S. Wilson,

Harness Machine,

No. 4,509. Patented May 9, 1846.

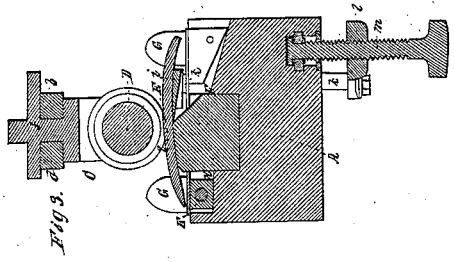

Fig 3.

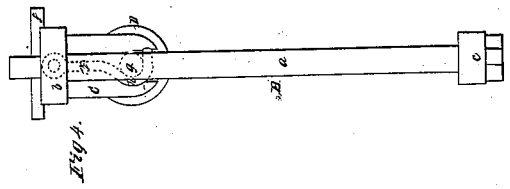

Fig 4.

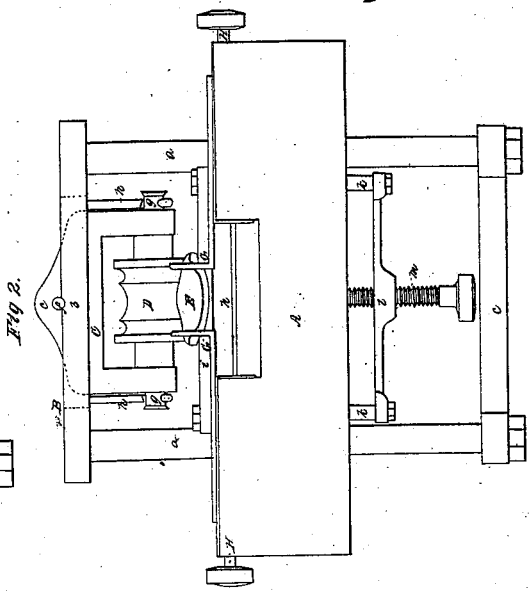

Fig 2.

Fig 8.

Fig 7.

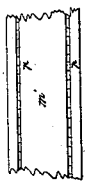

Fig 6.

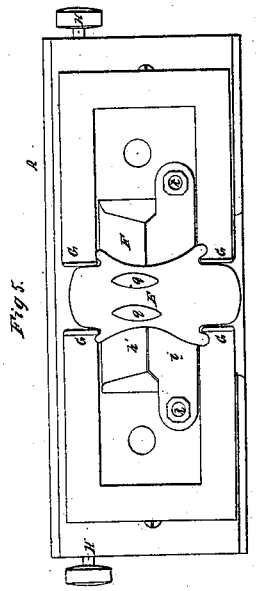

Fig 5.

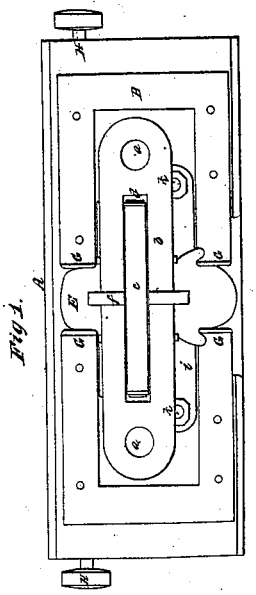

Fig 1.

UNITED STATES PATENT OFFICE.

SAMUEL WILSON, OF DANSVILLE, NEW YORK.

MACHINE FOR THE MANUFACTURE OF HARNESS, BRIDLES, &c.

Specification of Letters Patent No. 4,509, dated May 9, 1846.

To all whom it may concern:

Be it known that I, SAMUEL WILSON, of Dansville, in the county of Livingston and State of New York, have invented a new and useful machine to be used by harness-makers during the manufacture of certain parts of harness-bridles or various other articles such as are usually made by them; and I do hereby declare that the same is fully described and represented in the following specification, accompanying drawings, letters, figures, and references thereof.

Figure 1 of the aforementioned drawings represents a top view of my machine, Fig. 2 is a front elevation of it and Fig. 3 is a vertical, central and transverse section of it.

In the said figures, A denotes a bed piece or block on which the operative parts of the mechanism are fastened and sustained.

B is a rectangular metallic frame consisting of two vertical rods *a*, *a*, joined to two horizontal tie bars *b*, *c*. The rods *a*, *a*, are adapted to the block A in such manner as to slide freely through it in opposite vertical direction. The upper bar *b* has a long mortise *d* formed through it as seen in the drawings the said mortise being intended for the purpose of receiving the tenon or projection *e* of a movable frame C. The said frame C is confined to the frame B by a wedged pin or key *f* which passes through the tenon or projection *e* and bears upon the upper surface of the upper bar *b* of the frame B.

