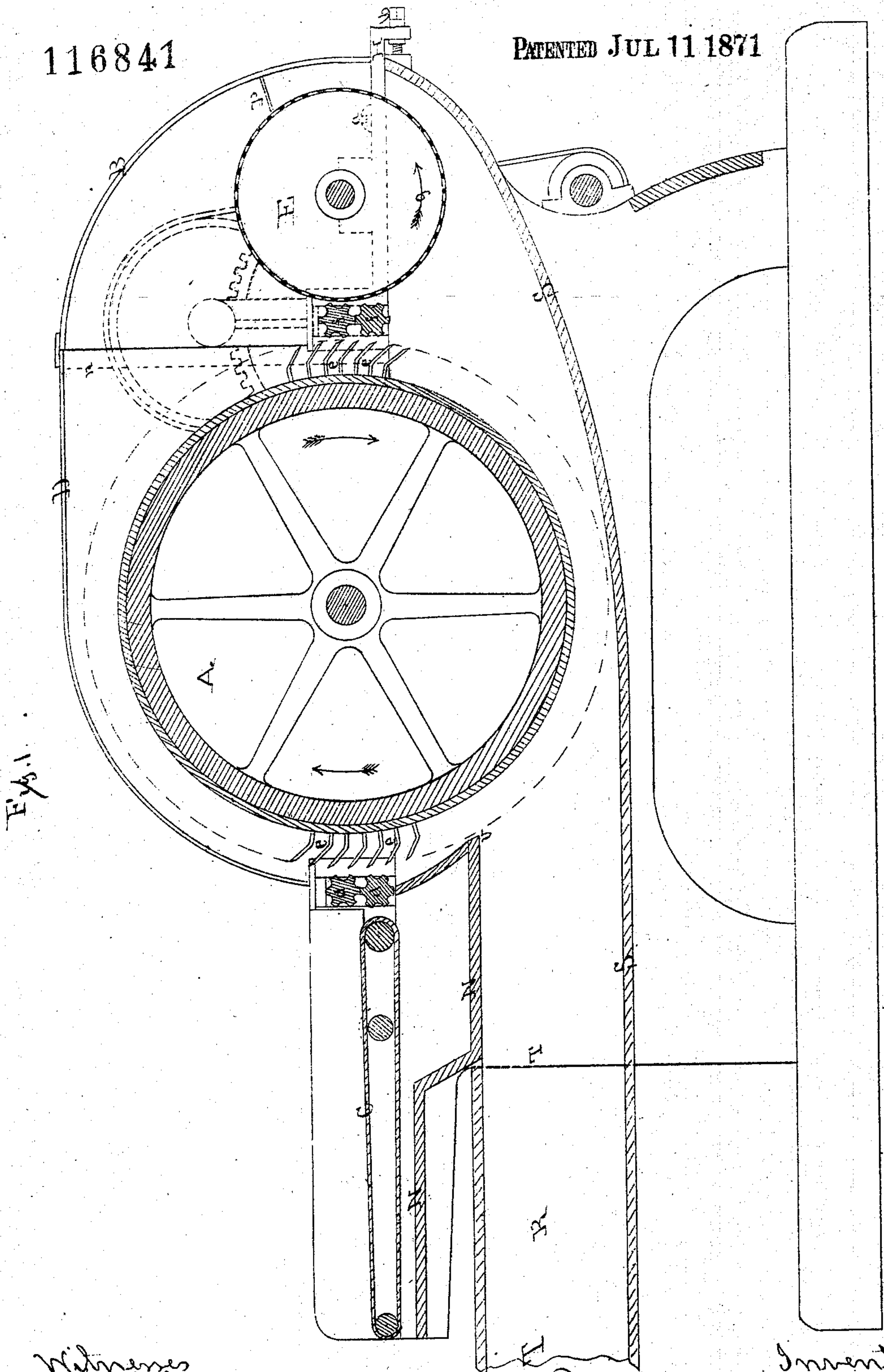


Richard Kitson's improvement in waste pickers

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PATENTED JUL 11 1871

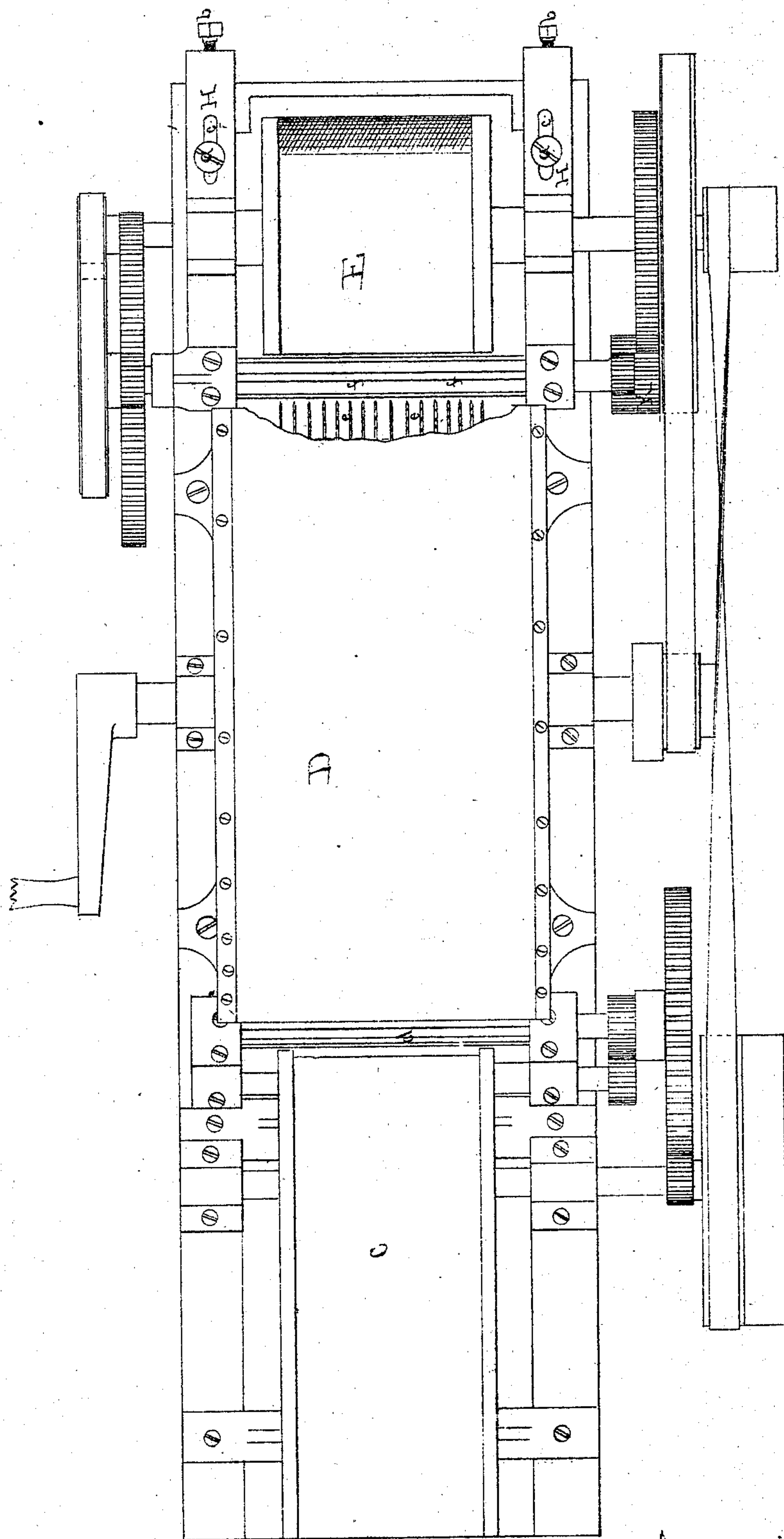


Witnesses
John E. Corne
W. A. Hart

Inventor
Richard Kitson

Richard Pitman's
Improvement in waste pickers

Fig 2



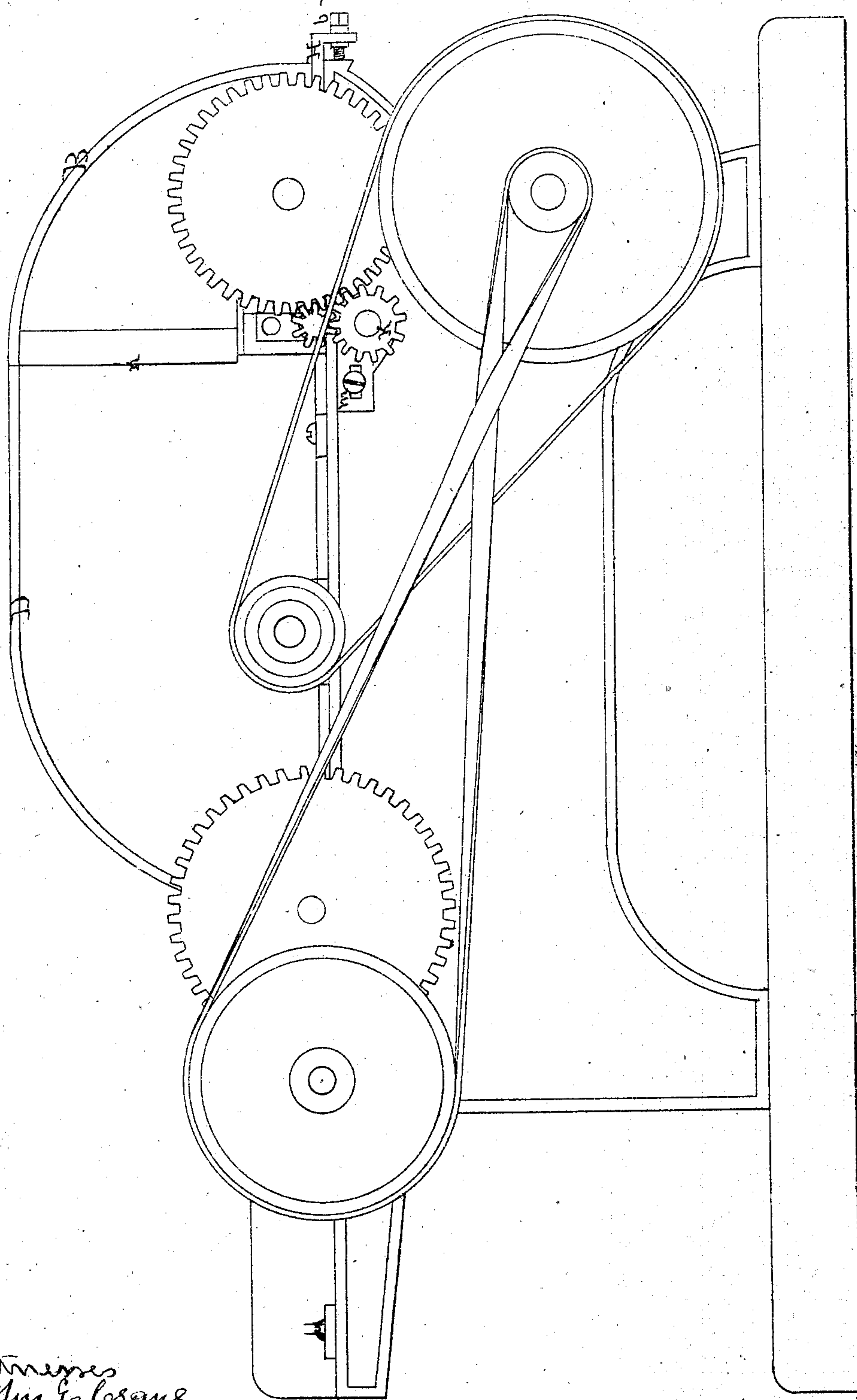
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Fig. 3



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UNITED STATES PATENT OFFICE.

RICHARD KITSON, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN WASTE-PICKERS.

Specification forming part of Letters Patent No. 116,841, dated July 11, 1871.

To all whom it may concern:

Be it known that I, RICHARD KITSON, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Waste-Pickers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 represents a vertical longitudinal section; Fig. 2, a plan or top view after the rear bonnet B has been removed. Fig. 3 represents an end elevation.

This invention relates to waste-pickers, which are sometimes called shoddy-machines or rag-pickers, being designed for opening yarn and thread-waste, or other hard stock which requires at least two operations or twice passing through the ordinary waste-picker to fit it for further use. The object of this invention is to make a single-cylinder waste-picker capable of performing the work of two ordinary machines, or, in other words, capable of performing two separate and distinct operations upon the waste or material while passing through the machine.

