

No. 679,709.

Patented July 30, 1901.

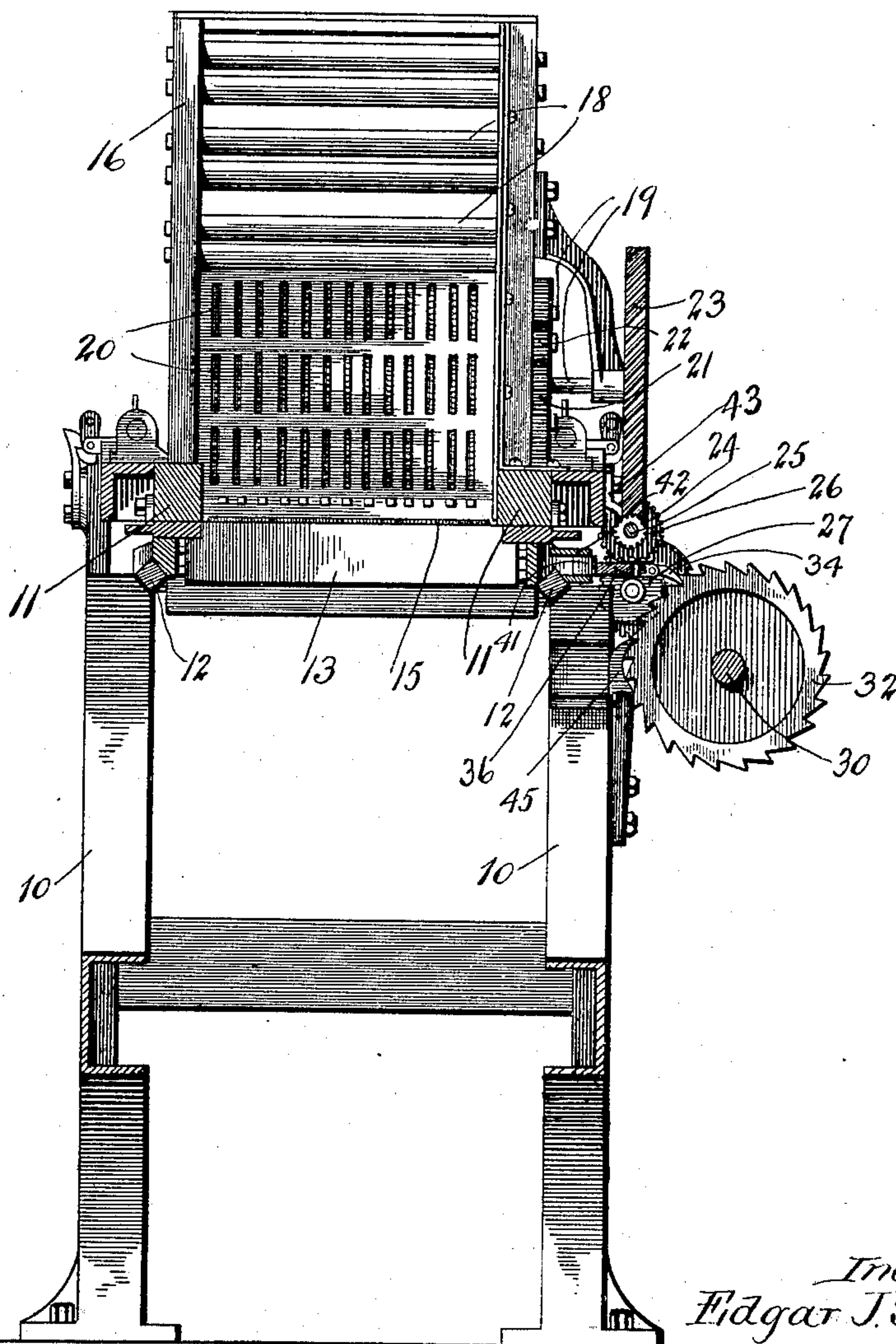
E. J. STEWART.
EXCELSIOR MAKING MACHINE.

