

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

CORMA INC., a Canadian Corporation,

Plaintiff;

vs.

**Shanghai Jwell Machinery Co., Ltd.,
(a/k/a Shanghai Jwell Machine
Manufacture Co., Ltd., and a/k/a
Shanghai Jwell Pipe Equipment Co.,
Ltd.),**

Defendant.

Case No. 06 C 3316

**Judge Lindberg
Magistrate Keyes**

**AMENDED COMPLAINT FOR DECLARATORY JUDGMENT
(PATENT INFRINGEMENT) AND INJUNCTIVE RELIEF**

Corma, Inc., a Canadian corporation (“Plaintiff”), by its attorneys, Donald F. Engel, and Maurice Cahn, for its Amended Complaint For Declaratory Judgment due to Patent Infringement and Injunctive Relief against Shanghai Jwell Machinery Co., Ltd., (a/k/a Shanghai Jwell Machine Manufacture Co., Ltd., and a/k/a Shanghai Jwell Pipe Equipment Co., Ltd.) (“Jwell” or “Defendant”) pursuant to 28 U.S.C. §2201 and F.R.C.P. 57 states as follows:

JURISDICTION

1. This action arises under the Patent Laws of the United States, 35 U.S.C. § 271 and §281, as hereinafter more fully appears.
2. This Court has jurisdiction over this cause of action pursuant to 28 U.S.C. §1338.
3. Venue in this Court is proper pursuant to 28 U.S.C. §§ 1391 and 1400 and because during the month of June, 2006, Jwell maintained temporary offices at McCormack Place, Chicago, Illinois from where it conducted business.

PARTIES

4. Plaintiff, Corma Inc., is a Canadian corporation having its principal place of business at 10 McCleary Court, Concord, Ontario L4K 2Z3 Canada.

5. Jwell, upon information and belief, is a Chinese corporation having a place of business at 4315 CaoAn Road, Shanghai 201804 China.

FACTUAL BACKGROUND

6. For nearly thirty years, Plaintiff has been in the business of engineering and manufacturing precision profile pipe manufacturing equipment and is considered a world leader in the field.

7. Plaintiff is responsible for numerous innovations in the pipe extrusion manufacturing equipment industry and its founder Manfred A.A. Lupke has had numerous patents issued naming him as an inventor. One of those patents is the subject of this litigation.

8. A significant machine line invented, engineered, manufactured, and sold by Plaintiff is a vacuum mold block and carrier assembly which provides a plastic pipe manufacturer with substantially enhanced precision in production of profiled plastic tubing, and, particularly, extruded, single and double-walled corrugated plastic tubing.

9. Typically, corrugated plastic tubing is formed by extrusion of molten plastic from a nozzle into a receiving, continuously cycling mold tunnel formed of pairs of co-acting mold blocks featuring annular troughs.

10. Achieving substantially uniform vacuum over the entire length of the trough and along the section of the mold tunnel effectuating molding to thereby produce high quality, uniform pipe was a problem in the art of manufacturing profiled plastic tubing.

11. Without vacuum assist and control, the molten plastic would not seat evenly in the trough leading to an uneven product. Correspondingly, in places suffering from too great a vacuum, the outer layer may be drawn unevenly to leave zones of insufficient wall thickness and zones with too great a plastic thickness leading to bulges.

12. In the case of double-walled pipe, it is typical to form a pipe with an outer, profiled layer extruded from a first nozzle followed by extrusion from a second nozzle positioned axially downstream of the first of a second layer that coalesces with the base of the first layer before setting, and forms a smooth inner wall.

13. Where too little a vacuum is applied then the outer, profiled layer will display inconsistencies and deformities. On the other hand where too great a vacuum is applied during the molding process, the second extruded layer may be partially draw into one or more of the annuli, resulting in an uneven, wavy interior wall.

14. Recognizing the problem and seeking to solve the problem, Mr. Lupke developed a revolutionary vertically aligned system in the late 1980's utilizing a combination of a vacuum source with vacuum communicating carriers and detachable, vacuum mold blocks with a tongue and groove connection able to establish a continuously cycling mold tunnel.

15. Since its invention in the late 1980's, Plaintiff has sold hundreds of corrugator lines thousands of mold block assemblies incorporating its important invention and continues to sell such lines and assemblies.

16. Plaintiff is presently exhibiting such assemblies and extruded pipe production systems incorporating the patented technology at the tri-annual NPE (National Plastics Exposition) 2006 trade show here in Chicago (June 19-22).

17. The engineering technology involved with Mr. Lupke's invention is described in Canadian Patent Application No. 577,654 filed September 16, 1988, which lead to Canadian Patent No. 1,298,450 that issued on April 7, 1992.

18. U.S. Patent Application No. 07/405,779 filed on September 11, 1989 claims priority to the Canadian Patent Application No. 577,654 and names Manfred A.A. Lupke as the inventor/applicant.

19. U.S. Patent Application No. 07/405,779 received a first office action on May 7, 1990 with a response being filed on July 3, 1990. A second office action issued on August 10, 1990 that was responded to on September 24, 1990 that led to an examiner's interview and an Examiner's Amendment on October 5, 1990, which resulted in the application being allowed.

20. On March 26, 1991, United States Letters Patent No. 5,002,478 was duly and legally issued by the United States Patent and Trademark Office from Patent Application No. 07/405,779 to Manfred A.A. Lupke and subsequently assigned to Plaintiff for an invention entitled "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus." A copy of U.S. Patent No. 5,002,478, the term of which expires on September 11, 2009, is attached to this Complaint as Exhibit A.

21. Plaintiff is the owner of and retains all rights for past infringement in and to the above-referenced Letters Patent.

22. As a result of a subsequent challenge, the patent was subject to a re-examination number 90/005,078 in the United States Patent and Trademark Office.

23. The first office action issued in re-examination 90/005,078 on January 29, 1999 rejecting the four issued claims based on Canadian patent number 902314 in combination with U.S. patents issued to Manfred A.A. Lupke.

24. An examiner interview was conducted on March 2, 1999 prior to a response being filed on March 12, 1999 that added new claims 5-13 and left the issued claims 1-4 unamended.

25. The second office action issued on May 4, 1999 indicating that two of the new independent claims were allowed and certain dependent claims would be allowable if rewritten in independent form.

26. The amendment filed on May 18, 1999 cancelled the rejected claims and amended the objected claims to place them in allowable form.

27. A subsequent notification regarding a non-responsive amendment issued on July 19, 1999 that required a supplemental amendment to be filed on July 20, 1999.

28. Based on the supplemental amendment, the U.S. Patent and Trademark Office issued on August 4, 1999 a Notice of Intent to Issue a Re-examination Certificate for claims 6, 7, 9-13, which were renumbered as claims 5-11 in the re-examination certificate.

29. The Examiner determined the invention was patentable over the art based on a tube production device including in combination, a tongue and groove connector, a stationary suction chamber, and vertically aligned molding members.

30. The patent was granted Reexamination Certificate B1 5,002,478 on October 5, 1999. A copy of the Reexamination Certificate is attached to this Complaint as Exhibit B.

31. The importance of the invention has been confirmed by patent offices and courts throughout the world including Canada, China, Europe, and Japan.

32. The Chinese cognate application filed from the Canadian priority application was granted Chinese Patent No. ZL89107110 with an English title translation being the same as the patent in suit: "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus".

33. Defendant and another co-defendant, in the action filed in China, were recently found by the Shanghai Second Intermediate People's Court to have infringed that Chinese patent and found to have engaged in spoliation of evidence and misrepresentations to the Court.

34. As a result, Jwell, primarily, was found liable for the infringement, costs, and fees in that action (a copy of an English language translation of the May 20, 2006 opinion is attached hereto as Exhibit C).

35. Notwithstanding the adverse ruling from the Chinese Court regarding infringement and the existence of Plaintiff's re-examined U.S. cognate patent 5,002,478, on information and belief, Jwell is now exhibiting and offering for sale pipe manufacturing equipment including equipment incorporating Plaintiff's suction mold block technology at the NPE 2006 trade show in Chicago that commenced on June 19, 2006. (Declaration of Manfred A.A. Lupke, Exhibit D).

36. The NPE 2006 trade show is the largest of its type in the western hemisphere and occurs only on a tri-annual basis.

37. On information and belief, Jwell's activities complained of herein in the United States and particularly, at the Chicago trade show, are willful, wanton and in reckless disregard of Plaintiff's valuable patent rights in its important suction mold block invention.

COUNT I
PATENT INFRINGEMENT

38. Plaintiff adopts and incorporates by reference as if fully stated herein, the allegations set forth in Paragraphs 1-37.

39. This Count is for patent infringement pursuant to 35 U.S.C. §271.

40. Defendant's acts of infringement are taking place in the United States and in this judicial district.

41. Defendant is in the business of manufacturing, distributing, selling, and offering for sale pipe extrusion and manufacturing machinery and equipment in the United States and this judicial district.

42. Upon information and belief Defendant, without license or permission of Plaintiff is exhibiting, selling, and offering for sale a pipe extrusion and manufacturing machinery and equipment that infringe claims of U.S. Patent No. 5,002,478 in the United States.

43. Upon information and belief, the infringement also includes importing and causing the pipe extrusion and manufacturing machinery and equipment to be used within the United States by its customers.

44. The machinery and equipment which constitutes a material part of the machinery are not staple articles or commodities in commerce suitable for non-infringing uses.

45. Defendant, Jwell has infringed and is attempting to induce infringement by others of said United States Letters Patent within the United States in violation of 35 U.S.C. §271.

46. Plaintiff is being irreparably harmed by virtue of Defendant's ongoing infringement of U.S. Patent No. 5,002,478.

47. Defendant, Jwell will continue to infringe Plaintiff's patent by offering for sale, selling, importing into the United States, and inducing others to use Plaintiff's patented extruded plastic tube production machinery and equipment including in combination, a tongue and groove connector, a stationary suction chamber, and vertically aligned molding members unless enjoined by this Court.

48. Plaintiff is entitled to damages in no event less than a reasonable royalty by reason of Defendant Jwell's infringement of Plaintiff's United States Letters Patent in the United States.

The amount of such damages being ascertainable upon the conduct of appropriate discovery herein.

WHEREFORE, Corma, Inc. respectfully requests that judgment be entered in its favor and against Defendant due to its willful patent infringement as follows:

A. Entry of a declaration of judgment of infringement in favor of Corma and against Defendant; and

B. Entry of a preliminary and permanent injunction against Defendant enjoining it from it further infringing of U.S. Patent No. 5,002,478 by Defendant, Jwell, as authorized under 35 U.S.C. §283; and

C. Require Defendant to account for all of its sales and profits obtained from said infringement and inducement to infringe in the United States; and

B. Award Plaintiff compensation for Defendant's infringement and inducement to infringe as provided by United States Patent Laws, in such amount being warranted as found by this Court, such amount to include up to treble damages pursuant to the provisions of 35 U.S.C. §284; and

C. Award Plaintiff its costs and reasonable attorneys' fees pursuant to 35 U.S.C. §285; and

D. Award Plaintiff interest from the date of infringement; and

E. Award Plaintiff such other and further relief as this Court deems just.

CORMA INC.

