

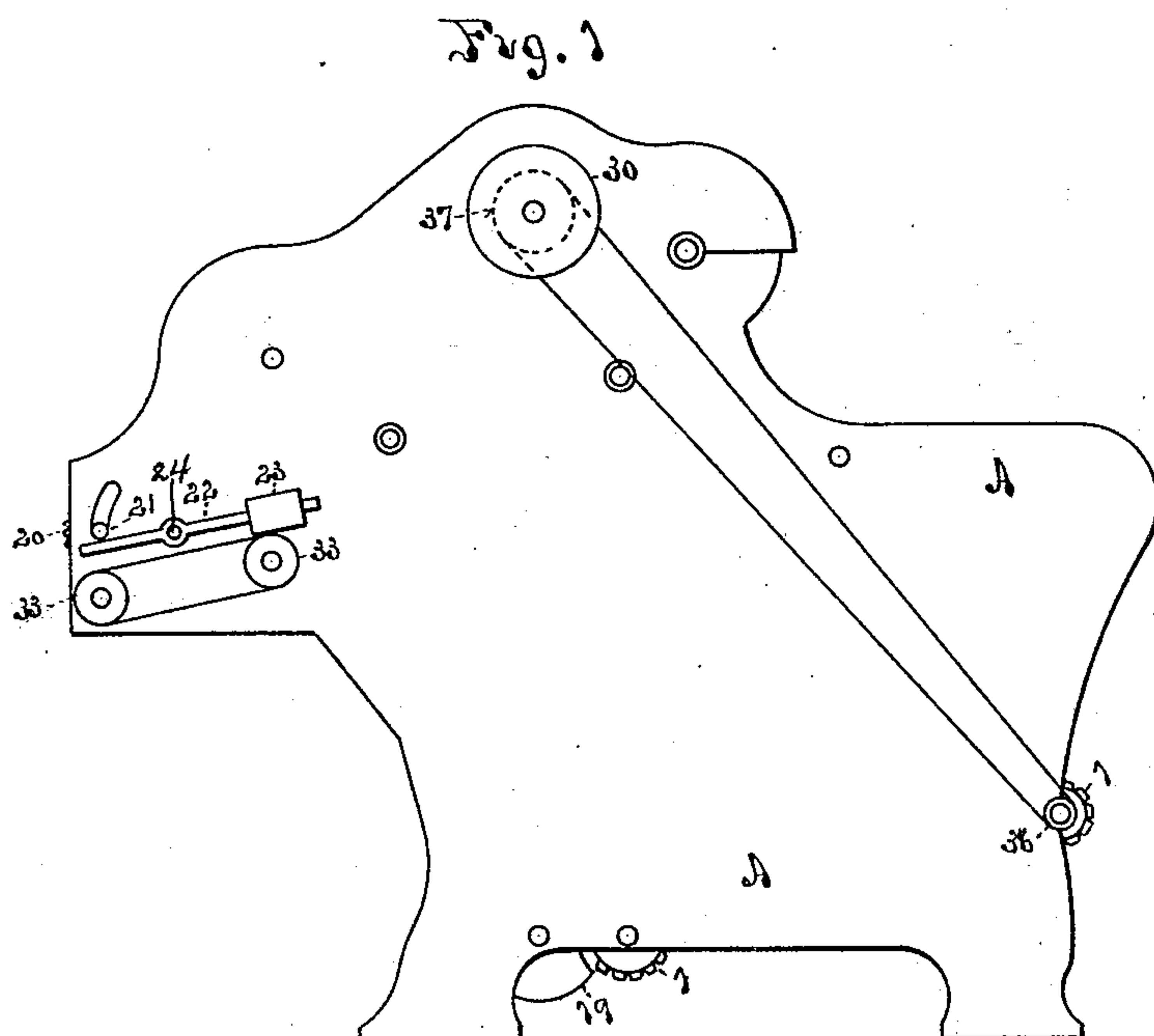
(No Model.)

4 Sheets—Sheet 1.

F. G. & A. C. SARGENT.
FIBER FEEDING MACHINE.

No. 451,136.

Patented Apr. 28, 1891.



Witnesses

Wm. C. Brown
A. P. Ockington

Inventor

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Allan C. Sargent
By David Hall Rice
Atty.

