as herein set forth, the staples on the inclined guides will automatically feed down against the pivotal fingers L on the guide-stock, the normal position of these fingers being such that their lower extremities impinge against the inner ends of said guides and the staple-guards. The free end of the lever F being pulled down, there is a corresponding descent of the bar H and plungers J independent of any movement of the guide-stocks K and chisels R for a time after they come into contact with slat-and-wire fabric previously fed to the machine. By the descent of the plungers, staples, that have been previously admitted to the guide-stocks and held therein by the springs N, are forced down to the point of discharge and into the slats of the fabric over the wires of the same by the blades M that form continuations of said plungers. As the operation just described takes place the pivoted fingers L on the guide-stocks are actuated by the lugs *j* on the plungers to permit the innermost staples on the guides P to slide down against the descended blades M, and upon a subsequent ascension of these blades, their lower extremities will clear said staples and permit the latter to drop between the expanded springs N and the foot-piece of said guides to be there retained until another descent of said blades, the plunger lugs having in the meantime operated against said pivotal fingers to bring them to their normal position in opposition to the remaining staples on the aforesaid guides. About the time the staples are driven, the bar H has moved down into contact with the heads *p* of the chisels R, and a farther descent of said bar actuates these chisels to cut the wires or the slats and wires of the fabric according to the number and adjustment of said chisels, as well as their line of contact with said fabric.

In Figs. 2 and 12 we have shown that the fabric may be doubled on itself in such a

manner as to have the ends of each section thereof provided with a binder or stay S, the latter being one of the slats in the fabric and held in place by the wire confining staples. For this class of fabric sections it is essential that the line of cut for the chisels come between slats, but as shown in Fig. 1, the chisels may be of such number and relative position as to practically form a single blade and under these circumstances the fabric may be cut at any point, it not being intended that the finished sections thereof shall have the end-binders above specified.

In some instances the slats of the fabric have their edges notched where the wires cross each other and while this construction of fabric does not in any way affect our present invention we have shown the same in Fig. 12.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a reciprocative hanger, staple driving plungers that depend from the hanger and are individually provided with a lateral lug on the outer face, a guide stock held loose on each plunger to have movement therewith at a certain time in either direction of its travel, a staple-guide connected to each guide-stock and pivotal fingers on said guide-stock actuated by the relative plunger-lug to come in and out of the path of staples on the guide, substantially as set forth.

2. The combination of a reciprocative hanger, staple driving plungers that depend from the hanger and are individually provided with a lateral lug on the outer face, a guide-stock held loose on each plunger to have movement therewith at a certain time in either direction of its travel, a staple-guide connected to each guide-stock, pivotal fingers on said guide-stock actuated by the relative plunger-lug to come in and out of the path of staples on the guide, and a flat spring in the aforesaid guide-stock, this spring serving as a temporary stop for each staple fed from said guide, substantially as set forth.

3. The combination of a longitudinally grooved and reciprocative hanger, bolts having their heads in sliding dovetail engagement with the hanger-groove, plungers having head-plates retained on the bolts, guide-stocks held loose on the plungers, to have movement therewith at a certain time in either direction of travel, and suitable means for feeding staples to said guide-stocks in advance of a descent of the aforesaid plungers, substantially as set forth.

4. The combination of a bed-piece provided with guide-standards, braces connecting the standards, a hanger loose in the standards, toggle-joints connecting the braces and hanger, guides extending upward from said braces, links arranged to work in the guides, levers connecting the links and toggle-joints, a hand-lever connected to said links, another link connection between one end of the hand-lever

and one of the toggle-joints, and a series of plungers depending from said hanger, guide stocks for the plungers, suitable means for limiting independent movement of said plungers in their guide-stocks, and other suitable means for feeding staples to said guide-stocks in advance of a descent of the aforesaid plungers, substantially as set forth.

5. The combination of a reciprocative hanger, staple-driving plungers depending therefrom, guide-stocks engaging the plungers, suitable means for limiting movement of the plungers in the guide-stocks, other suitable means for feeding staples to said guide-stocks in advance of a descent of said plungers, and chisels loosely mounted on said guide-stocks in the path of the aforesaid hanger, substantially as set forth.

6. The combination of a lever-controlled reciprocative hanger, staple-driving plungers depending therefrom, guide-stocks engaging the plungers, suitable means for limiting movement of the plungers in the guide-stocks,

other suitable means for feeding staples to said guide-stocks in advance of a descent of said plungers, and chisels loosely mounted on said guide-stocks in the path of the aforesaid hanger, substantially as set forth.

7. A method of securing the wires of slat and wire fabric and forming the same into sections, this method consisting in doubling the fabric on itself in such a manner as to have slats thereof disposed in opposing vertical pairs, driving staples across the wires into the paired slats, and cutting said wires intermediate of these slats, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands, at Watertown, in the county of Jefferson and State of Wisconsin, in the presence of two witnesses.

CHARLES E. PARKS.
LOBEGOTT MOLLART.

Witnesses:

E. J. BRANDT,
F. W. GAMM.