By: /s/ Donald F. Engel
One of its Attorneys

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EXHIBIT A

United States Patent [19]

Lupke

[11] Patent Number: 5,002,478

[45] Date of Patent: Mar. 26, 1991

[54] **IMPROVEMENTS IN SUCTION APPLYING MOLD BLOCKS IN PIPE FORMING APPARATUS**

[76] Inventor: **Manfred A. A. Lupke**, 10 McLeary Court, Concord, Ontario, Canada, L4K 2Z3

[21] Appl. No.: 405,779

[22] Filed: Sep. 11, 1989

[30] Foreign Application Priority Data

Sep. 16, 1988 [CA] Canada 577654

[51] Int. Cl.⁵ B29C 53/30

[52] U.S. Cl. 425/325; 425/326.1; 425/336; 425/396

[58] Field of Search 425/326.1, 336, 325, 425/396, 371, 504, 519, 532, 72.1, 142, 183, 392, 185; 264/508

[56] References Cited

U.S. PATENT DOCUMENTS

3,981,663	9/1976	Lupke	.....	425/371	X
4,136,143	1/1979	Lupke et al.	.....	425/392	X
4,165,214	8/1979	Lupke et al.	.....	425/532	
4,199,314	4/1980	Lupke et al.	.....	425/532	
4,218,164	8/1980	Lupke et al.	.....	425/142	X
4,226,580	10/1980	Lupke et al.	.....	425/504	

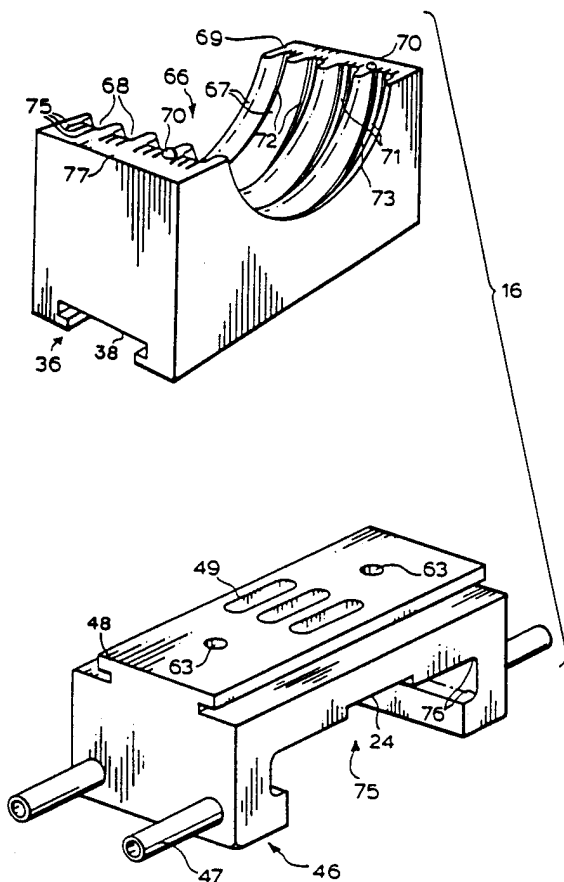
4,319,872	3/1982	Lupke et al.	.....	425/532
4,325,685	4/1982	Lupke et al.	.....	425/183
4,500,284	2/1985	Lupke	.....	425/326.1 X
4,504,206	3/1985	Lupke et al.	.....	425/326.1
4,510,013	4/1985	Lupke et al.	.....	425/396 X
4,553,923	11/1985	Lupke	.....	425/396 X
4,681,526	7/1987	Lupke	.....	425/532
4,710,337	12/1987	Nordstrom	.....	425/396 X
4,770,618	9/1988	Lupke	.....	425/72.1
4,900,503	2/1990	Hegler et al.	.....	425/396 X

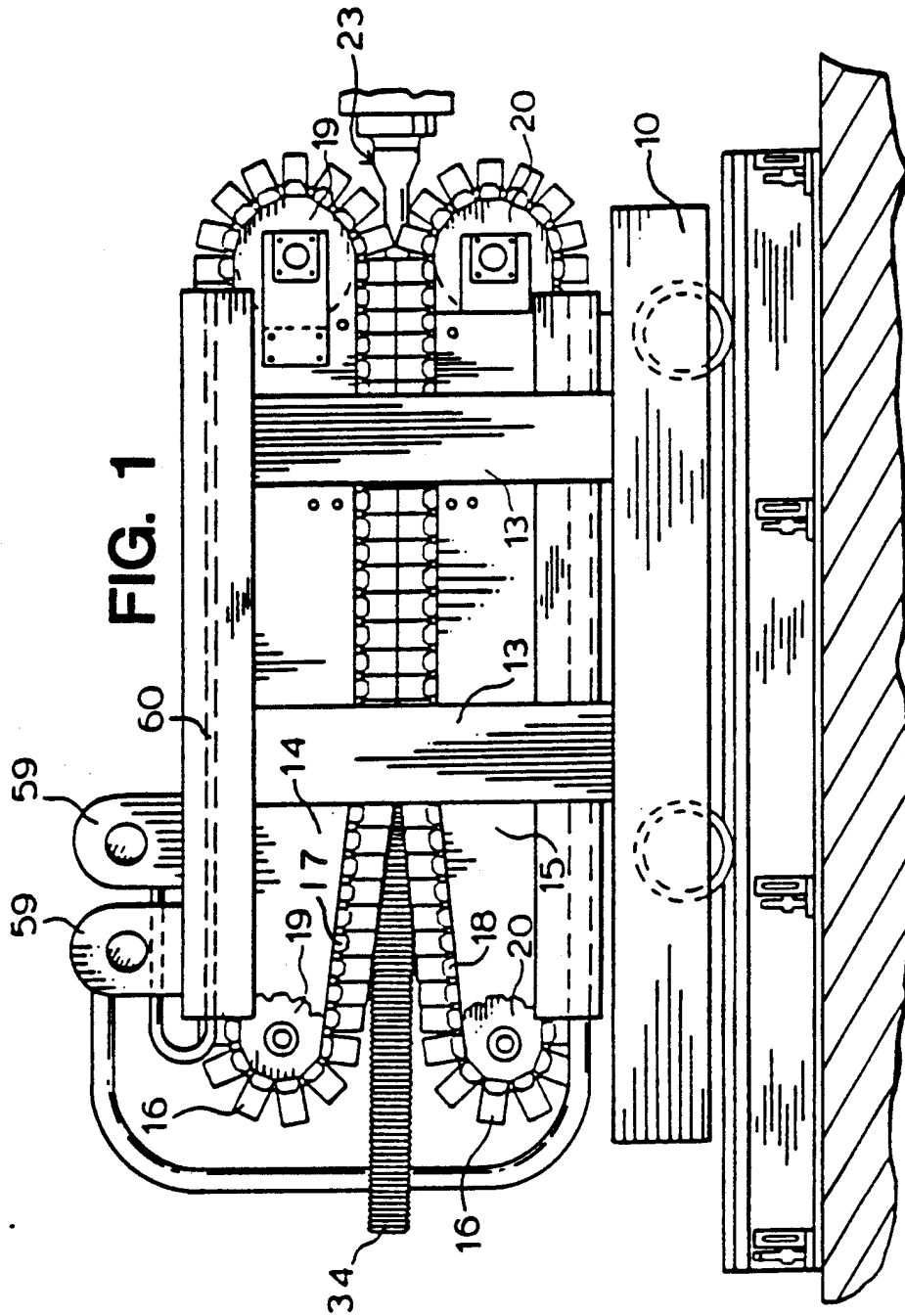
Primary Examiner—Richard L. Chiesa

[57] ABSTRACT

The invention concerns apparatus for making corrugated tubing. Mold blocks for formation of a travelling mold tunnel are provided with suction to the mold face by means of communication between suction passages in the mold block and a suction chamber. Each mold block has a channel which slidingly engages a track of the suction chamber to receive suction as the mold blocks travel over the track. Tongue and groove connectors are provided between the channel of each block and the track of the suction chamber and communication surfaces of the tongue and groove connectors to provide suction from the suction chamber to the mold face.

4 Claims, 3 Drawing Sheets





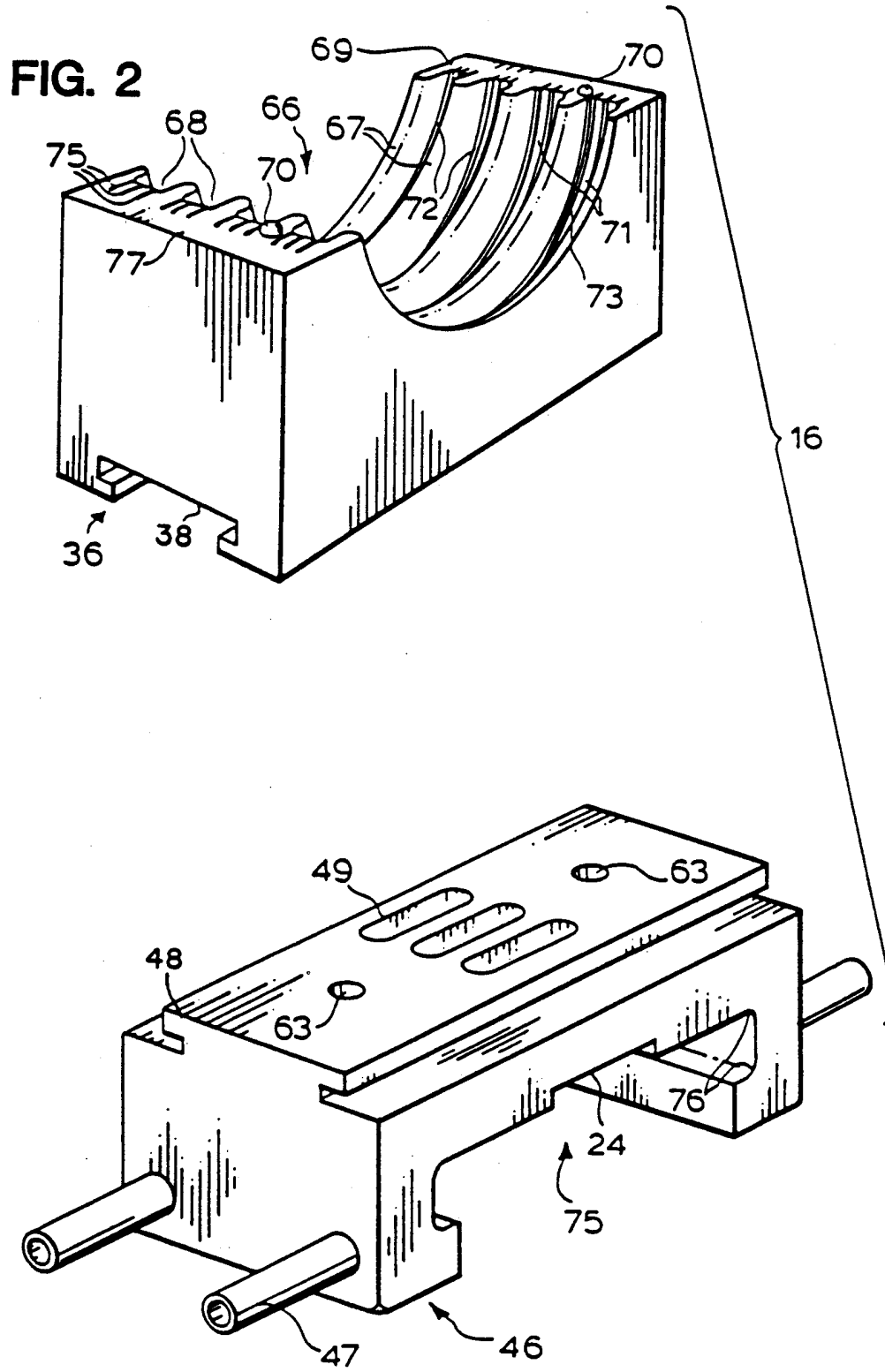


FIG.3.