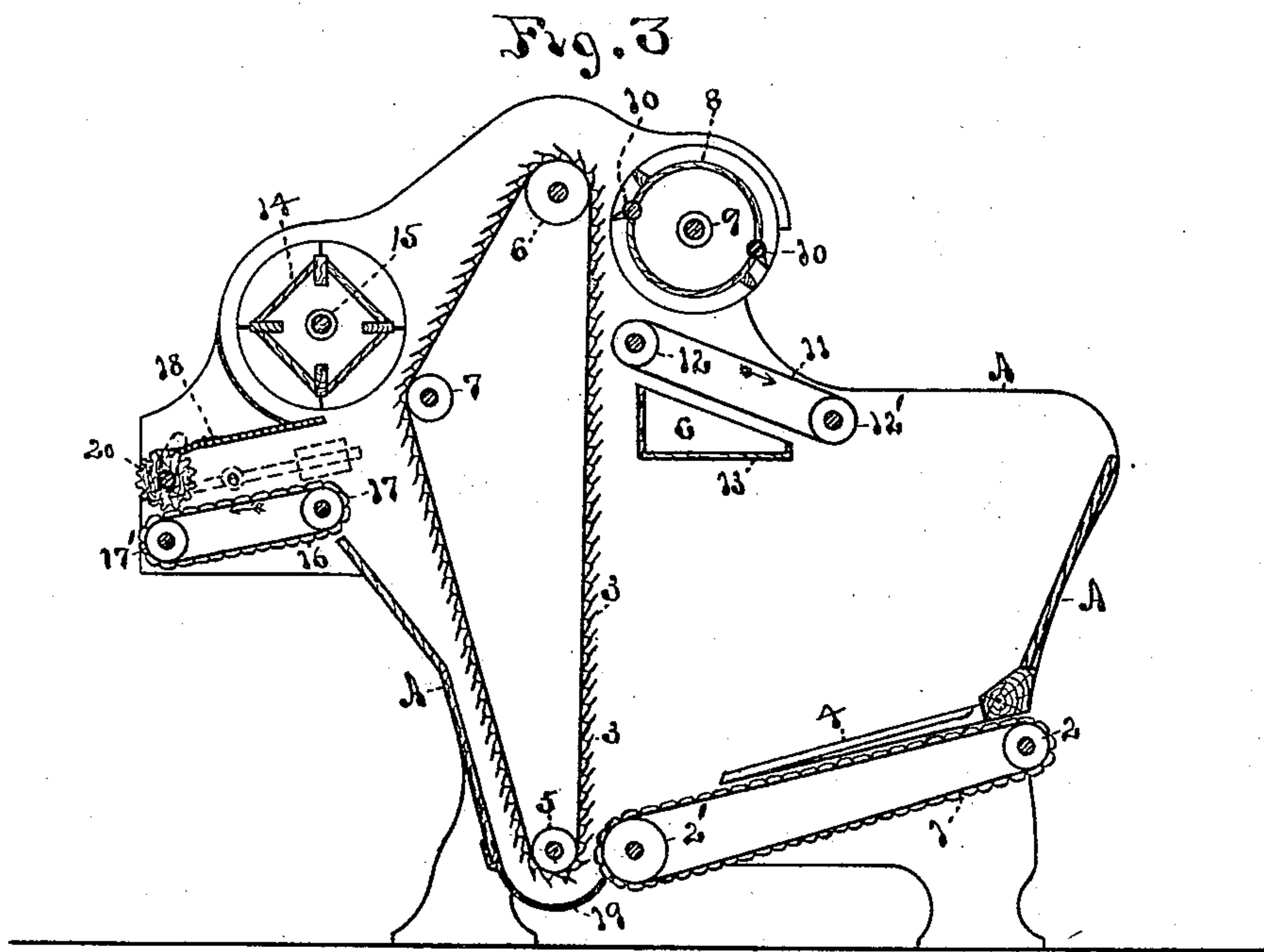
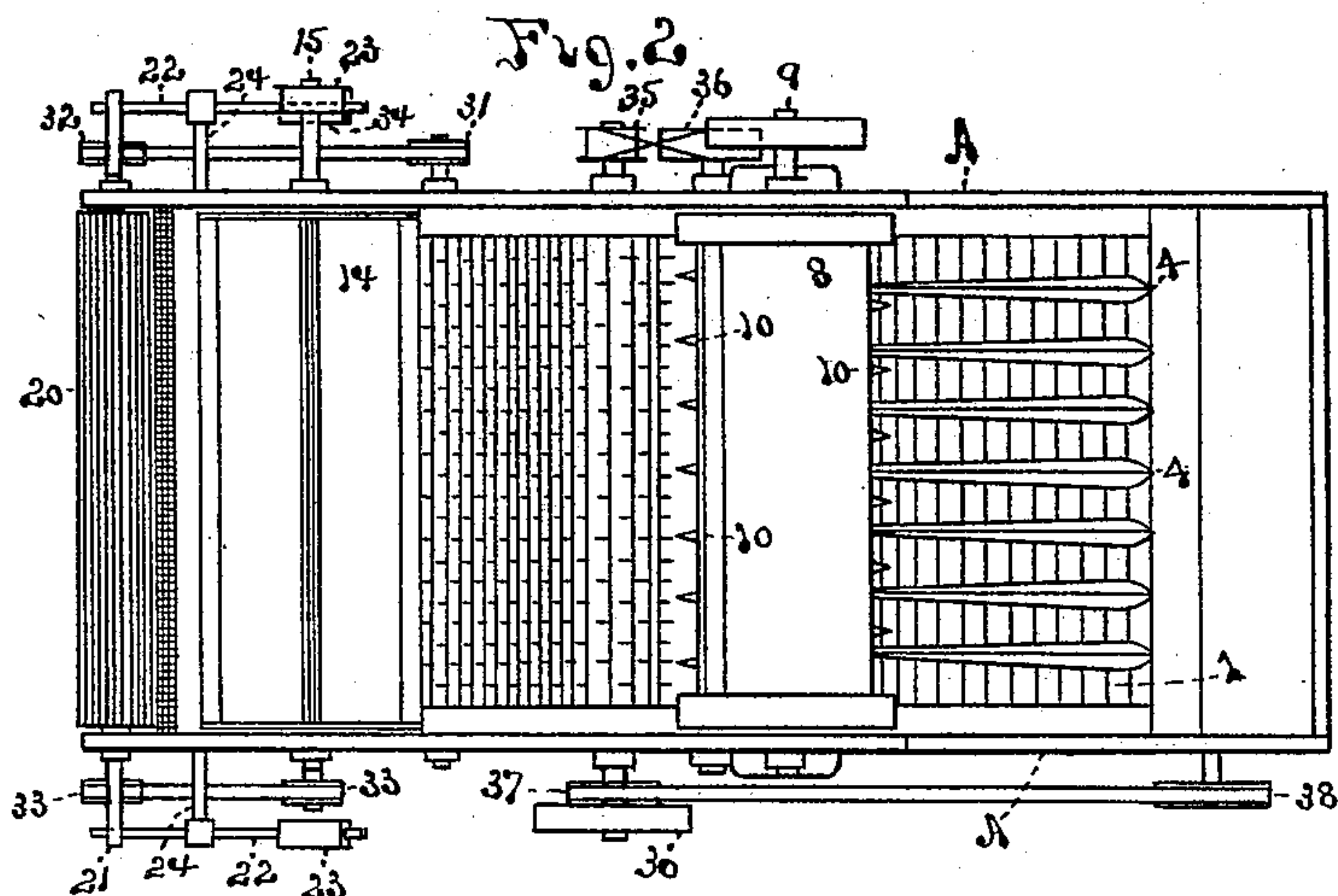
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