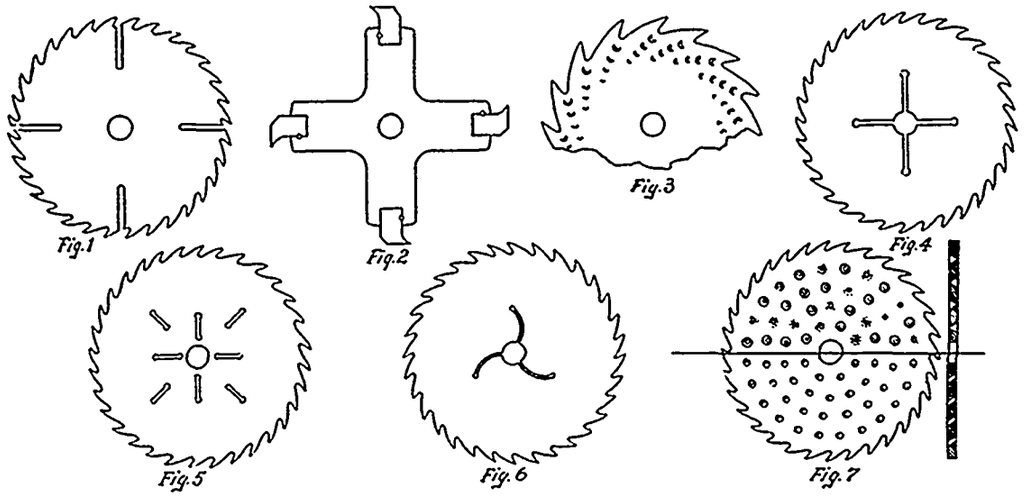
PERFORATIONS IN CIRCULAR SAWS.

THERE are some points of interest connected with the perforations which have been made, from time to time, in circular saw blades. The objective point of different efforts varied considerably. The results in practice have in some cases surprised those who originated the designs. Some instances might be cited where the perforations accomplished more than the designers expected, and others which resulted in comparative or total failure when practically considered.

Perhaps the earliest record relates to a circular saw designed by J. Gove, of Fayetteville, N. C., in 1839. The object in view was to prevent the saw from buckling from the unequal expansion due to unequal heating. The saws were made as shown in Figs. 1 and 2. This invention was patented nearly 60 years ago, and saws made in both patterns are in use at the present time. Pattern shown in Fig. 1 was utilized not long since to prevent cracks from forming in circular cut-off saws. This was done as the result of an investigation into the cause of these cracks and the result arrived at independently of any knowledge of Gove's invention. A practical test not only established the efficiency of the remedy as to the prevention of cracks, but incidentally confirmed the value of Gove's proposition. The saws run lighter, cut smoother, and always cut squarely.



SPECIMENS OF PERFORATED SAWS.

Thirty years later J. E. Emerson, of Trenton, N.J., brought out a circular saw with a series of holes or perforations extending from the gullet of the tooth some distance into the body of the saw, as shown in Fig. 3. This was designed to facilitate in gumming out the saw, and was calculated to save time and labor. At that day the modern emery saw gummers were unknown, and saws were kept in shape by filing by hand or being sent to a saw factory from time to time to be gummed out under a punch press. It can readily be seen how well contrived this plan was to the prevailing conditions. It also served to keep the periphery of the saw cool, and thus added to its efficiency. Saws of this description are still in use, and the design has proved to be of permanent value.

In 1867 I. J. Lockwood designed a circular saw with radial slots located at the centre of the saw blade, as shown at Fig. 4. This was the reverse of the Gove effort, and aimed to keep the saw free from buckle when cool on the rim and heating at the centre. Large numbers of these saws were made and were well received by lumbermen. They are still on the market.

Ten years later E. W. Tilton designed a variation in the arrangement of the slots, shown in Fig. 5. By this arrangement the range of the slots was extended to a larger proportion of the blade, at the same time leaving the saw as stiff or stiffer than in the design shown in Fig. 4. The following year a third arrangement was brought out, shown in Fig. 6. Some advantages were claimed for this design over the others, but it never came into general notice, if used at all.

A little later J. A. Miller, of Oshkosh, Wis., and W. P. Miller, of Brooklyn, N. Y., designed an arrangement of holes involving the entire saw blade, illustrated in Fig. 7. The upper part of the saw is the Oshkosh pattern, in which the holes are countersunk alternately on opposite sides of the saw. The lower half shows the Brooklyn pattern, in which the holes pierce the saw blade at an oblique angle. These saws were termed "ventilated saws," and no one will be likely to object to the term. The designer intended to keep the saws cool by inducing air currents to flow through the holes when the saw was in use. The inclined walls or sides of the holes were arranged to afford as little opportunity as possible for lodgment of sawdust. Only one saw of this sort ever came under the observation of the writer. It was a 72-inch circular, inserted tooth. The saw was made to order, as specified by the owner of the mill, six and seven gauge When put to work it persisted in heating, and was finally returned to the factory to be refitted. When it was received back at the mill it had a large number of holes about ¾-inch diameter arranged as shown in the lower half of Fig. 7. It did not work in this condition. Possibly there were too many holes and the saw lacked stiffness. It did not meet with approval and was returned to the makers. No doubt the ventilating and cooling idea was accomplished, but it made a saw difficult to hammer satisfactorily.

With these efforts and others which are simply variations or combinations of some of them, the circle looking to equalizing the expansion and contraction in circular saws by means of perforations in the saw blade, seems to have been completed. An intelligent adaptation of some features of these designs is of special value even at this late day. All of them have been the subject matter of patent claims, but the patents have now expired.

For small circular saws and for saws running in gangs, the Gove saws are of unquestionable merit. It is a just criticism of these early inventors that they were too liberal in application. There is a dimension limit, soon reached, beyond which the area of openings in circular saw blades cannot go without impairing the strength of the saw. Inside of this limit they are, in many instances, of special value.

There is another set of openings in circular saw blades which may be dismissed very briefly. They are comprised within efforts made to effect planing or smoothing with a saw at the time the lumber is sawn. They consist of openings, varying in size and position, having edges set out beyond the surface of the saw and sharpened to make a planing cut, or, of openings into which plane irons are inserted for the same purpose. It is sufficient to say that although numerous efforts have been made to achieve success along this line, nothing has yet appeared of practical value.—Theron L. Hiles, in Wood-Worker.

MR. VALAMORE E. TRAVERSY.

MANY of our readers will recognize in the accompanying portrait the countenance of Mr. V. E. Traversy, of Montreal, a gentleman well known in Ontario and Quebec. Mr. Traversy is a native of Ottawa. Although a young man, he is by no means a novice in mercantile affairs, having had eighteen years' experience in the lumber business, both at the mills and with the largest dealers in Canada. He has, therefore, a thoroughly practical knowledge of the trade. He represented extensive western companies until five years ago, when he went into business with George W. Perkins, of Ottawa, and established their large yards at 268 Ottawa street, Montreal. The firm, V. E. Traversy & Co., are wholesale dealers in lumber, especially white and red pine, spruce, hemlock and hardwoods, and under the able management of Mr. Traversy, a prosperous and constantly increasing business is being built up.

MR. V. E. TRAVERSY

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