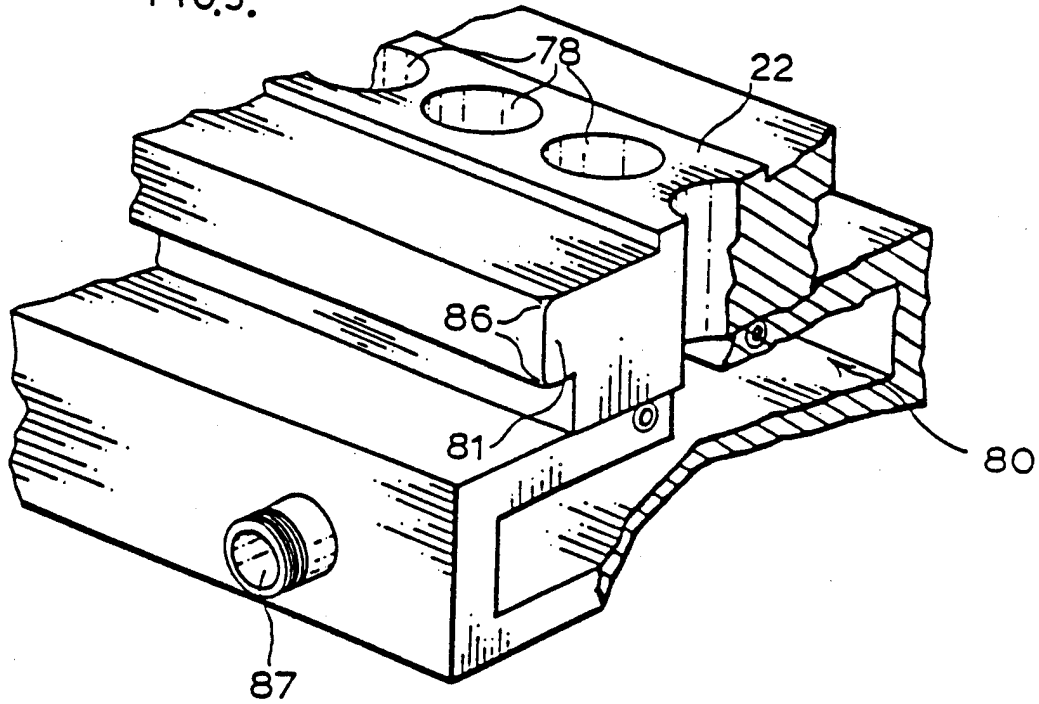
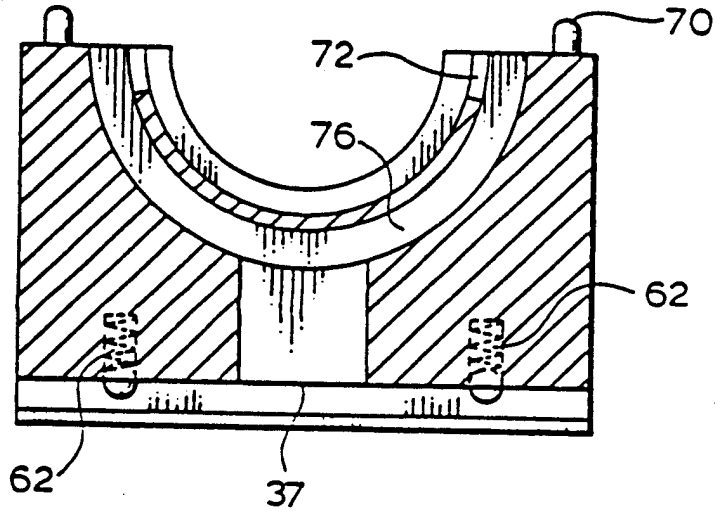


FIG.4.



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IMPROVEMENTS IN SUCTION APPLYING MOLD BLOCKS IN PIPE FORMING APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to the apparatus for making corrugated or ribbed thermoplastic tubing of helical or annular form, the apparatus being of the type in which tubing of the thermoplastic material is continuously extruded into a tubular mold tunnel.

2. Background of the Invention

The tubular mold tunnel is defined by cooperatively interengaged mold blocks of a pair of mold assemblies, the mold blocks of each mold assembly being driven along a forward run in which the blocks define the modular block tunnel, and back along a return run. The mold blocks have molding surfaces comprising troughs for molding ribs of the tubing, and crests for molding grooves of the tubing. Such an apparatus is disclosed for example U.S. Pat. No. 4,319,872 issued on Mar. 16, 1982 to Gerd P. H. Lupke and Manfred A. A. Lupke.

With such known apparatus, it is desirable to apply vacuum between the mold blocks to encourage proper location of thermoplastic material against the mold face.

Each mold block may be a two part assembly of a carrier block which extends transversely between endless conveyor chains and a mold which is interchangeable on the carrier block for molding different sizes and configurations of tube.

When suction is to be applied to the mold face it may be drawn from stationary suction chambers above the mold block assemblies in the upper run and/or below the mold block assemblies in the lower run.

The carrier blocks carried by the endless conveyor chains may approach the suction chamber at the beginning of the mold tunnel. They are usually slidably engaged on the vacuum tunnel while forming part of the mold tunnel and receive suction from the suction chamber for transmission to the mold face. The carrier blocks may disengage from the suction chamber at any suitable point. For example the suction chamber may be elongate to run contiguously with the mold tunnel and the carrier blocks may disengage at the end of the suction chamber for their return run to reform the mold tunnel. Such mold blocks for applying suction are for example described in U.S. Pat. No. 4,319,872. However each mold block disclosed in that patent comprise a single block rather than the assembled mold and carrier block. Moreover, the suction chambers are arranged on the sides of the molds rather than along a bottom surface of the mold tunnel. Due to the fact that the carrier blocks must, as they are carried on the endless conveyor chains, readily engage the suction chamber smoothly and without interruptions, the tolerances between carrier block channels at suction chamber tracks have been quite large. Moreover, for greater smoothness and easy engagement the mating channels and track have tended to have rounded edges. While these precautions have normally led to smooth operation of the conveyor, sealing of the vacuum connection between the carrier block and the suction chamber has presented problems.

SUMMARY OF THE INVENTION

It has now been discovered that it may be possible to improve the seal between the vacuum tunnel and the carrier blocks.

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Thus according to the invention is provided an apparatus for producing corrugated or ribbed thermoplastic tubing, the apparatus comprising a pair of complementary mold assemblies each comprising mold blocks driven in synchronism to form a mold tunnel of cooperating pairs of mold blocks along a forward run, and extrusion means disposed at the entrance to the mold tunnel for extruding a tube of thermoplastic materials into the tunnel, each mold block having a surface containing a mold face and being formed with interior passages communicating the mold face with first ports in a channel in a surface of the mold block opposed to that containing the mold face with suction from a stationary suction chamber through first ports in a channel of each mold block and second ports in a cooperating track of the stationary suction chamber.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention will now be described by way of example with reference to the accompanying drawings in which:

FIG. 1 is a somewhat simplified side elevation of one embodiment of a pipe-forming apparatus in accordance with the invention;

FIG. 2 is an exploded view of a mold block embodying the invention and comprising an assembly of a mold and a carrier block;

FIG. 3 is a perspective fragmentary view of a suction chamber partially broken away to show the interior chamber;

FIG. 4 is a section of the mold on the line V—V of FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings and more particularly to FIG. 1 thereof, the apparatus comprises a carriage 10 supporting a pair of complementary upper and lower mold assemblies 14 and 15 respectively. Each mold assembly 14 and 15 comprises an endless chain of articulately interconnected mold blocks 16. The mold assembly 14 further comprises a pair of transversely spaced endless conveyor chains, with each mold block 16 of the assembly 14 extending transversely between opposed links of these chains by means of pins 47 on the mold block 16 (see FIG. 2). The mold assembly 15 likewise further comprises a pair of endless conveyor chains (only one of which is shown in the drawings and is denoted by the reference number 18), with each mold block 16 of the assembly 15 extending transversely between opposed links of this pair of chains including the chain 18. The chains are entrained around drive sprockets 19 and 20, with drive means (not shown) being connected to at least one of the sprockets 19 and at least one of the sprockets 20 for operatively driving the mold blocks 16 of each assembly 14 and 15 in synchronism along a forward run and back along a return run, the mold blocks 16 of the assemblies 14 and 15 cooperating in pairs along the forward run to define an axially extending tubular mold tunnel.

By means of the carriage 10 the mold assemblies 14 and 15 may be operatively positioned to locate an extrusion head 23 being operatively coupled to the nozzle of an extrusion machine, which may be of conventional form. If required, the mold assemblies 14 and 15 can be moved away from the extrusion head 23 by movement of the carriage 10 in order to provide access to the extrusion head 23.

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As shown in FIG. 1, each mold assembly 14, 15 may further comprise an air distributing duct 60 extending along the return run of the mold blocks 16 of the respective mold assembly 14 and 15 and positioned to distribute cooling air to the exposed interior surfaces of the mold blocks 16 as they travel along the return run. The distributing ducts 60 are each connected to a respective blower 59 by which the cooling air is supplied to them. Each mold assembly 14, 15 may further comprise a heat sink provided by a tank through which cooling water may be circulated. The mold assembly housings may be cooled in this manner during a molding operation; however in order to avoid wastage of material at the commencement of a molding operation, the water in the housings may be preheated to the required temperature.

Referring now to FIGS. 2, it will be noted that each mold block 16 comprises a mold 36 of generally rectangular shape and a carrier block 46. The mold 36 has a pair of end faces, side and bottom faces, and a top face which is provided with a hemi-cylindrical recess 66 contoured to provide a corrugated mold wall defined by alternating crests 67 and troughs 68. As shown in FIG. 2, the top face 69 of the mold 36 is provided with a pair of locating pins 70 one of which is disposed on each side of the hemi-cylindrical recess 66, these pins 70 being adapted to register with correspondingly shaped sockets in the complementary top face 69 of a cooperating mold 36 of the other mold assembly 14 or 15.

When the mold block 16 comprises an assembly of a mold 36 and a carrier block 46, molding of different shapes and sizes of tube is possible by interchanging molds 36 on the carrier block 46. Thus molds 36 may be of varying sizes and shapes or may define annular corrugations or helical corrugations. The molds 36 may be used for ribbed or corrugated tubing.

Conveniently each mold 36 is connected to its carrier block 46 by a channel 38 in the base of mold 36 which may be slidably engaged on a slide 48 of complementary shape or carrier block 46. Each channel 38 and corresponding slide 48 are provided transverse to the direction of movement of the mold assemblies 14, 15 so that there is less tendency for molds 36 to slip on the carrier blocks in the direction of movement. Additionally to mitigate any unwanted slipping of molds 36 in use, each mold 36 is provided with spring loaded locating balls 62 releasably engagable in sockets 63 of the respective carrier block 46.

During the molding of the thermoplastic tubing 34 there is a tendency for atmospheric air to be trapped by the tubing 34 in the troughs 68, this entrapped air preventing proper molding of the tubing 34 in the troughs 68, and particularly in the corners at the bases 71 of the troughs 68. As is shown in FIG. 2, a continuous groove 72 is provided in each corner of the base 71 of each trough 68. An additional groove 73 may also be provided in the base 71 of each trough 68 between the corner grooves 72. These grooves 72 and 73 communicate with recess 75 in the base of the cooperatively interengaging mold blocks 16 through manifold passages 76.

A stationary elongate suction chamber 80 may be located above the upper forward run of mold assembly 14 and below the lower forward run of mold assembly 15. A pipe 87 communicates the interior of suction chamber 80 with a source of suction. Each track 81 of the suction chambers 80 may be located such that each recess 75 of each mold block 16 mates with it automatically as the mold block 16 starts its forward run. For

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optimum ease of mating the corners 76 of recess 75 and corners 86 of track 81 may be somewhat rounded and the fit between the track 81 and recess 76 may be loose. The suction chamber 80 communicates with grooves 72, 73 through manifold passages 76 extending in mold blocks 16 and opening at ports within recess 75 to communicate with ports 78 in the track of the suction chamber. When mold blocks 16 each comprise a mold 36 and a carrier block 46 the passages 76 extend in both the mold 36 and carrier block 46 through ports 37 of the mold 36 and ports 49 of carrier block 46.

Thus, the grooves 72 and 73, the manifold passages including ports 37 and 49, and the ports 78 constitute passages which extend between the bases 71 of the troughs 68 of the corrugations, and particularly the corners thereof, and the exterior of the associated mold block 16. These passages communicate with the base 71 of each trough 68 throughout its length. The grooves 72, 73 are generally rectangular and sufficiently narrow in width to prevent any of the thermoplastic material of the tubing 34 from being forced into these grooves 72, 73 or slits 84. The grooves 72, 73 may each have a width of approximately 0.02 inches.

FIGS. 2 and 3 show the tongue connector 22 located on the upper surface of track 81 to mate with groove connector 24 on the lower complementary surface of recess 75. These tongue and groove connectors may be made with sharp corners and may be of a tighter fit than that of recess 75 with track 80.

