

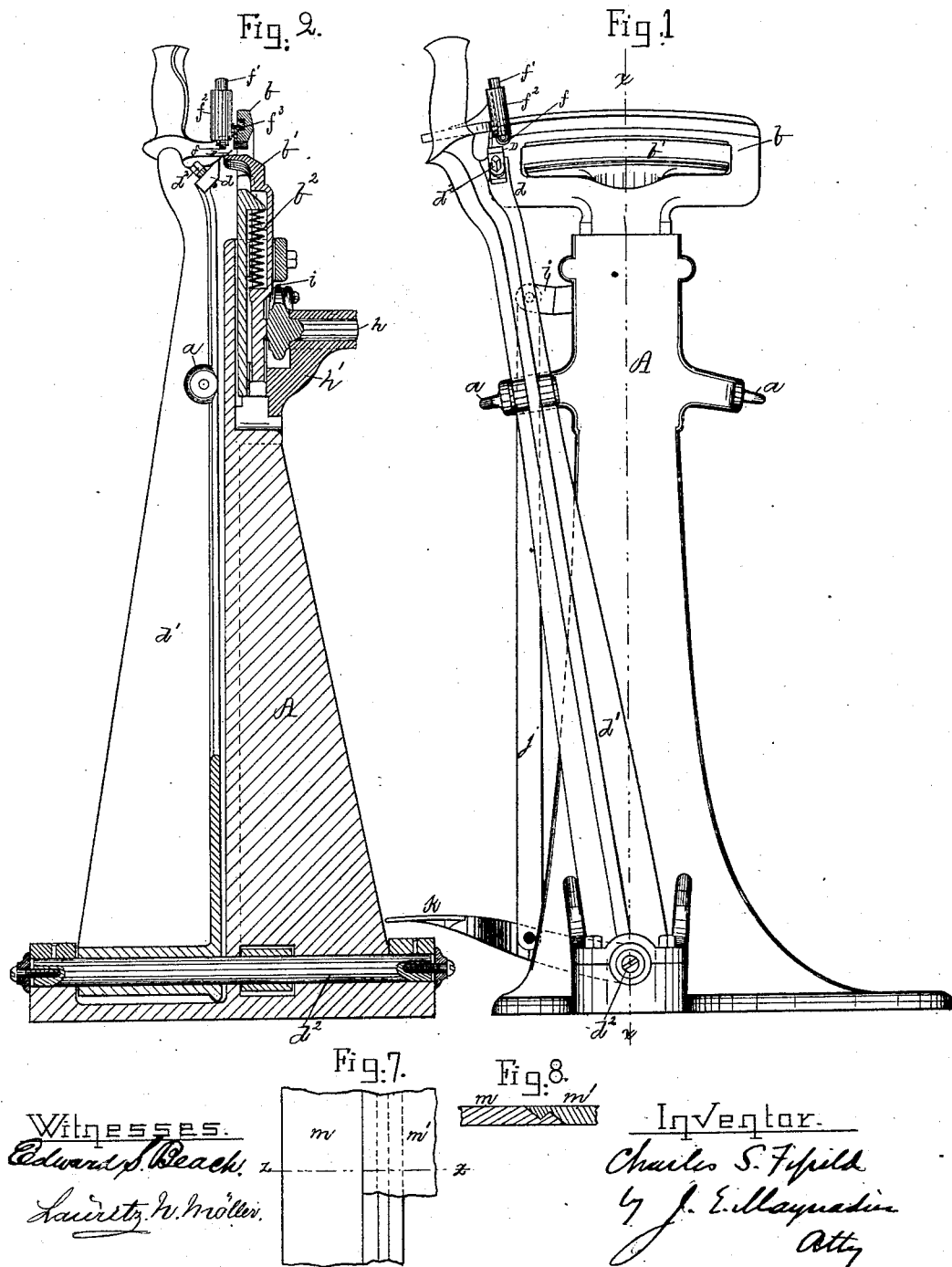
(No Model.)

2 Sheets—Sheet 1.

C. S. FIFIELD.
LEATHER MATCHING MACHINE.

No. 342,193.

Patented May 18, 1886.