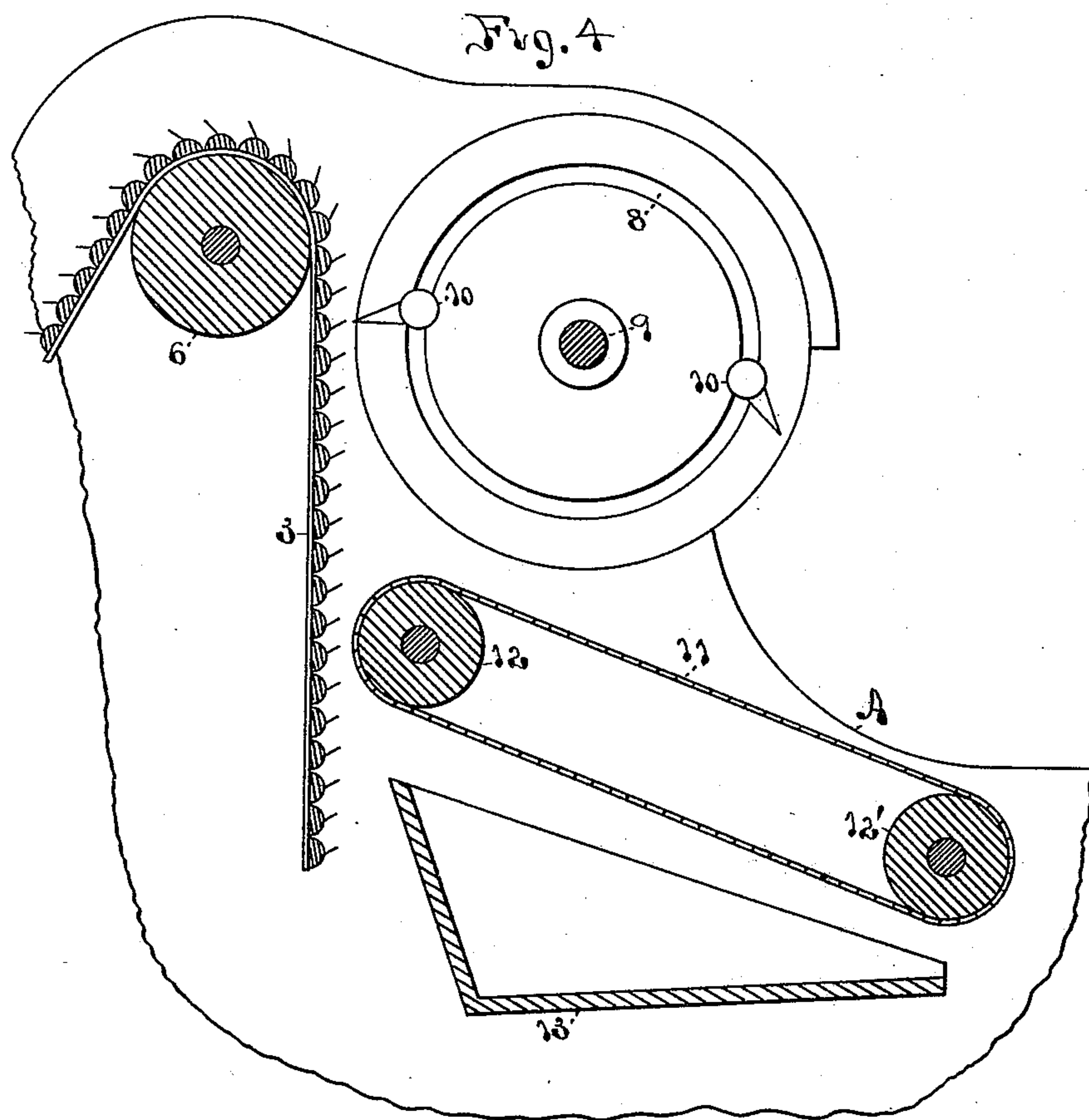
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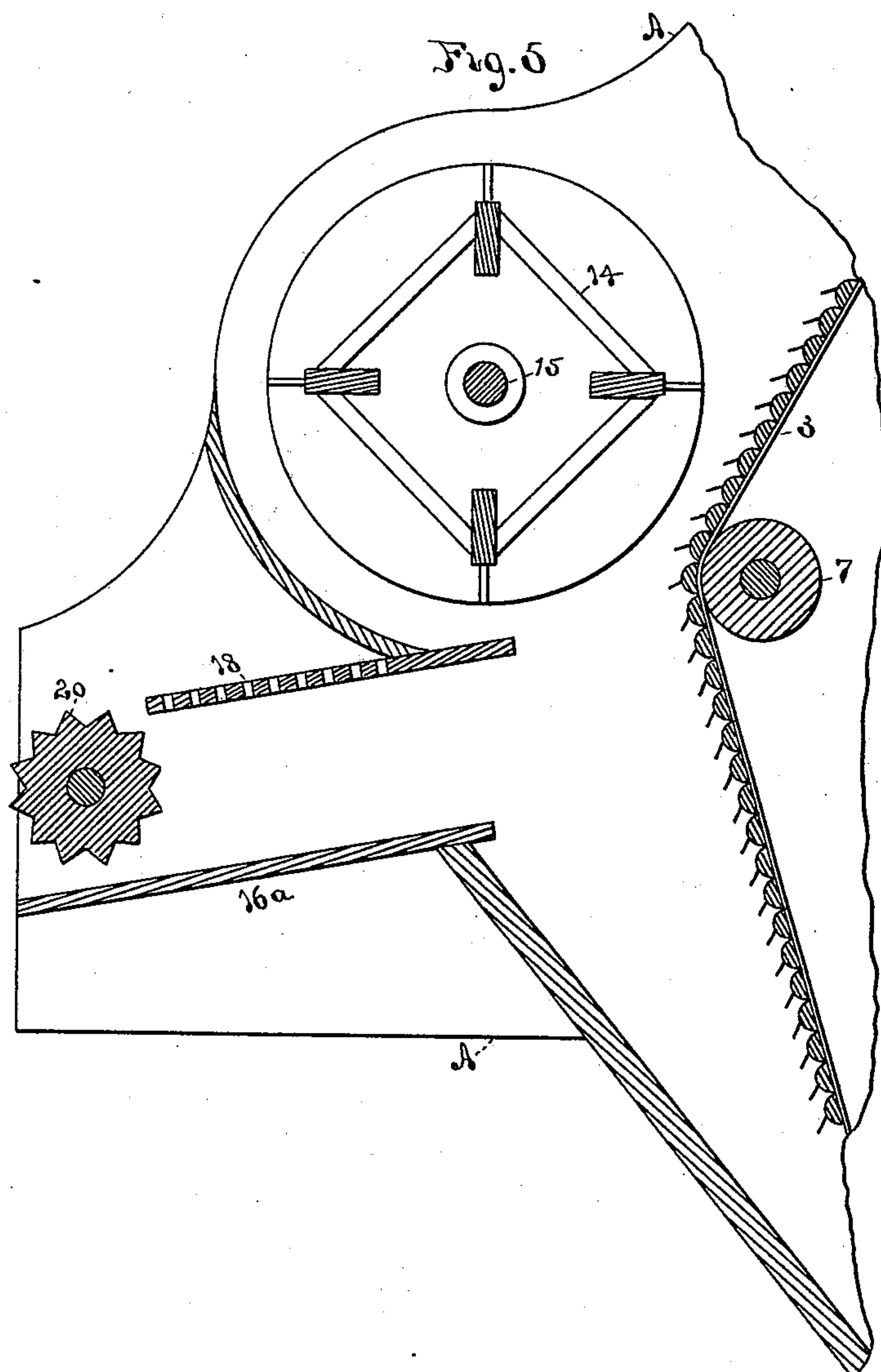
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UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT AND ALLAN C. SARGENT, OF GRANITEVILLE,
MASSACHUSETTS.