Thus, in operation, when carrier block 46 engages suction chamber 80 by engagement of recess 75 onto track 81, the carrier block may then settle to locate tongue 22 firmly in groove 24. This sharper, firmer connection than is conveniently achievable directly through recess 75 and track 81, may provide a good seal for suction between carrier block 46 and suction chamber 80.

Other embodiments are possible within the scope of the appended claims.

I claim:

1. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector

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means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track ele-

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ments guide said mold block assembly relative to said stationary suction chamber.

2. A device according to claim 1 where said first member of said cooperating tongue and groove connector means is a groove.

3. A device according to claim 1 where said second track element is a channel.

4. A device according to claim 1 where said tongue and groove connector means also is the track.

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EXHIBIT B

REEXAMINATION CERTIFICATE (3887th)

United States Patent [19]

[11] **B1 5,002,478**

Lupke

[45] Certificate Issued

Oct. 5, 1999

[54] **SUCTION APPLYING MOLD BLOCKS IN PIPE FORMING APPARATUS**

[56] **References Cited**

[75] Inventor: **Manfred A. A. Lupke**, Concord, Canada

U.S. PATENT DOCUMENTS

4,199,314	4/1980	Lupke et al.	425/396 X
4,319,872	3/1982	Lupke et al.	425/326.1 X
4,439,130	3/1984	Dickhut et al.	425/396 X

[73] Assignee: **Corma Inc.**, Concord, Canada

FOREIGN PATENT DOCUMENTS

Reexamination Request:
No. 90/005,078, Aug. 20, 1998

902314 6/1972 Canada .

Reexamination Certificate for:
Patent No.: **5,002,478**
Issued: **Mar. 26, 1991**
Appl. No.: **07/405,779**
Filed: **Sep. 11, 1989**

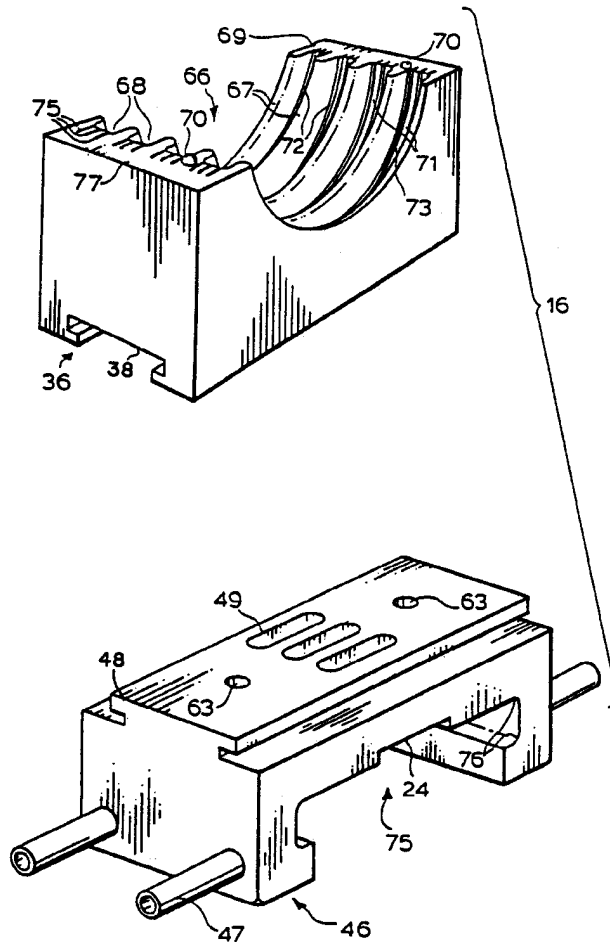
Primary Examiner—Richard Chiesa

[57] **ABSTRACT**

The invention concerns apparatus for making corrugated tubing. Mold blocks for formation of a travelling mold tunnel are provided with suction to the mold face by means of communication between suction passages in the mold block and a suction chamber. Each mold block has a channel which slidably engages a track of the suction chamber to receive suction as the mold blocks travel over the track. Tongue and groove connectors are provided between the channel of each block and the track of the suction chamber and communication surfaces of the tongue and groove connectors to provide suction from the suction chamber to the mold face.

[30] **Foreign Application Priority Data**

- Sep. 16, 1988 [CA] Canada 577654
- [51] **Int. Cl.⁶** **B29C 53/30**
- [52] **U.S. Cl.** **425/325; 425/326.1; 425/336; 425/396**
- [58] **Field of Search** 425/336, 396, 425/326.1, 325, 371, 504, 519, 532, 72.1, 142, 183, 185, 392; 264/508



B1 5,002,478

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**REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307**

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims 1-4 are cancelled.

New claims 5-11 are added and determined to be patentable.

5. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to a form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recessed disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member,

where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned; and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber.

6. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of opposed

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complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber.

7. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means

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complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member; whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member; and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber; where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber

where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned.

8. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block, and where the mold block assemblies are opposed and separately driven,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recessed disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector; said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member; whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member; and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber; where said first and second cooperating track element guide said mold block assembly relative to said stationary suction chamber.

9. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

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the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly, said molding member including a channel and said carrier block including a slide, said carrier block being interengagable with said molding member to form said mold block assembly when said slide is engaged with said channel,

said carrier block incorporating a first member of a cooperating tongue and groove connector; said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member; whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member; and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber; where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber and

where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned.

10. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block, said molding member including a channel and said carrier block including a slide,

said carrier block being interengagable with said molding member to form said mold block assembly when said slide is engaged with said channel,

said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector; said tongue

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and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses.

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber, and

where the mold block assemblies are opposed and separately driven.

11. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element, the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:

the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,

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said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,

said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,

a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and

a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber,

where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned, and where the mold block assemblies are opposed and separately driven.

* * * * *

EXHIBIT C

Shanghai Second Intermediate People's Court

Civil Judgment

(2005) Hu Er Zhong Min Wu (Zhi) Chu Zi No.101

Plaintiff: Manfred A. A. Lupke,

Gender: Male, **Date of Birth:** July 14, 1939

Nationality: Canadian,

Residence: 10 Mcclary Court, Concord, Toronto, Ontario, Canada

Attorney: Xu Shenmin and Huang Jianguo, Attorneys-at-law of Watson &Band Law Offices

Defendant: Shanghai Jwell Machine Manufacture Co., Ltd.

Residence: 7735, Fanghuang Road, Huangdu Town, Jiading District, Shanghai

Legal Representative: He Haichao, president of the company

Attorney: Zhang Ruzhong, employee of the company

Attorney: Feng Ruizhong, Attorney-at-law of Shanghai Yiping Law Firm

Defendant: Anhui Guotong Hi-Tech Pipe Co., Ltd.

Residence: Guotong Industrial Park, Fanhua Road, Hefei Economic and Technological Development Zone, Anhui Province, China

Legal Representative: Xiao Heng, president of the company

Attorney: Lv Guangtao, legal counsel of the company

Attorney: Li Pengfeng, Attorney-at-law of Anhui Chengyi Law Firm

Regarding the patent infringement case of the plaintiff Manfred A. A. Lupke vs the defendant Shanghai Jwell Machine Manufacture Co., Ltd. ("Jwell") and Anhui Guotong Hi-Tech Pipe Co., Ltd. ("Guotong"), our court accepted this case on March 1, 2005 and formed a panel according to law. On March 28,

2006, our court held a formal hearing. The plaintiff's attorneys Xu Shenmin and Huang Jianguo, Jwell's attorney Feng Ruizhong, and Guotong's attorney Lv Guangtao attended the hearing. Now the trial of this case is completed.

The plaintiff Manfred A. A. Lupke claimed that the plaintiff is chairman of the board of directors of Corma Inc., who is specialized in the design and manufacture of corrugated plastic pipe production system, and holds a world leadership in corrugated machinery production system. The plaintiff is also the patentee of a Chinese invention patent No. ZL89107110 named "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus". The invention relates to a mold in apparatus for producing corrugated tube and functions as improving the seal between the vacuum tunnel and traveling mold blocks.

The plaintiff found the technical features of the corrugated pipe machine made by defendant Jwell and sold to Anhui Guotong fall into the protection scope of the plaintiff's patent. The two defendants used the plaintiff's patent for business purpose without the authorization of the plaintiff, which has violated the plaintiff's patent right, and therefore the two defendants shall bear relevant civil liabilities. The plaintiff hereof beseeches the court to order: (1) the defendant Jwell to cease the manufacture and sales of the corrugated pipe machine which infringed plaintiff's patent No. ZL89107110.5 and not to use, transfer or put the manufactured machine into market in any way; (2) the defendant Jwell to destroy the specific mold and appliance for producing the corrugated pipe machine; (3) the defendant Guotong to cease the use of the infringing corrugated pipe machine and (4) the defendant Jwell to compensate RMB 500,000.00 as the economic loss suffered by the plaintiff

The plaintiff provided the following evidences to support his claims

1. duplicate copy of patent register;

2. patent certificate and specification;
3. receipt of patent annuity;

The above evidences are to prove the plaintiff is the patentee of the said patent "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus" (Patent No. ZL89107110.5).

4. product catalogue of Jwell;
5. Notarial Certificate and attached disc issued by The First Notarial Public of Shanghai Huangpu District;
6. a set of evidence obtained through evidence preservation:

- (1) photos and videos;
- (2) corrugated pipe machine, purchase contract for the mold and invoice

The above evidences are to prove the defendant Jwell manufactured the corrugated pipe machine and sold to the defendant Anhui Guotong, so both of the defendant infringed the patent right of the plaintiff.

7. a set of evidence concerning attorney fee
 - (1) list of attorney fee;
 - (2) invoice of attorney fee;
 - (3) debit notice of bank;
 - (4) Price standards instructed by the Government for legal service fees in Shanghai (provisional).

The above evidence are to prove the plaintiff had spent RMB145,774.50 in order to stop the defendant's infringement.

The defendant Jwell argued that 1) the claims of the plaintiff are not proper. The plaintiff's patent is only related to the technology of mold block, which is one accessory of the corrugated pipe machine. So it is beyond the scope of patent right for the plaintiff to request the defendant to stop making, selling and using the corrugated pipe machine. 2) Jwell did not manufacture and sell the case-related mold blocks. The corrugated pipe machine sold by Jwell to Guotong did not include the case-related mold blocks and Jwell never sold

such mold block to Anhui Guotong later; the mold blocks used by Guotong is provided by another company Anhui Guofeng Plastic Co, Ltd, who imported the mold block from Corma Inc.; 3) the notarial certificate provided by the plaintiff is in violation of laws and should not be accepted; the evidence preservation conducted by the court violated relevant provisions; 4) the plaintiff's patent has been public technology.

In order to support its defending opinions, the defendant provided the following evidences:

1. statement jointly issued by Anhui Guotong and Anhui Guofeng;
2. Import & Export Contract and its attachment.

The above evidences are to prove the case-related mold block used by Guotong was purchased from Corma Inc and the mold mentioned in the purchase contract does not refer to the case-related mold blocks.

3. two sets of Japanese and US patent publications.

The above evidence is to prove the patented technology of the plaintiff had been disclosed before the filing date of the patent.

The defendant Anhui Guotong initially argued the case-related mold blocks it used is manufactured by Corma and the machine purchased from Jwell does not include the case-related mold blocks. However Guotong changed its statement later and admitted the pipe machine purchased from Jwell includes the traveling mold.

The defendant Guotong provided the purchase contract and relevant invoice of the dual wall corrugated pipe machine with Jwell.

