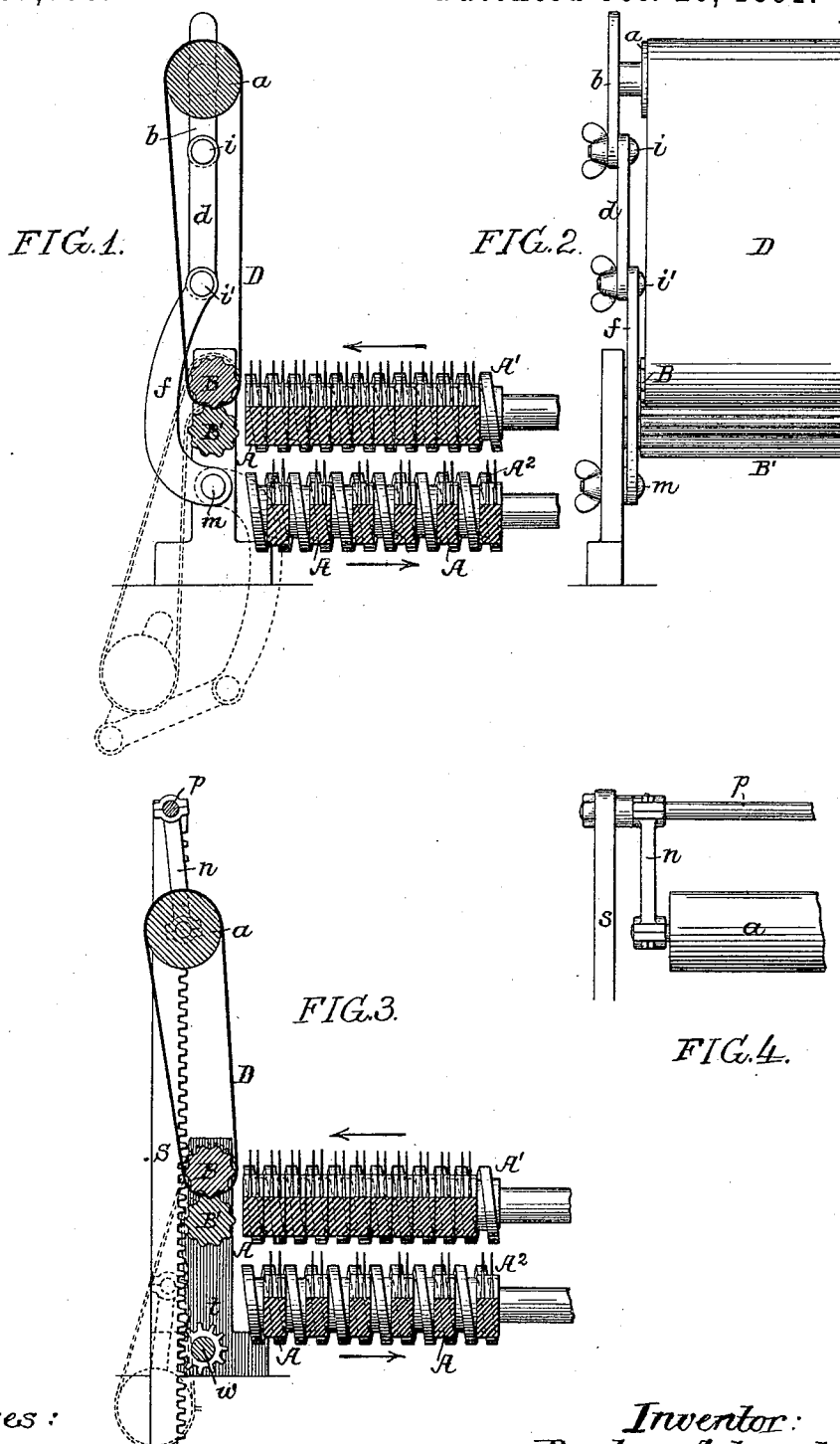


(No Model.)

R. ACKROYD.
SCREW GILL DRAWING FRAME.

No. 461,660.

Patented Oct. 20, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

REUBEN ACKROYD, OF BRIDGEPORT, PENNSYLVANIA.

SCREW-GILL DRAWING-FRAME.

SPECIFICATION forming part of Letters Patent No. 461,660, dated October 20, 1891.

Application filed August 6, 1891. Serial No. 401,881. (No model.)

