H. Silver.

Spinning Flyer.

No. 78,489. Patented Jun. 2 1868.

Fig. 1

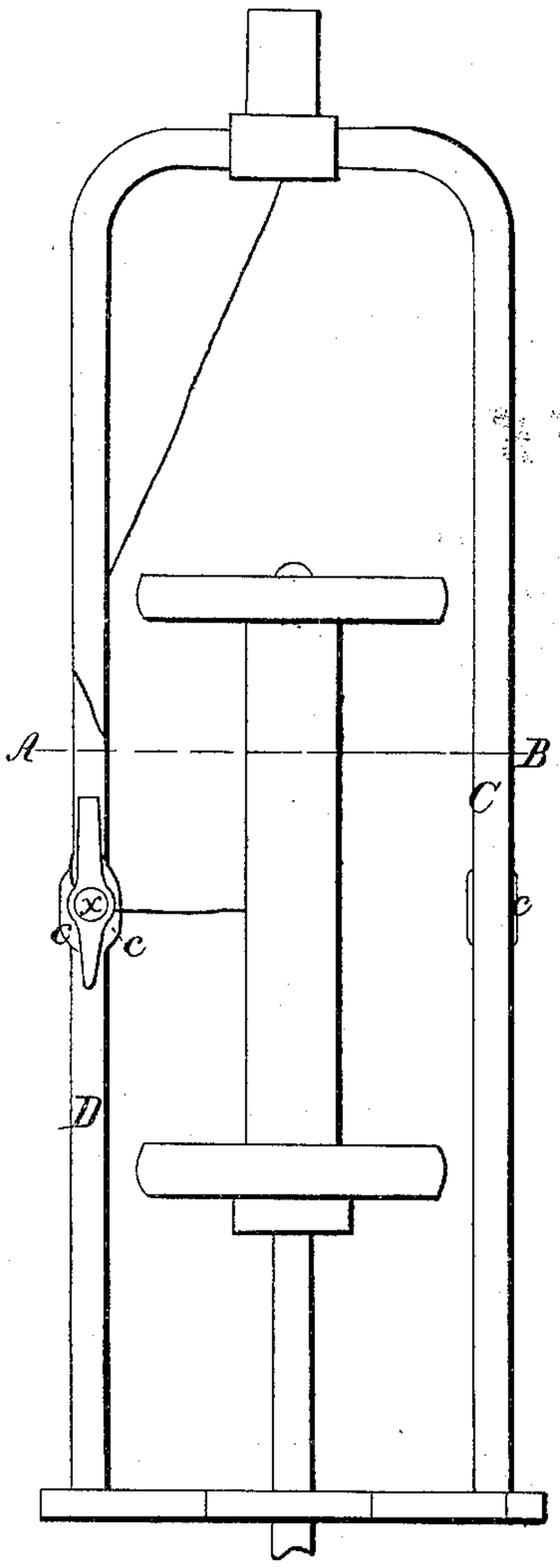


Fig. 3

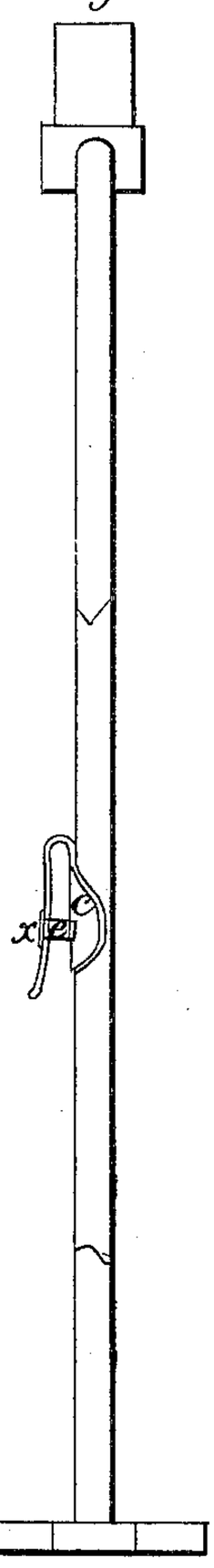


Fig. 4

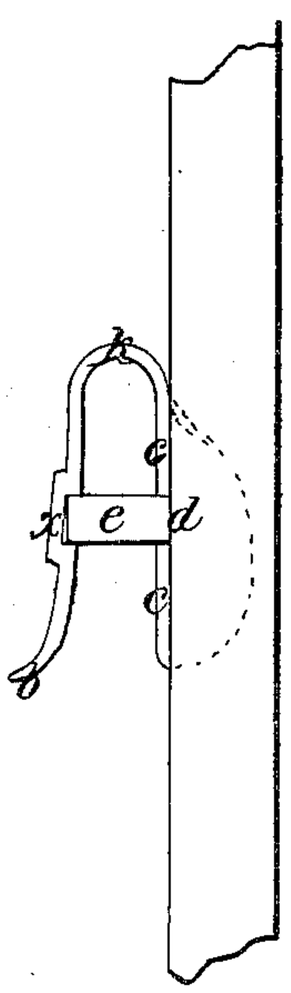
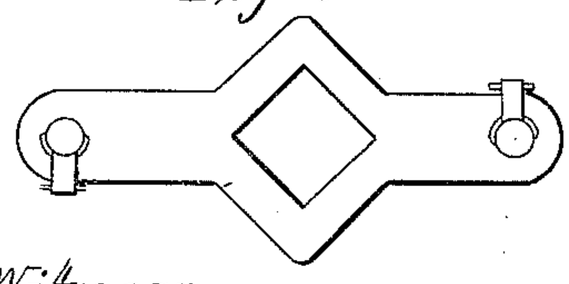


