

J. WILLIAMS.

Feeding Device for Sewing Machines.

No. 53,514.

Patented March 27, 1866.

Fig. 1

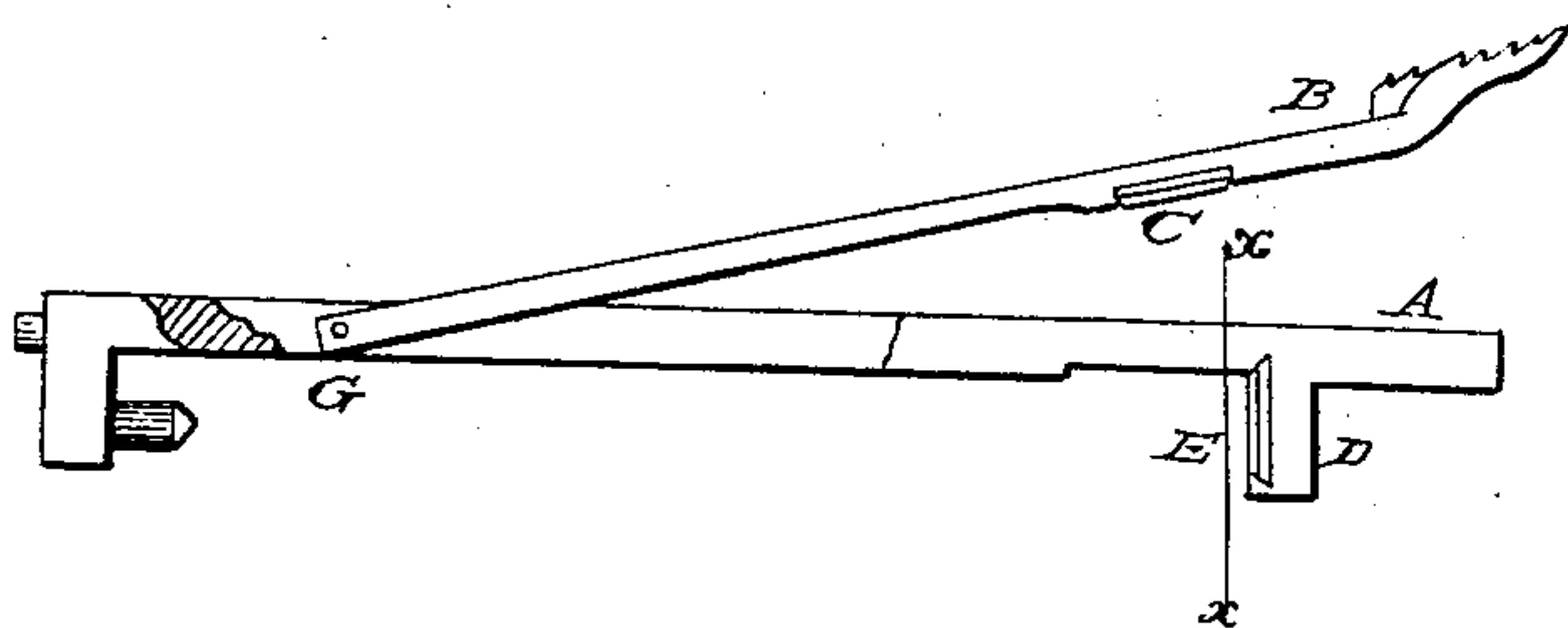


Fig. 2.

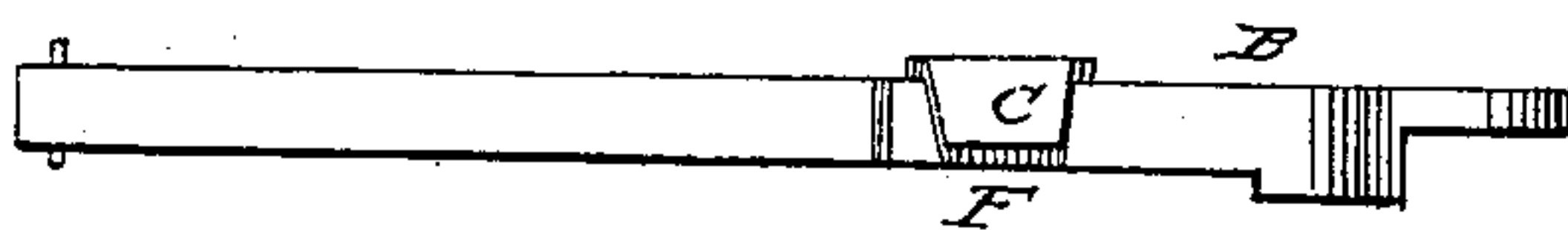
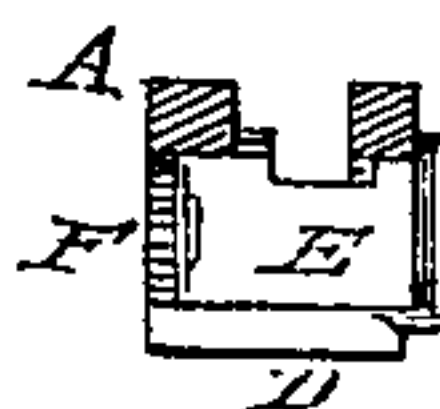


Fig. 3.