1. According to the court hearing, our Court acknowledges the follows: the plaintiff Manfred A. A. Lupke filed a patent application for invention patent named "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus" with the State Intellectual Property Office of China ("SIPO") on

September 15, 1989. This patent was granted a patent right on October 10, 1993 and published on December 15, 1993 with a patent number ZL89107110.5. The Clams of this patent is as follows: 1. Apparatus for producing corrugated thermoplastic tubing, the apparatus comprising a pair of complementary mold assemblies each comprising mold blocks driven in synchronism to form a mold tunnel of cooperating pairs of mold blocks along a forward run, and extrusion means disposed at the entrance to the mold tunnel for extruding a tube of thermoplastic materials into the tunnel, each mold block having a surface containing a mold face and being formed with interior passages communicating the mold face with suction from a stationary suction chamber through first ports in a channel of each mold block and second ports in a cooperating track of the stationary suction chamber; characterized by the first and second ports being located in tongue and groove connectors provided on complementary surfaces of said channel of said block and of said track of said chamber

2. Apparatus as claims in claim 1 in which each mold block comprises an assembly of a carrier block and an interchangeable mold.
3. Apparatus as claimed in claim 1 in which the tongue connector is provided on said track of said suction chamber and complementary groove connectors are provided in the channel of each mold block.
4. Apparatus as claimed in Claim 1 in which the tongue and groove connectors having sharp edges therebetween.

The defendant Jwell was established on October 25, 1997 with a business scope of manufacturing and selling plastic machine and electric engineering machine. On September 10, 2003, Jwell entered into a purchase contract with Anhui Guotong, arranging that Jwell shall sell two sets of JWSB800PE corrugated pipe production line to Anhui Guotong at a price of RMB 2 million/set and two sets of mold blocks at price of RMB 440000 and RMB52000 respectively. The total contract value is RMB4.96 million. On Nov

30, 2004, Jwell issued a VAT invoice to Guotong regarding the contracted machine.

On March 4 and March 5, 2005, a notary public of Shanghai Huangpu District 1st Notarial Public, upon the application of Watson & Band Law Offices, came to Anhui Guotong's factory with the representative of Watson & Band. The representative of Watson & Band took photos and videos against the corrugated pipe machine. The whole process was under the on-spot supervision of the notary public and the photos and videos were burn into a CD-Rom for record. On March 16 of the same year, the notarial public issued a (2004) Hu Huang Yi Zheng Jing Zi No.2558 Notarial Certificate.

During the process of litigation, the plaintiff applied for evidence preservation with our court. After examination, our court approved such application and conducted evidence preservation at Guotong's factory via taking photo and videos and making written record. During the evidence preservation, we also obtained the purchase contract and relevant invoice.

In accordance with the application of the plaintiff, our court entrusted the IP Affair Center of Ministry of Science and Technology to conduct technology identification regarding this case on June 22, 2005. On October 31 of the same year, our court convened the experts and relevant parties of this case to go to Anhui Guotong's factory in order to conduct expert identification against the preserved corrugated pipe machine. Since Anhui Guotong removed the mold block from the machine without the permission of our court and the removed mold block is different from the one shown in the video of preserved evidence, the first expert identification failed. Afterwards our court informed Guotong of the serious sequence for such unauthorized removal of the evidence and Guotong agreed to reinstall the mold block back to the pipe machine. On January 17, 2006, our court convened the expert to do the identification again at Guotong site. On March 3 of the same year, the IP Affair

Center of Ministry of Science and Technology issued the expert identification report No. [2006] 07 with the following conclusions:

- (1) According to the comparison between the accused infringing product and Patent ZL89107110.5, the expert group believes the technical features of the accused product are identical with all of the technical features of the Patent ZL89107110.5;

- (2) After comparing the technical features of the accused product with the 4 Prior Arts, the expert group believes the 4 Prior Arts provided by the defendant do not disclose all of the technical features of the accused infringing product, so the experts believe the technology of the accused infringing product does not belong to Prior Art.

The above facts are testified by patent certificate, patent annuity receipt, patent specification, import & export contract, purchase contract, VAT invoice, photos and videos taken during evidence preservation, written record, argument opinions of both parties, expert identification report and hearing minutes of our court.

Our court's opinions are as follows:

1. patent right of the plaintiff

The plaintiff's invention patent "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus" (Patent No. ZL89107110.5) is legitimate and effect and the patent right is protected by the laws and regulations of China. According to the patent documents, the title of this invention patent (patent subject) is "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus" and its independent claims could be disintegrated as follows:

- A. An apparatus for producing corrugated thermoplastic tube;
- B. Said apparatus comprising a pair of complementary mold assemblies each

- comprising mold blocks;
- C. Said mold blocks is driven in synchronism to form a mold tunnel of cooperating pairs of mold blocks along a forward run;
 - D. extrusion means disposed at the entrance to the mold tunnel for extruding a tube of thermoplastic materials into the tunnel;
 - E. each mold block having a surface containing a mold face;
 - F. being formed with interior passages communicating the mold face with suction from a stationary suction chamber through first ports in a channel of each mold block and second ports in a cooperating track of the stationary suction chamber;
 - G. the first and second ports being located in tongue and groove connectors provided on complementary surfaces of said channel of said block and of said track of said chamber.

The above patent subject and the technical features A, B, C, D, E, F and G jointly defined the protection scope of the independent claim 1 of this patent.

2. manufacturer and seller of the accused infringing mold block

Our court holds that Anhui Guotong had confirmed the corrugated pipe machine including the mold blocks preserved by our court is provided by Jwell according to the purchase contract and Guotong also provided the relevant contract and invoice to support its claim. Jwell argued the relevant mold blocks were made by Corma Inc and provided relevant import & export contract to testify. The plaintiff admitted the import & export contract is true but denied the preserved mold blocks were made by Corma Inc because Corma's mold blocks have obvious features. So the defendant is unable to prove the preserved mold blocks are made by Corma Inc. As to the argument of Jwell that the "mold" mentioned in the contract with Guotong does not refer to "mold blocks", since Jwell did not provide evidence to prove this opinion, our court can not accept such argument.

According to the facts of this case, it could be confirmed the corrugated pipe machine including its mold blocks is manufactured by Jwell and is sold to Guotong. Jwell's argument is lack of factual and legal base, which are untenable.

3. opposition against the evidence preservation

Our court believes according to law, the people's court could request the relevant parties or their attorneys to come to the spot when conducting evidence preservation. Therefore it is in conformity to relevant laws for our court to notify the plaintiff to come to the spot of evidence preservation. After evidence preservation, our court also delivered the preserved evidential materials to the plaintiff and defendant according to the record of video tape and digital camera. Therefore our court conducted the evidence preservation according to the litigation process. Jwell's argument that the preserved video and photos lack of factual and legal basis is also untenable.

4. determination of infringement

Our court believes the extent of protection of the patent right for invention or utility model shall be determined by the terms of the claims. The description and the appended drawings may be used to interpret the claims. The Claims of patent should illustrate the technical feature of the invention and clearly and briefly express the protection scope of the patent.

In order to determine if the accused infringing product fall into the protection scope defined by the independent claim of the plaintiff's patent, we should firstly define the essential technical feature according the claims, analyze the accused infringing product and compare the corresponding technical features of the accused infringing product and the patent to see

whether such features are same or similar. If the technical features of the accused product include all of the essential technical features of the patent, or some features of the accused infringing product are belong to the technical features equal to the essential technical features of the patent according to the equivalent principle, it could be determined the accused product fall into the protection scope of the patent and the accused infringer constitutes patent infringement; if the accused infringing product lack of one or more technical features of the patent, or if one or more features of the accused product is neither same or similar to the features of the patent, it could be determined the accused infringing product do not fall into the protection scope of the patent and the accused infringer does not constitute infringement.

(1) analysis and comparison of the technical features of the accused infringing product and patent

According to the preserved evidence and the record of on-spot investigation, the technical features of the accused infringing product could be disintegrated into the following ones:

A₁ An apparatus for producing corrugated thermoplastic tube;

B₁ Said apparatus comprising a pair of complementary mold assemblies each comprising mold blocks;

C₁ Said mold blocks is driven in synchronism to form a mold tunnel of cooperating pairs of mold blocks along a forward run;

D₁ extrusion means disposed at the entrance to the mold tunnel for extruding a tube of thermoplastic materials into the tunnel;

E₁ each mold block having a surface containing a mold face;

F₁ being formed with interior passages communicating the mold face with suction from a stationary suction chamber through first ports in a channel of each mold block and second ports in a cooperating

track of the stationary suction chamber;

G₁ the first and second ports being located in tongue and groove connectors provided on complementary surfaces of said channel of said block and of said track of said chamber.

After comparison,

- (1) technical feature A₁ is same to technical feature A, namely both of them belong to the device for producing corrugated thermoplastic tube;
- (2) Technical feature B₁ is same to technical feature B, namely both of them comprise a pair of complementary mold assemblies each comprising mold blocks;
- (3) Technical feature C₁ is same to technical feature C, namely both of them are driven in synchronism to form a mold tunnel of cooperating pairs of mold blocks along a forward run;
- (4) Technical feature D₁ is same to technical feature D, namely the extrusion means of both are disposed at the entrance to the mold tunnel for extruding a tube of thermoplastic materials into the tunnel;
- (5) Technical feature E₁ is same to technical feature E, namely both of them have a surface containing a mold face;
- (6) Technical feature F₁ is same to technical feature F, namely both of them are formed with interior passages communicating the mold face with suction from a stationary suction chamber through first ports in a channel of each mold block and second ports in a cooperating track of the stationary suction chamber;
- (7) Technical feature G₁ is same to technical feature G, namely the first and second ports being located in tongue and groove connectors provided on complementary surfaces of said channel of said block and of said track of said chamber.

According to above comparison and analysis, the expert group believe that the technical features of the accused infringing product are correspond to and identical with the ones of Claim 1 of Patent No.ZL89107110.5.

(2) Analysis and comparison between the accused infringing product and Prior Art

Jwell provided the following 4 Prior Arts to prove the technology of the accused product belong to public technology

- 1) Publication of Japanese patent application No.53-36565 (title: method for manufacturing corrugated plastic tube);
- 2) Publication of Japanese patent application No.50-3109 (Title: equipping corrugated plastic tube anti-rotation device in the apparatus for manufacturing corrugated plastic tube with rotating type mandrel);
- 3) US Patent No.4199314 (Title: Apparatus for manufacturing hot plastic tube)
- 4) US patent No.: 4319872 (Title: Apparatus for manufacturing hot plastic tube)

After comparing the technology of the accused infringing product with the above 4 Prior Arts provide by the defendant:

The technology of the 1st and 2nd Prior Art (namely the two Japanese patent applications) is much different from the one of the accused product;

The technology of the 3rd and 4th Prior Art (namely the two US patents) is similar to the technology of the accused infringing product; one of

inventors of these two US patents is Manfred Lupke, the inventor of Chinese invention ZL89107110.5. The invention patent ZL89107110.5 is the improvement based on the said 3rd and 4th US patents, namely the main problem solved by the patent ZL89107110.5 is the seal problem to keep the space between the traveling blocks and the chamber vacuum, which is just the invention point of the patent ZL89107110.5, that is “the first and second ports being located in tongue and groove connectors provided on complementary surfaces of said channel of said block and of said track of said chamber”. The expert group deems that the technical feature “the first and second ports being located in tongue and groove connectors provided on complementary surfaces of said channel of said block and of said track of said chamber” of the accused infringing product is not disclosed in all of the 4 Prior Arts provided by the defendant, namely the 4 Prior Arts provided by the defendant do not disclose all of the technical features of the accused infringing product. Therefore the experts believe the technology of the accused infringing product does not belong to Prior Art.

(3) Opposition of Jwell regarding the conclusion of expert identification

Regarding the conclusion of the expert identification report, Jwell argued since the expert did not see the real machine and other evidence, it is legally groundless for the expert to conclude Jwell’s product has feature F₁ namely being formed with interior passages communicating the mold face with suction from a stationary suction chamber through first ports in a channel of each mold block and second ports in a cooperating track of the stationary suction chamber. Jwell then requested to re-do the expert identification.