In the drawing, A represents the main cylinder, arranged to rotate in bearings in or upon a suitable frame-work, and provided with teeth or pins *e*, as usual, and operated in connection with front feed-rolls *d* and a feed-apron, C, of any ordinary construction and arrangement, the teeth on the cylinder at this side of the machine pointing upward and operating in the same direction, the said cylinder being covered with a bonnet, D. On the top of the frame-work, and at the rear side of the cylinder, I apply a suitable feeding device, which may be, as in the present instance, a pair of common fluted feed-rolls, *f*, arranged to rotate in bearings within a suitable distance of the points of the teeth on the cylinder, or instead of these feed-rolls, and as an obvious substitute I apply a single-feed roll and shell well known to those acquainted with this kind of machinery. A little to the rear of these feed-rolls I arrange in suitable bearings a screen-cylinder, E, which may be perforated metal or wire-gauze or other well-known screen material. This screen-cylinder and the feed-rolls *f* last named are arranged upon adjustable slides or bars H, provided with adjusting-screws *b* at their rear ends, for the purpose of adjusting the slides, and thereby the screen-cylinder and the feed-roll

f to the working-surface of the teeth on the main cylinder, which are constantly wearing away, which renders it necessary that the feed-rolls should be occasionally moved a little nearer the cylinder. The slides H are also slotted, as at *c*, and furnished with screws, *a*, which hold them to the frame-work. The cylinder-screen and feed-rolls *f* are covered by a rear bonnet, B, which is lapped onto the forward bonnet, or onto its rear edge, to about the dotted line *n*, which may be from one to two inches, or sufficient to form a tight joint, and prevent the escape of dust or fibers, and to make the bonnet adjustable with the screen-cylinder and the feed-rolls *f*. In the rear side of the bonnet a flange or plate, P, is secured, and this extends forward to near the surface of the screen-cylinder, which rotates in the direction indicated by the arrow *g*. As the feed-rolls and screen-cylinder are adjustable and movable toward the main cylinder, the driving-gear K is also adjustable, in the present instance, by a slotted stud-plate, *m*; but, in practice, and on a full-sized machine, the stud-plate of this driving-gear is connected with one of the plates H, and adjustable with said plate, and this keeps the gears of the feed-roll and the cylinder-screen always connected with their driver. The space beneath the screen-cylinder is inclosed by a bottom plate, S, which extends from the lower rear edge of the bonnet B downward and forward beneath the main cylinder to the forward part of the frame-work, from which point a trunk or spout, R, may extend in any direction to carry the prepared stock away from the machine. Above the forward end of the bottom plate S and beneath the feed-apron is a top plate, N, which forms the cover of the spout between the main cylinder and the forward end of the machine.

The material to be operated upon is spread upon the moving apron, and, passing between the feed-rolls *d*, is caught and opened or separated and carried upward by the teeth of the rapidly-rotating cylinder A, and thrown over onto the top of the plate P, and on the top of the screen-cylinder, which forms it into a lap or sheet, and passes it forward and downward to the feed-rolls *f*, which present the substance a second time to the action of the teeth on the revolving main cylinder; and from these rear feed-rolls the material is carried downward and forward, and blown or thrown out through the end T of the spout or

trunk, the lower inner edge *v* of the top plate *N* serving as a cut-off to prevent the material being carried upward by the teeth of the cylinder.

In this way, and by means of the additional elements and operative devices, the machine is made to perform two separate and distinct operations upon the material while passing through it, instead of a single operation, as in the ordinary waste-picker.

Thus it will be seen and understood that, by passing the fibrous material or stock once through my improved machine, such material will be as well prepared or opened as by twice passing through the ordinary picker.

Instead of a bottom plate, *S*, a portion of the space beneath the screen-cylinder, and partly or wholly beneath the main cylinder, may be supplied with grating or slat-work or open-work screen, and considerable dirt and trashy matter liberated and taken out of the material.

This machine is not confined wholly to operating on waste material; but it is capable of opening and cleaning cotton, wool, and other fibrous material, and, when thus employed, a draught-fan and dust-pipes may be connected with the ends of the screen-cylinder in the usual way of applying such devices, and dust sucked out of the cotton by the fan.

I do not confine myself to the precise locality of or for the screen-cylinder and the rear feed-rolls *f*, since these may be arranged a little higher or a little lower, and still perform their intended operation successfully.

I claim as my invention—

1. The combination, with the cylinder *A*, of the screen-cylinder and feeding apparatus or feed-rolls *f*, the last interposed and operating between the screen-cylinder and the working-surface of the main cylinder and at the rear side thereof, substantially as specified, for the purpose of increasing the working capacity of the machine, substantially as described.

2. The flange or plate *P*, arranged in the bonnet *B*, in combination with and operating to guide the material onto the surface of the rotating screen-cylinder, in the manner and for the purpose set forth.

3. The adjustable rear bonnet *B*, in combination with and covering the screen-cylinder and feed-rolls *f*, when provided with a guide-plate, *P*, and otherwise arranged as described.

RICHARD KITSON.

Witnesses:

JOHN E. CRANE,
A. A. HART.