FIBER-FEEDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 451,136, dated April 28, 1891.

Application filed May 15, 1890. Serial No. 351,879. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK G. SARGENT and ALLAN C. SARGENT, of Graniteville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Fiber-Feeding Machines, of which the following is a specification.

Our improvement relates to machines for feeding fiber to cards, washing-machines, &c.; and it consists of certain new and useful constructions and combinations of the several parts thereof, substantially as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of the machine containing our improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the same with one side of the casing removed. Fig. 4 is an enlarged view of part of Fig. 3, showing the screen-apron and other parts connected with the doffer on the feed-up side. Fig. 5 is an enlarged view of part of the same, showing the screen-shield and connected parts on the feed-out side, and also a modification of the feed-off mechanism, as hereinafter described.

A is the casing of the machine formed in the customary manner, which incloses and sustains the working parts. The general form of its sides and ends is that of a box open at the bottom and top and with the sides extending up above the ends to some distance. In the bottom of the casing is placed the endless apron 1, passing around rollers 2 2' and serving to carry the wool deposited on it against the apron 3. Bars or slats 4 4 extend horizontally above the apron 1 to prevent the wool from resting too heavily upon it. The endless apron 3 runs vertically over the rollers 5 6, presenting an almost perpendicular face to the wool resting on apron 1, and thence downward in a more horizontal direction over the roller 7. This apron is provided with spines projecting upward on its vertical side, which engage with the wool brought against it and carry it in a sheet upward over the roller 6. A doffer 8 is mounted in the casing on the shaft 9, on which it revolves, in position to bring its teeth 10 at the right distance from the apron 3 to strip off of the latter any excess of wool being carried up by it. As the excess of wool is thus stripped off of the apron 3 by the doffer it is

dropped by the latter upon the endless wire-screen apron 11, which revolves around the rollers 12 12'.

