(No Model.) 3 Sheets—Sheet 1.

M. CRAWFORD.

ADJUSTABLE TRAVELING HOG SCRAPING MACHINE.

No. 249,159. Patented Nov. 8, 1881.

Fig. 1.

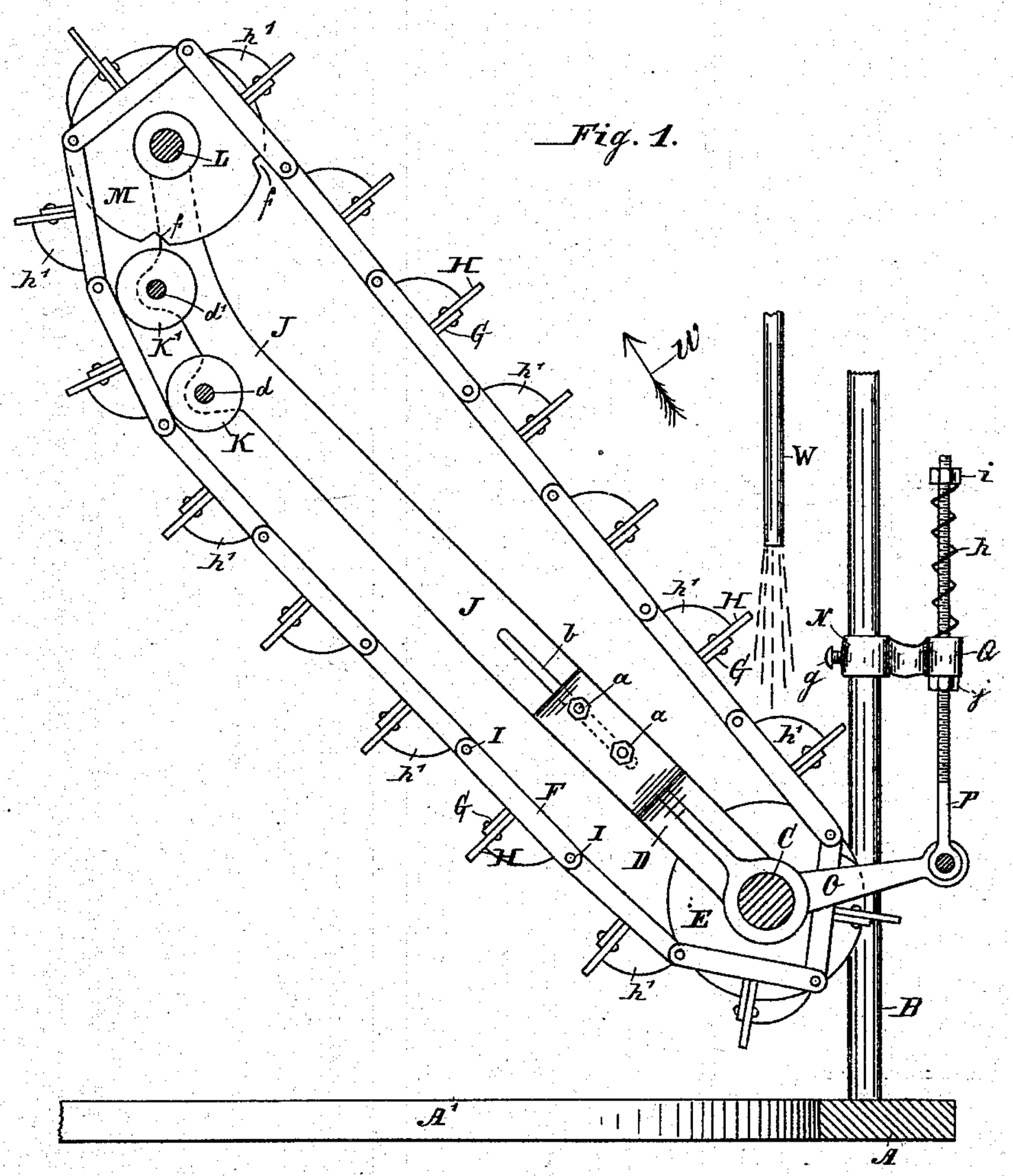
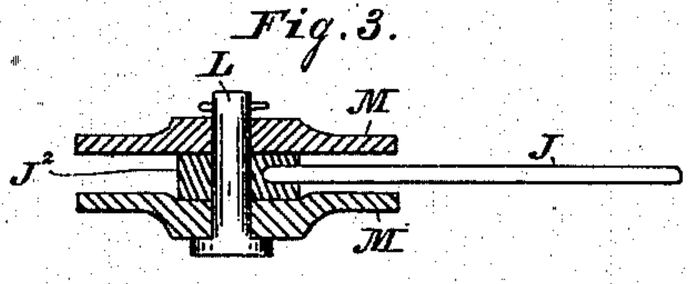


Fig. 3.