Our court believes during the expert identification, the experts had

requested to disintegrate the machine in order to check the internal suction device. However Guotong failed to fulfill such requirement so the expert could not check the internal device. However Guotong had confirmed the technical feature of the suction device in the machine is same to the feature shown in Fig 3 of the Specification of the patent. After expert identification, our court also informed Jwell of this identification status and notified it that it could provide opposite evidence regarding this point. However Jwell did not provide any opposite evidence to rebut this. In this condition, the expert concluded Jwell's product has feature F_1 according to the written record of our court and knowledge of the common technician in this field. Our court believes the explanation of the expert on this feature F_1 is reasonable and expert's conduct is in conformity to relevant laws. So the determination on this feature F_1 in the expert identification report is proper and Jwell's opposition is untenable. It worth emphasizing that although Jwell has disagreement regarding the determination of this feature F_1 , it neither explain the features of this part nor provide any opposite evidence to rebut. Therefore Jwell's request for re-do the expert identification is rejected and our court accept the conclusion of this report.

Given the above, the accused infringing product had covered all of the essential technical features of the claims of the plaintiffs patent. The 4 Prior Arts provided by Jwell did not disclose all of the technical features of the accused infringing product so Jwell's defending opinion is untenable. The accused infringing product fall into the protection scope of the plaintiff's patent right. Jwell manufactured and sold the infringing product for business purpose without the permission of the plaintiff, which infringed the patent right of the plaintiff. Jwell should immediately stop the infringement and take the responsibility for

compensation. Anhui Guotong shall also stop the infringement immediately because it used the infringing product without the permission of the plaintiff.

5. the amount of compensation

Considering the plaintiff did not provide evidence to prove the economic loss it suffered due to the infringement of Jwell and illegal gain of Jwell from the sales of the infringing forming machine, and the defendant Jwell did not provide the complete financial books recording its manufacture and sales of the infringing forming machine, our court can hardly determine the loss of the plaintiff and Jwell's gain. Our court will decide the compensation amount of the defendant Jwell according to the classification of the plaintiff's patent, function of the plaintiff's patent in the infringing forming machine, nature and seriousness of Jwell's infringement, duration of the infringement and reasonable attorney fees.

According to Art 11.1 and 56.1 of Patent Law of P.R.C, Art 118, Item 1 and Item 2 of Paragraph 1, Paragraph 2 of Art 134 of General Rules of Civil Laws of P.R.C, Art 17.1, Art 12 and Art 22 of Several Rules on the Application of Laws in the Trial of Patent Dispute Case issued by Supreme People's Court, Art 29 of Civil Procedural Law of P. R. C and Art 24 of Several Rules on Civil Evidence issued by Supreme People's Court, our court hereby makes judgment as follows:

1. Court order the two defendants Jwell and Anhui Guotong stop their infringement on the plaintiff Manfred A. A. Lupke's Chinese invention patent "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus" (Patent No.: ZL89107110.5);immediately;
2. Court order Jwell to compensate RMB500,000.00 to the plaintiff as its economic loss;

3. Other claims of the plaintiff are not supported by the court.

The court fee RMB10,010.00 should be paid by Jwell; for the expert identification fee RMB41,000, Jwell should bear RMB34,000 and Guotong should bear RMB7000.00.

If either party dissatisfies with this judgment, the plaintiff should file appeal to Shanghai High People's Court within 30 days upon receipt of this judgment, and Jwell and Guotong should file appeal within 15 days upon receipt of this judgment.

Chief Judge: Li Guoquan

Judge: Wu Denglou

Judge: Han Tianlan

May 20, 2006

Court Clerk: Li Jingjing

EXHIBIT D

IN THE UNITED STATES DISTRICT COURT FOR
THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

Corma, Inc.

Plaintiff,

vs.

Shanghai Jwell Machine Manufacture Co.,
Ltd.

Defendant.

Case No.: _____
Judge _____

DECLARATION OF MANFRED A. A. LUPKE

1. I, Manfred A. A. Lupke, am over eighteen years of age, am competent to make this declaration, make this declaration based upon personal knowledge, and if called as a witness would testify as follows.

2. I am the founder, Chairman and CEO of Corma, Inc. ("Corma"), the Plaintiff in the above-captioned action. I founded Corma in 1973 which has remained a family-owned company with its principal place of business in Concord, Ontario, Canada.

3. I have a degree in Mechanical Engineering from Fachrichtung Maschinenbau in Weiler, Germany which was awarded in 1963. In 1969 I was awarded an Engineering Technologist Certificate in Ontario, Canada, and, in 1974, I became a member of the Society of Plastics Engineers. Over the past thirty years, I have been the recipient of many awards and industry recognition in the thermoplastic pipe equipment field. Within the past decade, I have represented Canada with the Prime Minister in two trade missions to China.

4. I am the named inventor of more than sixty issued US patents and hundreds of patents worldwide for thermoplastic pipe production equipment.

7. In the 1980's, along with the growth in the plastic pipe fabrication industry, our industry, I noted a need to solve a vacuum leakage problem associated with profiled pipe production. This problem led to the idea for one of my most significant inventions; the synchronously driven, paired vacuum mold block/carrier assembly.

8. That engineering technology was originally described in my Canadian Patent Application No. 577,654 filed September 16, 1988. That application for my suction mold block invention eventually issued as Canadian Patent No. 1,298,450 that issued on April 7, 1992.

9. It was that Canadian application that was the priority document for my US application that issued into US Pat. No. 5,002,478 which I assigned to Corma in 1992. Since that assignment, the patent has not been re-assigned and Corma retains ownership of that patent.

10. Corma does not have any licensees of the '478 patent and retains exclusive rights to sell equipment under that patent in the United States. Just in the United States, Corma has sold hundreds of complete corrugator lines and thousands of complete mold block sets that are covered by my patent.

11. Since it issued, Corma has asserted its patent against third parties who either made or used infringing equipment.

12. As a result of such challenges, in 1998 one of those parties initiated a Re-examination in the United States Patent and Trademark Office of the '478 patent and particularly the single, originally-issued independent claim apparently believing the invention was unpatentable.

13. On October 5, 1999, the Patent Office confirming patentability of my invention, issued a Reexamination Certificate B1 5002,478 with six new independent claims upon which Corma now relies.

14. Because the invention is so significant, Corma also sought worldwide protection. In addition to the US and Canadian patents, patents issued from applications claiming priority from the original Canadian application, for example, in Europe, Japan, Australia, and, significantly, China.

15. Chinese Patent No. ZL89107110 issued from an application filed from the Canadian priority application. The English language translation is identical to the title in the US and Canada: "Improvements in Suction Applying Molded Blocks in Pipe Forming Apparatus".

16. At about the turn of the century, a Chinese company purchased a full corrugator line and several different mold block sets from Corma. Upon information and belief, Shanghai Jwell Machine Manufacture Co., Ltd. acquired a set of drawings made from that corrugator line and commenced manufacturing and selling inferior copies of Corma's corrugators in direct competition with Corma.

17. In Shanghai, Corma sued Shanghai Jwell Machine Manufacture Co., Ltd. and a pipe manufacturer that bought a Jwell corrugator for patent infringement of the Chinese cognate patent.

18. Last month on May 20, 2006, the Shanghai Second Intermediate People's Court issued its factual findings about Jwell, its co-defendant, the structure of the Jwell corrugator mold block, and the co-defendants' litigation misconduct as a basis for a substantial judgment against Jwell for patent infringement of Corma's Chinese patent.

19. Recently, Corma learned that Jwell, for the first time, would be participating in the NPE 2006 trade in Chicago on June 19-23, 2006 as a significant exhibitor.

20. Corma, as it has for decades, is also exhibiting at the NPE (National Plastics Exposition) show which happens to be the largest and most important tradeshow for plastics and plastics fabrication in the Western Hemisphere. Because this show occurs only once every three years, it is very significant to the industry and historically has been very important to Corma's business and sale of its machinery.

21. This year, as it has for the past several shows, Corma is promoting equipment for extruded pipe production systems incorporating the patented technology.

22. As part of Jwell's displays and sales efforts, it is offering for sale thermoplastic pipe extrusion corrugators and mold block sets that embody the technology defined in the '478 patent. I personally have observed Jwell's booth at the NPE 2006 trade show and report that it is exhibiting representations of unauthorized copies of Corma's patented plastic tube forming vacuum mold block/carrier invention.

23. I obtained these photographs on Sunday June 18, 2006 taken at Jwell's exhibit booth (#8405) in the McCormick Center.

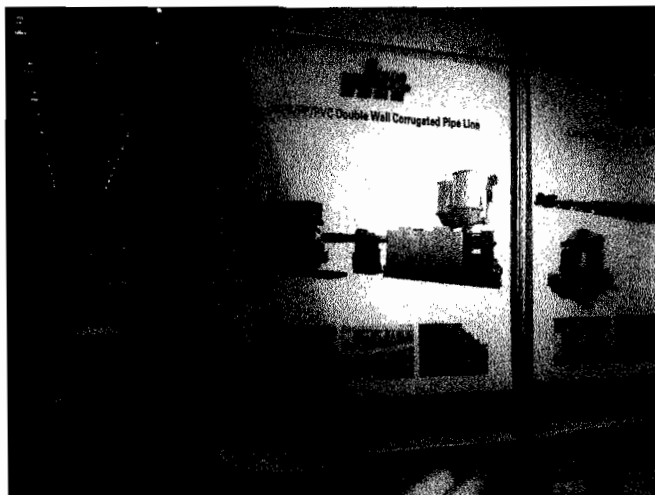


Photo 1

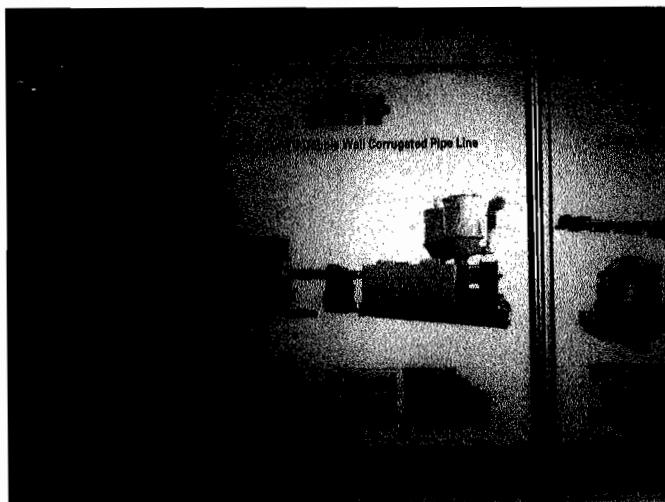


Photo 2

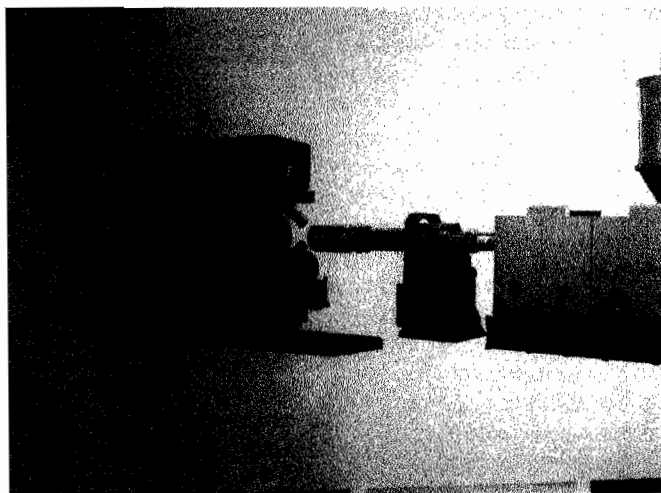


Photo 3

24. I have recently studied the claims of my Re-examined patent, interpreted the words of the six independent claims by using their ordinary meaning in the thermoplastic tubing production field and compared the Jwell equipment with the claims of my patent and present the comparison in the following chart:

