

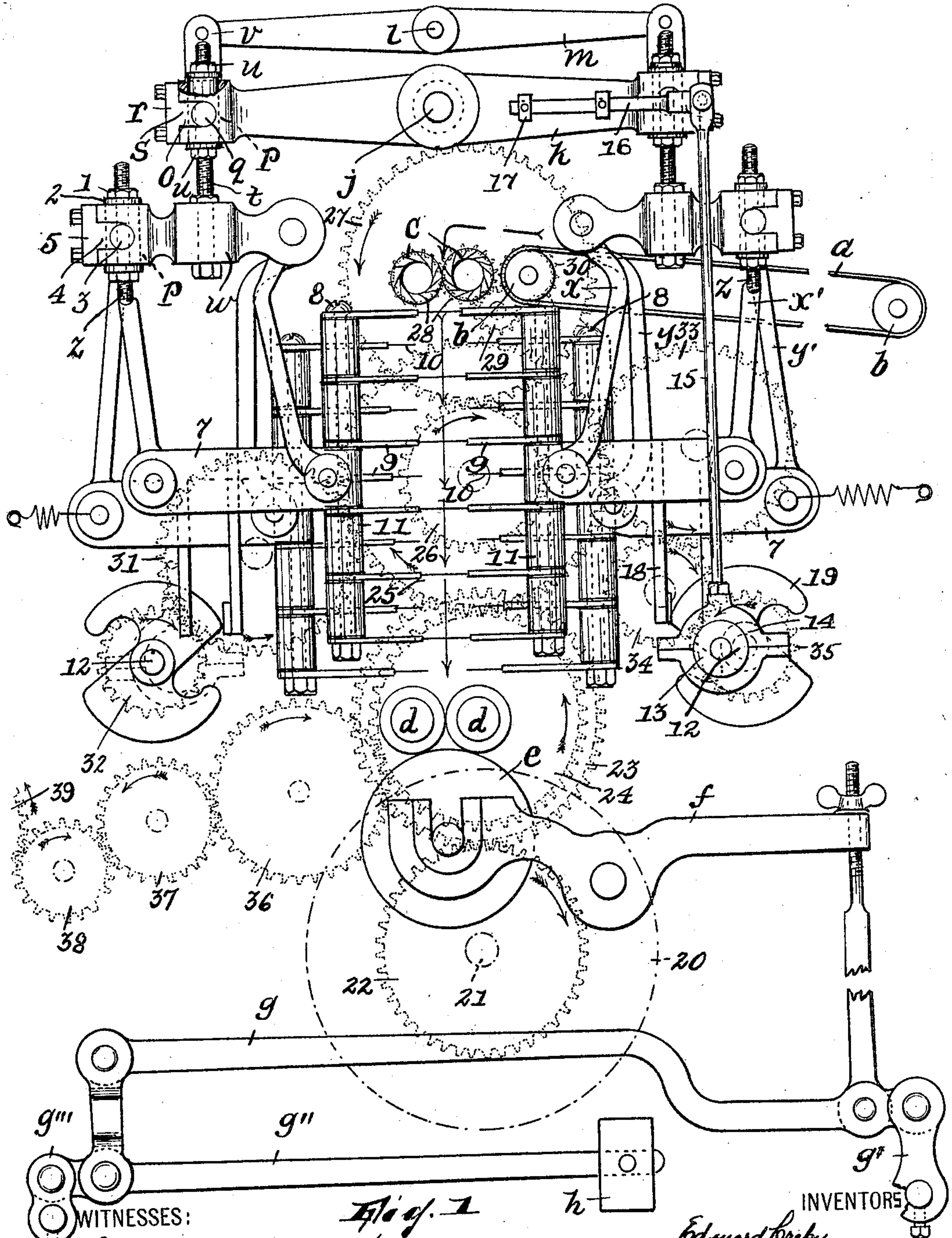
No. 812,550.

PATENTED FEB. 13, 1906.

E. CREPY & L. FREMAUX.
COMBING AND DRAWING MACHINE.

APPLICATION FILED JUNE 14, 1902.

3 SHEETS—SHEET 1.



WITNESSES:

Wm. D. Bell.
Adele Blatt.