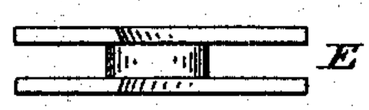
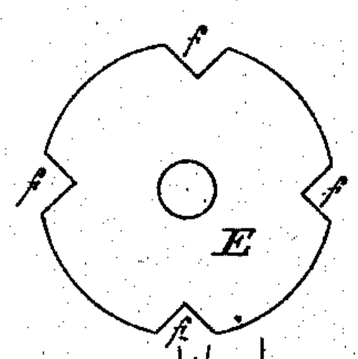


Fig. 4.



WITNESSES:
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Geo. H. Bennett

INVENTOR:
Moses Crawford.
per E. C. Brink
his attorney

(No Model.) 3 Sheets—Sheet 2.

M. CRAWFORD.

ADJUSTABLE TRAVELING HOG SCRAPING MACHINE.

No. 249,159. Patented Nov. 8, 1881.

Fig. 2.

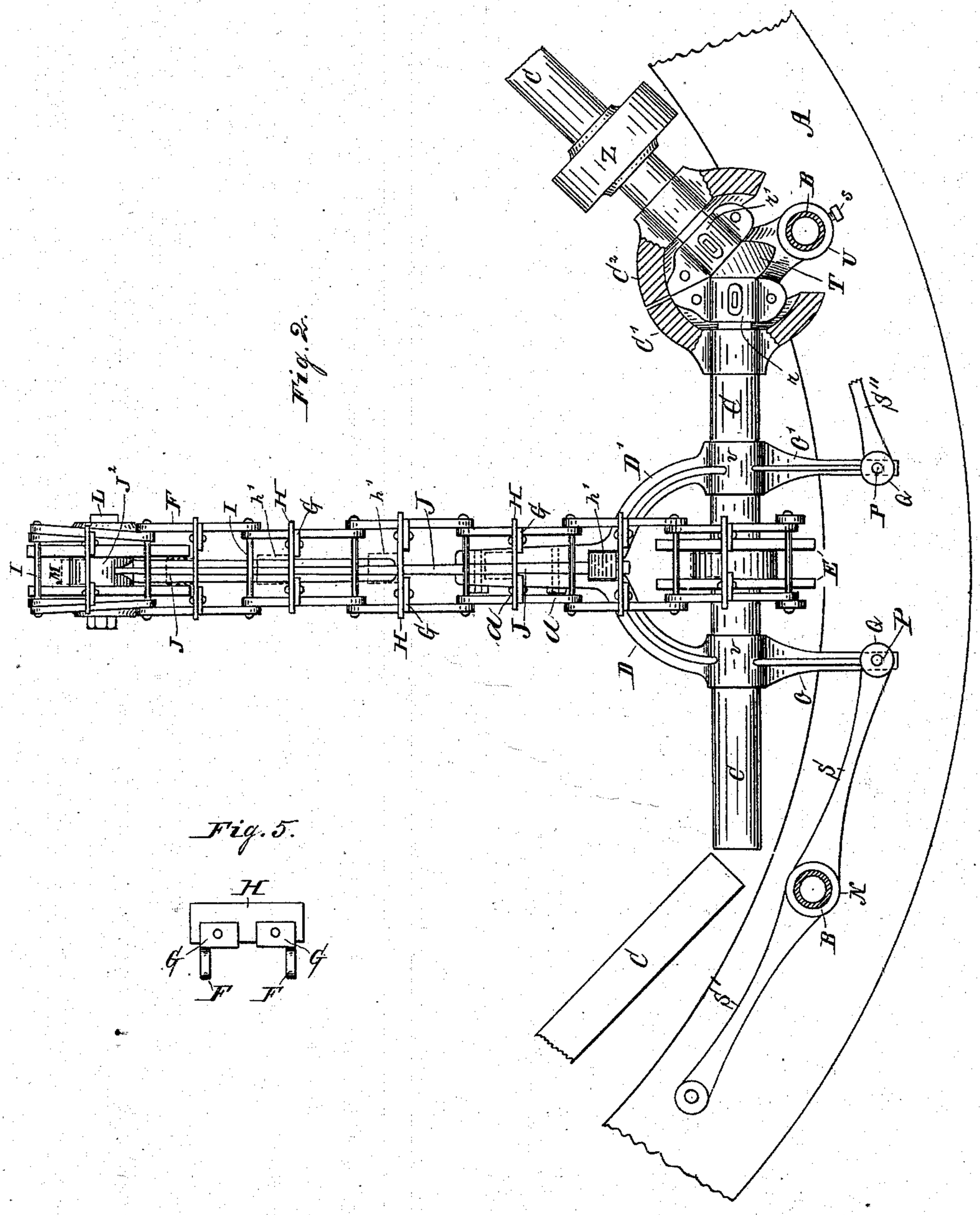
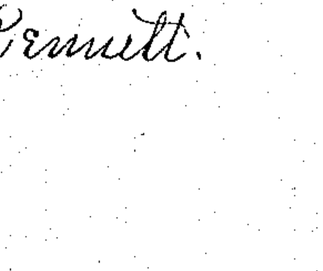


