

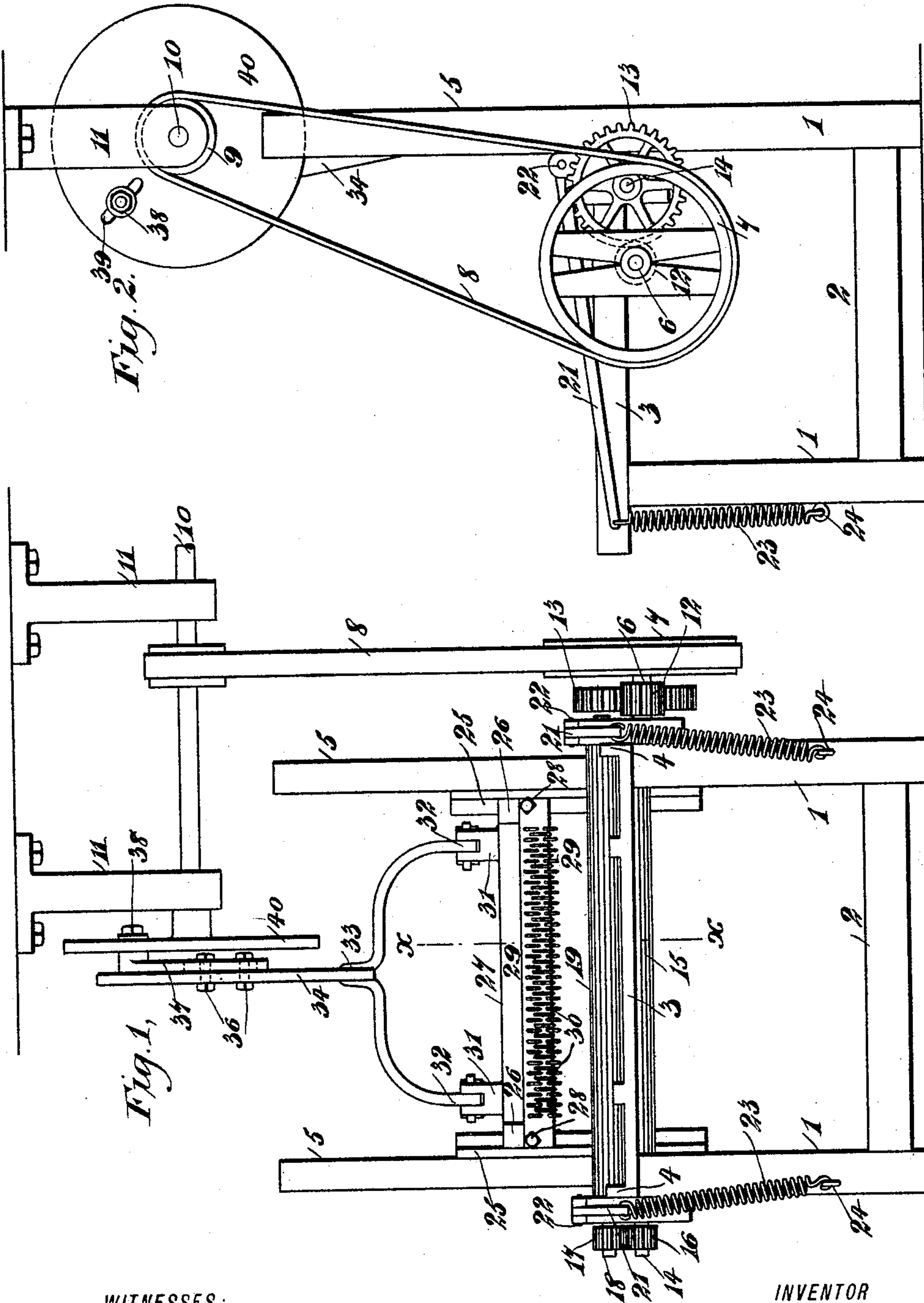
(No Model.)

2 Sheets—Sheet 1.

E. BEERS.
MACHINE FOR PICKING CURLED HAIR.

No. 583,356.

Patented May 25, 1897.