File of 1

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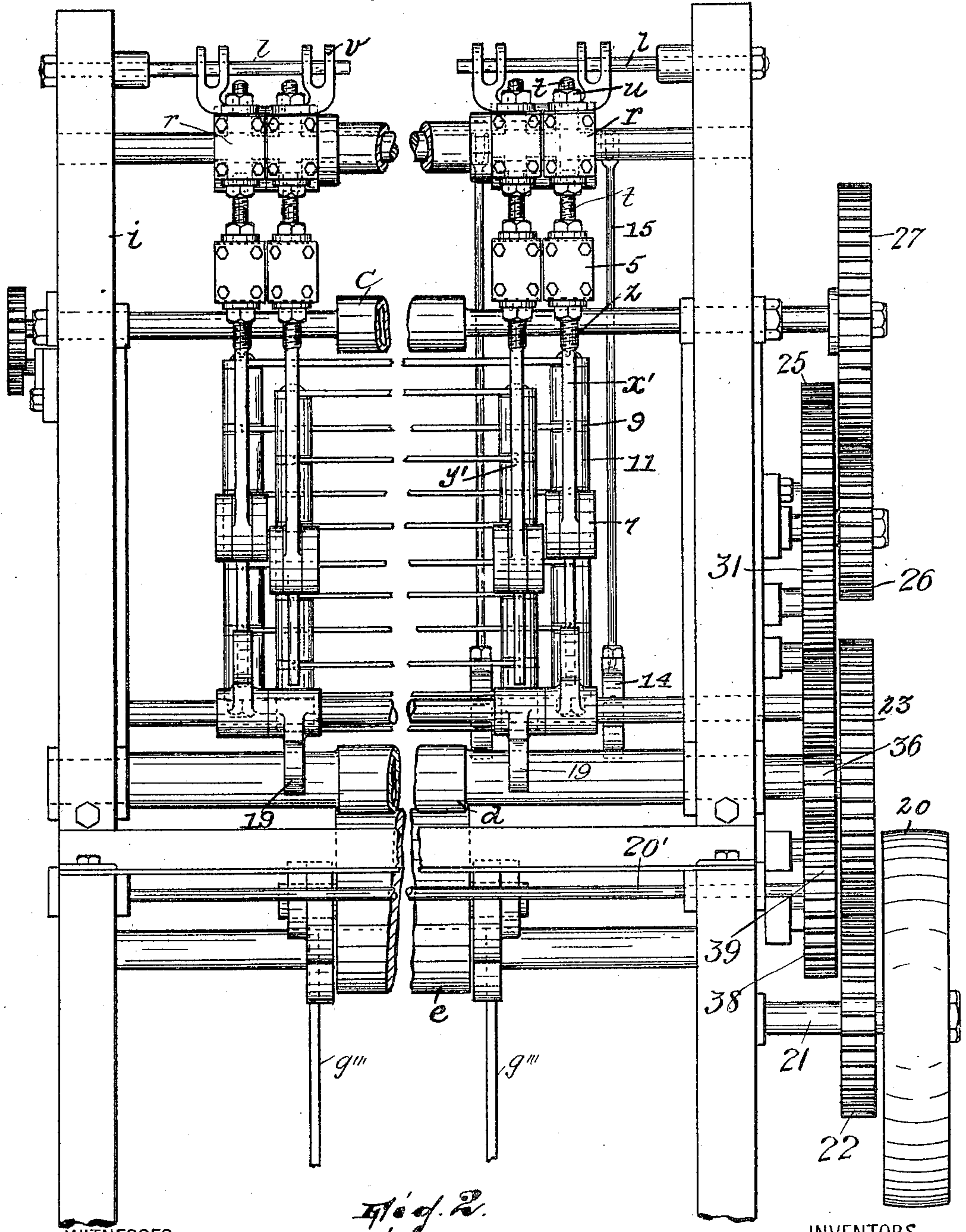
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3 SHEETS—SHEET 2.



