

(No Model.)

C. P. SMITH.
WOOL SCOURING MACHINE.

No. 342,812.

Patented June 1, 1886.

Fig 1.

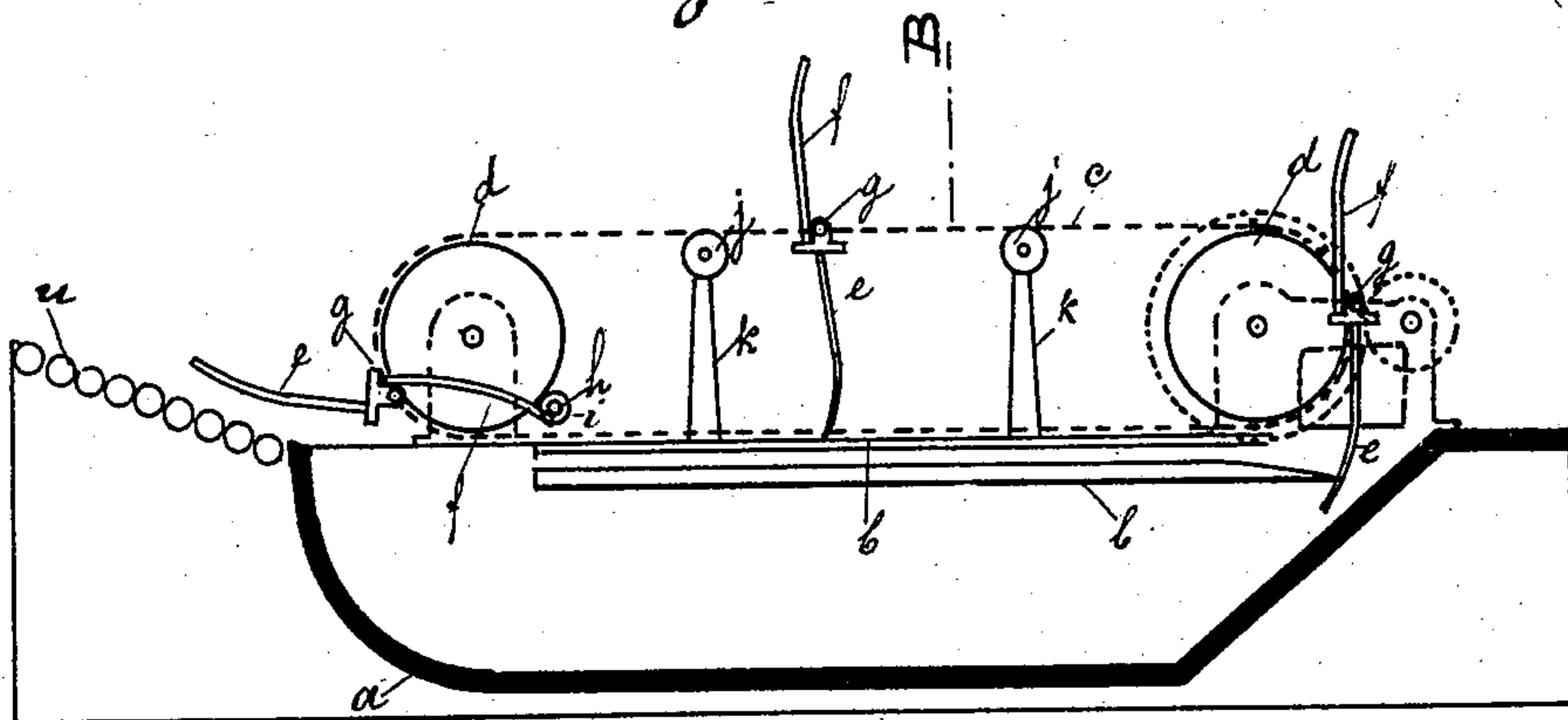


Fig 2.