D is a grooved or creasing roller, whose journals *g*, *g*, revolve in the frame C and are each sustained therein by one of two hooks *h*, *h*, partially exhibited in Fig. 4 which represents an end view of the frame B as removed from the machine. Directly beneath the roller is a false bed E made of leather and held in place or upon the stationary bed F beneath it by adjustable jaws G, G, G, G, arranged with respect to each other as seen in the drawings, and made to approach toward or recede from each other by screws H, H, or other suitable contrivances, adapted to each two of the said jaws in any proper manner so as to impart to them (the jaws) when they (the screws) are turned a movement toward or from the opposite two jaws according as circumstances may require. The metallic bed F upon which the piece of leather E rests is made in two parts *h'*, *i*, the former of which is immovably fixed within the block A, while the latter is made to rise and fall, and in other respects like a common shaving tool or knife for shaving or splitting leather. In connection with the stationary part *h'*, the movable part *i*, when not used to sustain the false bed constitutes an apparatus for shaving or reducing the surface of a strip or piece of leather. The knife part *i*, is fastened upon the tops of vertical rods *k* *k*, which play through the block A, and are connected together at their lower ends by a cross bar *l* through which a screw *m* passes and is so connected to the block A, that when revolved either in one direction or the other it shall elevate or depress the bar *l* and of course the knife *i*.

A top view of the false bed E and of the parts *h*, *i* of the metallic bed F are more particularly represented in Fig. 5, which exhibits a top view of the block A, and parts attached to it, when the frame B is separated or removed from it.

The apparatus as above described is intended for the performance of the several operations of edging, creasing, buffing or shaving, ovalling rounding or forming and pricking leather straps and particularly such pieces or strips of leather which when united or sewed together constitute what are called the tugs of a harness.

Fig. 6 of the drawings denotes a side view of a part of a harness tug and Fig. 7 a cross section thereof. It is made of three pieces of leather *m'*, *n*, *o* stitched or sewed together at *p*, *p*, and it is by means of proper tools inserted in the frame C that the said pieces are brought into the shapes required before being stitched together.

The false leather bed should have its upper surface channelled out as represented at *q*, *q*, and otherwise shaped in reverse of the shape of the creasing or shaping roller D which is placed over it and is grooved or channeled to give to a strap of leather the form represented in cross section in Fig. 8, and in order to reduce any strap or piece of leather to such form it is to be drawn or made to pass between the roller D and the false bed E the jaws G, G, &c., serving as guides for its passages. While the said operation is being effected the frame B is to be borne down upon the strap by a weight or series of weighted levers, or other suitable contrivances and to such degree as will suffice to indent and shape the strap. After the strap is thus formed certain projecting parts *r*, *r*, Fig. 8, have to be shaved down

to the plane of the dotted lines *s*, *s*. This may be effected by removing the false bed E of leather and using the knife of the metallic bed which should be elevated to a proper height, to effect the removal of the projecting parts *r*, *r* when the leather is drawn between it and the creasing roller.

By removing the frame C and substituting for it another frame carrying a proper tool or tools the operation of rounding a heart or other piece of leather or of giving to it the shape the piece *n* has, as represented in Fig. 7 may be effected. Any of the other operations necessary to the finishing of the pieces *m*, *o*, previous to their being sewed together may be similarly effected by proper tools.

The several operations above mentioned have heretofore been effected by hammering shaving and creasing the leather by tools which performed the same in a very imperfect and unequal manner and which in the execution of the work consumed much time and labor in comparison to what is expended by the employment my machine.

Although my machine may contain some of the elements of others, which are used for bending or shaping pieces or strips of metal, yet in many respects it differs from them and is used differently. It is a highly useful and an almost invaluable acquisition to the establishment of a harness maker.

The soft yielding leather bed E resting on the metallic bed beneath it, enables me to form the strap of leather much better than if I used a hard unyielding material for it to move upon. The nature of the leather is such that if rolled between two metallic or hard surfaces it becomes too much flattened and indurated, which I find not to be the case when the leather bed is employed in connection with the metallic roller. When the parts of a tug are shaped by my machine and sewed together the stitches are sunk entirely below the projecting parts of the external surface of the leather and therefore cannot irritate or chafe a horse.

I claim—

1. The manner of making the metallic bed (F) by which the leather bed (E) is supported, viz, in two parts, one of which is made capable of being elevated and depressed by an adjusting screw and acting in connection with the other as an apparatus for shaving or reducing the projecting edges or parts of the leather as described, the metallic bed serving the double purpose of a rest for the false leather bed and a plane or shave to act upon the leather as described.

2. I also claim the combination of a false leather bed (E) with a stationary solid bed (F) and stationary roll or other substitute therefor for channelling and shaping the leather as above specified.

3. I also claim, the combining with the bed piece (A) the series of adjustable jaws or holders (G G &c.) which perform the double purpose of holding in place a leather bed of any required size, and of serving as guides for the passage of the strip of leather over the bed as hereinbefore explained.

In testimony whereof, I have hereto set my signature this tenth day of November 1845.

SAMUEL WILSON.

Witnesses:

AMBROSE S. HOWELL,
SAMUEL M. WELCH.