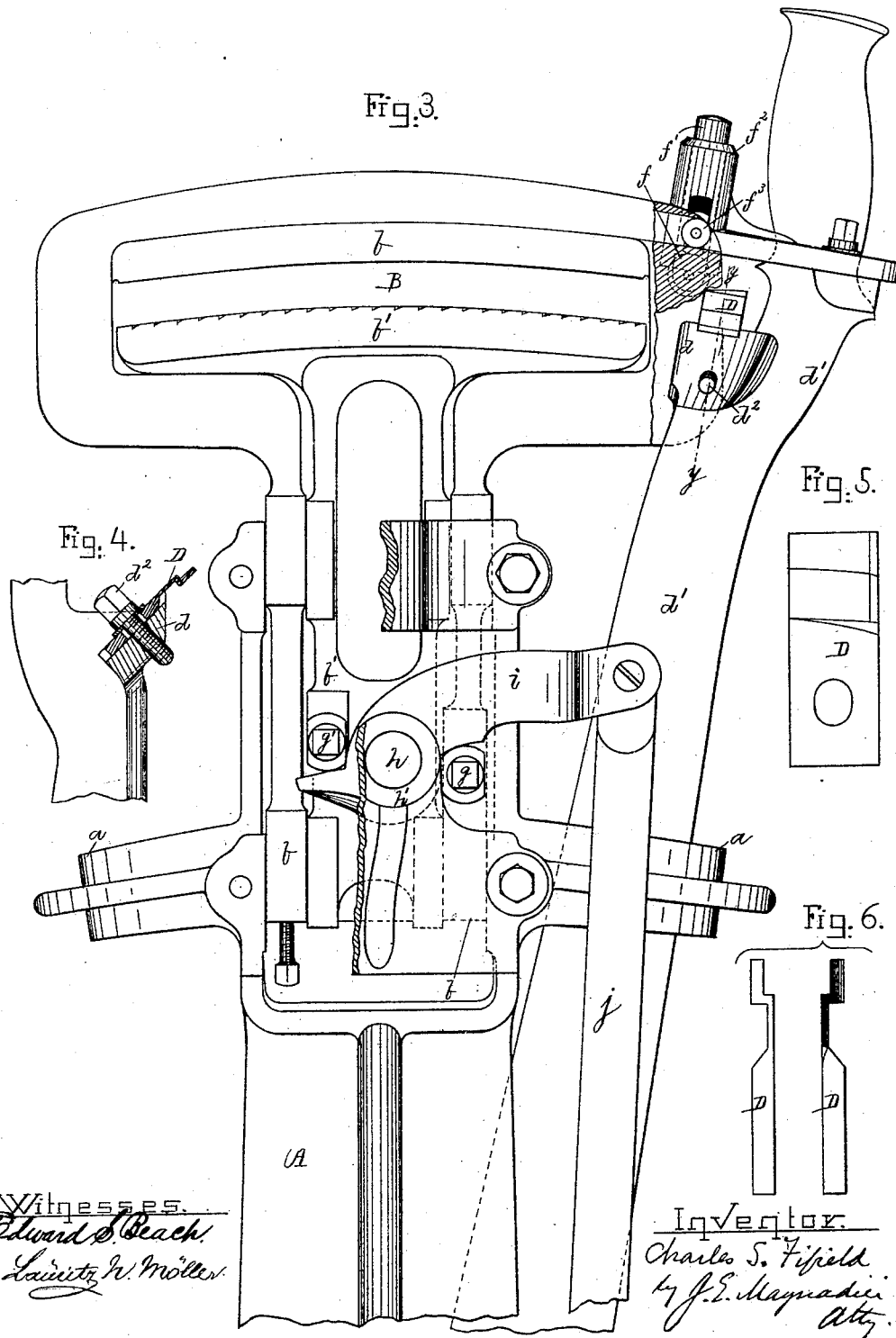


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Witnesses.
Edward S. Beach.
Lauritz N. Möller.

Inventor.
Charles S. Fifield
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UNITED STATES PATENT OFFICE.

CHARLES S. FIFIELD, OF REVERE, MASSACHUSETTS.

LEATHER-MATCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 342,193, dated May 18, 1886.