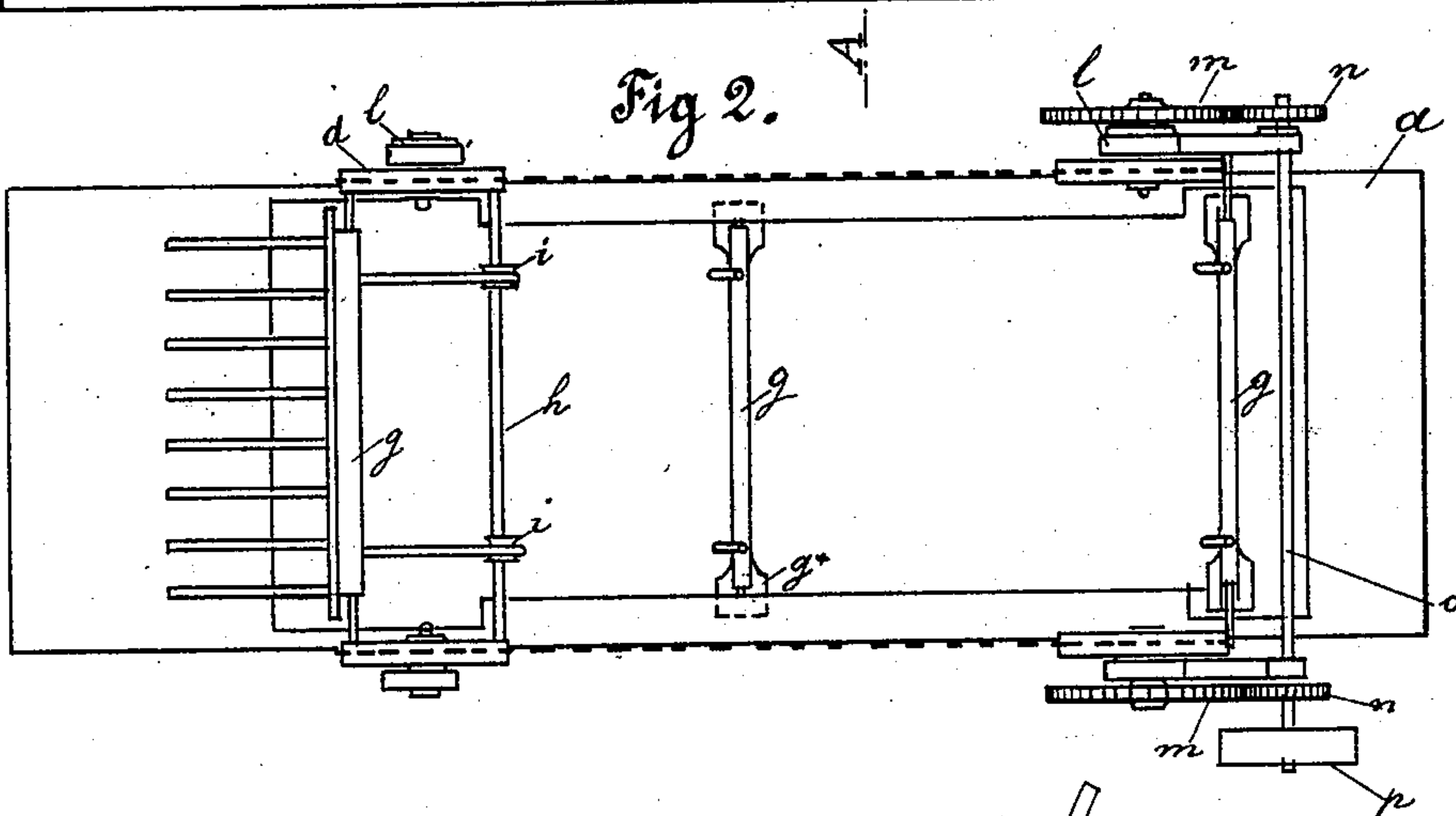


Fig 3.