WITNESSES:

Edward Thorpe.

J. B. Gardinger

INVENTOR

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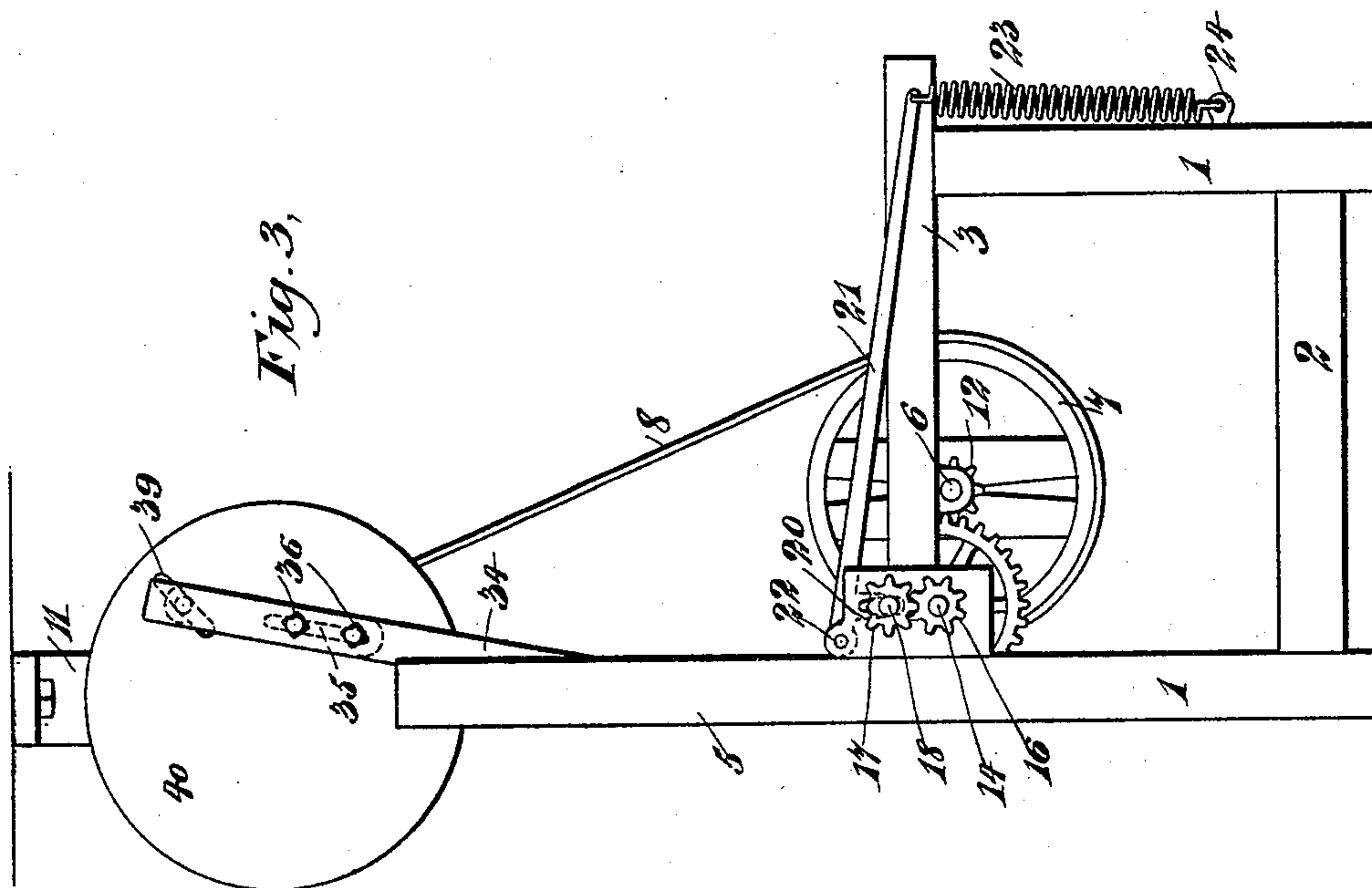
