

D. C. McCAN.
FUEL BRIQUET.

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959,870.

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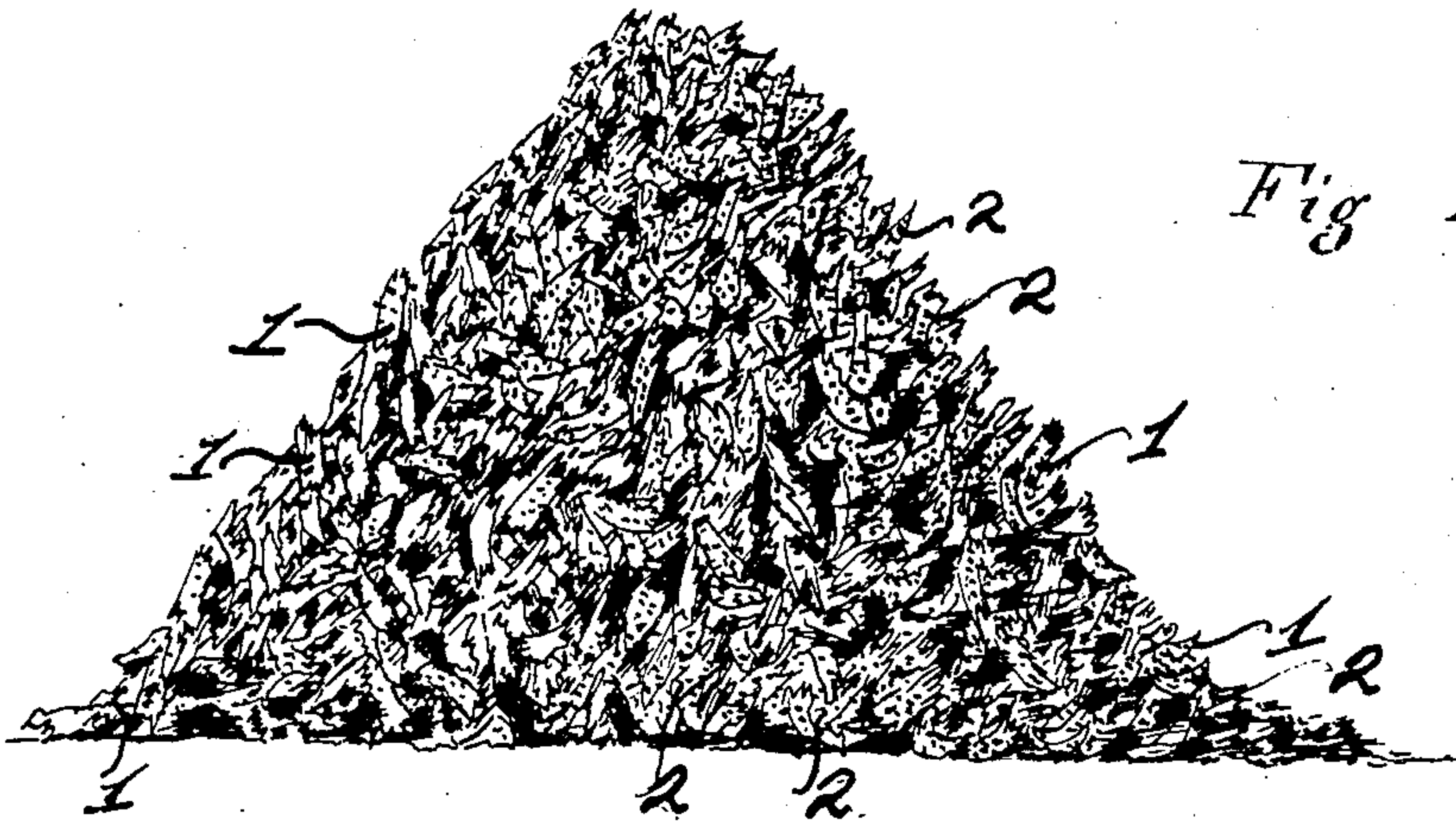