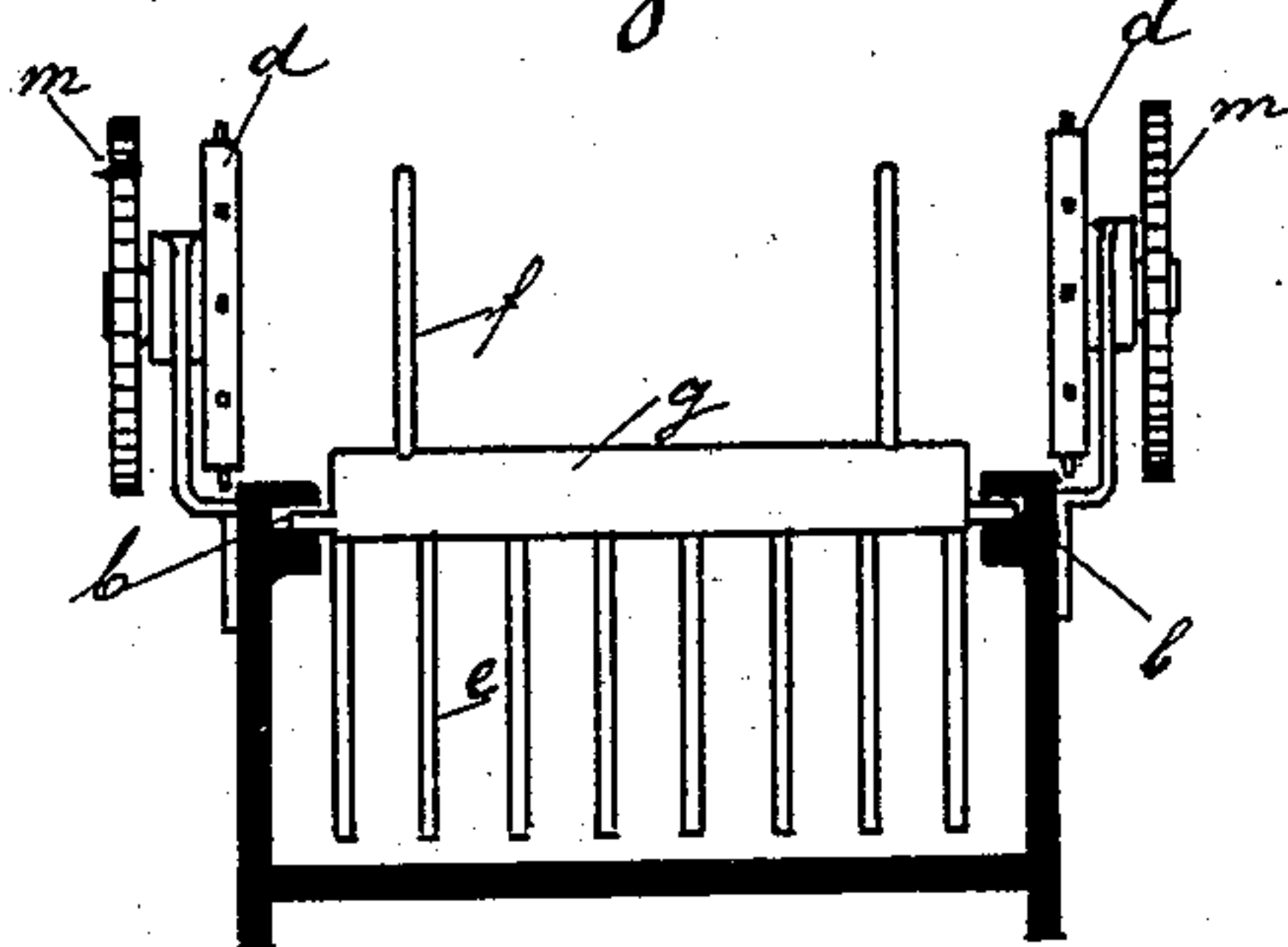