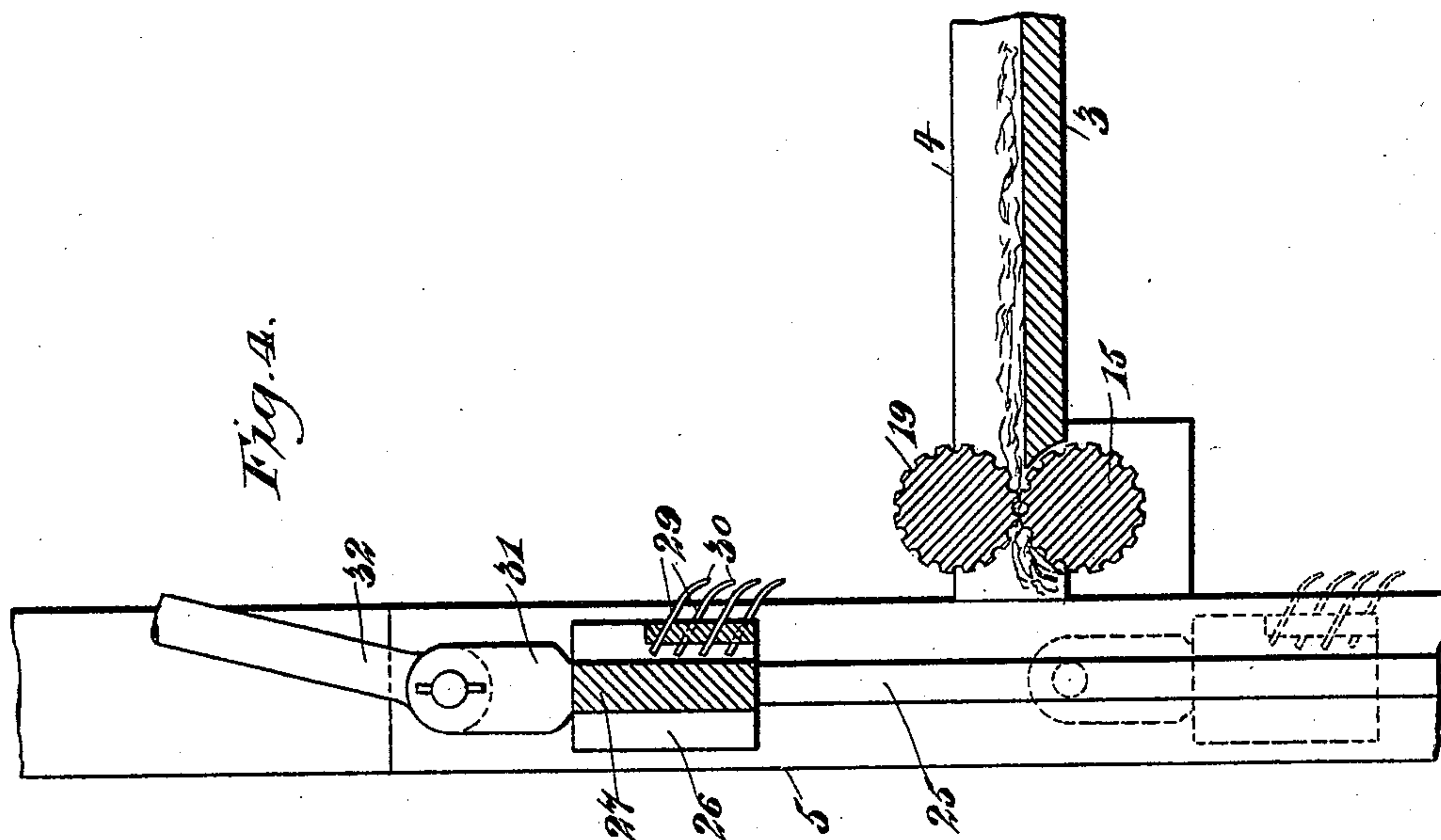
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MACHINE FOR PICKING CURLED HAIR.

