(No Model.)

S. A. FLOWER.

MACHINE FOR UNTWISTING AND PICKING ROPES OF CURLED FIBER.

No. 546,661. Patented Sept. 24, 1895.

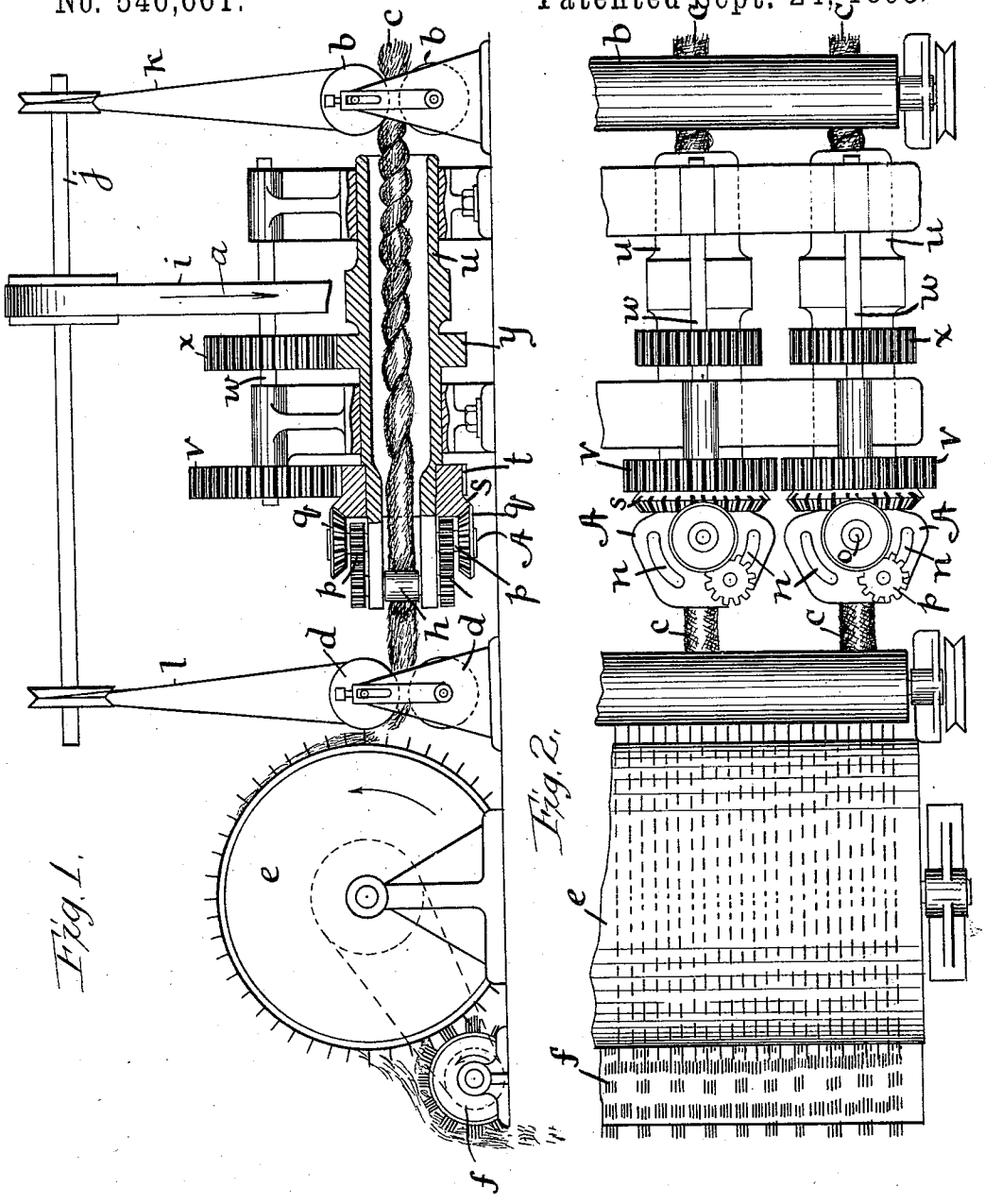

Fig. 1.

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL A. FLOWER, OF NEWARK, NEW JERSEY.

MACHINE FOR UNTWISTING AND PICKING ROPES OF CURLED FIBER.

SPECIFICATION forming part of Letters Patent No. 546,661, dated September 24, 1895.

Application filed October 23, 1894. Serial No. 526,704. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. FLOWER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Machines for Untwisting and Picking Ropes of Curled Fiber, of which the following is a specification.

My invention consists of improved apparatus for untwisting and picking roped and curled animal and vegetable fibers for upholstery and other purposes, reference being made to the accompanying drawings, in which—

Figure 1 is partly a side elevation and partly a longitudinal sectional elevation of my improved machine. Fig. 2 is a plan view of said machine in part.