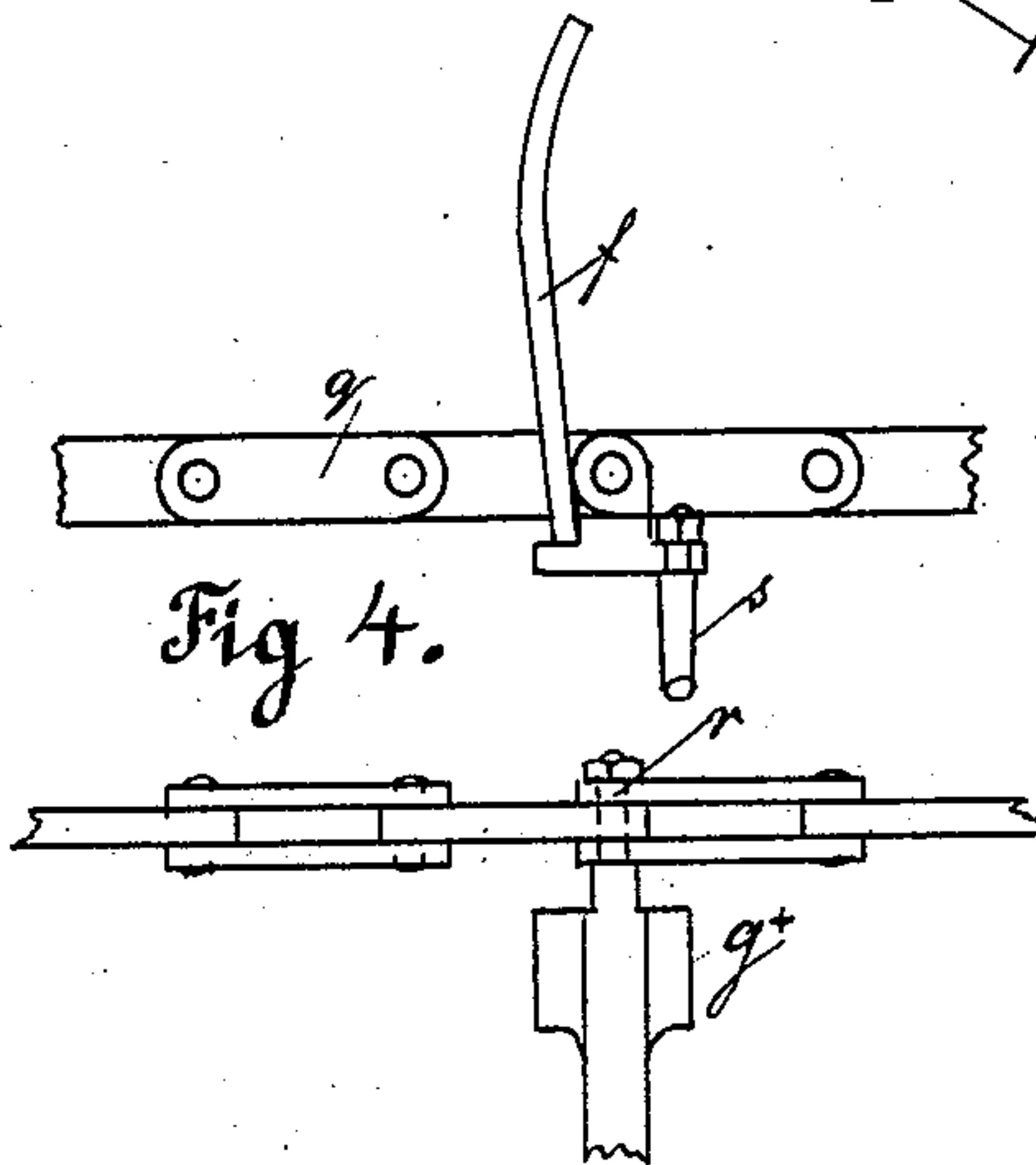