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Patented May 25, 1897.



WITNESSES:

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J. H. Sawyer

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UNITED STATES PATENT OFFICE.

EDGAR BEERS, OF BROOKLYN, NEW YORK.

MACHINE FOR PICKING CURLED HAIR.

SPECIFICATION forming part of Letters Patent No. 583,356, dated May 25, 1897.

Application filed December 27, 1895. Renewed April 12, 1897. Serial No. 631,844. (No model.)

To all whom it may concern:

Be it known that I, EDGAR BEERS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved
5 Machine for Picking Curled Hair, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in picking-machines such as are especially adapted for picking curled hair; and the object of the invention is to provide a machine or device of this character, of a simple and inexpensive construction, which shall be strong and durable and which shall be
10 adapted to pick the curled hair from the rope and finish the same, the finished product being discharged from the machine in the form of sheets adapted for use by the upholsterer.

The invention consists in a machine comprising a frame, feed-rollers journaled therein and adapted to pass the rope between them, a reciprocating comb-bar mounted in guides in the frame and arranged to play past the bite of the rollers, and teeth carried on the
15 comb-bar and inclined to the direction of movement of the comb-bar and also to the direction in which the rope is fed from the rollers, said teeth being arranged when the comb-bar moves in one direction to engage the rope as it passes from the rollers in such a way as
20 to draw out and loosen the hair composing the rope, the inclination of the teeth permitting them to clear themselves from the rope when the comb-bar moves in the other direction.
25 tion.

The invention also contemplates certain features of the construction, combination, and arrangement of the various parts of the improved device whereby certain important advantages are attained and the machine is made simpler, less expensive, and otherwise better adapted and more convenient for use than other machines heretofore employed, all as will be hereinafter fully set forth.

30 The novel features of the invention will be carefully defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

50 Figure 1 is a front end view of a machine embodying my invention. Fig. 2 is a side view of the same. Fig. 3 is a side view similar to Fig. 2, taken from the opposite side of the

machine; and Fig. 4 is an enlarged section
55 taken vertically through the machine in the plane indicated by the line $x x$ in Fig. 1.

The frame of the machine comprises four legs or uprights 1, connected at their lower portions by cross-pieces 2 and supporting at
60 their upper ends a flat-topped table 3, having raised side boards 4 and adapted for the passage over it of the ropes in which the hair is first formed. At the rear end of the table 3 the rear legs 1 are extended upward to form
65 standards 5 at opposite sides of the machine, said standards extending considerably above the upper face of the table, as clearly seen in the drawings, and at one side of the frame, just below the table 3, is journaled a shaft 6,
70 having a pulley 7 fixed thereon and driven from a belt 8, which extends up over a pulley 9 on a shaft 10, journaled in hangers 11 above the machine and driven from a suitable source of power.

75 On the shaft 6 is fixed a pinion 12, meshing with a spur-wheel 13 on a shaft 14, which extends across the frame at the rear end of the table and is provided with a roller 15, fixed thereon at its central portion, said roller being
80 fluted and having its upper face arranged adjacent to the upper face of the table 3 in position to receive the rope passed over the same.

At the end of the shaft 14 opposite to the
85 spur-wheel 13 is fixed a pinion 16, which meshes with a similar pinion 17 on a shaft 18, extending across the frame just above the shaft 14 and carrying a roller 19, fluted longitudinally and otherwise similar to the roller
90 15. The ends of the shaft 18 are capable of slight vertical movement in their bearings on the opposite sides of the frame, said shaft being normally held with its pinion 17 engaging the pinion 16 on the shaft 14 by means
95 of lugs 20, (indicated by dotted lines in Fig. 3,) which engage the upper surfaces of the ends of the shaft, said lugs being formed on the under sides of levers 21, fulcrumed at 22 at opposite sides of the frame and connected
100 at their free ends with stout spiral springs 23, extending down and connected at their lower ends, as indicated at 24, to the opposite sides of the frame at the front end of the table.

