(No Model.)

D. AIKMAN.

PROCESS OF MANUFACTURING PEAT FUEL.

No. 390,547. Patented Oct. 2, 1888.

Fig. 1

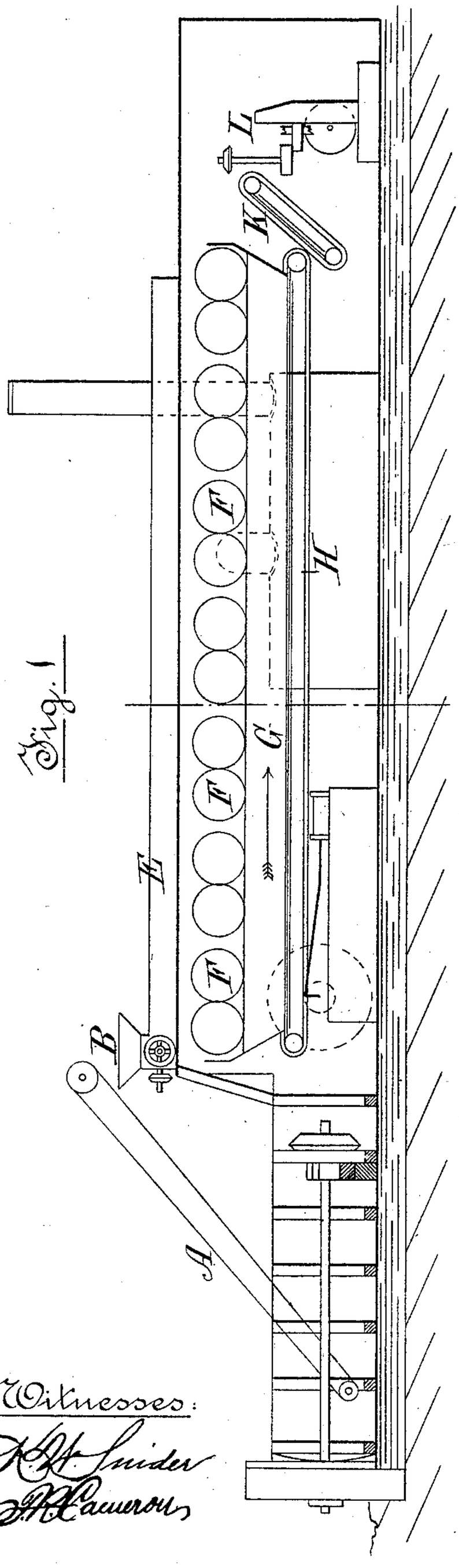
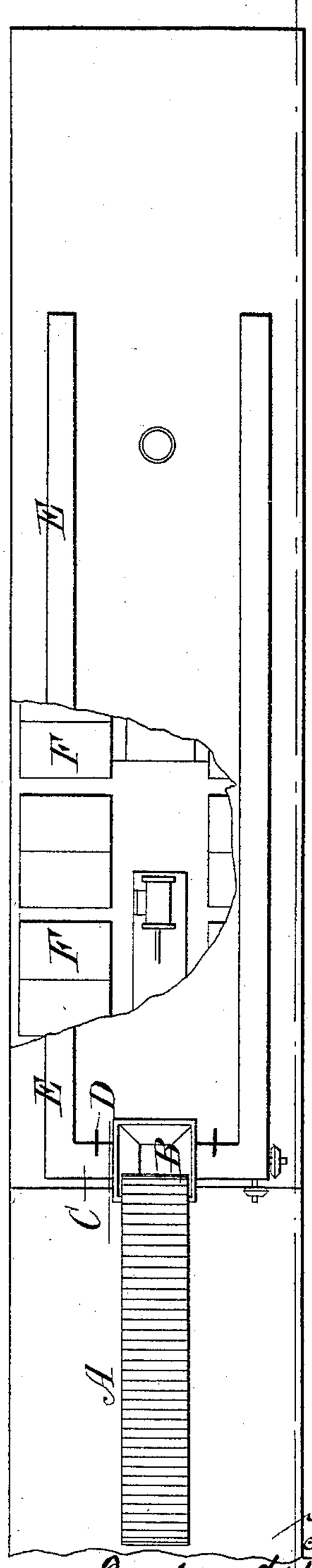


Fig. 2



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UNITED STATES PATENT OFFICE.