(Application filed Dec. 3, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses:
E. W. Hart
Wm. Geiger

Inventor:
Edgar J. Stewart

By Louis K. Green, Atty

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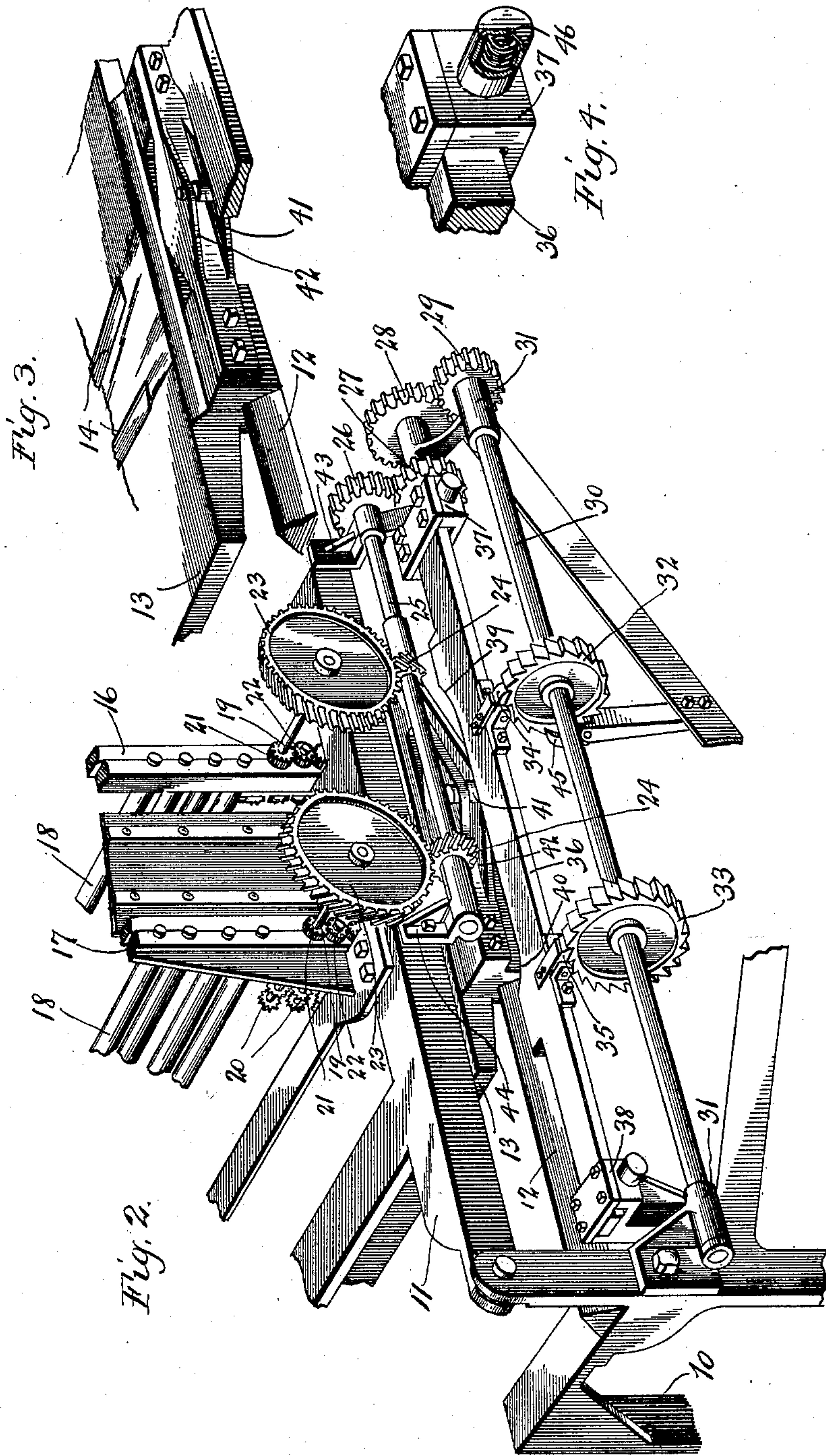
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2 Sheets—Sheet 2.



Witnesses:
E. W. Hart
Wm. Geiger

Inventor.
Edgar J. Stewart
By *Louise Geiger*
Atty.

UNITED STATES PATENT OFFICE.

EDGAR J. STEWART, OF DES PLAINES, ILLINOIS.

EXCELSIOR-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 679,709, dated July 30, 1901.

Application filed December 3, 1900. Serial No. 38,454. (No model.)

To all whom it may concern:

Be it known that I, EDGAR J. STEWART, a citizen of the United States, and a resident of Des Plaines, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Excelsior-Making Machines, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

This invention relates to that type of machines in which the shaving-blades and scoring-points are carried by a reciprocating table to which the material to be reduced is positively and continuously fed by two sets of spur-rollers.

The object of the invention is to provide improved means for actuating the feed-rollers; and it consists in the mechanism hereinafter described and illustrated in the accompanying drawings, in which—

Figure 1 is a transverse vertical section of the machine. Fig. 2 is a detail perspective of the same, some of the parts being omitted. Fig. 3 is a detail perspective of the table and one of its ways, and Fig. 4 is a detail of one of the parts of the machine.