Fig. 5.



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(No Model.)

3 Sheets—Sheet 3.

M. CRAWFORD.

ADJUSTABLE TRAVELING HOG SCRAPING MACHINE.

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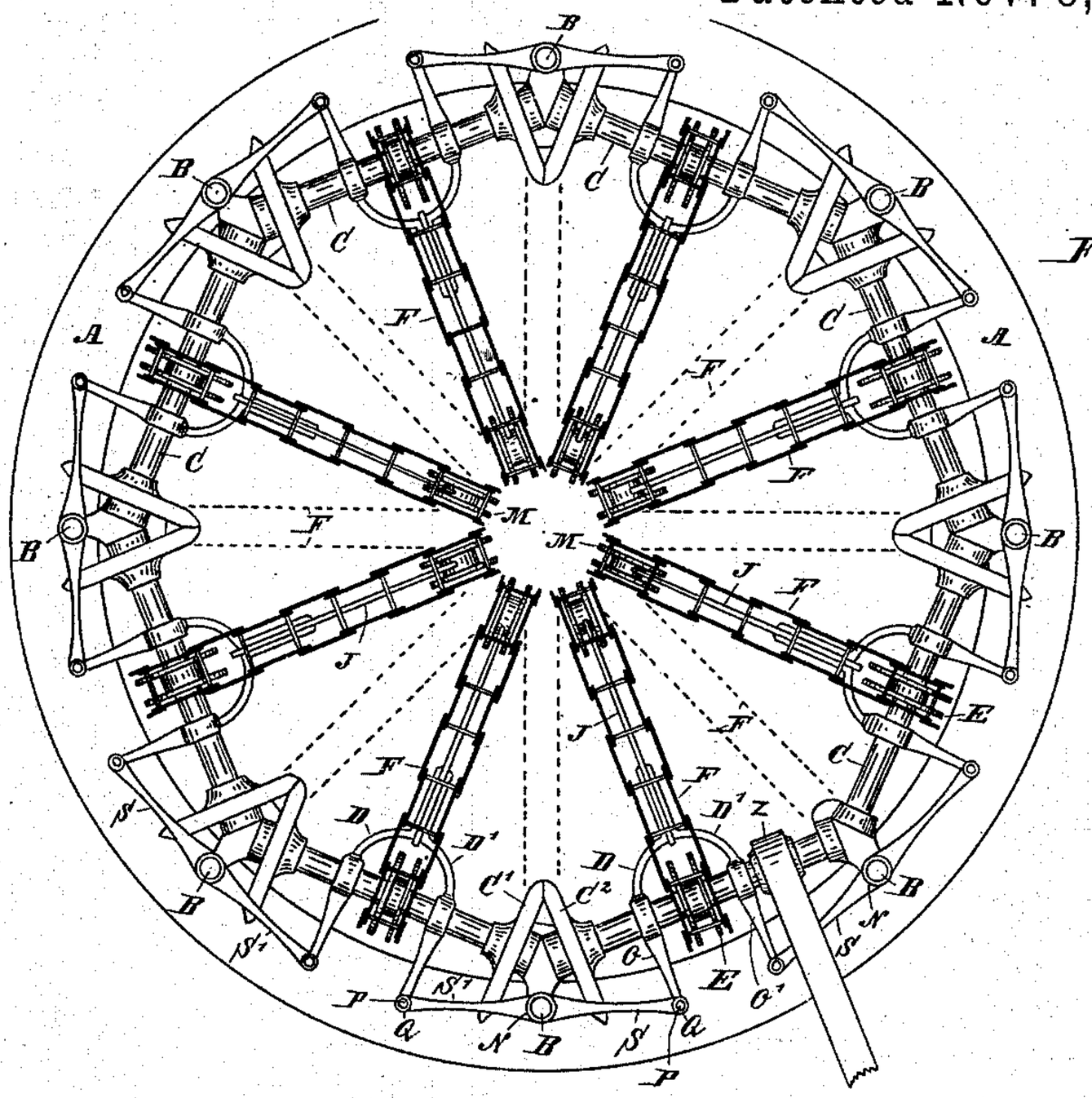

Fig. 6.

