J. D. SHELTON.

Machine for Assorting Pins.

No. 166,153. Patented July 27, 1875.

Fig 1

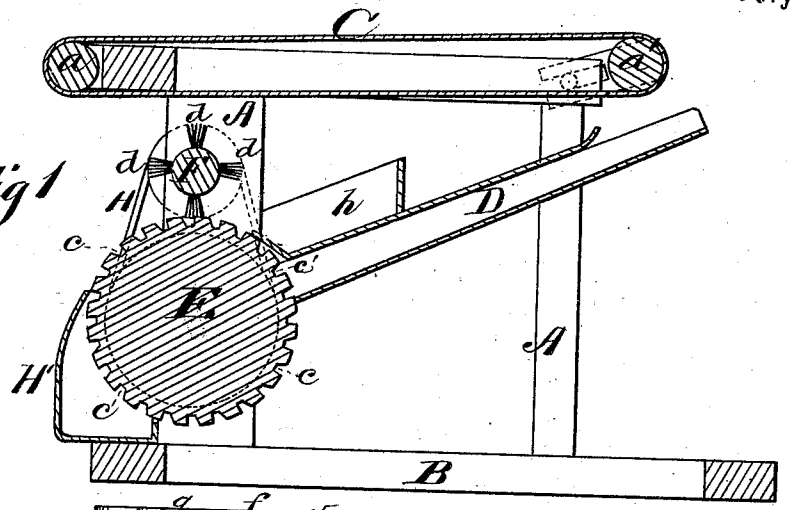


Fig 2

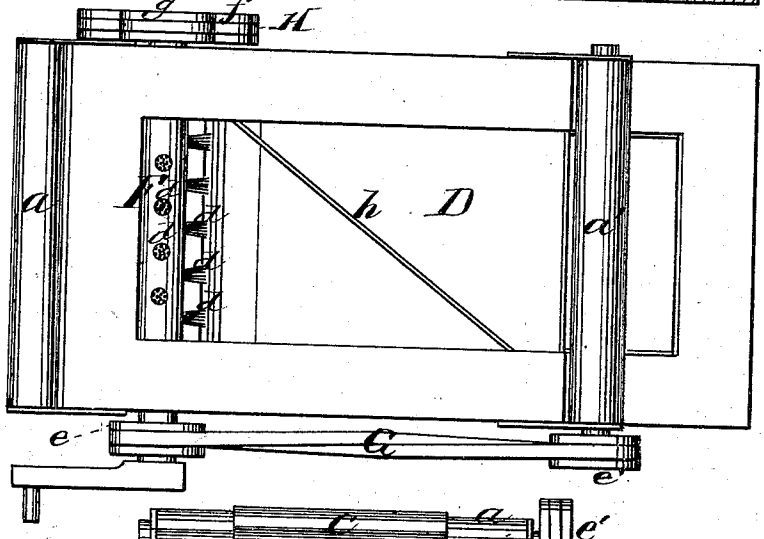
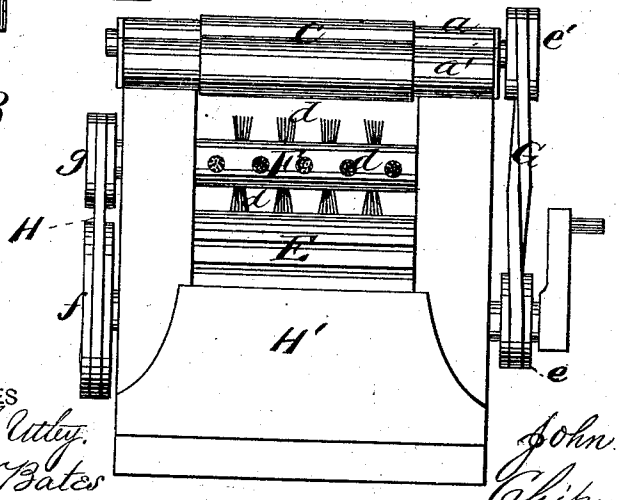


Fig 3



WITNESSES

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JOHN D. SHELTON, OF BIRMINGHAM, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR ASSORTING PINS.

Specification forming part of Letters Patent No. **166,153**, dated July 27, 1875; application filed June 26, 1875.

To all whom it may concern:

Be it known that I, JOHN D. SHELTON, of Birmingham, in the county of Fairfield and State of Connecticut, have invented a new and valuable Improvement in Pin-Assorters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my pin-assorter, and Fig. 2 is a plan view of the same. Fig. 3 is an end view.

