S. PIERCE.

Gridiron.

No. 835. Patented July 12, 1838.

Fig. 2

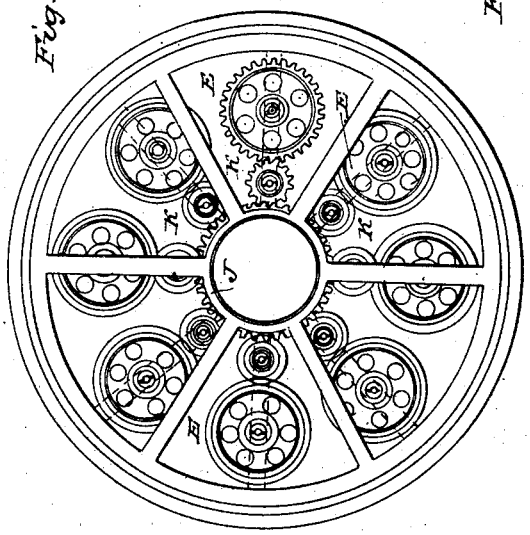


Fig. 3

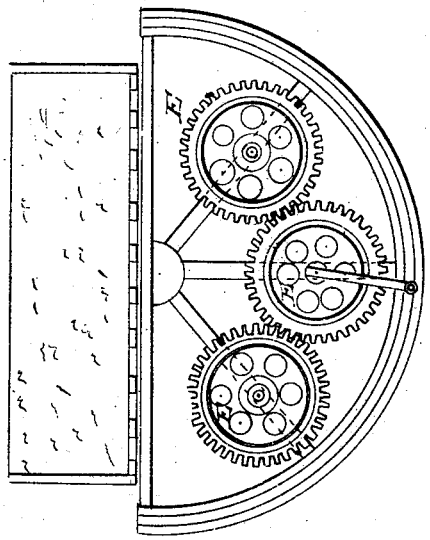
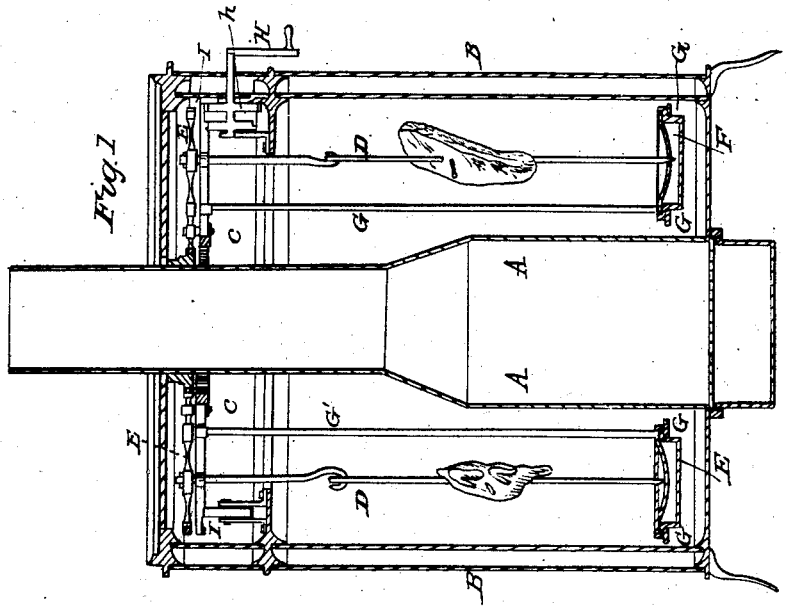


Fig. 1



UNITED STATES PATENT OFFICE.

SAML. PIERCE, OF NEW YORK, N. Y.

APPARATUS FOR ROASTING MEAT.

Specification of Letters Patent No. 835, dated July 12, 1838.

To all whom it may concern:

Be it known that I, SAMUEL PIERCE, of the city of New York, in the State of New York, have invented certain Improvements in Apparatus for Roasting Meat and other Articles, which Apparatus I Denominate the "Manifold Roaster or Planetarium Cooking-Stove;" and I do hereby declare that the following is a full and exact description thereof.

The main object of my improvement is to combine together a number of spits, or jacks, each of which is to sustain a joint of meat, a pawl or other article to be roasted; and each of which spits is to be suspended by a hook, over its appropriate dripping pan; the whole of which spits, or jacks, may be made to revolve simultaneously, by wheelwork properly geared, either before an ordinary fireplace, or more properly by being placed around a stove constructed for the purpose; in which latter case, the spits not only revolve on their own axes, but have an obicular revolution around the stove whence the name of planetarium cooking stove. The effect of the heat is in either case, is to be promoted by means of reflectors, in a way to be presently described. When the planetarium stove is complete, and in operation, its external appearance is that of an ordinary cylindrical stove of large diameter, the external cylinder being a case, (usually made double,) which surrounds the stove, and which also surrounds the system of spits which revolve around said stove.