Underneath the apron 11 is the catch-box 13, into which the dirt from the wool drops when sifted through the screen-apron 11.

On the opposite side of the apron 3 is located the doffer 14, which strips the wool off of apron 3 as it is fed over roller 6 by the latter. This doffer revolves on the shaft 15 and throws the wool onto the apron 16. The latter revolves around the roller 17 17', carrying the wool away as it is delivered to it by the doffer.

In order to further even the quantity of wool fed forward by this machine, a wire-screen shield 18 is located parallel to and above the apron 16 at the proper distance to limit the amount of wool which can be thrown onto the apron by doffer 16 in a given time. This shield is also located with relation to doffer 14 so as to prevent the fiber from being carried around the latter and winding upon it by the overloading of apron 16. If the feed-apron 3 brings up an excess of wool at any time and it gets past doffer 8, the doffer 14 will only deliver the regular quantity between the screen-shield 18 and the apron 16, and the excess will fall down between the end casing A and the apron 3.

Underneath the apron 3, where it passes around the roller 5, a semi-cylindrical casing 19 is carried, which enables the apron 3 to take up and again carry around any excess of wool which may be dropped from doffer 14, as before described. The shield 18 is preferably made of wire-netting to allow the air blown in between it and the apron 16 by the doffer 14 to escape, leaving the wool deposited upon the apron.

To further prevent the wool from being blown out through between the opposite end of the apron and shield, a roller 20 is mounted on its shaft, which turns in slots in the casing A, so as to fill the space between the shield and apron and rise and fall in the slots as the wool passes beneath it. The shaft 21 of roller 20 is counterbalanced at each projecting end by the levers 22 and weights 23, pivoted on studs 24 24 on the outside of the casing of the machine, thus preventing the roller from pressing too heavily on the wool. The roller

revolves by the surface contact of the wool against it. The apron 3 is driven by the pulley 30 on the end of the shaft of roller 6 from any suitable counter-shaft. The pulley 31 on the end of the shaft of roller 7 is belted to the pulley 32 on the shaft of roller 17' of apron 16. The pulleys 33 33 on the opposite ends of the shafts of rollers 17 17' are belted together. The pulley 34 on the shaft 15 of doffer 14 is driven from any suitable counter-shaft. The pulley 35 on the end of the shaft of roller 5 is belted by a cross-belt to the pulley 36 on the end of the shaft of roller 12 of apron 11. The apron 1 is driven by a pulley 38 on the end of the shaft of roller 2, which is belted to the pulley 37 on the shaft of roller 6.

Instead of the apron 16, a simple platform 16^a, made smooth on top, might be used in connection with doffer 14 and shield 18 by giving the platform considerably more downward pitch on its top surface than the apron has, so as to cause the wool deposited upon it to slide down it by gravity; but we prefer the apron arranged as shown.

What we claim as new and of our invention is—

1. The combination, in a fiber-feeding machine, of the receptacle for the fiber, the feed-apron 3, carried in a vertical direction through and up one side thereof, the doffer 8, arranged to remove the surplus wool from the feed-apron, the wire-screen apron 11, located beneath the same in position to receive the wool from the doffer, and the catch-box 13, located beneath the wire-screen apron, substantially as described.

2. The combination of the feed-apron 3, the doffer 14, arranged to doff the fleece from it, the apron 16, located beneath the doffer in position to receive the doffer-fleece, and the shield 18, located above and parallel to apron 16 and underneath the doffer, between it and the apron, in position to limit the quantity of fiber thrown upon the apron and prevent its being carried around the doffer, substantially as described.

3. The combination of the feed-apron 3, the doffer 14, arranged to doff the fleece from it, the apron 16, located beneath the doffer in position to receive the doffer-fleece, and the shield 18, formed of a wire screen and located above and parallel to the apron 16 in position to limit the quantity of wool thrown upon the apron, substantially as described.

4. The combination of the feed-apron 3, the doffer 14, arranged to doff the fleece from it, the apron 16, located beneath the doffer in position to receive the doffer-fleece, the shield 18, located above and parallel to apron 16 in position to limit the quantity of wool thrown thereon, and the yielding roller 20, placed in position to close the space between the delivery end of apron 16 and the shield, and thus prevent the air being blown through the space, substantially as described.

FREDERICK G. SARGENT.
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Witnesses:

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