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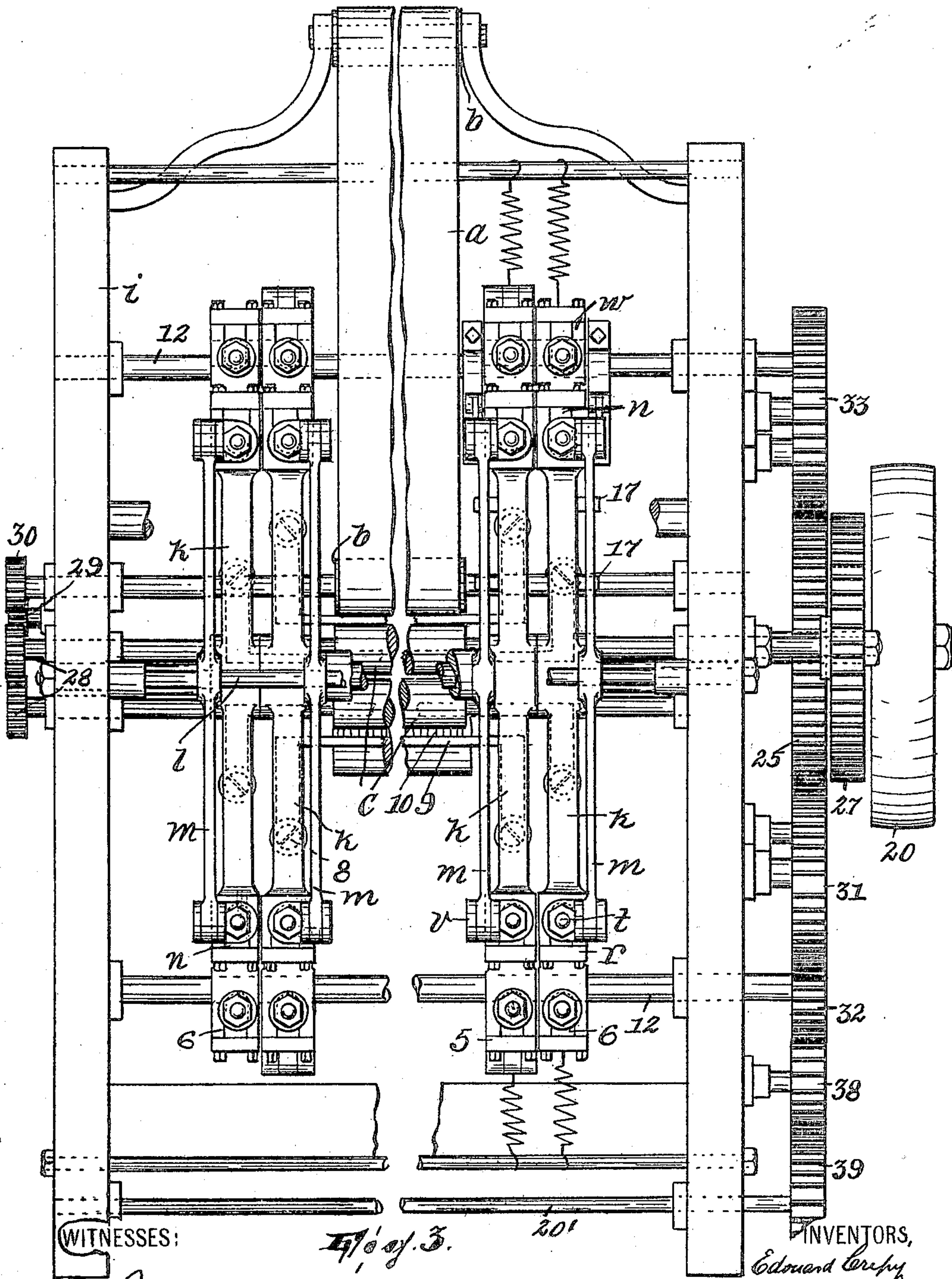
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3 SHEETS—SHEET 3



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UNITED STATES PATENT OFFICE.

EDOUARD CREPY AND LOUIS FREMAUX, OF BRUSSELS, BELGIUM.

COMBING AND DRAWING MACHINE.

No. 812,550.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed June 14, 1902. Serial No. 111,618.

To all whom it may concern.

Be it known that we, EDOUARD CREPY and LOUIS FREMAUX, manufacturers, citizens of the French Republic, residing at Brussels, in the Kingdom of Belgium, have invented a new and useful Combing and Drawing Machine; and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention consists in an improved mechanism for combing and drawing fibrous materials—such as jute, hemp, and the like—said mechanism being characterized by the fact that it is arranged so that the combing and drawing can be effected simultaneously on both sides of the material and in such manner that the opening out of the material incident to the combing and drawing is done completely and uniformly and without damage thereto.

The invention will be found fully illustrated in the accompanying drawings, wherein—

Figure 1 is a side view of the machine with the frame and certain gearing removed. Fig. 2 is a front view thereof, and Fig. 3 is a side view with the frame removed and certain gearing in dotted outline.

The material is fed along and kept properly disposed by a continuous belt *a*, running over rollers *b*, down between pairs of rollers *c* and *d*, the pair of rollers *d* coacting with a roller *e*, which has its trunnions journaled in a fulcrumed frame *f*, controlled by a lever *g*, fulcrumed in a bracket *g'* and pivotally connected to another lever *g''*, fulcrumed in another bracket *g'''* and carrying an adjustable weight *h*, whereby the pressure of roller *e* on rollers *d* may be regulated. Rollers *b*, *c*, and *d* are journaled in the frame *i* of the machine.

