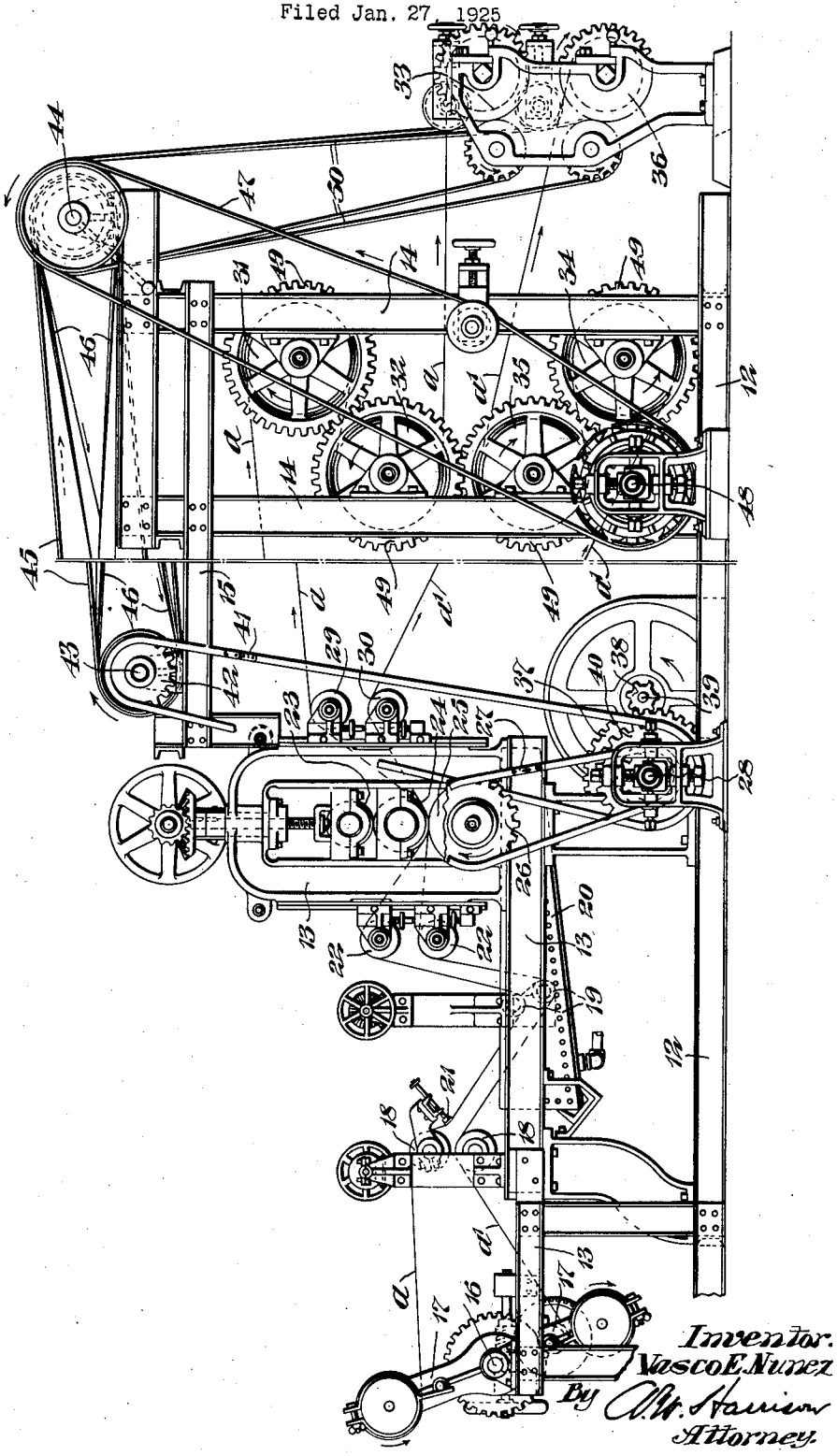
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DUPLEX PARAFFINING MACHINE

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DUPLEX PARAFFINING MACHINE.

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This invention relates to the production of coated sheet material, and has particular reference to the treatment of webs of paper by immersion in melted paraffine or other wax.