The machine is provided with a suitable frame 10, having longitudinal side rails 11 11 and ways 12 12, upon which the table 13, carrying the shaving-blades 14 and scoring-points 15, is adapted to reciprocate. A pair of frames 16 17 rise from the rails 11 11 and are provided with guide and feed rollers. The guide-rollers 18 18 may be smooth-surfaced idlers, and the feed-rollers 19 are provided with spur-wheels 20 for positively engaging the material to force it forward. The rollers 19 are provided with pinions 21, which are intergeared through the medium of intermediate gears 22, mounted upon stud-shafts fixed in the frames 16 17.

The construction of the parts thus far described is substantially the same as corresponding parts shown in my copending application for patent filed June 13, 1900, Serial No. 20,199.

One of the roller-shafts 19 of each set of spur-rollers is provided with a skew-gear 23 23, and these gears intermesh with skew-pinions 24 24, fixed upon a shaft 25, journaled in brackets 43 44, secured to the side rails of the frame. This shaft has a gear-wheel 26

intermeshing with a pinion 27, fixed upon a suitable stud-shaft carried by the bracket 43, and carrying a gear-wheel 28, which intermeshes with and is driven by a pinion 29, mounted upon a shaft 30, journaled in suitable brackets 31 31, fixed to the frame of the machine.

A pair of ratchet-wheels 32 33 are fixed upon the shaft 30 and are actuated by spring-pawls 34 35, carried by a slide-bar 36, mounted and adapted to slide laterally in boxes 37 38, carried by brackets attached to the frame of the machine. The bar 36 is provided with two cam-faces 39 and 40, adapted for the engagement of a bracket 42, carried by the table 13, this bracket being provided with an antifriction-roller 41 for the purpose of contacting with the cam-faces of the bar. A retaining-pawl 45, secured to the frame of the machine, engages one of the ratchet-wheels, as shown the wheel 32, for the purpose of preventing the recession of the feed mechanism. The bar 36 is retracted by springs housed within the boxes 37 38, one of such springs being shown at 46.

The operation of the feed mechanism is as follows: The table 13 being caused to reciprocate by any preferred means, the roller 41 comes into engagement with one of the cam-faces 39 40 at each end of the stroke of the table and forces the bar 36 outwardly, thereby turning the shaft 30 and through the chain of gears turning the feed-rollers the necessary distance to advance the material sufficiently to provide for the next cut.

The present prevailing practice is to cut excelsior to the thickness of one-seventieth of an inch, and the desired thickness is secured in the present machine by suitably proportioning the cam-faces 39 40 and the several gears to which the movement is transmitted to the feed-rollers.

I prefer to mount the slide-bar 36 loosely in the two boxes 37 38 and to provide two ratchet-wheels, one approximately opposite each of the cam-faces of the bar, so that the movement of the pawl cooperating with this wheel will be identical with the movement of the cam, and it is entirely immaterial whether the bar moves out evenly through its entire length, and in practice such is not the case, as the pressure upon the bar nec-

essarily tends to more forcibly compress the nearer retracting-spring. By this construction it becomes unnecessary to provide guides for the two ends of the bar in order to prevent it from canting, and I thereby materially reduce the friction and the danger of the bar being cramped in its guides.

I prefer to use the skew-gears, for the reason that it is usual to provide machines of this kind with an adjustable feed-guide. If, therefore, one of the frames, as 16, is made adjustable, the skew-gear 23 may be moved with it while still continuing to engage the skew-pinions 24.

I claim as my invention—

1. In an excelsior-making machine, in combination, feed-rollers for advancing the material, a reciprocating blade-carrying table, a laterally-reciprocating bar 36 longitudinally disposed as to the table, and having cam-inclines at each end, a bracket on the table for engaging such inclines, a shaft, 30, a ratchet-wheel on the shaft, a spring-pawl

carried by the bar 36 engaging the ratchet-wheel, and gear connection between the shaft 25 30 and the feed-rollers.

2. In an excelsior-making machine, in combination, a suitable frame, a reciprocating blade-carrying table, two sets of intergearing carried by one of the rollers of each set, a shaft 25, skew-pinions fixed upon the shaft for driving the skew-gears, a shaft, 30, gear connection between the shafts 30 and 25, two ratchet-wheels mounted thereon, a laterally-reciprocating spring-retracted bar 36 having two cam-faces, spring-pawls carried by the bar for engaging the ratchet-wheels, and a bracket fixed to the table for engaging the cam-faces of the bar 36, substantially as described and for the purpose specified.

EDGAR J. STEWART.

Witnesses:

LOUIS K. GILLSON,
E. M. KLATCHER.