Application filed December 7, 1885. Serial No. 184,913. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. FIFIELD, of Revere, in the county of Suffolk and State of Massachusetts, have invented a new and useful Leather-Matching Machine, of which the following is a specification, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 is a side view. Fig. 2 is a vertical section on line $x x$ of Fig. 1. Fig. 3 shows details. Fig. 4 is a section on line $y y$ of Fig. 3. Fig. 5 is a plan of the knife. Fig. 6 shows two different views of the knife. Fig. 7 shows two pieces of leather matched together. Fig. 8 is a section on line $z z$ of Fig. 7.

It has long been a thing desired to put together two or more pieces of leather, as shown in Figs. 7 and 8; and my invention is therefore the machine shown, consisting, essentially, of a clamp to hold and adjust the leather, a knife to trim the edge, and mechanism to move the knife past the leather or the leather past the knife.

A minor feature of my invention is a presser foot or roller near the knife-edge to hold the leather more firmly.

In the drawings, A is the frame, B the clamp, and D the knife; and in that form of my new machine shown the knife is moved along the clamp, that having been found by experience to be more practical than moving the clamp past the knife.

The simplest way of mounting the knife-holder d is upon the arm d' , journaled at d^2 , as this renders unnecessary the ways or tracks which are required when the knife or clamp is mounted in a carriage.

In practice the surface of the lower clamp is an arc whose center is at d^2 , and whose radius is a trifle shorter than the distance between d^2 and the middle of the length of the knife-edge, while the surface of the upper clamp is an arc with the same center, but a trifle longer radius, so that when the two clamping-surfaces have a piece of leather of the average thickness between them the leather will be curved in an arc struck from d^2 .

The clamp B is composed of two jaws, $b b'$, mounted so that each moves equally toward an imaginary line midway between them when

closed to clamp the leather. This is practically important, for thereby the leather is always brought into the required relation to the knife, whether the leather be thick or thin.

Of course, when either the clamp or the knife is mounted in a carriage moving in ways, the clamping-surfaces will be parallel with the ways; but when a swinging arm, d' , is used the clamping-surfaces will be substantially parallel with the arc of a circle whose center is at d^2 , and whose radius is the distance between d^2 and the middle point in the knife-edge, as above explained.

The clamping-jaws are best actuated by a treadle, as shown, as this is found to be practically the best mechanism for this purpose.

To make a piece of leather ready for matching, the operator places it between the jaws $b b'$ and depresses the treadle k , whereby the outer end of lever i is also depressed by reason of its being connected to the treadle k by the rod j . The lever i is journaled on stud h in box K . One arm of the lever i engages jaw b' at g' , while the other arm engages jaw b at b' , and thereby raises jaw b' and lowers jaw b against the force of spring b^2 , clamping the leather between the jaws.

The arm d' is provided with a shoulder, d , which is grooved to receive the shank of the knife D, held by the set-screw d^2 . The shoulder or knife-holder is so placed on the arm d' that when the latter is swung on its journal the knife D is brought in contact with the leather clamped, which is thereby properly edged for matching. The best form of knife for preparing leather for matching is that shown in Figs. 5 and 6.

It will now be clear that the operator first puts the piece of leather to be edged between the jaws of the clamp, then moves the treadle, and thereby not only holds the leather firmly, but also adjusts it accurately, then throws the arm d' forward and removes the leather from the clamp, each piece thus treated being ready to be matched with any other piece thus treated, as will be clear from Figs. 7 and 8. The roller f assists in holding the leather under the action of the knife. It is mounted in the end of rod f' , which slides in the sleeve f^2 , fast to arm d' , and is controlled by roller f^3 , moving

in a groove in the side of the jaw *b*. When the jaws move together, the roller is forced against the surface of the material clamped.

What I claim as my invention is—

- 5 1. The leather-matching machine above described, consisting, essentially, of the clamp B and the knife D, combined to operate substantially as described.

2. In combination with the clamp B and the knife D, the roller *f*, raised and lowered by the clamping-jaw *b*, substantially as described.

CHARLES S. FIFIELD.

Witnesses:

EDWARD S. BEACH,
W. A. COPELAND.