On a shaft *j* is journaled a series of rocking beams *k*, preferably four in number. On shafts *l*, above the rocking beams *k*, are journaled subordinate rocking beams *m*. The ends of rocking beams *k* are both vertically bifurcated, as at *n*, and horizontally bifurcated, as at *o*. Each bifurcation *n* receives a sleeve *p*, having lateral trunnions *q*, which have bearings in the bifurcation *o*, being held in place by a block *r*, which is bolted to the end of the rocking beam *k* and has projections *s* bearing against the trunnions *q*. In the sleeves *p* are arranged vertical threaded shafts *t*, whose adjustment in a vertical direction, is secured by manipulating nuts *u*, bearing against the ends of the sleeves. The sleeves

are formed with forked extensions *v*, in which are pivotally arranged the ends of the subordinate rocking beams *m*. The effect is therefore for beams *m* to so cooperate as to insure shafts *t* always standing perpendicular. The lower ends of shafts *t* carry frames *w*, in which are pivoted the upper ends of links *x* *x'* *y* *y'*, links *y* *y'* being the longer. For the sake of vertical adjustment links *x'* *y'* are connected with the frame *w* in the same manner that shafts *t* are connected with rocking beams *k*—that is to say, their upper ends are threaded, as at *z*, being adjustably secured by means of nuts 1 in sleeves 2, having trunnions 3, which are held in horizontal bifurcations 4 of the frames by blocks 5, while the sleeves penetrate vertical bifurcations 6 in the frames. The lower ends of the links are pivotally connected to horizontal arms 7, whose inner ends are penetrated by bolts 8, which act to secure together horizontal frames 9, carrying needles 10, said frames being penetrated by the bolts and spaced by sleeves 11.

It will be understood that there are two pairs of links *x* *x'*, as well as of links *y* *y'*, on each side of the material being operated upon. Each two pairs of links therefore carries one set of needles, each of which latter comprises several horizontal rows or tiers of needles, as best seen in Fig. 1. The set of needles carried by the links *y* *y'*, on account of the latter being longer than the links *x* *x'*, are brought opposite the spaces between this last-named set of needles. So far as the vertical movement is concerned, however, all the needles on one side of the material move together and in the same direction as rocking beams *k* and *m* oscillate. The oscillation of rocking beams *k* and *m* is effected from a shaft 12, carrying an eccentric 13, on which is an eccentric-strap 14, connected with one of the beams *k* by a pitman 15, pivoted in a rod 16, arranged for adjustment longitudinally of the rocking beams *k* in brackets 17 in one of said rocking beams, so as to increase the throw of the rocking beams. The needles being projected through the material, it will be seen that the up-and-down movement which is produced from shaft 12 will cause the desired drawing or combing out of the material. In order to effect the projecting of the needles into and out of the material as they rise and fall, each arm 7 carries a rigid shoe 18, arranged in the path of a cam 19 on shaft 12. Some of the cams 19 are arranged alternately with others,

so that there is produced an alternating action between the two sets of needles carried by links $x x'$ and $y y'$, respectively.

At the front of the machine is journaled a shaft 20', which may carry a delivery-roller (not shown) over which the material passes as it leaves the machine.

The power being taken in through belt-wheel 20 is delivered from the same through its shaft 21, a gear 22 thereon, a gear 23, meshing with gear 22, a gear 24, rotating with gear 23, to one of the rollers d . From gear 24 the power is transmitted to the rollers c through gear 25, meshing with gear 24, a gear 26, carried by gear 25, and a gear 27, meshing with gear 26 and carried by the shaft of one of rollers c , the two rollers being caused to turn together by intermeshing pinions 28. With one of the pinions 28 meshes a pinion 29, which in turn meshes with a pinion 30 on the shaft of one roller b . One of the shafts 12 is driven from gear 25 through intermeshing gears 31 and 32, while the other is driven from the same gear 25 by intermeshing gears 33

34 35, and, finally, the shaft 20' is rotated from gear 24 through intermeshing gears 36, 37, 38, and 39.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of comb structures, means for maintaining the material to be combed in operative contiguity to the combs and extended vertically, a rocking structure, means for rocking said rocking structure, links pivotally suspending said comb structures from said rocking structure, and means for moving said comb structures to and from the material, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

EDOUARD CREPY.
LOUIS FREMAUX.

Witnesses:

CHARLES HOROW,
GREGORY PHELAN.