Witnesses

Wm. Santor
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UNITED STATES PATENT OFFICE.

JOHN WILLIAMS, OF TROY, NEW YORK.

IMPROVEMENT IN FEEDING DEVICE FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 53,514, dated March 27, 1866.

To all whom it may concern:

Be it known that I, JOHN WILLIAMS, of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of the feed-bar and feed-point or tongue of a Wheeler & Wilson sewing-machine made according to my invention, part of the bar within which the feed-point vibrates being removed the better to show the said feed-point. Fig. 2 is an under-side view of the feed-point. Fig. 3 is a cross-section of the feed-bar on the line *x* of Fig. 1, the feed-point having been removed.

Similar letters of reference indicate like parts.

The object of this invention is the improvement of the feeding devices of sewing-machines; and it consists in putting a hardened steel face or plate on those parts of such devices which receive the wear of the cams or other appliances by which such devices are operated. I have illustrated my invention on this example by showing how it is applied to the feed-bar and feed-point of a Wheeler & Wilson sewing-machine, but it is applicable to all reciprocating feeding devices.

The letter A designates the feed-bar, but in Fig. 1 only one side of the bar is shown. This bar is solid at the end toward the left, and from thence toward its right-hand end it is divided into two parts, which are separated far enough to allow the feed-point B, which is pivoted at G, to vibrate between them. The feed-point in the operations of the machine is raised out of its place in the bar by the action of a cam, which comes in contact with it on its under side at the place marked C, and this constant action wears away that part of the point, so that the height to which it is raised becomes gradually less until the feed becomes defective or inoperative, when the feed-point must be removed and a new one put in its place, or else a thin piece of steel soldered on to give sufficient prominence to the part where the wear takes place. Such repairs sometimes produce a new trouble when this part of the

feed-point is made too thick, thereby causing it to rise too high above the cloth table of the machine, and sometimes it is not made thick enough. A proper adjustment in repairing the feed-point requires, therefore, great care and skill; and the want of a proper adjustment in such repairs, and also in repairing the lug D of the feed-bar, is the cause of much defective work and often the only cause of the bad working of a sewing-machine. These feed-points are usually made of steel, but they cannot be with safety hardened at the place where the wear comes without injury, because they then acquire a brittle character and are soon broken by the rapid working of the machine.

My invention is intended to remedy this state of things by forming a hardened steel surface at the place where the wear comes on the feed-point. I form a dovetailed groove, F, on the under side of the feed-point at the place where the wear takes place, and slide therein a dovetailed piece of hardened steel, C, as shown in the drawings. In Fig. 2 the piece of steel C is shown partly withdrawn. The groove is here made across the feed-point and its narrow end is to be in the direction of the movement of the cam or other appliance which raises it, so as to keep the steel piece C tight in the groove.

I have applied the same invention to produce a hard face on the wearing-surface of the lug D of the feed-bar. This lug unites the two limbs of the feed-bar, and is placed on the lower side of the bar where it can receive the impulse of a cam or other appliance to drive it forward to give the feed after the feed-point has been raised. This lug is usually made of soft metal, and since it is subjected constantly to the violent blows of the cam or other appliances of a sewing-machine which drives it forward to give the required feed, it is not safe to harden it, because thereby it acquires a brittle character. The proper repair of the lug D when worn away is also difficult to accomplish, like that of the wearing part of the feed-point. In applying my invention to this part of a feeding device I form also a dovetailed groove, F, and fit therein a piece, E, of steel, which is put in place by sliding. In Fig. 3 the piece E is shown partly withdrawn to let the groove be seen.

The same invention may be applied to other

wearing parts of a sewing-machine, and accuracy of adjustment be thereby insured.

The dovetailed pieces C E may be supplied with each machine from the factory in sufficient numbers to last for several years, and they can be prepared and assorted according to the size of the machines, so that they can be ordered from the manufacturer as they are wanted.

The pieces C E may be made of hardened steel or of any suitable substance which will resist wear, and they may be secured in place in any other suitable way besides sliding them in dovetailed grooves.

I claim as new, and desire to secure by Letters Patent—

1. Attaching to the feed-point or part of a

sewing-machine which carries the feeding-surface an adjustable removable steel plate, or its equivalent, to receive the wear from the action of the part of the machine which raises it, substantially as above set forth.

2. Attaching to the feed-bar of a sewing-machine an adjustable removable steel plate, or its equivalent, to receive the wear from the parts of a sewing-machine which acts against it, substantially as described.

The above specification of my invention signed by me this 23d day of January, 1866.

JOHN WILLIAMS.

Witnesses:

M. M. LIVINGSTON,
ALEX. F. ROBERTS.