The principal object of the invention is to provide a machine capable of a greatly increased speed of production over machines heretofore provided, and I obtain this object by mechanism which simultaneously coats a plurality of webs.

A further object of the invention is to provide a machine which is not only capable of simultaneously coating a plurality of webs, but can also be employed for producing substantially as many different kinds of waxed paper as the machines that have been heretofore employed.

With the above objects in view, the invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

The accompanying drawing is a side elevation of my improved machine, a mid-length portion being omitted to reduce the length of the figure.

Supported by a suitable base 12 are two frameworks 13 and 14 the upper portions of which are connected by bars one of which is illustrtaed at 15. At one end of the frame 13 are bearings for a shaft 16 having arms 17 which support the shafts or cores of two mill rolls which supply the paper to be coated. The two webs of paper are indicated at *a*, *a'*, and they pass from the supply or mill rolls over upper and lower guide rolls 18 which, in practice, are usually so mounted that they may be tilted endwise. From the rolls 18 the webs pass under rolls 19 which are so mounted relatively to the wax pan 20 that the travelling webs are immersed in the melted wax in said pan. The pan, as is customary in paraffining machines, is maintained in heated condition by steam supplied in any suitable or preferred manner. Sometimes it is desirable to employ spreader bars to smooth out any wrinkles that may exist in the webs on their way from the guide rolls 18 to the duck rolls 19. In the drawing one such bar is indicated at 21. That bar may be omitted however, or one employed for each of the two webs.

From the duck rolls 19 the two webs pass over two guide rolls 22 which are usually so mounted that they may be tilted endwise, and are preferably provided with connections of any well-known type to keep them heated when the machine is in operation.

Mounted in bearings provided in the upright portion of the frame 13 are three squeeze rolls 23, 24, 25. The roll 23 is only employed when the machine is operated for another purpose such as what is known as "one-side-waxing." The lower roll 25 is usually of iron, preferably heated, and is at such elevation or point of location as to dip in the wax in the pan 20. The roll 24 is rubber coated and is driven by frictional contact with the roll 25 or by the frictional engagement of the webs being drawn superposed and in contact with each other between the rolls 25, 24. The roll 23 which also may be rubber-covered but for some kinds of waxing may have a plain metal periphery, is driven by frictional contact with the roll 24. The shaft of the lower roll 25 has a sprocket 26 connected by chain 27 with a sprocket carried by the shaft 28.

In operation, with the machine threaded up as illustrated, the two webs *a*, *a'*, pass between the rolls 24, 25, and then pass over guide rolls 29, 30, the upper web *a* then passing around a pair of cold rolls 31, 32, and then to a winding roll 33, the lower web *a'* passing around a pair of cold rolls 34, 35, and then to a winding roll 36.

The shaft 28 has a gear 37 meshing with the pinion 38 of a motor-driven shaft 39. A sprocket 40 carried by the shaft 28 is connected by a chain 41 with a sprocket 42 carried by a counter shaft 43.

A second counter shaft 44 is driven from the shaft 43 by either a straight belt 45 or a cross belt 46 according to the kind of work being performed by the machine, the control and selection of which belt shall be utilized being effected by any well-known or preferred clutch mechanism. A belt 47 connects a pulley of shaft 44 with a pulley of a jack shaft 48, and a gear wheel carried by the latter drives the shafts of the four cold rolls by means of a train of gears one of which is illustrated at 49.

The two winding rolls 33, 36, are also driven from the counter shaft 44, this being effected by belts 50 and suitable gearing such as illustrated.

The important feature of the machine is that while it is capable of simultaneously waxing a plurality of webs of paper when

threaded up as illustrated in the drawing, it possesses flexibility of use in that it can be employed for waxing a single web. That is, it can also produce practically as many different kinds of waxed paper as any of the machines heretofore employed and capable of operating only upon single webs of paper.

Having now described my invention, I claim:—

A duplex waxing machine comprising supports for a pair of supply rolls, a wax pan, guide rolls for directing two webs independently and apart from each other through wax in said pan, squeeze rolls for acting on the webs after leaving said pan, independent cold rolls for the two webs, and a winder for each of the webs.

In testimony whereof I have affixed my signature.

VASCO E. NUNEZ.