Fig. 2



Witnesses
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HARVEY SILVER, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 78,489, *dated June* 2, 1868; *antedated May* 23, 1868.

IMPROVEMENT IN FLIER FOR SPINNING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HARVEY SILVER, of Lowell, in the county of Middlesex, and the State of Massachusetts, have invented certain new and useful Improvements in Spinning-Machine Fliers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figures 1 represents an ordinary spinning-machine flier, with my improvements applied thereto.

Figure 2, a transverse section, on the line A B, of fig. 1.

Figure 3, an edge view, after a portion of the arm C has been removed.

Figure 4, a central longitudinal section of the middle portion of the arm D and of my improvement, considerably enlarged.

This invention consists in a new and very useful method of connecting, attaching, or applying the guide-wires or guide-pins to the arms or sides of the fliers of spinning-machines, or the fliers of all kinds of machines which are used for spinning or twisting yarn or thread, or for drawing roving of cotton-wool or worsted or other fibrous substances, and has for its object to greatly facilitate the removal of the old and worn guide-pins and the application of new ones, also to prevent the arms or sides being worn or cut by the yarn or thread which passes through the nose of the flier and one or more times round either of the arms and under one of the guide-pins to the bobbin, which is placed on the spindle between the two arms.

In the ordinary mode of attaching and securing the guide-wires or guide-pins to the arms or sides of spinning-fliers, a small hole is drilled through each of the arms, and into and through this hole is inserted, driven, and riveted a small wire, which is bent downwards, forming a sort of hook. The thread or yarn which passes one or more times round the arm of the flier, and under the hook or guide-wire to the bobbin, so cuts the guide-wire, that it has to be removed in a short time and a new guide-wire substituted; besides, the arm is so badly cut by the yarn or thread, that new fliers have to be put in the place of worn fliers much oftener than is desired. In removing the guide-wires or guide-pins, which are secured to the flier-arms in the ordinary way, it is necessary to cut or file off the riveted ends, and then punch out the guide-pins one at a time, holding each flier in a vise or a grooved iron block, thus making the process a very slow and expensive one.

To prevent the cutting or wearing of the flier-arms by the yarn or thread, and to greatly facilitate the removal and replacing of the guide-pins, I secure to opposite sides of the flier-arms a saddle, *c*, of hardened steel, or other hard metallic substance, at the top end of which is a projecting portion, which is turned or bent over and downwards, as shown in the drawings, forming a spring. Through the middle portion of this spring, between the bar, *k*, and the end, *b*, thereof, a hole is formed, and opposite this hole, and through the saddle, is another hole like the first. The guide-pin *e* is inserted in the hole in the saddle, first drawing the spring outward, then allowing the spring to close into the opposite end of the guide-pin, one end of which bears against the flier-arm, as at *d*, fig. 4, and the other end against a disk or plate secured to the outside of the spring portion, or formed in one therewith. The saddle, *c*, is generally soldered to the arm of the flier, to obviate the necessity of drilling the flier-arm, which drilling weakens it considerably. The principal wear or cutting of the ordinary flier-arm is at the junction of the guide-pin with the arm, or just below the pin. It will be readily seen that by the use of the hardened saddle the yarn or thread cannot cut or wear the arm of the flier, and by means of the spring portion, and the holes in the latter and in the saddle, the guide-pins may be easily removed and replaced, without even removing the flier from the spinning-machine, or disturbing the flier in any way.

It will also be observed that in the present case the guide-pins are of glass. This glass pin, or a pin made of porcelain or a similar substance, may in some cases wear longer than hardened steel, but for most kinds of spinning I prefer the steel pin, which is much easier and cheaper made, and less liable to get broken or injured, and is larger and more durable than in any other flier.

The hardened saddle *c* may be applied to the flier-arm, and the ordinary hooked guide-wire inserted, in the usual way. In this case the saddle protects the arm and saves the flier, whether or not the spring portion is combined with the saddle, as described.

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

1. The spring portion, shown and described, when combined with the saddle and constructed and arranged for the removal and replacing of the guide-pin *e*, for the purpose and substantially as described.

2. The guide-pin *e*, when constructed as described, and applied to the spring portion and the saddle, *c*, as and for the purpose described.

3. The combination of the saddle, spring portion, and pin with the flier-arm or arms, for the purpose and substantially as described.

HARVEY SILVER.

Witnesses:

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