Figure 1 is a vertical section of the whole apparatus through the middle. The cylindrical stove A, A, occupies the center, and this has its feeding door, ash pit, and other appurtenances necessary to its effective operation not differing in any essential point from the ordinary cylindrical stoves; its whole office being to contain the burning fuel, and to diffuse the heat around it.

B, B, is an external double cylinder, the inner portion of which should be of bright tin plate, or other good metallic reflector; the space between the two cylinders, is to be inclosed, so as to retain the included air, and thus prevent the waste of heat. Through this external case, there are one or more doors, to give access to the roasting chamber. There must also be a door, or doors, in the stove, for the supply of fuel. I usually construct two such doors, one just above the fuel chamber and another in the pipe, above the exterior case; through the latter of which, fuel may be supplied without having access to the stove through the roasting chamber.

C, C, is the space within which, the wheel work is contained, by which the revolution of the spits, or jacks is to be effected. In the roasting apparatus here represented, there are eight spits, or jacks; but, of course, this number may be varied to any convenient extent.

D, D, are two of the spits, or jacks suspended from the centers of revolving wheels E, E.

F, F, are dripping pans, which are placed on a revolving circular shelf, G, G, which is suspended by rods G′ G, attached to the revolving frame work above, and, of course keeping each of the dripping pans in its proper place under the spit to which it appertains.

H, is a winch carrying a pinion *h*, which takes into teeth on the under side of a revolving rim or wheel I, I, by means of which the individual spits are made to revolve on their axes, and the whole system to revolve around the stove by gearing to be now described.

Fig. 2, is a top view of the case C, C, Fig. 1, containing the wheelwork, the whole of which, excepting the center wheel, is sustained by the arms of the toothed rim, of wheel I. The center wheel J, surrounds and is attached to the smoke pipe, or flue of the stove.

K, K, K, are pinions which mesh into the center wheel, and revolve on pivots fixed in the arms *i*, *i*, of the wheel I. These pinions also mesh into the spit wheels E, E, which are also sustained by the arms of wheel I. The pinions of these spit wheels pass through, and revolve in holes in the said arms, and to them the respective spits are attached by hooks or otherwise so that they may be readily unhung. It will now be evident that by turning the winch H, the wheel I, being made to revolve, the stationary center wheel J, will cause the pinions K, and the split wheels E, E, to revolve also. It will not be necessary to keep up this revolution continuously, it being sufficient in general to turn the winch by hand occasionally. But if desired, the revolution may be kept up by a weight, as in the common English roasting jacks, or it may be com-

municated by means of a smoke jack; or in any other known mode of obtaining such motion.

My invention of causing a number of vertical, or suspended spits, to revolve simultaneously, by the aid of suitable gearing may be in part applied to the purpose of roasting before an open fire in an ordinary fireplace of grates. A semicircular reflector, or a reflector which is a less segment of a circle, or which may be straight, may be made to stand before the fire, and have the necessary apparatus for revolving the spits attached to it; such reflectors may be made double as proposed for the exterior case of the planetarium stove above described. This apparatus will resemble a vertical segment of such a roaster as is above described. The forming the reflector of double sheets, however, is not an expensive point, nor does it make any part of my invention. Fig. 3 may represent the upper part of such an apparatus showing the manner in which the spit wheels may be geared, which gearing, in this case, is less complete than that, which is necessary for the complete planetarium stove E, E, E, are three spit wheels, which gear into each other, and to which spits are suspended, in the manner formerly described. To turn these simultaneously, all that is necessary, is to apply a winch, *e*, and to turn one of them by hand, or in any other convenient way; and the whole will be made to revolve upon their axes, which is all that is required under this modification.

I have thus given a full description, of my improved roasting apparatus, and explained the manner in which it operates; and in so doing, I have described the mode, in which the wheels and pinions may be arranged, and so geared, as to produce the intended effect; but every person familiar with this subject, will, at once, perceive, that various other modes of gearing may be adapted for producing the desired motion; that which I have given therefore, is to be viewed as designed for exemplification merely, and not as intended to limit me, to this particular arrangement of wheel-work, in carrying my invention into effect; as it is my intention to resort to others, which are analogous to that described.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The constructing of a cooking apparatus, having any convenient number of spits suspended vertically and made to revolve simultaneously around their own uses, and around a common center, by means of suitably geared wheels, the whole constructed, and operated upon substantially, as herein described.

2. I also claim, the giving a simultaneous revolution to a number of such spits, combined with a reflector, placed before an open fire, in the manner, or upon the principle, herein set forth.

SAMUEL PIERCE.

Witnesses:
JOHN STEWART,
GEORGE D. TALLMAN.