Fig 4.



Witnesses.
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CLAYTON P. SMITH, OF OAKLAND, ASSIGNOR OF ONE-THIRD TO CHRISTOPHER C. COTTRELL, OF SAN FRANCISCO, CALIFORNIA.

WOOL-SCOURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 342,812, dated June 1, 1886.

Application filed August 18, 1885. Serial No. 174,735. (No model.)

To all whom it may concern:

Be it known that I, CLAYTON P. SMITH, a resident of Oakland, Alameda county, State of California, have invented a new and useful Wool-Scouring Machine; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

My invention relates to means for cleansing wool in an expeditious and economical manner without felting or breaking the fiber.

The following description fully explains the nature of my said invention, and the manner in which I proceed to construct, apply, and operate the same, the accompanying drawings being referred to by figures and letters.

Figure 1 represents a general section through the whole machine, showing scouring-tub, parallel guides, chain-wheels, rakes hanging from chain guide-wheels, spur-wheels, and tilting bar and grooved pulleys. Fig. 2 is a plan view of the same, showing the rakes in the act of delivering wool on the feed-rollers. Fig. 3 represents an end section through the line A B. Fig. 4 shows two enlarged views of part of the endless chains, showing links and attachment of rake-head pivots.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

At the rear of the tub a shaft, *o*, holds the transmitting pulley *p* and the spur-wheels *n*, and on each side of the tub a bracket, *l*, receives a small shaft on which are keyed the chain-wheels *d* and the spur-pinion *m*, which engages the spur-wheel, Fig. 2. Placed on each side of the tub are brackets *k* for supporting the guide-wheels *j* for the endless chains *c*, or the chains may be supported by a rod or bar attached to the tub or to brackets. Attached to the inner upper edge of the tub on each side are parallel guides *b*, made of strips of wood or metal, and so placed as to form a groove, the lower strips having their rear ends beveled, Fig. 1. An endless chain passes over the chain-wheels *d* and the guide-wheel *j*, supported on the brackets on each side of the tub, and carries the rakes. The rake-head is made of iron or steel, and has a pivot, *r*, on each end for attaching to links in the endless chain,

Fig. 4. On the forward side of the rake-head are attached projections *f*, and on the lower edge of the ends of the rake-heads are flanges *g*^x at right angle with the head. The steel teeth *e* of the rake have a forward curve from center to points, and are held in the head by a nut, by which they are attached and detached. Near the front of the tub, and secured to its sides by lugs projecting from the brackets *l*, is a tilting bar, *h*, having grooved pulleys *i*, against which the cams strike and act.

The operation of my wool-scouring machine is as follows: The wool passes from the duster into the tub which contains the cleansing liquor, and the gearing transmits motion to the endless chains which carry the rakes *e*. The rakes dip into the tub in an upright position and are carried along in that position, agitating the mass and collecting a load of wool until the projection *f* on the forward rake-head *g* strikes the tilting bar *h*, which action raises the points of the rake-teeth on a level with the feed-rollers. The cams remain in the grooved pulleys *i* on the tilting bar until the rake-teeth are carried their full length over the feed-rollers, when the cams fall off the tilting bar, and the rake deposits its load of wool on the feed-rollers. The rakes, which are carried into the tub in an upright position, are kept in that position and prevented from swinging forward or backward by the flanges *g*^x on the rake-head entering the grooves in the guides and *b* moving therein until the tilting bar is reached, when they pass out. The endless chains are kept in place and prevented from sagging by the guide-wheels *j*, or by rods or bars which support them over the space on each side between the chain-wheels.

As many rakes may be attached to the endless chains as the condition of the wool requires, and the teeth may be removed and replaced as required. If the wool being cleansed has long fiber and tends to clog the teeth and cause an undue flow of the liquor to either end of the tub, alternate teeth may be removed from a rake while the rake following will have the teeth corresponding to those removed from the forward rake and will operate in the space passed over by that rake. If a batch of wool requires considerable agitation in the liquor,

the cams may be removed from one or more of the rake-heads, which will permit the rakes to pass into the tub and to stir the mass in the passage through without carrying out any of the wool.

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

1. In a wool-scouring machine, the rakes *e*, with curved teeth and having continuous action, and flanges *g*^x and projections *f* on rake-head *g*, substantially as described, and for the purpose set forth.

2. In a wool-scouring machine, the tilting bar *h*, with grooved pulleys *i* and parallel guides *b*, in combination with the rakes *e* with

curved teeth, and flanges *g*^x and projections *f* on rake-head *g*, substantially as described, and for the purpose set forth.

3. In a wool-scouring machine, the combination of the rakes *e* with curved teeth and flanges *g*^x and projections *f* on rake-head *g*, parallel guides *b*, and tilting bar *h*, and grooved pulleys *i*, with the tub *a*, feed-rollers *u*, endless chains *c*, chain-wheels *d*, and brackets *l*, and guide-wheels *j*, and brackets *k*, substantially as described, and for the purpose set forth.

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Witnesses:

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