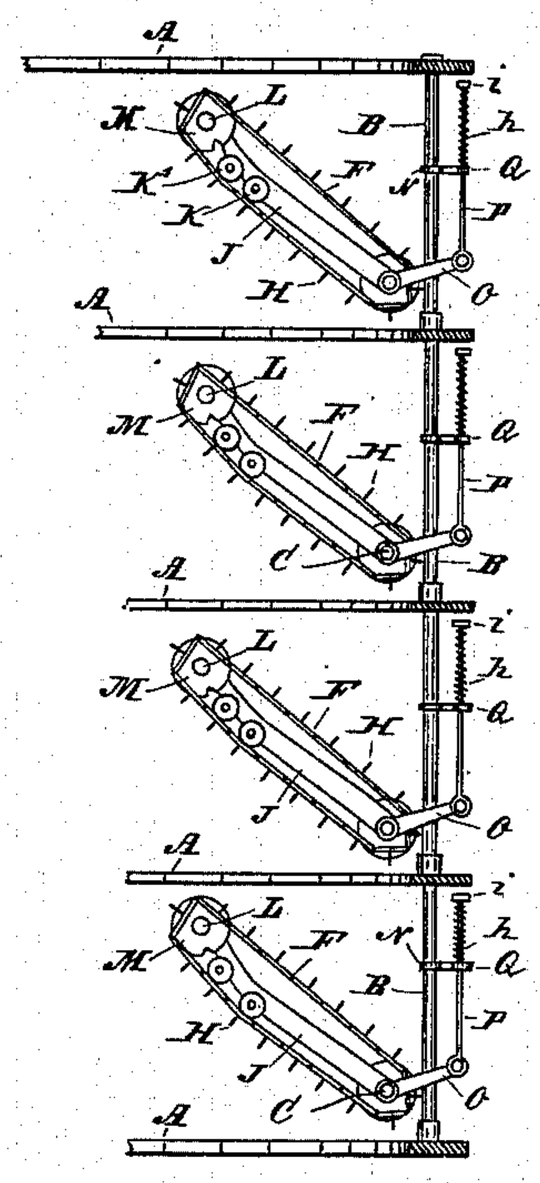

Fig. 7.

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INVENTOR.

Moses Crawford

UNITED STATES PATENT OFFICE.

MOSES CRAWFORD, OF INDIANAPOLIS, INDIANA.

ADJUSTABLE TRAVELING HOG-SCRAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 249,159, dated November 8, 1881.

Application filed July 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, MOSES CRAWFORD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Adjustable Traveling Scraper for Cleaning the Hair and Dirt from Hogs, of which the following is a specification.

My invention relates to a traveling-scraper device for removing the hair from hogs, in which revolving shafts are provided with chain-wheels and adjustable arms which operate in conjunction with an endless-chain scraper-belt; and the objects of my invention are, first, to provide a hog-scraping apparatus with a series of traveling scrapers and water-conveyers, by means of which the hide of the animal, as it is drawn upward, is subjected to the constant and continued stream of hot water and the action of a series of scrapers until the hair is removed; second, to afford facilities for holding the traveling scrapers in contact with the hog; third, to provide a means for simultaneously rotating several shafts, arranged at various angles to each other, for the purpose of operating the traveling scrapers. These objects I accomplish by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side view of one of the traveling scrapers, together with its operating mechanism. Fig. 2 is a top view of the same, and Figs. 3, 4, and 5 are details. Fig. 6 is a top view of one entire ring, showing the arrangement of scrapers and their operating mechanism; and Fig. 7 is a vertical section through several rings, showing a side view of the scrapers and their operating mechanism.

Similar letters refer to similar parts throughout the various views.

The machine, when complete, consists of several rings, A, arranged one above the other and united together at eight different points by the upright pipes B, to which the traveling scrapers are attached, thus forming a skeleton-cylinder.