To all whom it may concern:

Be it known that I, REUBEN ACKROYD, a citizen of the United States, and a resident of Bridgeport, Montgomery county, Pennsylvania, have invented certain Improvements in Screw-Gill Drawing-Frames, of which the following is a specification.

My invention consists of a certain improvement in what are known as "screw-gill drawing-frames," the object of my invention being to so mount the apron used in connection with the upper drawing-roll that said apron can be readily moved out of the way when it is desired to gain access to the gills for cleaning the same.

In the accompanying drawings, Figure 1 is a longitudinal section of sufficient of a screw-gill drawing-frame to illustrate my invention. Fig. 2 is a front view of part of the same. Fig. 3 is a view similar to Fig. 1, but illustrating another method of carrying out my invention; and Fig. 4 is a front view of part of the device shown in Fig. 3.

In Figs. 1 and 3, A represent a series of toothed bars or as they are termed "gills," which in the organized machine are caused to move slowly toward the drawing-rolls B B' by a suitable feed-screw A' at each end, each gill when it reaches the limit of its forward movement dropping into engagement at each end with a return-screw A² and being thereby moved backward until it can be again raised into operative position at the rear of the advancing or acting set, the movements of the gills being indicated by the arrows in Figs. 1 and 3. In this class of machines the use of corrugated drawing-rolls of small diameter is advisable so as to permit the gills to approach close to the nip of the rolls, as shown, for by this means preliminary combing of the stock is rendered unnecessary, as the space between the gill-teeth and the nip of the rolls is so small as to prevent the formation of "noils." Hence there is not only a saving in stock but also a saving of the expense of combing the stock. By corrugating the rolls an extended grip on the sliver is insured and the small diameter of the rolls is thus compensated for.

In connection with the upper roll B a belt or apron D should be employed, and this apron, if adapted to a fixed upper drum, would

prevent access to the gills from the front of the machine for cleaning purposes, it being understood that the machines are frequently of such length that the gills at the central portion of the machine are not accessible from the ends of said machine. I therefore so mount the upper drum *a*, carrying the apron D, that the same can be swung down out of the way in order to permit the desired access to the gills from the front of the machine. As shown in Figs. 1 and 2, said apron-drum *a* is carried at each end by a series of links *b*, *d*, and *f*, the links *b* and *d* being jointed at *i* and the links *d* and *f* at *i'* and the lower link *f* being hung to the frame of the machine at *m*, all of the joints being provided with suitable thumb-screws or equivalent means whereby they may be tightened and the structure thus rendered rigid when in the supporting position shown by full lines in Figs. 1 and 2. When, however, it is desired to lower the upper drum and the apron, the joints are loosened so as to permit the links *f* to swing downward and the others to move in respect thereto, so that the apron and drum can be dropped out of the way—for instance, to the position shown by dotted lines in Fig. 1.

In machines of excessive length, where the upper drum and apron are likely to be very heavy, I prefer to adopt the construction shown in Figs. 3 and 4, in which case each end of the spindle of the upper drum is carried by a hanger *n* depending from a rod *p*, which is supported by the upper ends of opposite rack-bars *s*, each meshing with a pinion *t* on a transverse shaft *w*, so that by turning this shaft the rack-bars can be raised and lowered so as to raise and lower the upper supporting-drum *a* of the apron, the depending hangers *n* for said drum permitting the same to swing outward as it passes the drawing-rolls B B' or other parts of the machine which would tend to obstruct its rise or fall if it were rigidly supported.

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

1. The combination, in a screw-gill drawing-frame, of the gills, the fluted drawing-rolls in front of the same, the upper drum, an apron passing around said drum and around the upper drawing-roll, and a movable support for

the drum, whereby said drum and the apron can be lowered to permit access to the gills from the front of the machine, substantially as specified.

- 5 2. The combination, in a screw-gill drawing-frame, of the gills, the fluted drawing-rolls in front of the same, the upper drum, an apron
passing around said drum and around the
upper drawing-roll, and a vertically-movable
10 support for the drum, said support having a transversely-swinging drum-carrier forming part thereof, substantially as specified.

3. The combination, in a screw-gill drawing-frame, of the gills, the fluted drawing-rolls in

front of the same, the upper drum, an apron 15
passing around said drum and around the upper drawing-roll, rack-bars having depending hangers carrying said drum, and pinions meshing with said rack-bars to raise and lower the same, substantially as specified. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

REUBEN ACKROYD.

Witnesses:

WILLIAM D. CONNER,
HARRY SMITH.