This invention has relation to improvements in machines which are designed to separate the straight from the bent or crooked pins; and the nature of the invention consists in the combination, with an inclined chute for receiving the pins as they fall from the feed-apron, of a longitudinally-grooved separating-roller at the lower end of the said chute, in the grooves of which the pins will be received during its rotation, and will be delivered into a suitable receptacle therefor. It also consists in combining, with an inclined chute and a longitudinally-grooved roller, a rotating brush, mounted in bearings above the said roller, with its free ends touching its periphery, whereby crooked pins lying in or over the grooves will be swept back up the inclined surface of the chute against a shelf fixed diagonally across the same, and will be delivered at the side of the machine, the straight pins being delivered at its end. It moreover consists in the novel construction, arrangement, and co-operation of the various devices used, as will be hereinafter more fully explained and claimed.

In the annexed drawings, A designates the uprights, and B the base, of the rectangular frame of my improved device for separating straight and crooked pins. This frame affords bearings at its upper ends for two rollers, *a* *a'*, over which is passed an endless apron, C, which may be in a horizontal position, or at an inclination thereto, as I may elect. D represents an inclined chute, consisting of a floor, a ceiling, and inclosing side walls, which extends from roller *a'* at one end of the frame downward to a longitudinally-grooved roller, E, having its bearings in uprights A at its other end. The grooves in this roller, which I designate by the letter *c*, are inclined from a radial line passing through them—that is to say, a line extending or drawn through either of the walls of the groove will subtend an arc of less than one hundred and eighty degrees. This inclination is toward the direction of revolution of roller E, and it subserves an end and a purpose which will hereafter fully appear. F represents a brush-roller, which is provided with a number of spaced and preferably alternating whisks, *d*, and which is arranged above roller E, with its bearings in uprights A, as shown.

Motion is communicated from the shaft of roller E to feed-apron by means of an endless belt, G, passing over pulleys *e* *e'*, respectively, on the said shaft, and on the corresponding end of roller *a'*, and also to brush-roller F, by means of an endless belt, H, passing over a pulley-wheel, *f*, on the other end of the said shaft, and a pulley, *g*, on the corresponding end of brush-roller E; consequently, when the said roller is caused to rotate by a suitable motor, the feed-apron and the brush-roller will be simultaneously actuated, the direction of the rotation of the said brush-roller being opposite to that of the grooved roller. It being desirable that the former should rotate with great speed, while the movements of the latter may be slower, pulley *g* will be necessarily of small size in comparison to pulley *f* on the end of the shaft of roller E.

The operation of my improved machine is as follows: The pins falling from the machine on which they are made upon feed-apron C will be delivered into the open upper end of chute D, and will be conducted to grooved roller E. The perfectly straight pins will be received and completely buried in the grooves *c* of the latter, while the crooked or slightly-bent ones will be partly in and partly out of the said grooves, so that they will be either swept out of the same by the touch of the whisks or by the blast of air caused by their revolution, up and back against a shelf, *h*, diagonally arranged across the upper surface of the chute, striking against which they will be thrown clear of and to one side of the machine.

The straight pins and those but slightly bent—that is to say, so slightly bent as to be capable of lying in the grooves of the roller E—will be carried over the latter, and the straight pins will roll off the inclined lower edges of the grooves the moment they are inclined by the rotation of the said roller from the horizontal plane, falling outside of a receptacle or box, H′, arranged under the roller with its outer wall extending upward in a curve very nearly in contact with the said roller. The slightly-bent pins will be held in the grooves, owing to their curvature, and will be carried by the revolution of roller E into receptacle or box H′.

By this means pins will be separated into three classes—namely, the perfectly straight, the slightly bent, and the very crooked—by one and the same machine, and with great rapidity.

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

1. In a machine for separating straight from crooked pins, the longitudinally-grooved roller E, in combination with the inclined chute D and feed-apron C, substantially as specified.

2. The brush-roller F, in combination with the longitudinally-grooved cylinder E and chute D, substantially as specified.

3. The shelf *h*, in combination with chute D, grooved cylinder E, and brush-roller F, substantially as specified.

4. The roller E, having beveled grooves *c*, in combination with the receptacle or box H′, substantially as specified.

5. The apron C, chute D, shelf *h*, grooved roller E, brush-roller F, and receptacle, arranged, combined, and co-operating substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN D. SHELTON.

Witnesses:

JAMES C. HUBBARD,

EDWIN C. STILL.