In an application now pending by myself and William S. Rhoades, filed July 10, 1894, Serial No. 517,084, we have represented a novel mode of roping and kinking fibers for curling them by the use of two drawing and twisting heads and suitable feed-rolls, said drawing and twisting heads being arranged in line with each other and running in the same direction and at the same rate of speed or thereabout, so as to pass the fibers through them, and thus rope the fibers and kink the ropes so as to curl the fibers rapidly and effectually. In this invention I have combined one or more like drawing and twisting heads with feed-rolls and a picker, so that by running the said drawing and twisting heads in the direction for untwisting the ropes and then delivering the untwisted ropes from each head to the picker the fibers may be rapidly picked apart for upholstery use.

A represents drawing and twisting heads, which may be of any common or approved form of construction, containing feed-rolls for holding the ropes for untwisting, and being geared for feeding the ropes, said drawing and twisting heads preferably arranged side by side in a horizontal plane.

b b represent feed-rolls adapted to feed a rope *c* of curled fibers to each head, *d* a pair of feed-rolls to receive the untwisted ropes from the drawing and twisting heads, and *e* a picker-cylinder for receiving the ropes from feed-rolls *d* and picking them apart.

f indicates a doffer for discharging the picked fibers from the picker.

As indicated by the arrow *a*, it will be seen that the drawing and twisting heads are made to rotate reversely to the twists of the ropes, so that said ropes being held by the feed-rolls *b* against rotation and being held by the rolls *h* of the drawing and twisting heads for turning and also for feeding forward they will be untwisted between these two pair of rolls, and then being delivered to the picker in the untwisted condition may be readily picked apart. The feed-rolls, drawing and twisting heads, and the picker may be driven in any approved way, as usual in such machines. In this example I have represented a belt *i* as driving the front drawing and twisting head from an overhead shaft *j* and other belts *k l* for driving the feed-rolls from said shaft. Other like overhead shafts may be provided for driving the other drawing and twisting heads. The untwisted ropes may, of course, be delivered from the feed-rolls to other picking devices or they may be delivered to receivers of any kind to be retained for subsequent picking, and the untwisted ropes may be delivered directly from the rolls *h* of the drawing and twisting head to the picker or other receiver with good results; but in such case the said drawing and twisting heads should have a funnel-shaped terminal.

The drawing-rolls *h* have their journals suitably mounted in the curved slots *n*, whereby they may be adjusted for larger or smaller ropes circumferentially to the axis *o*, from which they are driven by the spur-wheels *p* each independently of the other, for which bevel-wheels *q* are provided on opposite sides of the head, respectively, which gear with the bevel-rim *s* of the spur-wheel *t*, turning freely on the hollow shaft *u* of the drawing and twisting heads, the wheel *t* being turned by a spur-wheel *v* on the shaft *w*, to which motion is imparted by the spur-wheel *x*, geared with the spur-wheel *y* on the shaft *u*; but this construction and arrangement of the gearing of the drawing and twisting head are the subject of a claim in the before-mentioned pending application and is not claimed herein.

I am aware of the patent to Adcock, No.

254,583, in which a hollow rotating spindle with spring-jaws having serrated edges to grip the rope is used to untwist the ropes previous to entering feed-rolls for delivering the untwisted ropes to the picker, and I do not claim such a device.

My invention is essentially distinguished from that in that I employ the twisting-head used in spinning, which has feed-rolls to hold and turn the rope, and, besides, holding the rope equally well as or better than the spring jaws to feed it along also, while the spring-jaws have powerful resistance to feeding besides breaking the fibers and clogging badly.

I am also aware of the patent to Paradis and Drew, No. 104,058, in which large rotating spool-carriers are employed to deliver the ropes to the feed-rolls, the size of which must be too great for any material length of rope for practical use and involve too much time and labor for changing the spools.

It will be seen that by the use of the twisting-head having the feed-rolls for holding and feeding the ropes, the feed-rolls in advance of the twisting-head for delivering the ropes thereto, as well as the feed-rolls for taking the untwisted fibers from the twisting-head and delivering them to the picker, I have a more reliable, efficient, and rapidly-working machine. By the use of the twisting-head and the feed-rolls in advance of it there is no delay in starting the ends of ropes when others have run through, as the advance feed-rolls and the feed-rolls of the twisting-head take them in at once when handed thereto.

I claim—

The combination of untwisting apparatus for roped fibers, consisting of one or more drawing and twisting heads having rolls *h* for holding the ropes for untwisting, and being geared for feeding them along, feed rolls *b*, for delivering the roped fibers thereto, and holding them for untwisting, feed rolls *d*, for receiving the untwisted ropes from the drawing and twisting heads, and a picker for picking the fibers apart substantially as described.

Signed at New York city, in the county and State of New York, this 15th day of October, A. D. 1894.

SAML. A. FLOWER.

Witnesses:
W. J. MORGAN,
A. P. THAYER.