U.S. Pat. No. B1 5,002,478	My observations
<u>Claim 5</u>	
5. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	Observed
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,	Observed
said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,	Observed
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,	Observed
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member,	Observed
where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned; and	Observed
a track defined by a first cooperating track element on said carrier block	Observed

and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber.	
<u>Claim 6</u>	
6. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of opposed complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	Observed
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,	Observed
said molding member having a substantially hemi-cylindrical inner surface including profiled molding face Observed defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,	Observed
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,	Observed
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and	Observed
a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber.	Observed
<u>Claim 7</u>	
7. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of opposed complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are	Observed

separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,	Observed
said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,	Observed
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,	Observed
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and	Observed
a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber	Observed
where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned.	Observed
<u>Claim 8</u>	
8. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of opposed complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	Observed
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block, and where the mold block assemblies are opposed and separately driven,	Observed
said molding member having a substantially hemi-cylindrical inner surface	Observed

including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,	
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,	Observed
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and	Observed
a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber.	Observed
<u>Claim 9</u>	
9. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of opposed complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	Observed
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,	Observed
said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly, said molding member including a channel and said carrier block including a slide, said carrier block being interengagable with said molding member to form said mold block assembly when said slide is engaged with said channel,	Observed
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said	Observed

suction recesses,	
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and	Observed
a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber and	Observed
where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned.	Observed
<u>Claim 10</u>	
10. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of opposed complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	Observed
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block, said molding member including a channel and said carrier block including a slide,	Observed
said carrier block being interengagable with said molding member to form said mold block assembly when said slide is engaged with said channel,	Observed
said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,	Observed
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,	Observed
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means	Observed

complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and	
a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide said mold block assembly relative to said stationary suction chamber, and	Observed
where the mold block assemblies are opposed and separately driven.	Observed
<u>Claim 11</u>	
11. A device for producing profile thermoplastic tubing extruded from a parison of thermoplastic material from an extrusion element,	Observed
the device including a pair of opposed complementary mold block assemblies composed of elongated and substantially hemi-cylindrical individual mold block assemblies where the mold block assemblies are separately driven in synchronism to form a cylindrical mold tunnel along a forward run, comprising:	Observed
the mold block assemblies formed in the direction transverse to the formed mold tunnel, said mold block assemblies including at least one molding member and a corresponding carrier block,	Observed
said molding member having a substantially hemi-cylindrical inner surface including profiled molding face defining alternating crests and troughs, a plurality of continuous suction recesses disposed within the troughs between the crests, said carrier block being interengagable with said molding member to form said mold block assembly,	Observed
said carrier block incorporating a first member of a cooperating tongue and groove connector, said tongue and groove connector containing a suction channel and at least one suction port in suction communication with said suction recesses,	Observed
a stationary suction chamber means for communicating suction to said mold block assembly, said stationary suction means including a second member of said cooperating tongue and groove connector means complementarily dimensioned to mate with said first member and at least one vacuum communication port extending through said second member, whereupon engagement of said first and second cooperating members establish suction communication between said stationary suction chamber and said recesses of the molding member, and	Observed
a track defined by a first cooperating track element on said carrier block and a second cooperating track element on said stationary suction chamber, where said first and second cooperating track elements guide	Observed

said mold block assembly relative to said stationary suction chamber,	
where said tongue and groove connector, stationary suction chamber and molding member are vertically aligned, and where the mold block assemblies are opposed and separately driven.	Observed

25. Based on my observation, I believe that the Jwell corrugators incorporate every element recited in my Re-examined patent claims as I understand them.

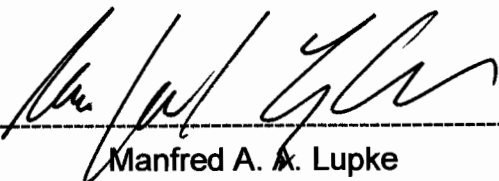
26. Furthermore, based on my personal observations of the accused infringing equipment involved in the litigation in China, it is my opinion that the equipment now being promoted at the McCormick Center at the NPE 2006 trade show is of the same construction.

27. I also attach a copy of a Jwell brochure obtained at the NPE 2006 trade show that on pages 3-6 clearly illustrates a mold block construction corresponding to the Re-examined patent.

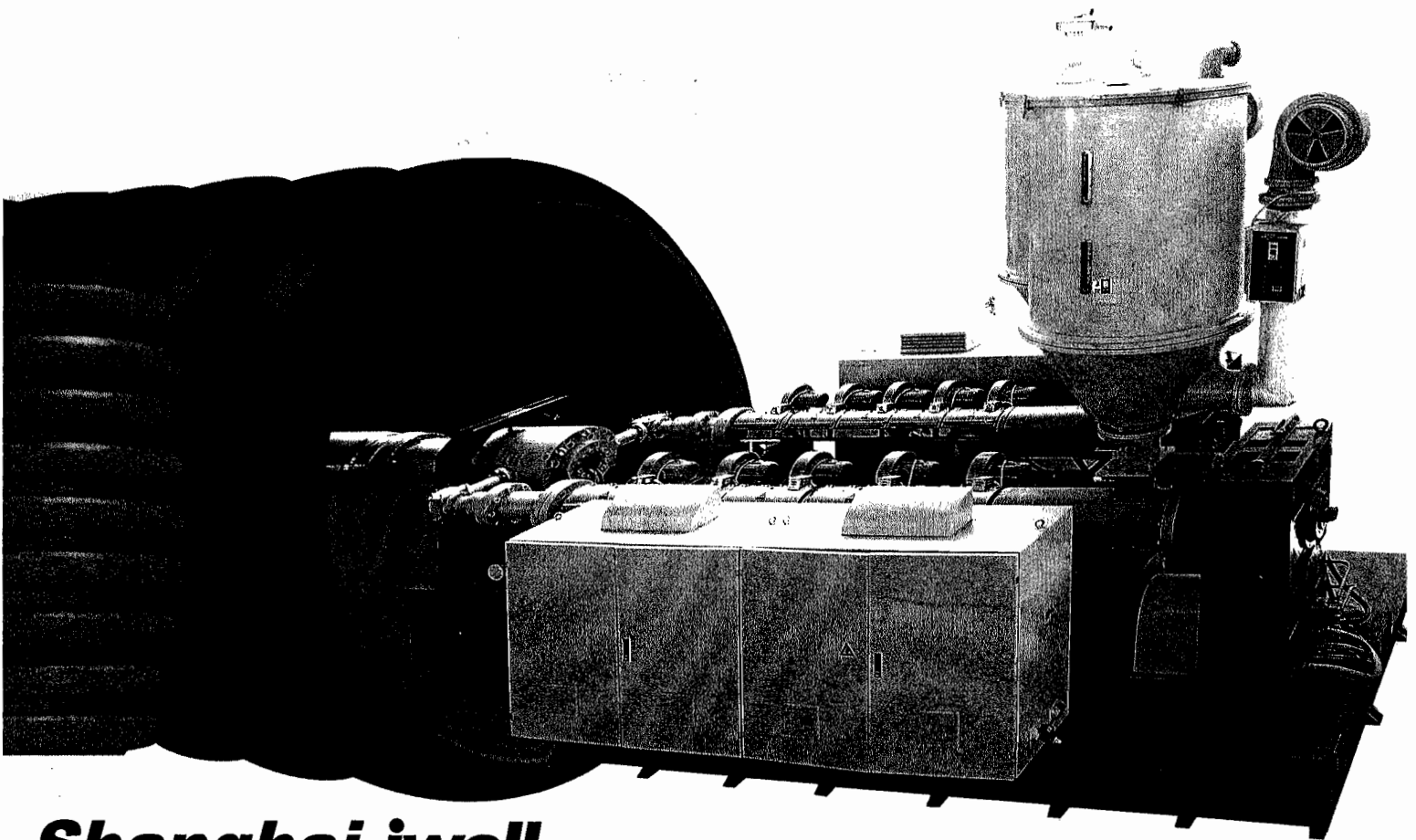
28. If Jwell's infringement is permitted to continue, particularly because the NPE 2006 trade show happens only once every three years and our patent will have nearly expired by the time the next NPE show happens, Corma will suffer immediate, lasting, and irreparable harm by its loss of exclusivity and control over its patented invention.

DECLARATION IN LIEU OF OATH

I declare under penalty of perjury that the foregoing is true and correct.
Executed on this 19th day of June 2006.



Manfred A. Lupke



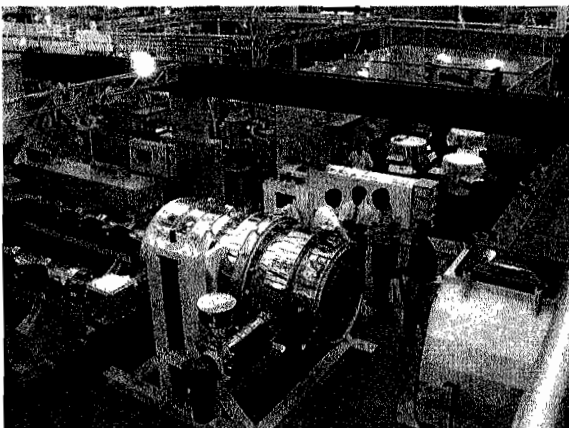
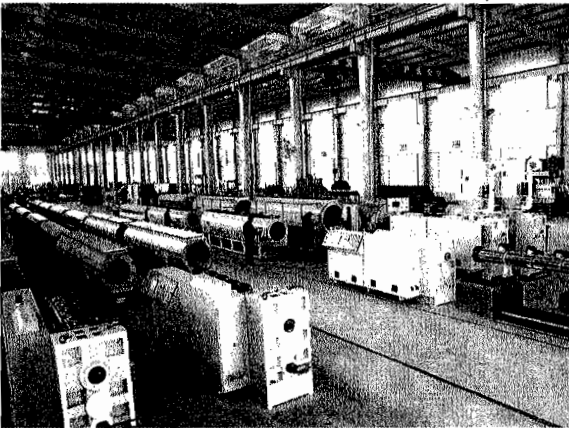
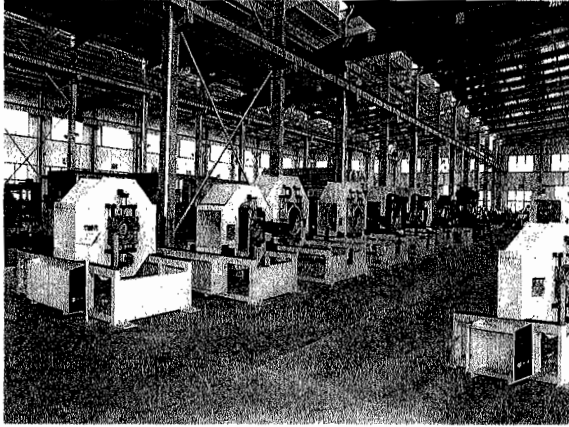
Shanghai jwell