Fig. 1

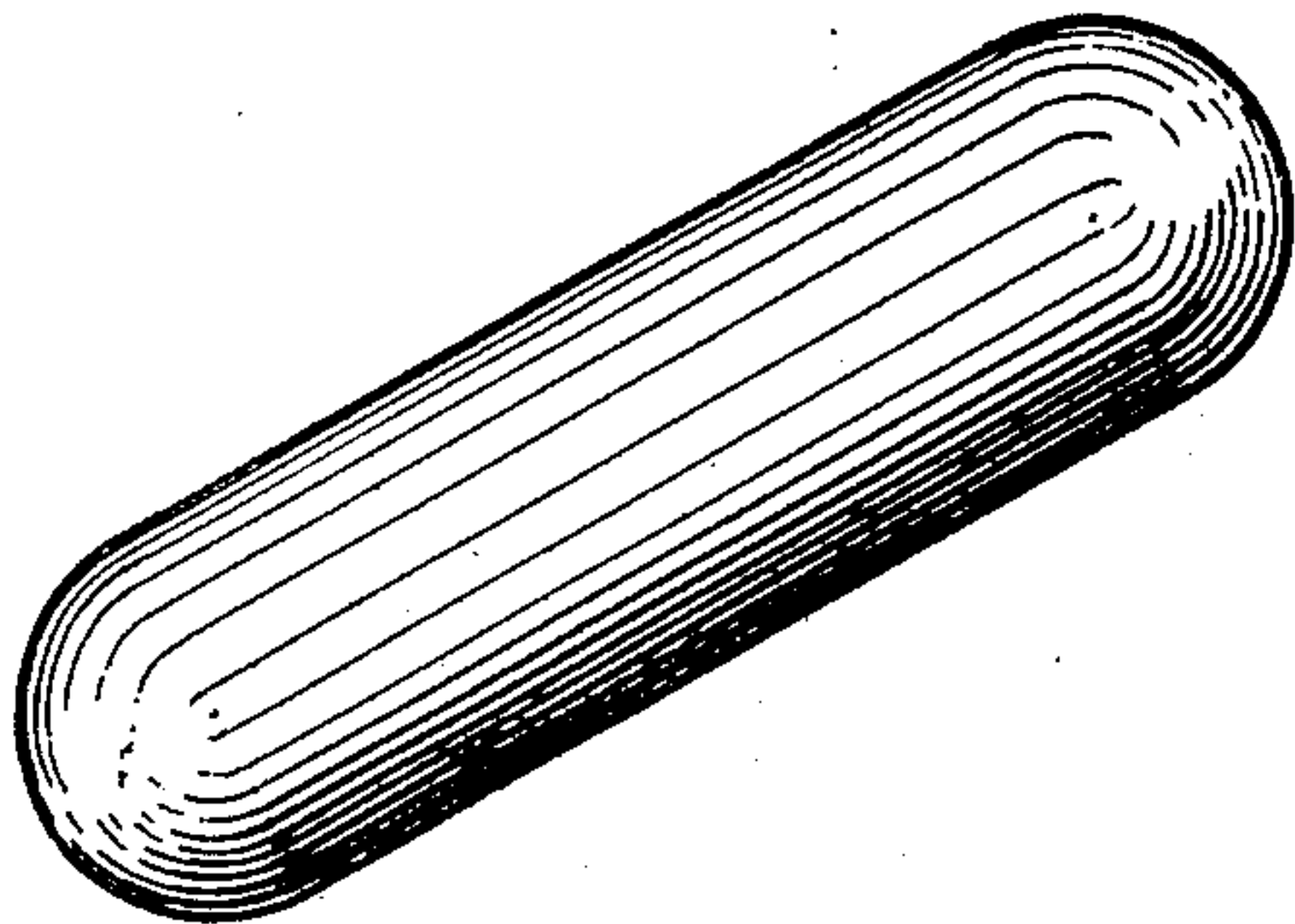


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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FUEL-BRIQUET.

959,870.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID C. McCAN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Fuel-Briquets, of which the following is a specification.

This invention relates to briquets made from wood shavings and other loose combustible woody refuse, which is compressed, under high pressure, into compact billets, which retain their form after the pressure is relieved.

The method of manufacturing the briquets, as well as the resulting product, is set forth in the following specification and illustrated in the accompanying drawing, in which—

Figure 1 illustrates a pile of loose material, such as wood shavings, with which is intimately mixed a combustible binding material, such as rosin or pitch; and, Fig. 2 is a perspective view of one of the complete briquets.

Referring to the drawing, 1 designates loose wood shavings, etc., with which is preferably mixed a binding agent, such as rosin or pitch, particles of which are indicated by the reference numeral 2. It is not essential that a binding agent be incorporated with the mass, as it is found that when the woody material is compressed in the manner hereinafter described the particles will cohere and the briquets will retain their form even if no binding agent be additionally supplied. Preferably, however, rosin, in granular form, or pitch, is intimately mixed with the loose waste material and the quantity of binder thus used may be varied according to the character of the waste material or to the purpose for which the briquets are used. Briquets containing a considerable quantity of rosin or pitch will yield a greater number of heat units than where lesser quantities are employed and the binder assists in the complete combustion of the other ingredients of the briquet.

In forming the briquets the loose waste material, such as wood shavings, sawdust, etc., either with or without the binding agent, is placed in a tubular mold, one end

of which, on its inner side, is concave and preferably of hemispherical form and the material is compressed in this mold by means of a plunger having an inner face of hemispherical form. A very high pressure is applied to the plunger and the heat generated by the compression of the mass causes a liquefaction of the rosin, where such is employed, or a melting of the pitch, and an exudation of any resinous or gummy substance that may be inherent in the waste material and these substances assist in causing the particles of waste material to cohere. But, it is found that when a sufficient pressure is applied to the shavings, etc., in a cylindrical mold having concave ends the waste material will be compressed into a cylindrical briquet having rounded ends which will retain its shape after the pressure is removed, even though no binding material be added. When the briquets are formed, under high pressure, (say twenty tons to the square inch) in a mold or press of this form, there is a concentration of the shavings, etc., toward a common center, which, it is found, causes the particles of the mass to cohere. Experiments with briquets of shavings etc., formed by compression in molds having flat ends have been unsuccessful because no coherency of the mass could be obtained.

The briquets for fuel blocks resulting from the method of manufacture above pointed out, in cylindrical molds having rounded ends, are cylindrical in form and with rounded ends as shown in the drawing, and these bodies are solid, hard, and do not crumble, chip or break when carelessly handled or when stacked.

What I claim, is:—

As an article of manufacture, a compressed elongated cylindrical briquet having rounded ends and composed of wood shavings and the like.

In testimony whereof I affix my signature in the presence of two witnesses.

DAVID C. McCAN.

Witnesses:

C. H. POQUERGUIOT,
GEO. H. BARRY.