DAVID AIKMAN, OF MONTREAL, QUEBEC, CANADA.

PROCESS OF MANUFACTURING PEAT FUEL.

SPECIFICATION forming part of Letters Patent No. 390,547, dated October 2, 1888.

Original application filed July 9, 1887, Serial No. 243,888. Divided and this application filed March 15, 1888. Serial No. 267,232.
(No model.)

To all whom it may concern:

Be it known that I, DAVID AIKMAN, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented a certain new and useful Improved Process for Manufacturing Peat Fuel; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to the manufacture of peat fuel; and the improved method or process consists in the treatment of the peat in different stages between a semi-liquid state and the production of a pressed block in condition for burning.

The present application is a subdivision of my previous application filed July 9, 1887, Serial No. 243,888. Its object is to produce a block of peat which shall possess the minimum amount of moisture and the maximum of carbon and other inflammable substances, and at the same time be of close texture, great specific gravity, easy of ignition, and not readily subject to the influence of water or of the atmosphere.

In carrying out my improved method or process I prefer to use an apparatus similar to that shown in the accompanying drawings, forming part of this specification.

Figure 1 is a diagram showing in side view a double apparatus arranged upon a scow, and Fig. 2 a plan of same.

My process is not concerned with the cutting or digging of the peat from the bog, as that may be done in any convenient way. I, however, indicate at A an elevator connected with an excavator, for conveying the semi-liquid peat to a hopper, B, underneath which are the usual "stick-catchers," arranged in suitable troughs, C.

Although the apparatus illustrated has the different parts arranged in duplicate, this is not necessary, and for greater clearness I shall only describe one set of devices.

I inject live steam into the peat contained in said troughs by pipes D, in order to facilitate the extraction of the "sticks," and also to heat the mass at the same time. From thence, by suitable conveyers, the pulped peat is taken to a mixer, or directly along a trough, E, having openings at intervals, through which it drops between highly-heated rollers F F, (or between rollers and heated plates,) these being preferably corrugated, so as to increase their surfaces and allow each pair to fit closely to each other. The action of these devices is to flatten out the mass into sheets, flakes, or films, and their surfaces being at high temperature the lighter volatile vapors are dissipated as the peat is dried, and the dry flakes fall or are scraped from the rollers into a common trough, G, and are thence conveyed by a carrier, H, or other suitable means, to the rear of the apparatus, where, if necessary, the peat may drop onto another elevator, K, which brings the dried flakes or films to the proper point for delivery to a press, L. At this stage it must be understood that the peat, while deprived of some of its volatile vapors and fairly well dried, is not yet in the most desirable condition, chemically speaking, and I therefore use a press, which will take this hot "flaky" peat, and while molding it into blocks of suitable size and shape will fracture the minute cells which contain a large percentage of inflammable tarry and resinous substances, and liberate same momentarily, and again force these substances between the fibers of the mass while under pressure. The peat must therefore be retained in the molds of the press for some time, and dry heat must be imparted to said molds at such a high temperature as to first assist the disintegration of the cells and then immediately char or carbonize the whole mass while the same continues under pressure. This action binds the free carbon and volatile combustible matters closely together, the resinous matter being diffused throughout, and also brought to the outside, and the friction of the molds imparts a glaze or polish to the surfaces of the blocks.

When discharged from the press, the blocks produced by the above process will possess all of the beneficial qualities hereinbefore mentioned.

I do not claim the product of my process in

this application, as it forms the subject-matter of another case filed contemporaneously herewith.

What I claim is—

The improved process in the manufacture of peat fuel which consists in reducing the peat to a semi-fluid pulp, then drying it in the form of thin films or flakes, and afterward pressing it while hot into blocks, the whole substantially as described.

Montreal, March 7, 1888.

DAVID AIKMAN.

Witnesses:
STEPHEN ROBERTS,
JOHN G. SHAW.