On the inner sides of the standards 5 at
105 opposite sides of the frame are formed vertical guides 25, alined with each other, which guides are engaged by the vertically-grooved

end portions 26 of a frame 27, extending across the space between the standards 5, and said end portions 26 are made thicker than the central portion of said frame 27, and to them are secured, by means of screws or the like, as indicated at 28 in Fig. 1, the ends of a comb-bar 29, having teeth 30, formed of wires extending diagonally through said bar 29 and having their lower extremities pointed and bent downward in position to engage, when the frame 27 is moved downward on the vertical guides 25, as will be hereinafter explained, the ends of the ropes protruding from the bite of the rollers 15 and 19.

At opposite ends the frame 27 is provided with upwardly-extending lugs 31, which are provided with forks, between which are pivoted the lower ends 32 of a bent or forked rod formed in a general U shape and having its central portion secured, as indicated at 33 in Fig. 1, to the lower end of a connecting-rod 34, having screws 36, engaging a slot 35 (seen in dotted lines in Fig. 3) in the lower end of a crank-arm 37, having at its upper end a screw 38, forming a wrist-pin which is arranged to play through a slot 39, extending radially in a cam disk or wheel 40 on the end of the shaft 10.

In operation the ropes of hair are fed along the table 3 between the feeding devices, comprising the rollers 15 and 19, and as the shaft 10 rotates, causing the said rollers to feed said ropes between them, the frame 27 is caused to reciprocate in its guides 25, whereby the teeth 30 of the comb-bar 29 are caused to reciprocate past the rear face of said rollers, engaging at each downward movement the ends of the ropes and drawing the hairs forming the same downward, so as to loosen said ropes and thoroughly pick the hairs composing the same. The upper roller 19 being capable of a slight vertical movement adapts itself to the slight inequalities of thickness of the ropes passing between the two rollers 15 and 19, so as to prevent injury to the hair, and as the comb-bar moves upward in returning from its lowered position (indicated in dotted lines in Fig. 4) the teeth 30 thereof, being inclined downward, readily withdraw themselves from the hair, as will be readily understood. In this way the hair is evenly and thoroughly picked and loosened without being torn or injured, since each tooth is permitted to clear itself on the upstroke of the comb-bar, so as to stand ready to take a new hold on the rope when the comb-bar moves down.

In the manufacture of curled hair for upholsterers' use it will be desirable usually to pass the product through the machine twice in order to secure proper and uniform formation of the hair into sheets, and this will be accomplished, by preference, by arranging two machines constructed as above described for use in connection with one another, one machine being adapted to act on the ropes and the other machine being adapted to act on

the product of the first machine to finish the same.

A machine constructed as above described is extremely simple and inexpensive and is well adapted for use for the purposes for which it is intended, and it will be obvious from the above description of the invention that the device is susceptible of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the exact construction herein set forth.

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

1. In a machine for picking curled hair and the like, the combination of a frame, feed-rollers journaled in the frame and arranged to feed the material to be picked, vertical guides formed at opposite sides of the frame adjacent to the ends of the rollers, a frame having its ends arranged to engage the said guides, means for imparting a vertical reciprocating movement to said frame, and a comb-bar secured at its end portions to the said reciprocating frame and having its central portion spaced away from the said frame, the said comb-bar having teeth extending diagonally through said bar in a forward and downward direction, the lower extremities of said teeth being pointed and bent downward, whereby when said reciprocating frame is moved downward, the teeth will engage the material to draw out and loosen the same and when the frame is moved upward, will clear themselves from the material, substantially as set forth.

2. In a machine for picking curled hair and the like, the combination of a frame, feed-rollers journaled in the frame and arranged to feed the material to be picked, vertical guides formed at opposite sides of the frame adjacent to the ends of the rollers, a vertically-reciprocating frame having its ends fitted to slide in the said guides, a rotary shaft carrying a cam disk or wheel, a crank-arm provided at its upper end with a wrist-pin engaging a slot formed radially in the said cam-disk, a connecting-rod provided at its upper end with means for engaging a slot in the lower end of said crank-arm, the said connecting-rod being connected with the vertically-reciprocating frame, and a comb-bar detachably secured to the said reciprocating frame and provided with teeth inclined forwardly and downwardly and arranged when said bar is moved downward to engage the material to draw out and loosen the same and when the bar is moved upward to clear themselves from the material, substantially as set forth.

EDGAR BEERS.

Witnesses:

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