PIPE EQUIPMENT

上海金纬管道设备制造有限公司

我们用心追求完美的品质

Perfect in manufacturing, assembling and comr



ning



JWSB 系列HDPE/PP/PVC双壁波纹管及PVC大口径加筋管挤

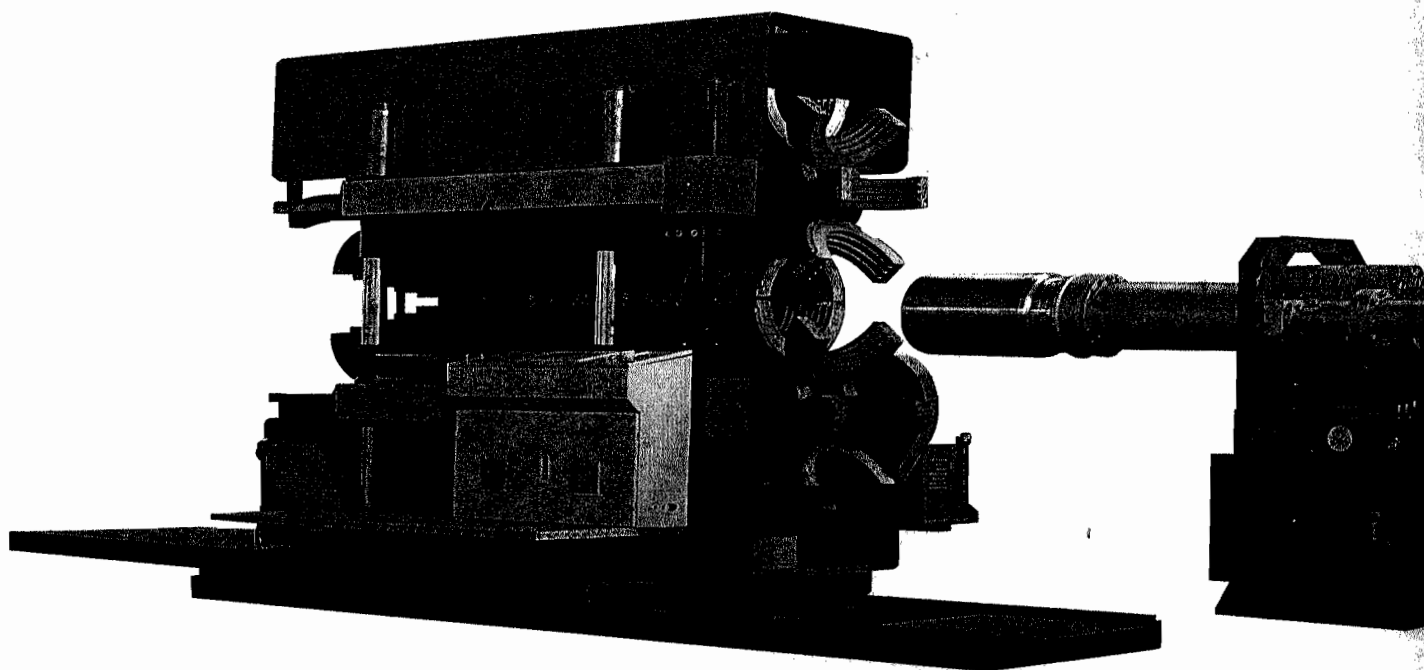
JWSB series HDPE/PP/PVC Double Wall Corrugated Pipe and PVC Ribbed Pipe Extruder

- 应用:** 金纬公司研制开发的 HDPE/PVC 双壁波纹管生产线, 其产品主要应用于城市排水、排污系统。
- 性能和优点:** 经专业设计, 精心制造的 JWSB 系列 ($\Phi 90 \sim \Phi 1500$) HDPE/PVC 双壁波纹管全电脑挤出生产线, 具有产量高、挤出稳定和自动化程度高等优点。
- 挤出机:** 挤出机可根据用户原料情况特殊设计, HDPE 采用新型高效单螺杆挤出机, PVC 采用大型平双或锥双挤出机。
- 模具及辅机:** 成型机及机头精度高, 模块互换性好, 模块冷却方式有水冷和风冷两种, 可以实现在线扩口, 确保成型管材的各项性能指标, 环形双刀切割机具有优异的切割精度, 整条生产线采用西门子人机界面控制系统, 具有很高的自控功能, 更换挤出机及相关零部件可生产 PVC 双壁波纹管。此设备已在上海、安徽、山东、江苏、浙江、山西等地广泛使用。

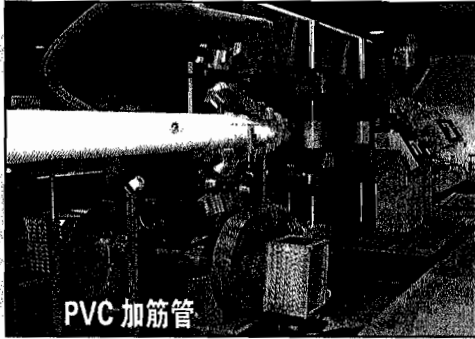
主要技术参数

生产线型号 (PE/PVC)	配套挤出机	模块数量 (Set)	管材规格 (mm)	生产速度 (m/min)	成型机总功率 (kw)
JWSB160	JWS90 或 SJZ65/132	60 sets	$\Phi 90 \sim \Phi 160$	0.5~3.5	10.5
JWSB500	SJZ92/188 或 JWS90、75	30(8 inches)	$\Phi 160 \sim \Phi 500$	0.1~2.7	20.5
JWSB800	JWS90、120	32、33(8 inches)	$\Phi 200 \sim \Phi 800$	0.1~2.7	28.5
JWSB1500	JWS120、JWS135	7~9 sets	$\Phi 800 \sim \Phi 1500$	0.1~1.1	32

备注: 以上规格参数如有变更, 恕不另行通知。



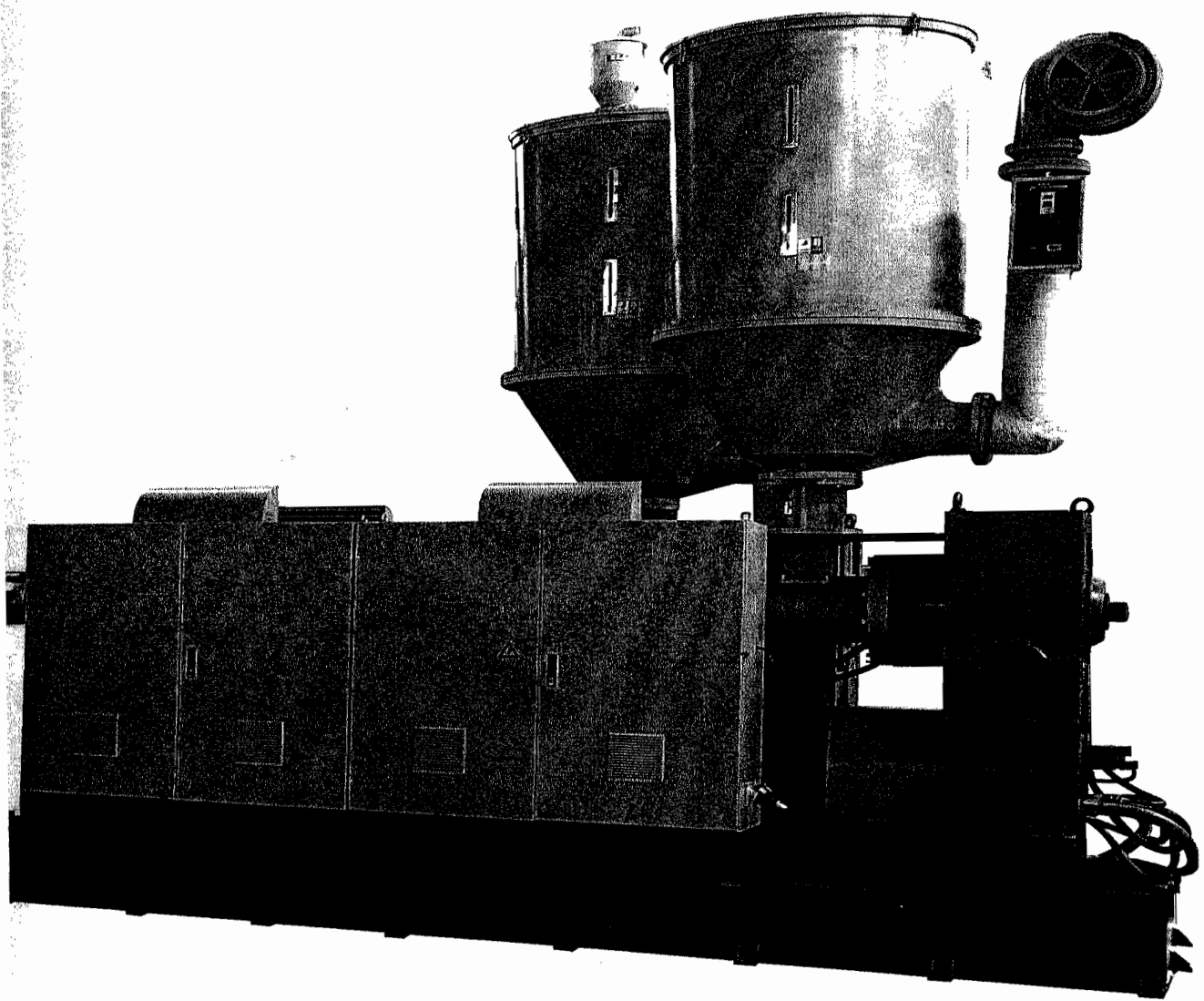
生产线
Line



PVC 加筋管



PE 双壁波纹管



上海金均管道设备制造有限公司产品

Shanghai Jwell Pipe Equipment Co., Ltd.

- JWSB 系列大口径 HDPE/PVC 双壁波纹管、加筋管挤出生产线
- 特殊用途的小型单壁、双壁波纹管 (Ø8-Ø75) 挤出生产线
- 大口径 PE 埋地供水管、MDPE 燃气管、UPVC 管材挤出生产线
- PE-RT 非交联耐热水管、PEX 交联地暖管、PP-R、PP、PP-B 新型水管挤出生产线
- PE 集束光纤、PVC-C 高压电力保护管、PE/PVC 多孔网络通讯管挤出生产线
- 超高压金属及非金属耐压增强复合管挤出生产线
- UHMW-PE 超高分子量聚乙烯耐磨管材、片材挤出生产线
- 三层复合硅芯管高速挤出生产线和各种塑料复合管材生产线
- PA11、PA12 尼龙工程管挤出生产线
- 各种管材挤出模具、定径套及其它塑料机械辅机

上海金均片板设备制造有限公司产品 (详见专门样本)

Shanghai Jwell Plate & Sheet Equipment Co., Ltd. (See Special Catalogue)

- PE、PP、PS、ABS、PET、PETG、PC、PMMA 单层、多层片材、板材挤出、薄膜流延生产线
- PC、PP、PE、PVC 中空格子板及 PVC、PP 木塑实壁板挤出生产线
- 单向、双向拉伸土工格栅挤出生产线
- PVC 共挤发泡、结皮发泡、自由发泡生产线
- XPS 挤塑式聚苯乙烯隔热保温生产线
- XPS (IXPE) 交联聚乙烯发泡卷材挤出生产线
- JWB 系列 PE、PVC 铝塑 PE 钢塑复合 (微发泡) 板生产线
- 各种辊筒恒温器、PET、PC 干燥系统、镜面辊、高速薄膜收卷机等辅机

上海金均挤出机械制造有限公司产品 (详见专门样本)

Shanghai Jwell Extrusion Machinery Co., Ltd. (See Special Catalogue)

- 高效单螺杆挤出机、平行及锥形双螺杆挤出机等
- 化纤 PET、PA6、氨纶、无纺布挤出机
- PVC 木塑共混发泡型材、板材、宽幅整门板挤出生产线
- JWB 系列 PE 铝塑板生产线
- JWL 系列废塑料回收造粒机组和清洗机

舟山金均螺杆制造有限公司产品 (详见专门样本)

Zhoushan Jwell Screw & Barrel Co., Ltd. (See Special Catalogue)

- 各种注塑机螺杆、料筒 (氮化、双金属喷涂)
- 各种化纤挤出机用螺杆、料筒
- 各种塑料单螺杆挤出机用螺杆、料筒
- 各种锥形双螺杆、锥双料筒 各种平行双螺杆、双料筒

上海金均化纤机械制造有限公司产品 (详见专门样本)

Shanghai Jwell Chemical Fiber Machinery Co., Ltd. (See Special Catalogue)

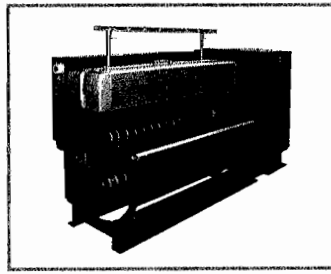
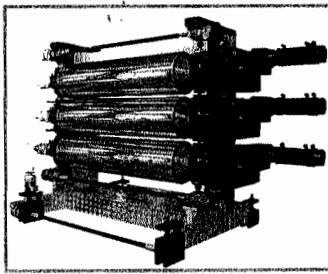
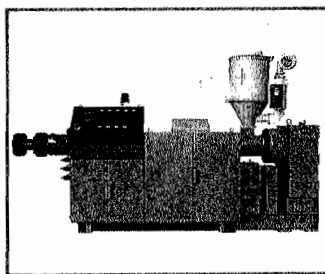
- 各种 POY、FDY 高速卷绕头
- 承接化纤纺丝工程设计及整厂设备制造

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