Each of the sections between the pipes B being alike, I will only describe the construction and arrangement of parts in one section, thus: To the ring A the upright pipes B B are made fast, said pipes dividing the ring into eight (more or less) equal spaces. On each pipe B is secured a bracket, T, by means of the sleeve U and set-screw *s*. The bracket T has two branches or arms, to which the lower section of the journal-boxes *r r'* are cast or made fast. The boxes *r r'* are for the purpose of supporting the ends of the series of shafts C C, which are arranged as shown in Fig. 2. The shafts C are each provided with bevel gear $C' C^2$, which work together as shown in Fig. 2. Thus, when one shaft is revolved by power applied to the pulley Z, all the shafts C are simultaneously revolved in their respective bracket-boxes *r r'* on the brackets T U. On the shaft C is mounted the forked end D D' of the traveling-scraper arm J, the shaft C operating loosely in the hubs *v v*. The rear end of each hub *v* is provided with an arm, O, the use of which will be hereinafter described. The forks D D' are securely bolted onto the arm J by the bolts *a a*, which pass through slots *b* in the arm J, by means of which the length of the arm J may be increased or diminished, as required. The upper end of the arm J is curved and provided with a boss, J^2, on each side of which are the notched disk-wheels M M', said disk-wheels being supported by and rotating on the stud-pin L. The lower curved edge of the arm J is provided with two rollers, K K', supported on pins *d d'*, as shown. On the shaft C, between the forks D D', is firmly secured the notched disk-wheel E, which revolves with the shaft C and communicates motion to the traveling scrapers. The traveling scrapers consist of a chain composed of links F, united by the bar-pivots I. Each bar-pivot I operates in the notches *f* of the wheel E and causes the chain to travel in the direction of the arrow *w*. Each link F of the chain has a lug, G, to which the scraper-blades H are made fast, also the water-elevator buckets *h'*, as shown, the hot water being supplied to each bucket from the pipe W. The upright pipes B are further provided with bracket-sleeves N, to which the arms S S' and sleeves Q are attached, thus forming a bracket-connection between the pipes B B, with the sleeves Q Q over the ends of the arms O.

The rod P has its lower end pivoted to the arm O, and extends upward through the sleeve Q. The upper part of the rod P is provided with a spring, *h*, and a nut, *i*, for regulating its pressure on the sleeve Q and rod. Below

the sleeve Q the rod P is provided with a nut, *j*, by means of which the tension on the spring *h* is regulated.

Power being applied to the pulley Z, the shaft C is revolved and the bevel-gears C′ C² cause the next shaft C to revolve, and so on, until all the shafts revolve. The notched disk-wheel E causes the scraper-chain F I G H to travel always in the direction of the arrow *w*. A hog is drawn upward between the upper ends of each scraper-arm J, and the arm J, with its scraper, oscillates on the shaft C—that is, as the hog presses the upper end of the scraper away the arm O, rod P, and spring *h* cause a resistance and exert enough force on the arm J to cause all the scrapers H to come in contact with the hog with force enough to scrape off the hair, each scraper operating on the hog similar to a hand-scraper.

It is obvious that a hog drawn upward between a series of traveling scrapers, as described, will be perfectly freed from its hair and bristles by the continual action of the scrapers.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the shaft C, having the notched disk-wheel E secured fast thereto, the adjustable scraper-supporting arms D, D′, and J, arranged to work loose on said shaft, substantially as specified.

2. The adjustable arms D D′, forming a fork to straddle the disk-wheel E, and each fork beyond the holes *b b* provided with rearward-projecting arms O O, combined with the adjustable bar J, having a boss, J², at its outer end, and the notched disk-wheels M M′, mounted loosely on the stud-pin L, all substantially as shown and described.

3. In combination with the standards B, the bracket N, with arms S S′ and sleeves Q, the rod P, with adjusting-nut *j* below the bracket, and spring *h*, with nut *i* above the bracket, and the arms O of the fork D D′, substantially as shown and described.

4. In a hog-scraping machine, the movable arm J D D′, provided with traveling scrapers H and water-buckets *h′*, substantially as specified.

5. In a hog-scraper, the endless scraper-chain, having the scrapers H and water-conveyers *h′* attached thereto, adapted to be operated at an angle to the animal to be scraped, and to adjust itself to the irregularities of form of the animal during the act of scraping, substantially as specified.

6. The scraper-chain provided with water-buckets *h′* and scrapers H, combined with the hot-water pipe W, substantially as shown and described.

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

MOSES CRAWFORD.

Witnesses:

G. H. RENNETT,

E. O. FRINK.